Original Research

PRESERVATION AND CONSERVATION PRACTICES OF LIBRARY INFORMATION RESOURCES IN TANZANIA: PERSPECTIVES FROM LIBRARIANS

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Abstract

This study sought to assess ways by which librarians in various libraries in Tanzania preserve information resources for current and future use. Specifically, the study identified the kinds of collections and their status, attempted to find out activities carried out in libraries that are related with preservation and evaluated ways in which the existing library materials could be prevented from deterioration. The study used focus group discussions to collect data from 25 librarians from various libraries in Tanzania, who attended a workshop on preservation of library information resources, held at Mbeya University of Science and Technology (MUST). Results reveal that major formats available in libraries include print media, e-resources, microforms, manuscripts and artworks. Activities conducted in libraries that were associated with preservation included refreshing, migration, digitization, proper shelving, collection examination, user orientations, photocopying, restoration, data backup, environmental control, binding and monitoring collections through CCTVs. However, challenges encountered during preservation activities include poor skills among librarians on appropriate preservation activities, harsh environmental conditions such as high temperature and lack of written policies and guidelines on preservation of library resources. The study concluded that preservation activities were actually carried out in libraries although the extent to which librarians undertook preservation activities varied from the nature of the libraries. It was therefore recommended that policies and guidelines on preservation activities be developed to guide preservation activities.

1.0   INTRODUCTION

The words preservation and conservation have been used differently by many people, and to some of them, they have used the two terms as if they mean the same thing. There are however, differences between them. According to Kamila (2013), preservation is an aspect of the management of the library. Its objective is to ensure that information survives in a usable form for as long as it is wanted. In many cases, this implies the survival for the same period of time of the physical medium which contains that information, whether it is a manuscript, a printed book, a videotape or a floppy disk. Conservation is one aspect of preservation activity. It normally implies the active use of preventive measures, or processes of repair of damaged material, to ensure the continued existence of individual items. It goes on further to say, preservation specifically means the provision of an appropriate level of security, environmental control, storage, care and handling, that will retard further chemical deterioration and protect library material from physical damage. It is therefore, important to examine the way libraries in Tanzania treat their information resources in the light of existing threats to these important resources.

There are several enemies reported to affect library information resources worldwide. For instance, Makinde et al (2022), report that the nature of the material itself, natural and man-made disasters, the environment in which it is kept, and the way material is handled are the main threats to library materials. On the other hand, Kamila (2013), lists and expands such enemies to book worm, book lice or psocids, cockroaches, silverfish, moths, crickets, mice, human beings through, touch/war, bio-deterioration of fungi, foxing, white Ants, natural calamities (like cyclone, tsunami, flood, landslide, earthquake), excessive heat, humidity and light, dust, air pollution, chemical reaction, termite and damp library building. In Tanzania, there exist several types of libraries such as public, academic and research libraries. The present study seeks to attest the various ways used by librarians to preserve and conserve the existing materials from the horses' mouth (using verdicts from librarians) within these institutions.

2.0 OBJECTIVE OF THE STUDY

The overall objective of this study was to assess the preservation and conservation practices of library information resources in Tanzania.

Specifically, the study sought to:

  i.   Identify the kinds of collections (formats/packages) and their status held or found in Tanzanian libraries;

  ii.   Find out activities in libraries related with/associated with preservation;

iii.   Evaluate ways in which the existing library materials (formats/packages) available in Tanzanian libraries can be stored/prevented from deterioration.

