



## Preservation and Conservation (PAC) Programme Frequently Asked Questions

### Microfilming and digitisation

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Q: Which department within the China PAC Center is responsible for microfilming?

A: The China National Microfilming Center for Library Resources (CNMCLR) was established in 1985. Its main responsibilities are to formulate the micrographics program of national public libraries, to organize and coordinate the rescue of ancient and other documents in need of long-term preservation and conservation in national public libraries, and to carry out micrographics reproduction, preservation and protection management of the documents in NLC.

CNMCLR has done a lot for the rescue of the precious heritage of China and the promotion of Chinese culture, and it has made remarkable achievements in document rescue program. Since its establishment, CNMCLR has set up 23 microfilm stations, providing hundreds of micro devices to dozens of libraries and thousands of miniatures for free, moreover, more than 2,000 professional and technical personnel were trained in various ways.

Meanwhile, a group of document collating and editing personnel and microfiche technical backbone was cultivated, which has greatly improved the overall level of microfiche technical application in Chinese public libraries. By 2018, CNMCLR had repaired a total of 187,808 kinds of documents, including 32,177 rare ancient books with 18.62 million pages, 5,402 ordinary ancient books with 2.63 million pages, 15,232 periodicals with 18.49 million pages, 2,812 newspapers with 21.31 million pages, and 132,185 Minguo books with 14.92 million pages, with a total of more than 75 million pages.

Q: What is the work concept of the CNMCLR?

A: Based on the principle of "co-construction and sharing", CNMCLR has led more than 20 provincial public libraries to carry out the rescue program of precious documents. To achieve the purpose of document protection and resource sharing, CNMCLR coordinates a great many libraries for resources supplement with other member libraries.

On the one hand, the repeated rescue of documents is avoided through the joint construction of each library, which not only reduces the damage to precious documents, but also saves a lot of resources. On the other hand, each library can share the rescued documents and jointly provide services for users through the sharing of each library on the CNMCLR platform using the microfiche or microfilm document digitization as the medium.

Q: What is Digital microfilming?

With the rapid development of digital technology, literature repair is experiencing new opportunities. Facing the respective advantages of microfilming and digital technology in document rescue, CNMCLR actively explores the transformation and utilization of microfilming technology and digital technology, and puts forward the idea of "digital microfilming" to vigorously develop the technology of conversion between microfilming and digital documents.

The CNMCLR is unique in technical level and processing standards in terms of microform digitization, conversion of digital resources to microfiche, microform shooting and microform copy.

Q: What is the work process for document microfilming?

A: Document microfilming is an important means of document repair and utilization. Its main steps include:

- Traditional microfilming

Traditional microfilming is always an important means of literature repair. Based on microfilming technology, those rare books, ancient books, and other documents can be appropriately saved and kept for a long time. It mainly includes sorting, shooting, processing, film copying and other links.

- Conversion from digital resources to microfilm

By using the digital conversion technology, a great many of special and precious documents and digital resources collected by public libraries and other institutions have been transformed into microfiche for the purpose of long-term preservation. Thanks to the convenience and connectivity of digital conversion technology, heterogeneous backup of digital and paper documents could be operated effectively and efficiently.

- Microfilm digitization

In order to promote the regenerative application of literature rescue results and benefit the society with excellent traditional cultural resources, relying on the national key cultural engineering projects including Preservation & Conservation of Ancient Books, Minguo Documents Preservation, Digital Library Promotion Project, and using the advanced microfilm digital reduction equipment, CNMCLR is able to digitize the 35mm and 16mm films of various types such as archives, ancient books, newspapers and journals.

- Document collection development

Based on the resources collection, CNMCLR has carried out the special collation of ancient books and the Republic of China documents, and has established the working procedure from topic selection, collation and editing to publication and distribution, providing to publishing industry a batch of informative and precious topics that are related to ancient books and Minguo literature, highly-valued and praised by the academic community at home and abroad.

Q: By what process does the CNMCLR coordinate inter-library cooperation in collection reproduction for preservation?

A: In order to maintain the consistency between library's document preservation and development planning and the overall goal programming of CNMCLR, we carried out nationwide special surveys of the libraries' literature collections, and conduct literature rescue work through overall planning. The CNMCLR fully respects the wishes of each library by letting them select the type of literature according to its own collection resources preference, and then report to CNMCLR for approval before moving to the next step.

In order to avoid unnecessary tasks, CNMCLR will eliminate the duplicate literature and make the annual digitisation plan of each library through comparison and screening, according to the type of literature resources of each library.

Q: Why should collection reproduction for preservation combine microfilming and digital archiving?

A: Since its establishment in 1985, CNMCLR has been using traditional microfilm as the principal document rescue measure, forming an organizational structure, standards, technical force and talent reserve. However, with the rapid development of science and technology, the long-term preservation of digital resources has gradually become a major concern.

