
Preservation Activities of Rare Library Material Collections at the TNI AD Central Library in Bandung City

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Received: 04/05/2025

Revised: 02/06/2025

Accepted: 15/06/2025

Abstract: *This study aims to examine the implementation of preservation efforts undertaken for rare library material collections at the Central Library of the Indonesian Army History Service (Disjarahad). Furthermore, this research explores the challenges encountered in these preservation activities and identifies potential solutions. A qualitative research method with a case study approach was employed. Data were collected through interviews, observations, and literature reviews. Data were analyzed using the stages of data reduction, data presentation, and conclusion. The findings reveal that the Central Library of Disjarahad implements preventive preservation measures, including regulating temperature, light, and humidity, maintaining environmental conditions, using mothballs, conducting routine inspections, and installing air conditioning systems in the collection room. Factors contributing to the deterioration of rare materials include internal factors (paper quality) and external factors (including fire, water, light, temperature fluctuations, dust accumulation, collection storage, air pollution, human activity, biological agents, and rodents).*

Keywords: *preservation; preventive; rare library material collections*

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Abstrak: Penelitian ini bertujuan untuk mendeskripsikan kegiatan preservasi koleksi bahan pustaka langka yang terdapat di Perpustakaan Pusat TNI AD Kota Bandung (Disjarahad/ Dinas Sejarah Angkatan Darat). Selain itu, penelitian ini juga membahas mengenai kendala yang dihadapi serta solusi yang dapat mengatasi kendala tersebut. Metode penelitian yang digunakan dalam penelitian ini adalah penelitian kualitatif dengan pendekatan studi kasus. Data yang didapatkan dalam mendukung penelitian ini, yaitu melalui wawancara, observasi, dan kajian literatur yang dianalisis berdasarkan tahap reduksi, penyajian, dan kesimpulan. Hasil penelitiannya menunjukkan bahwa Perpustakaan Pusat TNI AD Kota Bandung telah melakukan kegiatan preservasi secara preventif terhadap koleksi bahan pustaka langkanya dengan cara mengatur suhu, cahaya kelembapan, menjaga kebersihan lingkungan perpustakaan, pemberian kapur barus, pemeriksaan secara ketat, serta pemasangan AC pada ruangan koleksi. Adapun faktor yang mempengaruhi kerusakan pada koleksi bahan pustaka langka di Perpustakaan Pusat TNI AD Kota Bandung, yaitu faktor internal (kualitas kertas, dan faktor eksternal (api, air, cahaya, suhu, debu, tempat penyimpanan koleksi, pencemaran udara, faktor manusia, faktor biotis, dan binatang pengerat).

Kata kunci: preservasi, preventif, koleksi bahan pustaka langka

How to Cite:

Yunita, H., Khadijah, U. E., & Kurniasih, N. (2024). Preservation Activities of Rare Library Material Collections at the TNI AD Central Library in Bandung City. *Pustakaloka*, 16(2), 246-265. <https://doi.org/10.21154/pustakaloka.v16i2.10855>

INTRODUCTION

Libraries fulfill a critical responsibility in the preservation of intellectual and cultural heritage and in ensuring its accessibility for future generations. This is because libraries function not only as repositories, but also as active agents in safeguarding and maintaining collection of books with significant historical value. Special libraries are tasked with preserving and developing various sources of information relevant to their institutional mandates.¹ Special libraries typically hold unique collections that reflect the specific nature and focus of the institution they serve. The Central Library of the Indonesian Army History Service (Disjarahad), hereinafter referred to as “the library”, is recognized as a specialized library with a distinctive and historically significant collection.

¹ Eviendrita, “Typology of Special Library Management in Institutions,” *Imam Bonjol Journal: Information and Library Science Studies*, 2020, 73–85.

Libraries serve as a fundamental institution for providing access to information through their diverse collections of materials.² The library, located in Bandung, maintains a wide range of resources, including a distinguished collection of rare library materials. Such materials require systematic preservation, as they carry substantial historical value and are often limited in number.³ Among these are rare books from the Dutch colonial period, encompassing military history and science written in Dutch, English, German, French, and other languages. These rare collections are available to both the general public and Indonesia army personnel, although their use is supervised by the library staff to ensure proper preservation and sustainability.

