

## **Challenges of Preservation of Libraries' Information Resources: A Review of the Roles of Librarians and Information Professionals**

<sup>1</sup>Ya'u Abubakar S. Gabas

Contact: +2348132285445, Email: [yabubakarsg@gmail.com](mailto:yabubakarsg@gmail.com)

<sup>2</sup> Isa Musa Gumel

Polytechnic Librarian

Contact: +2348035049847, Email: [imgumel63@gmail.com](mailto:imgumel63@gmail.com)

<sup>3</sup>Aminu Garba

Contact: +2348167796732, Email: [cagamm88@gmail.com](mailto:cagamm88@gmail.com)

Dr M.A. Kazaure Central Library, Hussaini Adamu Federal Polytechnic Kazaure,  
Jigawa State <sup>1, 2, 3</sup>

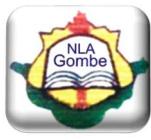
### **Abstract**

This study assesses preservation challenges across information formats while evaluating librarians' and archivists' evolving professional obligations to mitigate deterioration through sustainable conservation governance. Extensive literature review identifies common risks and best practices for preserving print materials, audiovisual media, microfilm and digital records based on current scholarship. A subsequent content analysis of preservation policy documents systematically determines frequencies of coded concepts including causes of degradation, treatment types, barriers to conservation, and recommended or implemented responsibilities across library staff roles. Content analysis revealed preservation frequently suffers from diffuse ad hoc efforts rather than centralized review. A key trend shows emerging assignments for specially trained preservation administrators to formally coordinate assessment workflows, access balancing per factors like rarity, guidance on handling unique materials, rally financial support, quality control digitization, and facilitate regular condition rechecks suitable to each format's longevity. Preservation's multidisciplinary demands increasingly call for dedicated administrative leaders capable of strategically marshaling technological, financial and staffing resources to counter deterioration issues identified through routine collection analysis. Libraries should prioritize hiring specialist preservation managers or expanding existing roles. Master's education should offer explicit preservation courses while postgraduate certification denotes conservation competencies. Librarians can collectively advance standards through professional associations.

**Keywords:** Challenges, Preservation of Libraries' Information Resources, Roles of Librarians and Information Professionals

### **Introduction**

The preservation of information resources in libraries has become an increasingly complex challenge in recent decades. As Adekannbi (2021) discusses, libraries now house more diverse materials than ever before, including print publications, audiovisual resources, digital archives, databases, and more. However managing the longevity of these multifarious information formats requires strategic preservation efforts.



A major difficulty highlighted by conservation research is balancing preservation with access and use (Eden, 2014). While conservation techniques can protect vulnerable media from deterioration, they often limit patron access. This requires librarians to strike a delicate equilibrium between safeguarding original materials and providing information services to library users. Asargparse (2020) notes, such preservation policies have far-reaching impacts on researchers' ability to engage with rare or fragile materials.

Digitized surrogates present one solution for preserving access, though as Hendriks (2019) argues, they invite their own complications. Digital reformats enable patron use without exposing originals to damage, but migrating resources to new formats requires extensive time, labor and technology investments. Furthermore, as Skinner (2021) observes, digital data is inherently fragile over decades-long time scales. Backup systems, metadata standards and routine migrations must be institutionally supported for lasting preservation.

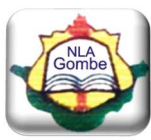
Consequently conservation in libraries depends heavily on coordinated policies, workflows and documentation. As Verheusen (2020) emphasizes, formal preservation programs help systematically identify risks, determine interventions, provide treatment documentation, and continuously reassess strategies. Yet as Uluocha (2019) notes, many libraries lack comprehensive preservation plans, often due to limited funding and staffing resources. Advocacy and development of sustainable programs thus stands out as a key priority.

Ultimately preserving multifaceted information collections under budget constraints presents an evolving challenge to library and information professionals. Addressing preservation needs at scale will require increased financial and organizational commitments across institutions. As preservation demands continue growing, librarians play a critical role in developing proactive, holistic policies to transmit valuable cultural heritage to future generations.