With the help of digital archiving technology, the original or regenerated digital images can be converted to microfiche, so that the advantages of long-term preservation of microfiche and those of convenience of digital information can be deeply combined, so as to achieve long-term preservation and heterogeneous preservation of digital documents.

Up to now, a number of public libraries have been carrying out the work of converting digital resources into microfiche through digital archiving under the leadership of the CNMCLR. In 2019, the total amount of microfilming and digital archiving resources construction in CNMCLR is more than 2.2 million. At present, the documents being repaired by CNMCLR cover many fields, such as rare ancient books, Minguo documents, and documents after the founding People's Republic of China. By combining microfilming with digital archiving, the way to construct microform document resources becomes more abundant and diversified.

Q: How can a literature service structure combine access and discovery with preservation?

A: At the same time when devoting effort to digitisation for document conservation, CNMCLR is also actively developing and utilizing microform. By digitalizing the microfiche of the NLC's rare books, Minguo books and periodicals, CNMCLR has been providing more convenient access for readers to browse online.

According to the catalogue of microfilm documents that have been photographed, CNMCLR has completed the full bibliographic data production of more than 30,000 rare books, more than 10,000 journals and more than 2000 newspapers, established a bibliographic database of rare books, journals and newspapers, and has successively published The Catalogue of Chinese Newspaper Microforms from 1861 to 1949, The Catalogue of Chinese Journal Microforms from 1833 to 1949, and The Joint Catalogue of Microforms in National-wide Public Libraries.

Furthermore, CNMCLR has photocopied the microfilmed documents into more than 300 series of books, which are well received by academic community, library field and teaching and research units at home and abroad.

Q: How does CNMCLR implement a system that guarantees personnel training and technical support?

A: To ensure it is possible for each member library to complete necessary literature microfilming work, the CNMCLR purchases microfilming products in a centralized way every year and allocates them according to the needs and plans of each library.

To train the staff of both the Document Rescue Cooperation Units and internal staff, and to continuing improving the technical ability and professional skill level of the employees, CNMCLR offers on-site guidance, telephone support, and training courses at least once a year.

The CNMCLR provides technical support for each member library. When any member library confronts technical problems that cannot be solved independently, CNMCLR will arrange professional technical personnel to help the member library solve the problems by telephone or through on-site guidance.

CNMCLR is responsible for equipment maintenance and repair. In order to adapt to the new situation of the literature repair work, CNMCLR continuously organizes technical interventions to transform and innovate the existing equipment.

Q: How does CNMCLR protect the master negative after rare and endangered documents and books have been microfilmed?

A: The National Original Films Storage is managed by CNMCLR, and a large number of miniature original films of rare and endangered documents are preserved here. In order to protect these precious cultural heritages of China, the staff first inspected the appearance and packaging, clear dust and dirt, examine readability, chemical residue and water content of the miniature original films, and the qualified items will be stored in the National Original Films Storage. The original films and the copies are stored in separate locations.

The National Original Films Storage is located far away from harmful gas sources, water supply and drainage pipes, and set up in an exclusive, self-contained area. It is equipped with independent air conditioning system, temperature and humidity monitoring system, air purification and ventilation system.

The requirements for insect and vermin prevention of the warehouse condition shall comply with the relevant provisions of JGJ 38-1999 Code for Design of Library Buildings. The temperature and humidity of the warehouse shall comply with the relevant provisions of GB / T 15737-2014 Development. and Preservation of Silver Gelatine Microforms by Microphotography.

Specially assigned staff manage the storage in accordance with the Management Measures for the National Original Films Storage of the CNMCLR, and regular spot check and inspection are conducted to effectively guarantee the safety of the National Original Films Storage.

Q: What are some examples of the role CNMCLR plays in the preservation and protection of precious ancient books and documents of the Republic of China?

A: Document repair

By 2018, a total of 187,808 kinds of documents were rescued, including 32,177 kinds of rare ancient books, 18.62 million pages, 5,402 kinds of ordinary ancient books, 2.63 million pages, 15,232 kinds of periodicals, 18.49 million pages, 2,812 kinds of newspapers, 21.31 million pages, 132,185 kinds of Minguo books, 14.92 million pages, more than 75 million pages in total. Now that at least 20% of the repaired documents that cannot be read directly deal to the aging of paper and the damage of the carrier. Therefore, the carrier form of the microform should be used to preserve the document information completely.

Collection development and access

By 2018, CNMCLR has completed the microfilm digitization work of 17,000 kinds and more than 9 million pages of rare books microfilms, 4,000 kinds and 9 million pages of journal microfilms, 96,000 kinds and more than 20 million pages of Minguo book microfilms. At the same time, CNMCLR has carried on the construction of Minguo bibliography database. By 2018, nearly 30,000 kinds Minguo bibliography data of member libraries have been constructed, and the database is currently under internal trial operation.