The library preserves ten rare library materials, several of which are more than a century old. The oldest item in this collection is a Dutch book published in 1672, *Den Arbeid Van Mars*, of *Nieuwe Vesting-Bouw*, which discusses collaborative efforts in the construction of defensive fortifications. Despite its age, this work continues to serve as a valuable reference in academic contexts, particularly in supporting military training. Accordingly, its preservation is of critical importance to ensure the sustainability of its educational and historical functions.

Preservation refers to a set of systematic activities aimed at maintaining the physical condition of library collections.⁴ It is commonly defined as the process of safeguarding both the physical form and the informational content of library materials through regular practices conducted in accordance with established preservation policies, thereby minimizing the risk of deterioration.⁵ The preservation of library collections, particularly rare materials, is essential to ensure the continued availability and integrity of the information they contain. Furthermore, preservation efforts significantly extend the lifespan of rare collections, enabling them to be utilized by future generations of users in fulfilling their information needs.

²Raisya Gita Cahyani and Ute Lies Siti Khadijah, "Collection Preservation Activities at the National Institute of Technology Library," *Informatio: Journal of Library and Information Science* 3, no. 2 (2023): 139, <https://doi.org/10.24198/inf.v3i2.46665>.

³Neneng Asaniyah, "Preserving Rare Collections Through Restoration," *Islamic University of Indonesia Library Bulletin* 2, no. 1 (2019): 93–104.

⁴Rahmat Kautsar, Hamidi Ilhami, and Muhammad Nur Effendi, "Preservation of Library Materials in the Banjarmasin City Public Library," *Library of Works: Scientific Journal of Library and Information Science* 10, no. 1 (2022): 51, <https://doi.org/10.18592/pk.v10i1.6741>.

⁵Yeni Budi Rachman, *Preservation and Conservation of Library Materials* (Rajawali Press, 2017).

Preservation can generally be categorized into two approaches: preventive preservation and curative preservation. Preventive preservation refers to efforts aimed at optimizing the environmental conditions of the library in order to extend the lifespan of collection.⁶ These measures include maintaining a stable temperature, ideally between 20-24 degrees Celcius; ensuring proper air circulation through windows or ventilation systems; installing CCTV for monitoring purposes; and positioning collections appropriately by avoiding direct exposure to sunlight. In addition, the application of ultraviolet (UV) filter film on library windows serves as an important strategy to minimize light-induced book collections damage to rare and sensitive materials⁷.

Rare library collections are highly vulnerable to deterioration resulting from both natural and human-related factors. Such damage may be caused by internal factors, including the inherent characteristics of the materials, such as the quality of the paper, ink, and binding adhesives. External factors include the environmental conditions, human activities, natural disasters, and biological agents.⁸ The primary objective of both preventive and curative preservation strategies is to mitigate the risk of damage caused by these internal and external factors, thereby ensuring the sustainability and accessibility of rare collections.

The importance of preservation activities for rare library collections has been demonstrated in previous research. For instance, the National Library's Materials Preservation and Media Transfer Center implements curative preservation measures by repairing rare book collections through binding techniques, including binding and perfect binding to restore their usability.⁹ Other studies have highlighted preventive preservation practices, such as those conducted at the Library of the Faculty of Communication Sciences, Padjadjaran University.¹⁰ These practices focus on maintaining library cleanliness and regulating temperature and

⁶Endang Fatmawati, "Preservation, Conservation, and Restoration of Library Materials," *Bookstore* 10, no. 1 (2017): 13–32, <https://jurnal.ar-raniry.ac.id/index.php/libria/article/view/3379/2370>.

⁷Nida Nurmustafha et al., "Preventive and Curative Preservation Activities of Collections at the Indonesian Computer University Library," *Informatio: Journal of Library and Information Science* 4, no. 1 (2024): 51–64.

⁸Endang Fatmawati, "Identification of Factors Causing Damage to Library Collections," *Edulib* 7, no. 2 (2017): 108–19, <https://doi.org/10.17509/edulib.v7i2.9722>.

⁹D Ratmono, "Preservation of Rare Books at the Center for Preservation and Media Transfer of Library Materials, National Library of the Republic of Indonesia," *Maktabatuna: Journal of Library Studies* 4 (2022): 17–31.

¹⁰Nadia Nur Azizah, Samson CMS, and Khoerunnisa Lutfi, "Preservation and Conservation Activities of Library Materials in the Library of the Faculty of Communication Science, Padjadjaran University," *Library* 7, no. 1 (2023): 115–22.

lighting conditions, with the aim of minimizing potential damage to book collection.