3.0 LITERATURE REVIEW

3.1 Theoretical Review

3.1.1 Types of library collections worth for preservation and conservation

Examining kinds of collections that hold library resources is one of the most important activity for determining ways of preserving library resources. Library collections contain various kinds of resources that in their totality, should cover the needs of the users. Libraries worldwide keep different kinds of materials including print and non-print ones. These may vary from books and monographs, reference materials, serials or periodicals, special publications such as government documents and reports. Non-print materials may also vary from cartographic materials, graphic materials, audio- and audio-visual materials and digital or electronic resources of various forms (Nworie and Magnus, 2017). Whereas this may be considered as ideal in the cases of libraries in developed economies, many library collections in Africa are not well developed in areas of non-book materials. This could be due to various factors such as lack of financial resources to acquire and maintain the same, poor environmental conditions to preserve as well as reader preferences; hence making print resources predominant (Yakubu, 2023). Nevertheless, libraries in Africa have strived to keep pace with the ever-changing information access dynamics where subscriptions to electronic resources have become a necessity in order to meet demands of their users. This way, preservation activities for such collections have increased in scope.

Due to scarcity of information resources, many libraries in Africa face challenges in preserving reading materials due to various issues. These include overuse of resources leading to weary, vandalism, mutilation and brittle of print library materials. In addition, as a result of poor preservation practices, temperature and relative humidity are major causes of deterioration of library resources (Bashorun et al., 2021). Despite poor conditions of library collections and limited financial resources to support preservation programs, efforts have been in place to ensure that collections are kept in a way to serve the information needs of their users in various ways.

3.1.2 Empirical review on library resource preservation and conservation

There are numerous studies on preservation activities globally and Africa. These include the ones that focus on more modern ways of preserving library resources including digital preservation and curation (such as Hazarika, 2020; Khan and Shrivastava, 2023; Boro and Fanai, 2023) to mention but a few. These and other studies have focused on ways of preserving digital resources in ways that digital resources remain accessible for current and future use. However, in the context of this

study, owing to the nature of collections found in various libraries in Africa, preservation of print resources is considered as an important endeavor towards keeping the resources for endured use. To ensure that print resources are preserved, initiatives such as digitization of such resources has been one among many preservation activities carried out in African library collections. A notable number of projects have been carried out in libraries in Sub-Saharan Africa including Uganda, Tanzania, Ghana, Nigeria, Namibia, Botwana and South Africa (Kasuse et al, 2016; Olubiyo et al, 2022; Masenya and Ngulube, 2020). However, these and other initiatives have been hampered by a number of setbacks including inadequate funding, lack of digital preservation policy and absence of technical infrastructure (Pandey and Kumar, 2020; Lukamika, 2022). As such, the need to explore ways by which libraries preserve their print resources besides digitization became one of the focus of this study.

Various ways of preserving library resources exist. These include controlling environmental conditions through monitoring and controlling temperature and relative humidity, installing thief-catching devices, fumigation, bleaching, lamination, repairs, packing, shelving, dust removal, to mention but a few (Ogunmodede and Ebijuwa, 2013). These and many others have been commonly practiced in various libraries in Africa in a way to preserve their print resources. However, challenges such as lack of preservation and conservation policies, lack of training of library staff on proper measures of preservation and conservation of library resources and lack of or inadequate equipment and materials for effecting preservation and conservation of library material, are common in many libraries (Alex-Nmecha and Okoro, 2020). Hence, realizing various methods of preserving library resources and the associated challenges, this study sought to find out from the librarians' ways in which the existing library materials that are available in Tanzanian libraries can be stored/prevented from deterioration.

3.2 Empirical Review on Cyber Security

The study adopted a Theory of Conservation by Nigilio, (2023) and Yildizlar et al., (2020). According to William Morris, maintenance, restoration, and conservation were declared to be the significant reasonable standards that are still relevant today in different conditions, including libraries where information resources are protected for current and future use.

Today, many associations like the National Trust for Historic Preservation and the British National Trust in the United States have embraced Morris' thought and instructional practices that assist in the protection of notable designs for people in the future. The theory of conservation by William Morris put more emphasis on maintenance and repairs with minimum alteration level and

preservation of heritage values than restoration (Yildizlar et al., 2020). The emphasis on repair and maintenance in the library context has also been stressed by librarians to ensure that the current generation thinks about important library materials which can be preserved for the future.