Document organization and utilization

In 2015, The Joint Catalogue of Microforms in National-wide Public Libraries was compiled and published by the member libraries of CNMCLR, including more than 140,000 kinds of documents microfilms produced in various forms by June 2013, with more than 30,000 kinds of ancient books and 85,000 kinds of Minguo books. Meanwhile, through the Revolutionary Literature and Minguo Documents Preservation Project and other related programs, CNMCLR has cooperated with other institutions, to photocopy and publish microfilms of various kinds of ancient books and Minguo documents. Up to now, the number microfilms has reached more than 300 kinds (series), which have been unanimously recognized by the academic community and society.

Q: What are some methods of providing access to microfilms to the public and why is it valuable?

A: By providing remote access to microfilm digitization achievements.

- Based on the digitization of microfilms, NLC has established a number of databases for readers to browse and consult online, such as the digital Rare Book database (Chinese Ancient Book Resource database), Minguo Book database, and Minguo Journal database. The microfilm digital resources photographed by NLC account for more than half of the published resources of the Digital Library of Chinese ancient books built by the Center for Preservation & Conservation of Ancient Books. Microfilm digitization ensures that readers can get a user-friendly access to all kinds of valuable documents remotely in a more conveniently way.

By offering a free microfilm reading room that is open to the public.

- The microfilm reading room opens to the public free-of-charge for every reader to browse microfilms. The microfilms or microfiches collection range includes all kinds of rare books, common ancient books, local records, Minguo documents, as well as foreign doctoral dissertation, Japanese government publications, declassified materials of the British and American government, early works of missionaries to China, publications published by the west involved China before 1850, dictionaries and biographies. Microfilms constitute a multi-level service system that not only focusing on domestic and foreign scholars' research and learning, but also devotes to the cultivation of readers' common knowledge.

By offering photocopy publishing for the academic field and the public

- Over the years, CNMCLR deeply research, select literature topics, and actively explore a variety of publishing cooperation models with publishers. Every year, CNMCLR innovates and continuously promotes a number of ancient books and Minguo documents photocopying publishing plans, and it has achieved the effect of serialization, standardization and branding. In the academic and publishing circles, photocopy books with the participation of CNMCLR have become an important kind of publication that have been unanimously praised and widely recognized, and have become an indispensable object in the academic and social fields in terms research and reading.

Reference services for professional scholars and institutions

- Relying on the resource and technical advantages accumulated over many years, CNMCLR is unique in literature consultation and provision. It has provided a large number of microfilms, digital and paper-based precious literature for libraries, research institutions and ordinary readers at home and abroad, which effectively complemented the collection of libraries, and provided valuable reference resources for research institutions.

Q: How does CNMCLR communicate and cooperate with domestic and foreign units ?

A: While carrying out the rescue, preservation, development and utilization program, CNMCLR also actively implements resource sharing and provides collaborative services to university libraries, scientific research institute libraries and archives at all levels, and constantly explores and establishes cooperation mechanisms.

Furthermore, relying on the China association of document imaging, CNMCLR has undertaken a lot of social work and organized experts and scholars to Taiwan for many times with the Society of Chinese Archives to promote cross-strait archival and microphotograph academic exchange. Peers in Taiwan actively paid return visits, which strengthened the contact and communication in the microphotograph field; at the same time, the investigation and visit of microphotograph technology and learning and training at home and abroad, has created a good social atmosphere for the development of China's microfilming enterprise.

Q: How does CNMCLR work on standardisation to improve the working level of microfilming?

A: The China National Standardization for Documentary Imaging Technology Committee is responsible for the centralized management of standardisation technology in the field of microphotography technology and electronic image technology in China.

CNMCLR has served as the secretariat unit since the establishment of the China National Standardization for Documentary Imaging Technology Committee for more than 30 years ago. In this role, CNMCLR has organized and coordinated members and experts in different fields such as archives, government agencies, enterprises and institutions, colleges and universities to develop standardization work.

At present, 76 national standards have been officially issued, playing a positive role in improving the standardization level of China's microfilming technology. At the same time, as the domestic counterpart of ISO/TC 171 Document Management Applications, China National Standardization for Documentary Imaging Technology Committee visited Europe, America, Japan and other countries and regions for many times to participate in the annual meeting of ISO / TC 171, and participated in the preparation and revision of international standards.

Q: What is the content range of collected microforms at the National Library of China?

A: The National Library of China builds microfiche collections by means of microfiche photography, whose content covers rare books, common ancient books, Minguo documents, newspapers on early ages of People's Republic of China, modern newspapers, periodicals, and more. The collection is rich in content and comprehensive in variety.

In addition, microform materials are also constructed by means of outsourcing, including Chinese newspapers and magazines, Minguo books, Japanese government publications, materials declassified by the British and American governments and early works of missionaries coming to China, publications involved China published by the west before 1850, dictionaries and biographies.