

紙張

PAPER CONSERVATION

保護

东亚纸张保护方法
和纸张制造传统



METHODOLOGY OF PAPER
CONSERVATION AND PAPER MAKING
TRADITIONS IN EAST ASIA

2008-2015



中国华夏文化遗产基金会
China Cultural Heritage Foundation

联合国教育、科学及文化组织

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION



联合国教育、科学及文化组织（联合国教科文组织）长期以来一直在全球范围内倡导文化与发展，致力于保护、促进和传承各种形式的遗产，同时培养创造力及文化表现形式的多样性。联合国教科文组织与国际社会合作，制定了明确政策、法律框架，坚定支持政府和地方利益相关者保护遗产、加强创意产业、鼓励文化

The United Nations Educational, Scientific and Cultural Organization (UNESCO) spearheads worldwide advocacy for culture and development, and contributes to protecting, promoting and transmitting heritage in all its forms, while fostering creativity and the diversity of cultural expressions. The organization engages with the international community to set clear policies and legal frameworks and works on the ground to support governments and local stakeholders to safeguard heritage, strengthen creative industries and encourage

多元。联合国教科文组织的著名文化公约致力于保护世界文化遗产和自然遗产，包括古遗址、非物质遗产和水下遗产、博物馆藏品、口头传统以及其他形式的遗产；支持创造力、创新力和新型文化产业；并提供独特的国际合作平台，建立基于人权和共同价值的全面文化治理体系。

cultural pluralism. UNESCO renowned cultural conventions endeavour to protect and safeguard the world's cultural and natural heritage including ancient archaeological sites, intangible and underwater heritage, museum collections, oral traditions and other forms of heritage, and to support creativity, innovation and the emergence of dynamic cultural sectors; to provide a unique global platform for international cooperation; and to establish a holistic cultural governance system based on human rights and shared values.

中国华夏文化遗产基金会

CHINA CULTURAL HERITAGE FOUNDATION



中国华夏文化遗产基金会，是中国文化遗产研究与保护的社会组织之一，也是享有海内外募资资格的公募基金会，基金会以“唤醒公民保护文化遗产的意识及责任，配合政府调动民间保护力量保护和修缮中国文化、历史遗迹，推动社会发展和经济建设”为宗旨，秉承“取之于民，用之于民，造福人类”的原则开展一切工作。

China Cultural Heritage Foundation (CCHF) is a social organization for research and conservation of Chinese cultural heritage. As a public-raising foundation entitled to raise funds both domestically and internationally, CCHF's mission is to raise public awareness on the conservation of cultural heritage; to gather public sources to protect and restore Chinese cultural and historic heritage in cooperation with the government; and to enhance social and economic development. CCHF follows the main principle of "what derives from the people should be given back to the people and benefit the humankind" throughout their whole work.

基金会自 2007 年创立，在文化部和民政部的大力支持与指导下，组织专门力量，深入各地进行考察、调研，针对我国各地文化遗产存留的现状，以科学发展观为指导，有选择地开展了具有基础性、前瞻性、战略性的研究与保护，并与联合国教科文组织合作，在文化遗产保护领域做出了应有的贡献。

Since its founding in 2007, with the support and guidance from the Ministry of Culture and the Ministry of Civil Affairs, CCHF has gathered and organized professionals and expertise to undertake research and investigations in various sites, including local cultural heritage sites. Following the Scientific Outlook on Development, CCHF has selectively implemented fundamental, forward-looking and strategic research and conservation projects to continuously contribute to the field of cultural heritage conservation, including its cooperation with UNESCO.

项目伙伴

PROJECT PARTNERS



【政府机构】 GOVERNMENT

朝鲜 DPRK

- 国家文物局
National Authority for the Protection of Cultural Heritage
- 朝鲜民主主义人民共和国联合国教科文组织全国委员会
National Commission of the Democratic People's Republic of Korea for UNESCO

蒙古 Mongolia

- 教育、文化和科学部
Ministry of Education, Culture and Science
- 蒙古联合国教科文组织全国委员会
Mongolian National Commission for UNESCO
- 蒙古科学院
Mongolian Academy of Sciences

中国 P.R. China

- 国家级
国家文物局
State Administration of Cultural Heritage

● 省级

- 安徽省文化厅
- 安徽省非物质文化遗产研究中心
- 甘肃省文物局
- 贵州省文物局
- 贵州省文化遗产保护中心
- 江苏省文物局
- 山西省文物局
- 四川省文物局
- 新疆维吾尔自治区文物局
- 浙江省文物局
- 7 provincial Administrations of Cultural Heritage
(including Jiangsu, Gansu, Xinjiang, Sichuan, Shanxi, Guizhou, Xinjiang Uygur Autonomous Region & Zhejiang), Anhui Provincial Department of Culture, Anhui Research Center for Intangible Cultural Heritage, Guizhou Cultural Heritage Conservation Centre