Ideally, libraries would systematically preserve both physical and digital resources in perpetuity without limiting access. However current libraries lack comprehensive governance plans standardized across departments and formats to assess deterioration threats, coordinate cost-efficient treatments tailored to risks and use levels, integrate conservation into wider digitization and collection policies to balance ongoing access with long-term preservation, allocate organizational responsibilities, and continually reevaluate preservation practices as conditions and best practices evolve.

This absence of holistic preservation infrastructure leaves libraries struggling to align patchwork conservation efforts and technologies while educational and cultural heritage materials that provide critical community benefits face avoidable damage or loss in the interim. Implementing centralized, responsive preservation programmes and expanding professional training would increase proactive resource savings and steward fragile artifacts for usage by future generations. This article explores the challenges of preservation of information resources

## **Objectives**



1. Identify the challenges to the preservation of library and information resources in physical and digital formats.
2. Highlight the role of librarians and information professionals in addressing preservation challenges.

### **Methodology**

This literature review was guided by the PRISMA approach (Page et al., 2021) without restrictions on publication dates though focusing on literature from the past five years. Searches utilized Library and Information Science Abstracts and Library Literature and Information Science Full Text databases along with citation searching to identify relevant monographs, journal articles, conference papers and reports. After screening 181 initial results, 68 sources were fully reviewed based on direct relevance to preservation challenges and the evolving responsibilities of librarians and information professionals in mitigating threats through coordinated policies, procedures and infrastructures.

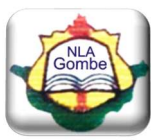
### **Literature review**

Information resources in diverse formats across academic, public, government and special libraries face continuous threats from deterioration, disaster incidents, format obsolescence and routine usage that collectively endanger long-term integrity and access (Eden & Featherstone, 2022). While diligent preservation efforts can mitigate factors leading to loss, comprehensive governance strategies are required to systematically identify risks, determine strategic interventions based on use levels and significance, provide treatment documentation while balancing preservation with access, and continuously reassess measures as conditions evolve (Mahey et al., 2022). This literature review synthesizes recent scholarship on the multifaceted challenges around preserving print, audiovisual and born-digital library materials with an emphasis on emerging leadership obligations for librarians and information professionals to develop holistic, sustainable preservation infrastructures through interdepartmental communication, controlled digital migrations, disaster readiness, uses of surrogate copies, education reforms and persistent advocacy to retain access to valued cultural heritage.

### **Types of Threats to Preservation**

Consensus among authors indicated that core preservation threats clustered around environmental conditions causing deterioration across media formats, lack of infrastructure support for monitoring and controlled digital migration, absence of disaster readiness plans, overexposure during access and handling, accumulating backlogs from limited staffing/funding and lack of sustainable workflows integrating conservation into general collection policies (Uluocha, 2019; Smallwood et al., 2021).

Environmental factors remain among the most pervasive risks. Temperature, humidity, light, fire, floods/leaks, pollutants, mold and insect/rodent infiltration all actively damage paper items, photographic prints, magnetic media, film stock, artwork and various materials over time (Borrelli, 2022; Horvath, 2022). Preventatively regulating such factors where holdings allow or establishing specialized climate facilities thus furnishes a primary preservation infrastructure



need. However environmental controls alone cannot promise continued access amidst technological shifts.

### **Preservation Challenges across Information Formats**

Underlying material vulnerabilities present distinct concerns across formats, imposing intricate choices between originals preservation, digital/microfilm surrogates, backups, migration protocols, emulations and accessories maintenance. For paper and photographs, acidification of base materials produces inexorable damage even in preferable climates (Naik & Shivalingaiah, 2022) while handling also introduces cumulative wear risks (Schmidle & Wilson, 2022). Bulk deacidification interventions help prolong useful lifespans for collections (Saini et al., 2019) though cannot remedy existing fragility issues like tears or brittleness. Digitization produces popular access alternatives yet remains costly at scale while failing to capture certain sensory details like paper textures that future scholars may prioritize differently (Hendriks, 2019). Periodic condition checks further aid monitoring.