Furthermore, librarians have insisted on the good use of information resources to avoid the cost that could be incurred while restoring and conserving the damaged information resources in the future. In this context, libraries have always insisted that users carefully handle the library information resources to avoid quick deterioration that may be a result of excessive use and poor handling. Academic libraries conduct orientation of new students at the beginning of every semester to inform them on how to properly access and retrieve information resources from the large collection of library information resources without damaging them. Additionally, the theory is relevant to the conservation of library information resources because simple repairs of information resources with small tears are usually encouraged and conducted in the technical units by librarians and preservation administrators.

Moreover, librarians practice conservation activities to extend the usable lifespan of information resources for the present and subsequent generations. The goal of conservation according to William Morris is to maintain the usable value of the building while the objective of information resource conservation is to maintain the value of the information resources. Although the emphasis of William Morris was on the use of the same materials during the conservation process to maintain the authenticity, value, and originality of the building, in libraries, great efforts are invested in ensuring that damaged information resources are repaired and returned in circulation (Mubofu, 2021; Niess, 2021 & Olatokun, 2008). Both of them, however, have the same goal of ensuring that an item is protected from damage and its lifespan is prolonged. Furthermore, strengthening and stabilizing an item is the ultimate objective of John Ruskin, William Morris, and preservation administrators in academic libraries. However, William Morris rejected restoration and proposed repair with minimum alteration, and more focus was emphasized on the preservation of heritage values rather than restoration (Yazdani, 2019). This theoretical framework helped to build up the themes underlying the study.

4.0 METHODOLOGY

4.1 Research design

The study was qualitative in nature, employing focus group discussions (FGDs) and scoping literature review. A scoping review is a type of knowledge synthesis that uses a systematic and

iterative approach to identify and synthesize an existing or emerging body of literature on a given topic (Mak and Thomas, 2022). It maps the extent, range, and nature of the literature, as well as to determine possible gaps in the literature on preservation and conservation of library materials.

4.2 Sample Size and Sampling procedures

A FGD was held among 25 librarians who were attending a workshop at Mbeya University of Science and Technology (MUST) in 2023. The FGD consisted of five groups of librarians. The library staff came from the following libraries: Public Library Tabora Region, Institute of Social Work library, Dar es Salaam, Tanzania National Assembly library Dodoma, The Catholic University College of Mbeya (CUCoM). Others included Tanzania Institute of Accounts, University of Dar es Salaam, Mbeya University of Science and Technology (MUST), Ministry of Defence and National Service, National Council for Technical and Vocational Education and Training (NACTVET) and Kiuma College of Health and Allied Sciences, Tunduru.

4.3 Data collection and Analysis

A checklist (interview guide) was prepared and used to elicit information on preservation and conservation related practices from participants' libraries. In addition, literature related to the topic were reviewed (scoping review). The resulting information were analyzed through content analysis. Content analysis was a research tool used to determine the presence of certain words, themes, or concepts within some given qualitative data (i.e. text). Using content analysis, researchers were able to quantify and analyze the presence, meanings, and relationships of such certain words, themes, or concepts (Harwood and Garry, 2003). The keywords and themes used in the study revolved around the four objectives stated above.

4.4 Validity, Reliability, and Ethical Considerations

This research adhered to all the guidelines required to address issues of validity, reliability and ethical matters to ensure the credibility and accuracy of the data collected. Respondents were asked to participate in the study at their free will and ethical guidelines mandated that participants were not to be exposed to any harm throughout the research process. The data were treated with the utmost confidentiality by ensuring respondent did not reveal their identities when analyzing and presenting the data.

5.0 RESULTS

This section presents the results of the study by providing the analysis, interpretations and

discussion of the findings. Results are presented following the order as per the specific objectives. The data presents results based on types of collections held and their status, activities related with preservation, challenges that librarians face when preserving library collections and remedial measures. These results are presented in the subsequent sections below.