Each library carries out preservation activities according to its institutional policies and the specific conditions of its collections. The library for instance, has implemented several preventive preservation measures. Within this framework, the present study aims to examine preservation practices at the Central Library of the Indonesian Army in Bandung City, informed by relevant findings in the scholarly literature. Research on library material collection preservation has increasingly focused on various strategies and practices. For instance, Asaniyah¹¹ investigated the conservation of rare collection through restoration techniques, while Rahayu¹² analyzed preservation activities for rare book collections at the Banjarnegara Regency Archives and Library Office using Flipbook-based approaches. Despite these contributions, limited scholarly attention has been devoted to the preservation of rare military and historical collections, particularly within libraries of defense institutions. In response to this limitation, this study seeks to explore the preventive preservation strategies implemented by the library and to identify the challenge encountered in their implementation.

RESEARCH METHODS

This study employed a descriptive qualitative research approach to provide a comprehensive understanding of the phenomenon under investigation¹³, namely the preservation of rare collections at the library. Within the qualitative research, the object of study employed a qualitative descriptive approach to examine through a comprehensive and systematic description.

This study employs a qualitative research approach aimed at exploring the research problem through detailed description, explanation, and interpretation.¹⁴. This approach emphasizes obtaining in-depth insights rather than producing statistical generalizations. Then, the data collection techniques used in this study, include observation, interviews, and literature review. The observational study was conducted at the Central Library of the Indonesian Army, located at Jl.

¹¹Asaniyah, "Preservation of Rare Collections Through Restoration."

¹² Ifon Margiati Rahayu, "Flipbook-Based Preservation of Rare Collections in Public Libraries," *Daluang: Journal of Library and Information Science* 1, no. 2 (2021): 99–110, <https://doi.org/10.21580/daluang.v1i2.2021.7977>.

¹³ Feny Rita Fiantika et al., *Qualitative Research Methodology* (Padang: PT. Global Executive Technology, 2022).

¹⁴Cahyani and Khadijah, "Collection Preservation Activities at the National Institute of Technology Library."

Kalimantan No. 6, Merdeka, Sumur Bandung District, Bandung City, West Java 40113. The study began in February 2025 until the completion of the data collection process.

In addition to observational methods, data were also collected through semi-structured interviews designed to be easily understood by participants. The primary aim of these interviews was to gather in-depth information relevant to the research problem under study.

This study is further supported by Ross Harvey's theoretical framework, which defines both preventive and curative preservation activities in the context of library and archival science. Harvey's theory provides a foundation for understanding the preservation practices examined in this research.

For the data analysis process, this study applies the qualitative data analysis framework proposed by Miles and Huberman¹⁵, which consist of four interconnected stages: data collection, data display, data condensation and conclusions drawing. In the data reduction phase, the collected data are organized and simplified through coding, categorization, and summarization, often supported by visual tools such as matrices, charts, or thematic groupings. This step aims to focus on relevant information while discarding non-essential data.

The data display stage involves presenting the reduced data in an organized and coherent format-such as descriptive narratives, tables, or diagrams- to support interpretation and pattern recognition. Finally, during the conclusion drawing and verification phase, the researcher interprets the emerging patterns, themes and relationships from the data. These conclusions are validated by cross-checking them with the original data and comparing them to findings from previous research to ensure credibility and consistency.¹⁶

The validity of the research findings will be assessed through data triangulation, which involves comparing information obtained from various sources to identify consistency and enhance data reliability. This process includes cross-checking the perspectives of different informants with other data sources to ensure accuracy and depth. Following triangulation, the researcher conducts participant validation to align the previously obtained data with new information

¹⁵Ahmad Rijali, "Qualitative Data Analysis," *Alhadharah: Journal of Islamic Da'wah* 17, no. 33 (2019): 81, <https://doi.org/10.18592/alhadharah.v17i33.2374>.

¹⁶ Rijali.

provided by the data sources. This adjustment enhances the credibility of the data used in the study.

RESULT AND DISCUSSION

The Central Library of the Indonesian Army in Bandung City, also known as the Disjarahad Library, operates under the Central Library Implementation Agency of the Indonesian Army (Balaktakapus AD). This library was originally established by the former Dutch East Indies government and was officially handed over to the Republic of Indonesia on December 27, 1949, following the recognition of Indonesia's sovereignty. The library is located at Jl. Kalimantan No. 6, Merdeka, Sumur Bandung District, Bandung City, West Java 40113. It is open from Monday to Friday, from 08.00 to 15.00 (WIB). The library is managed by a team of seven staff members and one library director.