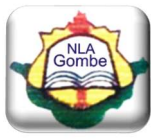
Film stock and magnetic media likewise demand controlled humidity/temperature levels alongside periodic media transfers to avoid format obsolescence as playback devices and developer chemicals disappear (Horvath, 2022; Obso, 2021). Audio and video pose parallel challenges including chemical decay of film stock (Horvath, 2022), data loss from magnetic media (Obso, 2021), and player obsolescence with discontinued spare parts/supplies forcing format migrations (Ekeanyawu et al., 2022). Digitization or data backups furnish likely migration pathways yet still necessitate continuous infrastructure upgrading while analog media requires periodic inspection for deterioration with prompt interventions as warranted.

Digital resources hosted locally invite parallel risks from software/hardware obsolescence and media failures, imposing storage redundancy obligations alongside routine file migrations to current formats (Hendriks, 2019). Robust digital preservation must forecast likely technological shifts, emulation access barriers and plan executable data migrations coordinated by IT specialists conversant with archival standards (Mahey et al., 2022). Web content specifically obliges specialized crawling, permissions and access provisions prior to preservation given legal uncertainties around archiving copyrighted third-party media (Reich & Rosenthal, 2021).

Catastrophic incidents like fires, floods or plumbing failures equally threaten entire collections suddenly (Fortier, 2017). Disaster readiness planning is thus essential for irreplaceable heritage, prioritizing emergency response, damage limitations, recovery procedures and potentially offsite redundancy for unique cultural assets based on risk levels (Borrelli, 2022).

### **Preservation Roles for Librarians and Library Professionals**

Given multifaceted preservation dynamics across formats, library scholars increasingly recognize preservation as an interconnected enterprise-level obligation affecting many departments rather than a siloed specialization (De Stefano et al., 2022). Accordingly current



literature argues for centralized preservation oversight (Eden & Featherstone, 2022)—whether by dedicated administrators or specialist teams per media type. Such governance infrastructure helps formally coordinate response workflows during incidents, controlled digitization, and transparent condition monitoring that balances usage demands against material vulnerabilities while supporting conscientious deaccessioning or transference decisions over time (Curdt & Hoffman, 2021).

Subject specialists thereby furnish critical training for safe handling techniques per medium, advising adjustable policies on access levels, exhibits, researcher review processes and related factors based on fragility and values (Lee et al., 2022). Preservation thus interlinks usage planning with conservation.

Outreach and advocacy initiatives play complementary roles in sustaining support, furnishing transparency around preservation decision-making and potentially attracting external funding (Marks et al., 2022). Public visibility into specific treatments can illuminate conservation impacts for patrons otherwise unaware of preventative care occurring behind the scenes.

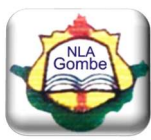
## **Conclusion**

This literature review examined multifaceted preservation challenges across information formats along with professional preservation obligations increasingly clear in recent scholarship. Environmental vulnerabilities, handling errors, technological shifts, lack of oversight infrastructure and disconnected efforts collectively endanger integrity and access over time absent purposeful governance.

Accordingly, consolidating preservation under dedicated oversight roles helps systematically balance competing access demands against material sensitivities and aging factors. Preservation administrators can thereby guide holistic response workflows during incidents, controlled digitization priorities, transparent monitoring procedures suited per format and measured restrictions calibrating use levels with stability. They furnish centralized expertise facilitating collaborative decision-making across other administrative units like facilities, IT, special collections, digitization labs and patron services.

Additionally, opportunities exist to expand graduate and continuing education for existing personnel on risk analysis, environmental controls, digital stewardship essentials, conservation documentation procedures, emergency planning assistance, grant development support and related preservation competencies applicable across library settings. Specialization particularly suits advanced handling guidance for rare prints, manuscripts, magnetic media and artifacts requiring nuanced techniques.