5.1 Kinds of collections (formats/packages) held or found and their status in Tanzania libraries

During the discussions a number of results were identified in terms of formats and packages available in the libraries in Tanzania. These include print media, e-resources, microforms, manuscripts and artworks (Table 1). Many of the materials held were reported to be in a fair state but that depends on a number of factors like usage and handling practices. The materials reported to be in poor condition were mainly microforms and audio-visual materials. It was also reported that the major collections in use are mainly print and digital (electronic) resources. The most at risk (vulnerable to deterioration) were reported to be both print/manuscripts/microforms/digital media depending on factors like handling and usage. The microforms in particular were reported to be poorly handled since they are no longer used in most libraries and there was an average growth in collection for both print and e-resources. The reason is due to the lack of their appropriate readers (obsolete technology) in most libraries. With regard to space for growth in collection, two libraries (MUST and CUCOM) reported to have little space.

5.2 Activities in libraries related with/associated with preservation

The study participants were asked to reveal the ways used to preserve and protect the information resources from damage by agents of deterioration. This question was intended to establish the ways used in the respective libraries in preserving the library's collections. It was important to know the different ways of preserving information resources so that experts in the field of librarianship would be able to choose the suitable methods of preserving library information resources for long term utilization.

The study found out that libraries conducted the following activities related to preservation: refreshing, migration, digitization followed by cloud storage, proper shelving, collection examination, user orientations, photocopying, restoration (done by only few libraries), data backup, environmental control, binding and few use CCTV cameras to monitor their collections (Table 1).

Table 1: Care and handling of existing library materials

Item available in library	Care
Books	Binding/lamination/examination/proper shelving
Theses/Dissertations	Binding/examination/proper shelving/Institutional repository
Printed pamphlets/booklets	Binding/keeping in special collection
Manuscripts	Binding/digitization
Maps	Photocopying/keeping in special collection
Blueprints e.g manuals/guides	Binding/digitization
Newspapers (newsprints)	Binding/digitization
Framed materials (e.g. Artworks)	Stored in special room/archives
Audio-visual packages (CDs, DVDs)	Stored in cabinets/migration, refreshing
Digital packages (USBs, memory cards, Hard disks)	Stored in cabinets, refreshing

Some of these activities/practices/technologies are further elaborated below.

Refreshing: The present study indicated refreshing as one way of preserving information resources in many libraries. Respondents recognized that digital information resources can be preserved by transferring them from one storage medium to another without changing their bit stream which is refreshing (Yadav & Kumar, 2020). Refreshing is a way of preserving digital information resources to help librarians store and keep library information resources safe and secure for future use. Similar study by Formenton and Gracioco (2020) have recently noted that refreshing is a type of migration that entails the transfer of information from one physical storage medium to a more current medium before the former deteriorates, like a CD-ROM for the cloud. Therefore, refreshing helps in addressing the problem of physical degradation and obsolescence of the storage medium.

Institutional Repository: It was established that the institutional repository was the best way of preserving digital information, especially scholarly publications and student thesis/dissertations mainly in university libraries. This was reported by respondents from academic libraries at UDSM, Mzumbe, UDOM who attended the workshop. These findings are supported by those reported by Anyaoku *et al.* (2018) who established that a majority of African academic institutions provide prolonged digital preservation in their institutional repositories, and have digital preservation

policies in most cases. However, Adu (2015) noted that efforts by many African academic institutions to develop institutional repositories to expedite the capture, storage, dissemination, and preservation of institutions' intellectual information resources are confronted with many challenges like copyright issues, funding, and management support. Generally, the findings from the interviewed library directors negates the study findings by Anyaoku, *et al.*, (2018) as they noted that their libraries had no policies for the preservation of digital information resources instead, they had library policies which contain the preservation of library information resources.