The Central Library of the Indonesia Army in Bandung City has a vision of becoming a professional, responsive, innovative, modern, and adaptive TNI AD library in managing, developing the central library, and serving users both within the TNI AD environment and the general public. This vision is supported by the library's mission, which includes the following: 1) conducting activities to develop the library's collection through purchases, exchanges, donations and grants; 2) managing technical service for collection processing including acquisition, inventory, cataloging, classification, labeling, shelving and display of library materials; 3) providing services to users within the TNI AD environment and the wider community by offering access to the collection for education, research, informational, and recreational purposes to enhance insight and knowledge; 4) maintaining and preserving the library's material collection to ensure its longevity and continued usefulness for users both within the TNI AD environment and the civil society.

In line with the library's vision, the Central Library of the Indonesian Army in Bandung City undertakes preventive preservation activities for its rare library material collection. The library hold five rare in book, considered iconic due to their historical significance. The collection originates from the Dutch colonial era, and consists primarily of printed works written in foreign languages such as English, Dutch, French, and German. Due to their historical background, these items are now more than 50 years old. These works are classified as rare collections based on several criteria: their historical significance, early publication dates, valuable informational content, physical completeness despite their age, status as

first editions, and the fact that they have undergone binding, which serves as a preventive measure to minimize physical deterioration¹⁷.

Damage to library collections is generally caused by various factors, including both internal and external factors.¹⁸ At the Central Library of the Indonesian Army in Bandung City, deterioration of the collection is primarily caused by poor paper quality, ink fading that renders text difficult to read, and the degradation of binding adhesives, which in some cases has attracted termites. In response, the library has implemented several preservation measures, including digitization, the use of a temperature-controlled collection room, and the discontinuation of low-quality adhesives.

"For rare book collections with deteriorating paper quality, we typically digitize them by... *scanning using* a scanner, allowing the files to be converted into e-book, which are then *uploaded* through the Indonesian Army Historical Information System (SIKAD) application. In cases where the ink on rare books has faded, the collection are in stored in a temperature-controlled room set between 20 - 24 degrees Celsius to prevent further fading and ensure the text remains readable. To prevent termite-related damage, we avoid using low-quality adhesives during the preservation process." (Major Inf. Wawan Susanto, February 19, 2025).

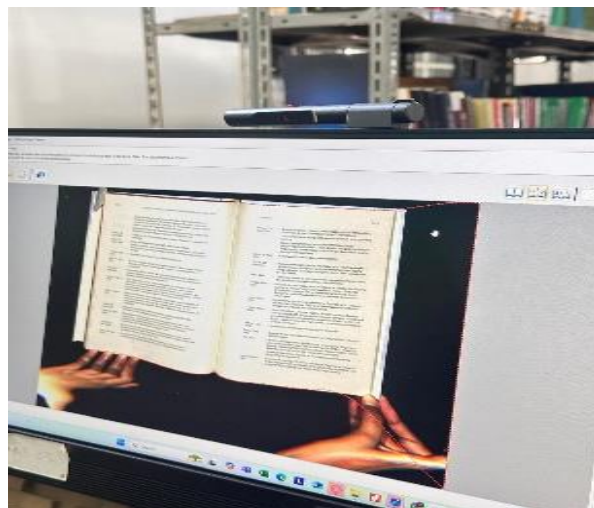


Figure 1. Digitization of Rare Books
Source: Research Documentation (2025)

¹⁷ Ruth Lilly, "Rare and Beautiful : The Books of Ruth Lilly Special Collections and Archives,," 2004.

¹⁸Fatmawati, "Identification of Factors Causing Damage to Library Collections."

External factors significantly contribute to the deterioration of the library's collection. Such damage to library collections is caused by various external factors, including water, fire, excessive light, inappropriate temperature and humidity condition, dust, inadequate storage environment, air pollution, human-related factors, biological agents, and rodents. For instance, water intrusion may cause rare book collections at the Central Library of the Indonesian Army in Bandung City to become damp and susceptible to further degradation. Similarly, fire hazards pose a severe risk, with the potential to destroy rare book irreversibly.

"The rare book collection at the library is particularly susceptible to fire because its primary material is paper, which is highly flammable. However, no-fire related damage has occurred to date... *thank god*" (Mayor Inf Wawan Susanto, February 19, 2025).