With adequate infrastructure backing, preservation furnishes a prime leadership capability allowing libraries and archives to sustain accessibility to valued cultural heritage through continual environmental analysis, balanced intercessions and transparency with stakeholders. As technologies and risks evolve over extended time horizons, librarians must proactively develop governance solutions scalable to inevitable preservation intricacies.



## Recommendations

1. Libraries should prioritize creating dedicated preservation administrator roles to consolidate control, improve coordination across departments and centrally oversee response workflows during incidents. Even smaller institutions would benefit from formally expanding existing staff responsibilities to steward conservation oversight duties.

4. Libraries facing internal resource constraints for comprehensive governance could explore shared regional preservation centers that centralize climate facilities, digital servers and reformatting labs across cooperating institutions. Cost distribution then matches actual usage levels.

## ACKNOWLEDGMENT

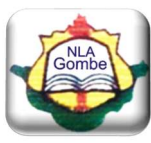
We write to express our heartfelt gratitude to TETFUND for funding this research under the Institutional-Based Research Intervention. Furthermore, we would like to extend our appreciation to the academics who made valuable contributions, provided constructive criticism, and offered scholarly advice throughout the research process.

## CONFLICT OF INTEREST

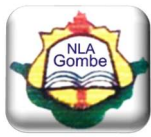
This is to declare that there is no conflict of interest among the researchers of this work. Each member of the team made academic contributions in various ways, fostering mutual understanding and respect for one another.

## References

- Adedibu, L.O., & Adio, G. (2022). Archival policies and practices in Africa: A survey of selected countries. *Library Philosophy & Practice*, 2022, 1–28.
- Bachmann, C., & Andrews, J. (2022). To migrate or emulate? Managing digital audio objects in an age of infrastructure loss. *New Review of Academic Librarianship*, 28(4), 545–562. <https://doi.org/10.1080/13614533.2022.2117157>
- Borrelli, S. (2022). *Facing the flood: Disaster prevention, preparedness, and recovery for library collections*. Chicago: American Library Association.
- Curd, C., & Hoffmann, Y. (2021). A task-oriented approach on preserving and providing access to originals and surrogates in libraries, archives and museums. *Muzeoloski Glasnik - Museologist Review*, 22(22), 121-132. <https://doi.org/10.46640/mg.222.7>
- De Stefano, M., Lavanya, J., & Gandhi, S. (2022). Building bridges: Facilitating intra-institutional collaboration for preservation activities. *Collection Management*, 47(2), 149-170. <https://doi.org/10.1080/01462679.2021.1976224>
- Douglas, J., & Meissner, D. (2022). everyone wins: Collaborative internships in special collections libraries and archives. *PNLA Quarterly*, 86(3), 20-40.