Migration: Some respondents revealed that migration was the main way of preserving digital library information resources. These results signify that the library staff in selected public university libraries were aware of migration as a way of effectively preserving digital information resources. Migration is the way of preserving digital information resources from one generation of computer technology to another for continued accessibility (Chung, 2018). According to Tripathi (2018), migration is a cost-effective way of preserving digital information resources and aim to guarantee that information remains accessible to users over time. Deshpande (2016) noted that migration tries to change the object such that software and hardware developments do not affect its accessibility.

Cloud Storage: Study participants noted that cloud storage are an important way of preserving digital information resources. However, this does not necessarily mean that it is implemented or in use in their libraries. The study by Tambe (2020) affirms that for security reasons, cloud preservation of information resources is significant because it is safer from accident or hardware damage since it is duplicated across the virtual machines and when one crashes the information is replicated on other machines in the cloud. Although in the present study, cloud preservation services were reported to be imperative by 168 respondents out of 170, their implementation is still relatively low in academic libraries as reported by Adu (2015). However, the analysis by Han (2015) reveals that cloud storage can be very important for digital preservation.

*Encapsulation***:** A number of the participants mentioned that encapsulation is a way used in preserving the information resources in their libraries. According to Deshpande (2016), encapsulation in the context of non-print information resources refers to the act of categorizing digital objects and data together with everything required to provide access. This practice/activity is used for preservation of both digital and print information objects.

Microfilming: A few respondents reported that their libraries still maintain microfilms. A study by Mihrani (2020) on "Online databases and book preservation" recently established that

microfilming is the only viable solution for preserving information resources like books despite it being labour intensive, expensive, and unaffordable to most public university libraries. According to Formenton and Gracioco (2020), microfilming is the dominant way of preserving information resources in information centers like digital technologies today. Although preservation by microfilming seems to be outdated, it has the advantage of allowing the reformatting of documents originally produced on paper and the improvement of functionality and accessibility (Yadav & Kumar, 2020).

Installation of Air Conditioners: All the participants revealed that the installation of air conditioners in libraries was a good way of preserving both digital and print information resources since they regulate the amount of temperature in those libraries. Although the installation of air conditioners in libraries helps in checking and balancing the air temperature, a study by Rathinam and Jesudoss (2019) has reported that library staff in public libraries were poorly knowledgeable about the importance of installing air-conditioners in the library environment.

Proper Shelving of Library Materials: All the participants mentioned that proper shelving of library materials to enable the free flow of air is a way of preserving print information resources. Rathinam *et al.* (2019) noted that the shelving of print information resources in the library is one of the preservation phenomena that need to be emphasized if the information resources are to last long.

Binding: All the respondents mentioned binding as another way of preserving information resources in public university libraries. This implies that binding can also be applicable in the preservation of information resources in public university libraries. The study by Rana (2019) on "the maintenance and preservation of library collections" noted that the binding of library information resources is conducted for damaged books, books with missing pages, periodicals, or newspapers.

Provision of adequate security: Many of participants said that the provision of adequate security to prevent theft and mutilation of book pages is a common way of preserving digital and print information resources in libraries. Many of them reported to employ use of security guards and few have installed CCTV cameras in their collections. These findings concur with those of Nsok and Jacob (2020) who recently revealed that security and management measures like properly checking bags in the library, mounting of CCTV cameras, and unannounced searching of student's hostels can prevent theft and mutilation in the College of Health Technology, Pankshin Library.

Photocopying: Another way of preserving library information resources revealed by most of the respondents is photocopying rare information resources and retaining the original. This way of preserving information resources focuses on producing several copies of rare books which have high demand and using them instead of the original copies. The study by Neumbe (2019) established that photocopying information resources is a good way of preserving and backing up information to sustain the provision of library information services even if the original document is lost. Photocopying information resources is highly practiced in public university libraries, where it is one common way of preserving information resources by ensuring that the original is preserved for future use (Saka *et al.*, 2020).