Furthermore, direct exposure to sunlight can cause radiation to the materials in rare book collection. Dust adhering to the rare book collection at the library can also cause deterioration. Air pollution additionally contributes to deterioration, since vehicle exhaust fumes entering the library can produce dust that cause deterioration of the rare book collection.

Human factors are a major cause of deterioration in the rare book collection at the library, including loss, theft, food remnants brought in by users and library staff, scribbling on books, folding pages, using books as writing pads, marking texts, and stacking books excessively. In addition, biotic factors, such as camphor, insects, book lice, *silverfish*, bookworms, cockroaches, and termites also contribute to deterioration of the library's rare book collection. Furthermore, pests such as rats can cause additional deterioration and contaminate the rare book shelves at the Central Library of the Indonesian Army in Bandung City.

"Various factors cause the deterioration of the rare book collection at the Disjarahad Library. Human factors are the most prevalent, including scribbling on books and sweat from library staff and users. Additional markings, such as underlining, are also found in rare books. These practices significantly cause damage to the rare book collection at the Disjarahad Library." (Mayor Inf Wawan Susanto, February 19, 2025).

Based on various factors causing damage to rare book collections, the Central Library of the Indonesian Army in Bandung City continues to implement preventive preservation strategies to safeguard its collections. To mitigate water-related damage, the library takes several steps, including preventing roof leaks, inspecting water drainage systems on building walls, and maintaining rainwater channels. In cases where rare book collections are exposed to water, the Central Library of the Indonesian Army in Bandung City dries the affected book collections through indirect light exposure.

"To address water exposure, the library conducts weekly inspections of the building and uses fans to dry affected collections" (Letkol Caj Drs. SST Perdamaian B, February 19, 2025).

The Central Library of the Indonesian Army in Bandung City prevents fire damage by prohibiting library staff and users from smoking on the premises. Furthermore, staff at the library regularly check the electrical installations. The library also provides fire extinguishers and places them conveniently within easy reach of staff at the Central Library of the Indonesian Army in Bandung City.

"Although we have never experienced a fire in this library, we still provide fire extinguishers and routinely check the electrical system in each library room. This is to prevent electrical short circuits that could cause fires," (Letkol Caj Drs. SST Perdamaian B, February 19, 2025).

Additional preservation measures implemented by the library include reducing light intensity, limiting exposure time, and avoiding direct sunlight. Furthermore, the library maintains temperature and humidity in the rare book collection room by installing an *Air Conditioner* (AC), a *hygrometer*, and a *thermometer* to monitor and regulate humidity and temperature, thereby preventing fluctuations in temperature or air pressure within the room. The ideal humidity level is maintained at approximately 45-60% RH, while ideal temperature is around 20-24 degrees Celsius. Although some collection rooms are not equipped with air conditioning, staff at the Central Library of the Indonesian Army in Bandung City keep the windows open to maintain air circulation.



Figure 2. The Use of Air Conditioning in the Collection Room

Source: Research Documentation (2025)

Insects and mites often breed in the dust that accumulates on library collection shelves.¹⁹ To minimize dust buildup in the rare book collection room, staff at the library clean the room daily, including vacuuming. In addition, staff regularly inspect and clean the storage shelves, arrange the rare book collection neatly with sufficient spacing on the shelves, and ensure odor-free storage conditions.

"We perform daily preventative preservation activities, including placing camphor, cleaning collection and maintaining bookshelves" (Deden Trilaksana, March 27, 2025).

Although the Central Library of the Indonesia Army in Bandung City is located far from garbage incinerators and vehicle exhaust, the library still implements preventive preservation measures to minimize collections damage caused by air pollution. One such measure is the use of air conditioning, equipped with filters. Furthermore, the library staff always keep the collection room closed when the air conditioning is operating.

Improper use of the library's collection is a significant source of damage, often caused by users, library staff, or external parties.²⁰ To minimize damage to rare

¹⁹Fadila Aulia and Yeni Budi Rachman, "Preservation of Rare Book Collections at Library 'X,'" *Journal of Information, Library, and Archival Science* 25, no. 1 (2023), <https://doi.org/10.7454/jipk.v25i1.004>.

²⁰Fatmawati, "Identification of Factors Causing Damage to Library Collections."

collections, particular attention is given to human factors. At the Central Library of the Indonesia Army in Bandung City, users, staff, and third parties are instructed not to place pressure on book or rest heavy objects on them to prevent damage to the book spine. They are also advised not to use books as writing pads, make annotations on rare book collections, or fold page corners. Preventive measures against theft are implemented by tightening inspections during viewing or reading sessions. In addition, staff routinely monitor the condition and arrangement of rare library materials.