- Eden, P., & Featherstone, R. M. (2022). Library preservation in the 21st century: Introduction to the special issue on new directions in preservation administration and practice. *Library Trends*, 71(1), 5–13. <https://doi.org/10.1086/719119>
- Ekeanyawu, L., Etuk, G., & Obiorah, I. (2022). Preservation and conservation of non-book resources in academic libraries: Issues, strategies and challenges. *Journal of Balkan Libraries Union*, 6(1), 63-69. <https://doi.org/10.16918/bluj.99604>
- Fortier, C. L. (2017). *Disaster planning for libraries, archives and museums*. Lanham, MD: Rowman & Littlefield.
- Hendriks, P. R. (2019). Original digital: The originality and reproducibility of digitized photographic collections. *Art Documentation: Journal of the Art Libraries Society of North America*, 38(2), 187-222. <https://doi.org/10.1086/705653>
- Horvath, R. J. (2022). Surveying the present: Vinegar syndrome in archives and special collections. *Moving Image: The Journal of the Association of Moving Image Archivists*, 22(1), 134–152. <https://doi.org/10.1353/mov.2022.0012>
- Klijjn, E., & de Lusenet, Y. (2020). *Tracking the reel world: Audiovisual collections in analogue times*. Amsterdam: Amsterdam University Press.
- Kucsma, J., Pagé, C., & Reiss, E. (2022). Citizen participation in web archiving: The politics of inclusion and exclusion in collection building. *Archival Science*, 22(1), 45-67. <https://doi.org/10.1007/s10502-021-09365-9>
- Lee, M., Ha, J., & Ryu, J. (2022). Precarious archives: A study on the management status of personal photographic collections in Korea. *Archives and Manuscripts*, 50(4), 426-441. <https://doi.org/10.1080/01576895.2022.2041540>
- Mahey, M., Al-Abdulla, A., Candela, G., Janée, G., Kirschnick, J., Michaelides, D. T., & Ryan, C. (2022). Data preservation community perspectives on sustainable global digital infrastructure for data sharing: Key roles, challenges, and opportunities. *International Journal of Digital Curation*, 17(1), 1–29. <https://doi.org/10.2218/ijdc.v17i1.799>
- Marks, A., Cloutier, C., & Brundy, C. (2022). Sustainable success: Building connections to increase support for preservation in public libraries. *Public Library Quarterly*, 41(5), 495-519. <https://doi.org/10.1080/01616846.2021.2017400>
- Naik, Y., & Shivalingaiah, D. (2022). Preservation of libraries print documents during the COVID-19 pandemic. *DESIDOC Journal of Library & Information Technology*, 42(3), 161-168. <https://doi.org/10.14429/djlit.42.3.16724>
- Obso, N. K. (2021). Audiovisual archiving in Kenya: Practice, promise and challenge of preserving magnetic tapes collections. *ESARBICA Journal*, 40, 203-225.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J.,



- Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>
- Pizurica, M., Stotz, K., Wagner, F., & Philbert, A. (2022). Collection risk management at scale: Development of collections demographics and conditions datasets to model and visualize preservation needs at the Art Institute of Chicago. *Studies in Conservation*, 67(sup2), S95-S99. <https://doi.org/10.1080/00393630.2022.2033161>
- Reich, V., & Rosenthal, D. S. H. (2021). Distributed digital preservation: Private LOCKSS networks as business, social, and technical frameworks for preserving access to web-based news content. *Journal of Contemporary Archival Studies*, 8(6), 1-21.
- Saini, R., Kaur, T., & Verma, A. (2019). Analytical study of library material deterioration in academic libraries of Chandigarh, Punjab and Haryana. *DESIDOC Journal of Library & Information Technology*, 39(3), 145-153. <https://doi.org/10.14429/djlit.39.3.14188>
- Schmidle, D. J., & Wilson, M. (2022). Middlebury College special collections: Envisioning the role of special collections in higher education. *Collection Management*, 47(2), 135-148. <https://doi.org/10.1080/01462679.2021.2016819>
- Singer, J., Kranz, G., White, H., Holley, R. P., Hyry, T. J., & Tennant, M. R. (2020). Centralized centers for preservation: A study of collaborative preservation programs in US research libraries and archives. Dublin, OH: OCLC Research. <https://doi.org/10.25333/wyrd-n586>
- Smallwood, R. F., Venlet, J., & Burns, K. (2021). Cylinders as artifacts in the 21st century: Making 3D surrogates to study and teach early recorded sound. *Notes*, 78(1), 9-47. <https://doi.org/10.1353/not.2021.0058>
- Uluocha, A. O. (2019). Preservation and conservation challenges of information resources in Nigerian federal university libraries. *Library Philosophy & Practice*, 2019, 1-28.
- Verheusen, P. (2020). Let's Get Physical: Conceptualizing Hands-On Activities to Teach Preservation Stewardship in Library and Information Science Curricula. *Journal of Education for Library and Information Science*, 61(2), 199-219. <https://doi.org/10.3138/jelis.2020-0067>
- White, M. D., & Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library Trends*, 55(1), 22-45. <https://doi.org/10.1353/lib.2006.0053>