Lamination: Some of the respondents indicated that lamination is a way of preserving library information resources. Lamination provides stability for weak and damaged documents and helps to reduce the effect of environmental pollutants and damages from poor handling, hence increasing their lifespan (Madumere & Ekwelem, 2020). The findings of this study imply that the studied public university libraries used lamination techniques to strengthen fragile information resources. Furthermore, the study by Mubofu *et al.,* (2020) argued that although lamination seems to be a traditional way of preserving print information resources, it can still be useful in improving, strengthening, and stabilizing print information resources in the contemporary world which is mainly dominated by technological innovations.

5.3 Challenges faced by librarians when preserving library collections.

Respondents were asked to point at challenges their libraries faced when preserving their collections. Several challenges were discussed, among them one being poor skills on preserving library information resources and lack of requisite resources, such as funds and equipment to support library preservation activities. Other challenges discussed were harsh environmental conditions and lack of policies and guidelines regarding appropriate preservation practices. It was mentioned that some libraries post notices on how to handle library materials and what practices were not permitted I libraries such as food and drinks, smoking and miss helving of books. However, since many libraries lacked library policies, aspects such as measures to be taken against defaulters were not stipulated in the notices provided. Previous studies such as Bashorun et al., (2021) and Yakub (2023) came up with similar findings. Nevertheless, these results contrast with other studies such as the ones by Ogunmodede and Adefunke (2013) and Etuk and Adeyoyin (2021) who came up with other challenges mostly associated with human factors. These include among

others, challenges such as poor handling of materials, unfavorable government policies such as setting up higher charges for preservation equipment and materials, poor quality of paper and ink (for print resources) and lack of preservation and conservation culture among librarians. Despite these human-related challenges not being mentioned by librarians, practices observed in a number of libraries in Africa have pointed at such challenges to be most common in African libraries. Hence the need for having effective policies and guidelines governing the same.

6.0 CONCLUSION AND RECOMMENDATION

This study was designed to actually see the extent to which libraries in Tanzania preserve their collections, in their different formats, for current and future uses. Based on the results obtained, it was observed that much as the libraries take various steps in preserving their collections, poor skills, failure to cope with environmental conditions and lack of appropriate policies and guidelines, preservation of library collections was still a problem. The study discovered further that few libraries had used modern ways of preserving library collections such as using cloud storage and institutional repositories. As such this study recommends that much as the preservation of print resources is important, modern techniques of preserving library resources such as digital preservation are necessary to safeguard digital information resources from loss or deterioration. In addition, libraries should put in place appropriate preservation policies to address both natural and human factors for deterioration of information resources. Furthermore, a culture of preservation of library resources should be inculcated among librarians to ensure that materials so acquired are used throughout their enduring lifetime.

REFERENCES

Adu, K. K. (2015). Framework for Digital Preservation of Electronic Government in Ghana, unpublished Doctoral Dissertation, University of South Africa, Pretorial, SA.

Alex-Nmecha, J. C., & Okoro, O. M. (2020). Preservation and Conservation of Library Resources as Correlates of Service Delivery Effectiveness in Universities in South-South, Nigeria. Library and Information Science Digest, 13, 15-28.

Anyaoku, E. N., Echedom, A. U. N., & Baro, E. E. (2018). Digital Preservation Practices in University Libraries: An Investigation of Institutional Repositories in Africa. *Digital Library Perspectives,* 35(1), 41-64.

Bashorun, M. T., Idogun-Omogbai, E. K., and Muhammad, J. O. (2021). A Survey of Preservation and Conservation of Information Resources in Private University Libraries, South-west,

Nigeria. Record and Library Journal, 7(2). 307-319

Boro, B., & Fanai, F. C. (2023). Digitization and Digital Preservation of Library Resources in the Contemporary Era: A Study with Reference to the Selected Special Libraries in Mizoram. Annals of Library and Information Studies, 70(4), 208-214.