Biotic factors can also cause damage to rare library collections. This type of damage is often triggered by leftover food particles in the library collection area. To prevent such risks, the staff at the The Central Library of the Indonesia Army in Bandung City has designated a rare book storage room that is maintained as insect-free. Furthermore, damaged rare books are stored separately from those in stable condition as a quarantine measure to prevent the spread of booklice and other insects. Another preventive preservation measure undertaken by the library staff is to avoid storing rare book collections in dark or humid environments, as such conditions may lead to biological damage.

The staff of the library have implemented specific measures to address damage to rare collections caused by rodents, particularly rats. Preventive efforts include maintaining the collection area in a clean, dry, and well-ventilated condition. In addition, rat repellents are applied around the library every four to six months. To minimize the risk of rodents invading the collection area, staff ensure that no scattered food remnants are present near the rare collections. Furthermore, they prevent potential rodent shelters by repairing crack or holes in the building's foundation walls and by maintaining the surrounding areas in a sanitary condition.

"We urge staff and library users to avoid leaving food scraps in the collection room and to regularly inspect the building to identify necessary repairs, in order to minimize potential causes of damage to the rare collections" (Letkol Caj Drs. SST Perdamaian B, February 19, 2025).

The preventive preservation procedures implemented at the library include 1) conducting an inventory of damaged library collections; 2) distinguishing between collections in the good collection and those requiring preservation treatment; 3) categorizing collections based on the level of damage; 4) compiling an inventory of the causes of collection damage; 5) carrying out preservation activities on a routine and regular schedule. In addition, responsibility for

preservation activities at the Bandung City TNI AD Central Library lies with the Head of the Library Implementation Agency (Kabalaktakapus), who also serve as the head of the Harwat (preservation) Team. His Head's duties include planning, directing, and supervising preservation activities within the library.

DISCUSSION

Harvey stated that preservation consist of two aspects: preventive preservation and curative preservation.²¹ Preventive preservation refers to direct action aimed at extending the useful life of documents. Such measures include maintenance, care, and regular monitoring of documents, as well as preventing physical damage caused by chemical, biological, physical, and other factors.

According to the Regulation of the Head of the National Library of the Republic of Indonesia, special collections must be stored in designated rooms.²² The storage of these collections must comply with preservation standards and ensure the security of the facility. This regulation aligns with Harvey's theoretical framework on preservation, which emphasizes that, "*the buildings must be sound in all respects and the rooms used as store must be sound in all respects*".²³ Harvey's statement implies that buildings and storage rooms must be structurally sound in all aspects to function as preventive preservation measures, particularly in safeguarding and maintaining rare library collection.²⁴

Rare book collections are highly vulnerable to biological deterioration due to their paper-based materials. Threats include insects, book lice, cockroaches, termites, fungi, and adhesive pests. A preventative measure is placing camphor in collection storage areas.

Camphor functions as an initial step to prevent biotic damage and is considered a safe and effective preventive measure for protecting the rare book collection. According to Imam Supangat, Entry-level Expert Librarian (First Expert) at the National Library of Indonesia, the use of camphor is regarded as an appropriate strategy for mitigating biological deterioration, even though such preventive efforts remains relatively simple. This practice corresponds with Harvey's theory of preventive preservation, which highlights that the effectiveness

²¹ Ross Harvey, *Preservation in Libraries: Principles, Strategies, and Practies for Librarians*(London: London Bowker Saur, 1993).

²²National Library, "Regulation of the Head of the National Library of The Republic of Indonesia Number 16 Of 2014 Concerning Procedures For Storage And Use Of Special Collections,"*National Library of the Republic of Indonesia*, 2014, 5.

²³ Harvey, *Preservation in Libraries: Principles, Strategies, and Practies for Librarians*.

²⁴ Harvey.

of camphor varies depending on the type of pest.²⁵ While effective against certain insects, camphor must be used cautiously, as it can be harmful to humans and pets if inhaled in high concentrations or ingested.

The Central Library of the Indonesia Army in Bandung City applies this measure by placing camphor throughout the rare collections room, including around and inside the bookshelves. Additionally, to control ants, camphor is also placed in affected areas. The strong odor of camphor effectively repels insects.