Chung, A. C. W. (2018). Cost issues in digitalization and preservation: A Case study of a small-scale music library. *International Journal of Library and Information Services*, 7(2), 1–13.

Deshpande, J. (2016). Digital preservation in library. *International Journal of Library & Information Science*, 5(2), 25–29.

Etuk, A.S. & Adeyoyin, S.O (2021). Analysis of Collection Development and Conservation of Information Resources in Selected University Libraries in Lagos and Ogun States, Nigeria. European Journal of Computer Science and Information Technology, 9(2), pp. 1-20. Available at SSRN: https://ssrn.com/abstract=3837788

Formenton, D. & Gracioso, L. de S. (2020). Digital Preservation. *Digital Journal of Library and Information Science*, 18, e020012.

Harwood, T. G., & Garry, T. (2003). An overview of content analysis. The marketing review, 3(4), 479-498.

Hazarika, R. (2020). Digital preservation in academic libraries. International Journal of Library and Information Science, 10(2), 220-5.

Kamila, K. (2013). Impact of ICT on the changing roles of the librarian, other library and information science (LIS) professionals, and managerial change. In Design, Development, and Management of Resources for Digital Library Services (pp. 328-341). IGI Global.

Kasuse, M, Njoku, I.S., Badu, B.A.& Mwakyagi, A.J. (2016). Case studies of Large-Scale Digital Preservation Initiatives (LSDIs) as a Conservation Strategy for Heritage materials in Africa. IFLA WLC, available at: https://library.ifla.org/id/eprint/1421/1/164-kasusse-en.pdf

Khan, M. S. S., & Shrivastava, S. (2023). A Study on Preservation Practices Followed By The Selected Libraries In The Bhopal District Of Madhya Pradesh. Journal of Namibian Studies: History Politics Culture, 33, 3621-3639.

Lukamika, K. M. (2022). Towards Digitisation of Kiswahili Programmes: Problems and Prospects

for the University Libraries in Kenya-A Case Study of Tom Mboya University College. *East African Journal of Information Technology*, *5*(1), 76-83.

Madumere, C. P. & Ekwelem, V. O. (2020). Archival Maintenance Practices for Paper-Based Archival Materials in Academic Libraries in Nigeria. *Library Philosophy and Practice*, 1–24.

Mak, S., & Thomas, A. (2022). Steps for conducting a scoping review. Journal of Graduate Medical Education, 14(5), 565-567.

Makinde, O. O., Monu, J. O., Okusaga, T., & Ekeh, E. M. (2022). Organization, preservation and conservation of library materials: A case study of Lagos State University Library, Ojo-Lagos. International Journal of Library and Information Science Studies, 8(1), 19-32.

Masenya, T. M., & Ngulube, P. (2020). Factors that influence digital preservation sustainability in academic libraries in South Africa. South African Journal of Libraries and Information Science, 86(1), 52-63.

Mihrani, D. (2020). Online Databases and Book Preservation. *College & Research Libraries News*, 49(3), 152–155.

Moran, B. B. (1990). Library/Classroom Partnerships for the 1990s. *College & Research Libraries News*, 51(6), 511–514.

Morris, B. (2015). Optimizing Collections Care: Configuring Preservation Strategies for Unique Art Library Collections. *Art Documentation: Journal of the Art Libraries Society of North America*, *34*(2), 301–320.

Mubofu, C. (2021). Non-Print Information Resources and The Preservation Approaches Recommendation in Tanzanian Academic Libraries. *Indonesian Journal of Librarianship*, 1, 85-98

Mubofu, C., Mambo, H. & Samzugi, A. (2020). Academic Libraries and Information Resources Preservation Strategies: Past, Present and the Way Forward. *Covenant Journal of Library and Information Science*, 3(1), 1–11.

Neumbe, R. (2019). Assessing Preservation of Records at the Jinja District Local Government, unpublished Bachelor's Dissertation, Makerere University, Kampla, Uganda.