Direct sunlight and intense lighting in storage areas may cause physical damage to paper materials of the rare book collection. Ultraviolet radiation accelerate the deterioration of paper by causing excessive drying, rendering it brittle, discolored, and prone to cracking, thereby compromising the integrity of the recorded information. Imam Supangat, emphasized that illumination in rare collections storage must be carefully regulated and supported by light-monitoring devices to minimize deterioration. This explanation accords with Harvey's preventive preservation principle,

"light levels, like temperature levels, need to be kept as low as possible in all library areas. To summarize, light provides energy to speed up the rates at which the chemical reactions causing the breakdown of materials occur. Ultraviolet light has the most detrimental effect".²⁶

Harvey's statement underscores that illumination levels, like temperature, should be maintained as low as possible in all library collection storage areas.²⁷ Light accelerates chemical reactions that lead to material deterioration and ultraviolet radiation is particularly destructive.

Temperature in the collection storage is equally critical, as fluctuations can lead to dampness or overheating. Damp condition foster fungal growth, while excessive heat makes material fragile. Imam Supangat, noted that the lower temperatures increas dampness, while higher temparatures reduce it, highlighting the need for adequate ventilation in rare collection storage. Based on the theoretical framework of preventive preservation, Harvey emphasizes that,

²⁵ Harvey.

²⁶ Harvey.

²⁷ Harvey.

“simpler measures may be of use in limiting the extremes of temperature and humidity such as ensuring good air circulation by appropriate use of fans and windows; use of dehumidifiers to reduce humidity in badly affected areas of book stack; use of insulation methods to reduce heat gain and use of blinds to keep out direct sunlight; ensure buildings are properly maintained to keep out dampness during rainy periods”²⁸.

The main point of Harvey's (1993) explanation is found in the practical measures for regulating temperature and humidity, including ensuring adequate air circulation through the use of fans and properly designed windows; employing dehumidifier to reduce excess humidity in vulnerable collection storage areas; applying thermal insulation techniques to minimize heat absorption and using curtains to prevent direct sunlight; and maintaining the building structure to prevent dampness during the rainy season.

Therefore, the Central Library of the Indonesian Army in Bandung City manages sunlight exposure by positioning the shelves containing its rare collections slightly inward to minimize direct sunlight. Furthermore, temperature and humidity are regulated by opening windows and operating the *air conditioner*(AC) to stabilize room conditions. In addition, a blower is provided to help maintain stable humidity levels. However, the library windows are not yet equipped with blinds, allowing direct sunlight to enter the collection room. Furthermore, the rare library collection room is not equipped with a light-measuring instrument, such as a lux meter, so lighting control remains basic.

Accumulated dust can lead to collection damage, such as the appearance of black spots on paper materials. A poorly maintained collection room is a major factor contributing to accumulation in library materials. In addition to dust, roof infiltration may also result in humidity, further can threatening the condition of the collections. Therefore, routine cleaning and preventive maintenance are crucial to reduce dust accumulation and prevent roof infiltration in the collection room.

The library carries out daily cleaning routines, including sweeping and mopping the rare book collection room, while the shelves are cleaned using feather duster and cleaning cloths. In addition, the library conducts regular maintenance by inspecting the building on a weekly basis to prevent potential roof and walls leaks.

This action aligns with the theoretical foundation of preventive preservation as explained by Harvey, who stated:

²⁸ Harvey.

*"The results of a regular cleaning program are both the obvious - reducing damage caused by dust and biological pests - and the less apparent. Cleaning of items in the collections should be carried out by staff trained for the purpose"*²⁹.

The implication of Harvey's statement is that routine cleaning and maintenance should be systematically implemented with the support of library staff trained in handling collection cleaning.³⁰ Similarly, the Entry-level Expert Librarian (First Expert) at the National Library of Indonesia, Imam Supangat, emphasized that the routine cleaning and maintenance being conducted are appropriate, however, he suggested that using a *vacuum cleaner* is preferable to a duster, as it prevent dust from resettling on the collection within the room.

The Central Library of the Indonesia Army in Bandung City has implemented strict regulations for users seeking access to its rare collections. These regulations are intended to safeguard the materials from potential damage. Imam Supangat, Entry-level Expert Librarian (First Expert) at the National Library of Indonesia, emphasized that such regulations are essential to ensure the preservation of rare collections. This policy is consistent with the Regulation of the Head of the National Library of Indonesia, which requires that access to special collections obtain authorization from the Head of the Library, with a clearly stated purpose of research or education. Furthermore, access must take place in a designated reading room, and duplication or public distribution of these materials is strictly prohibited due to the limited availability of the collection.³¹

²⁹ Harvey.