Niess, R. (2021). 1 Exceptional Libraries and Distinctive Architecture: Celebrating Reuse. *New Libraries in Old Buildings: Creative Reuse*, 180, 7.

Niglio, O. (2013). John Ruskin: The Conservation of the Cultural Heritage. Retrieved on 09th June, 2022 from; https://repository.kulib.kyotou.ac.jp/ dspace/bitstream/2433/174031/1/2013_05_23_Olimpia_Niglio.pdf.

Nsok, L. D. & Jacob, E. E. (2020). Security Measures and its Challenges in Tackling Theft and Mutilation of Library Materials: A Case Study of College of Health Technology, Pankshin Library in Plateau State, Nigeria. *African Scholars Journal of Contemporary Education Research*, 17(8), 1–18.

Nworie, J., & Magnus, U. (2017). Library collection, nature, types and uses in academic libraries. Library Use Companion and Study Skills, 24-32.

Ogunmodede, T. & Adefunke, E. (2013). Problems of Conservation and Preservation of Library Resources in African Academic Libraries: A Review of Literature. Greener Journal of Social Sciences, 3(1), p050-057

Ogunmodede, T. & Adefunke, E. (2013). Problems of Conservation and Preservation of Library Resources in African Academic Libraries: A Review of Literature. Greener Journal of Social Sciences, 3(1), p050-057

Ogunmodede, T.A and Ebijuwa, A.S. (2013). Problems of Conservation and Preservation of Library Resources in African Academic Libraries: A Review of Literature. Greener Journal of Social Sciences. 3 (1), pp. 050-057

Olatokun, W. M. (2008). A Survey of Preservation and Conservation Practices and Techniques in Nigerian University Libraries. *LIBRES: Library & Information Science Research Electronic Journal*, 18(2).

Olubiyo, P. O., Achebe, N. E., & Olubiyo, L. M. (2022). Digitization of Information Resources in University Libraries in Nigeria: Challenges and Way Forward. Library Philosophy & Practice.

Pandey, R., & Kumar, V. (2020). Exploring the Impediments to digitization and digital preservation of cultural heritage resources: A selective review. Preservation, Digital Technology & Culture, 49(1), 26-37.

Rana, M. (2019). *Maintenance and Preservation of Library Collection Including Non-book materials*. retrieved on 21st June, 2021 from; https://bit.ly/3vl12dX.

Rathinam, S. & Jesudoss, M. (2019). Perception of College Librarians on Preservation of Library Documents with Special Reference to the Aided Arts and Science Colleges Affiliated to Madurai Kamaraj University, Tamil Nadu. *Library Philosophy and Practice*, 2292.

Saka, K. A., Babalola, G. A., Ahmed, A. O. & Mohammed, A. A. (2020). Influence of Preservation Techniques and Access to Digital Resources on Research Outputs of Academic Staff in Federal University Libraries in Northern Nigeria. *Library Philosophy and Practice*, 1–41.

Tambe, R. (2020). Cognitive Cloud Computing: A Practical Approach and the Need of the Coming Era. *International Journal of Advanced Computational Science and Engineering Technology*, 1(1), 1–7

Tripathi, S. (2018). Digital Preservation: Some Underlying Issues for Long-term Preservation. Library Hi

Yadav, D. & Kumar, S. (2020). Application of Conservation and Preservation Techniques to Enhance the Life of Traditional and Digital Information Resources in Libraries. *DESIDOC Journal of Library & Information Technology*, 40(3), 147–152.

Yakubu, B. (2023). Collection development policy: A panacea for collection development challenges in university libraries in Africa. Ghana Library Journal, 28(1), 15-25.

Yildizlar, B., Sayin, B. & Akcay, C. (2020). A Case Study on the Restoration of a Historical Masonry Building Based on Field Studies and Laboratory Analyses. *International Journal of Architectural Heritage*, 14(9), 1341–1359.