³⁰ Harvey.

³¹National Library, "Regulation of the Head of the National Library of the Republic of Indonesia Number 16 of 2014 Concerning Procedures For Storage and Use of Special Collections."

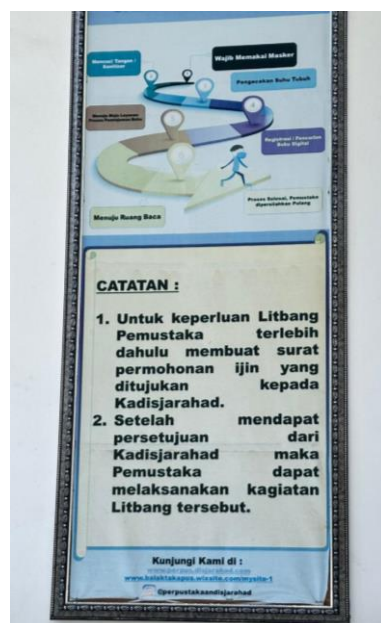


Figure 3. Access Rules for Library Users to the Collection
Source: Research Documentation (2025)

Media transfer for rare library materials is crucial to preserve the physical condition of the collections and to minimize the risk of deterioration. In addition, media transfer improves user access by allowing multiple users to obtain the same information simultaneously without compromising the preservation of the original materials. Therefore, libraries must be prepared to fulfill access requests more quickly and efficiently through the implementation of media transfer.

Media transfer can be carried out through both digitization and digitalization processes. According to Aulia and Rachman, digitalization refers to the process of converting content from print, audio, or video formats into digital form using a computer.³² Ratmono further explains that this process requires additional supporting equipment beyond a computer, namely scanners and appropriate software.³³ Furthermore, the primary objective of digitization is to convert library collections into digital format so they can function as documentary archives. Imam Supangat, entry level emphasized that digitization serves an essential role in preventing uncontrolled direct access to rare collections, thereby ensuring the protection of their content and informational value.

³²Aulia and Rachman, "Preservation of Rare Book Collections at Library 'X.'"

³³Ratmono, "Preservation of Rare Books at the Center for Preservation and Media Transfer of Library Materials, National Library of the Republic of Indonesia."

The Central Library of the Indonesian Army in Bandung City is currently undergoing a media transfer process through digitization, aimed at converting its rare and printed library materials into digital formats. The digitization process begins with *scanning* physical documents using specialized scanning tools and computer systems. The resulting digital files are subsequently uploaded to the Library Information System (SIKAD), an application managed internally by the library.

Based on the preventive preservation efforts undertaken by the staff of the library, the institution still faces several challenges in preserving its rare library materials. The challenges include limited human resources and insufficient budget allocation for preservation activities. Nevertheless, the library head and staff remain undeterred by these constraints. They consistently collaborate to ensure that preservation initiatives continue to be implemented effectively, with the aim of safeguarding the library's rare book collections.

CONCLUSION

The Central Library of the Indonesia Army in Bandung City has demonstrated a strong commitment to preventive preservation in safeguarding its rare book collections. A comprehensive set of measures has been implemented to address both internal and external factors of deterioration. For internal factors, the library has applied strategies such as digitization, temperature regulation, and the use of durable archival adhesives. For external factors, preventive actions include regular building inspections, the enforcement of a non-smoking policy, the avoidance to direct sunlight exposure, and the regulation of temperature and humidity with specialized equipment. In addition, routine cleaning, the application of mothballs, strict monitoring on users, and a prohibition on bringing food into the library are rigorously enforced to mitigate risks of physical damage deterioration, and theft, thereby ensuring the integrity of rare collections.

To enhance the effectiveness of preservation activities, the Central Library of the Indonesian Army in Bandung City is recommended to optimize its human resources by providing relevant training and professional development of staff, including preservation techniques and project management. Effective task management, particularly by prioritizing essential activities, is expected to improve work efficiency. Furthermore, budget management strategies should be reinforced through the strategic allocation of funds to the most critical preservation priorities while reducing non-essential expenditures. Finally,

establishing partnership with external institutions is considered a strategic approach to maximize financial resources and ensure the long-term sustainability of preservation activities.

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