【重要学术机构与其他合作单位】 KEY ACADEMIC INSTITUTIONS AND OTHERS

朝鲜 DPRK

- 朝鲜中央历史博物馆 Korean Central History Museum
- 朝鲜民俗博物馆 Korean Folklore Museum
- 人民大学习堂 Grand People's Study House
- 平壤韩德秀轻工业大学
Pyongyang Han Tok Su University of Light Industry

日本 Japan

- 国宝修理装演师联盟
The Association for Conservation of National Treasure
- 九州国立博物馆
The Kyushu National Museum
- 高知县立纸张产业试验中心
The Kochi Prefectural Paper Technology Centre
- 九州文化财国际交流基金
The Kyushu Foundation of International Exchange for Cultural Properties

蒙古 Mongolia

- 蒙古国家图书馆 National Library of Mongolia
- 蒙古国家档案馆 National Archives of Mongolia
- 蒙古文化遗产中心 Cultural Heritage Centre of Mongolia
- 甘丹得干林寺 Gandan Tegchenling Monastery
- 蒙古国家博物馆 National Museum of Mongolia
- 青少年图书宫 Book Palace for Children
- 乔金喇嘛庙博物馆 Chojin Lama Temple Museum
- 歌德学院 Goethe Institute

中国 P.R. China

- 天一阁博物馆 Tianyige Museum
- 南京博物院 Nanjing Museum
- 中国文化遗产研究院 Chinese Academy of Cultural Heritage
- 复旦大学 Fudan University

- 北京大学 Peking University
- 中国科技大学 University of Science and Technology of China
- 甘肃省博物馆 Gansu Provincial Museum
- 甘肃省文物考古研究所
Gansu Archaeology Research Institute
- 四川博物院 Sichuan Museum
- 贵州省博物馆 Guizhou Provincial Museum
- 上海博物馆 Shanghai Museum
- 国家图书馆 National Library
- 中国科学院 Chinese Academy of Sciences
- 新疆维吾尔自治区博物馆

- Museum of Xinjiang Uyghur Autonomous Region
- 吐鲁番博物馆 Turfan Museum
- 山西博物院 Shanxi Museum
- 浙江省博物馆 Zhejiang Provincial Museum

韩国 ROK

- 韩国装潢研究会
The Korean Mounting and Conservation Association
- 靖斋文化财保存研究所 The Jung-Jae Conservation Centre
- 龙仁大学 Young-in University
- 国民大学 Kook-min University

项目背景

PROJECT BACKGROUND



纸张制作和纸张保护技术是东亚共同文化遗产的重要部分。“上古结绳而治。”大约两千年前，纸张成为东亚最广泛使用的记载传播知识和信息的载体，后来东亚纸张制造技术传播到世界各地。纸张的出现为阅读和书写提供了最方便经济材料，时至今日仍然是人们记载信息、传播文明和知识储藏的首要工具。

然而，近年来现代科技快速发展，东亚传统纸张制造和保护技术的发展大幅减缓，面临着巨大挑战。

在此背景下，联合国教科文组织于2008年发起“纸张保护：东亚纸张保护方法和纸张制造传统”项目。该项目得到东亚五国——朝鲜、日本、蒙古、中国和韩国相关机构、合作伙伴和专家的支持，旨在促进发展东亚国家间的跨文化对话与技术交流。

Paper making and paper conservation techniques represent an important part of East Asia's shared cultural heritage. In ancient times, people recorded their life by knotting on ropes. Since around 2000 years ago, paper has become a popular medium in parts of East Asia for recording and transmitting knowledge and information, and paper making techniques in East Asia eventually spread to the rest of the world. The emergence of paper provides the most convenient and economical material for reading and writing. To date, paper is still considered as the main tool for documentation, dissemination and storage of knowledge.

However, with the passage of time and rapid development of modern technology in recent years, knowledge of traditional paper making

该项目的四个重要目标是：

- 保护东亚传统造纸及纸张保护技术
- 探索并解决东亚纸张保护中面临的问题
- 建立科学体系，提高纸张保护和修复技术
- 编写培训材料以及纸张保护系列指南

该项目不仅关注东亚纸张制造与保护相关的非物质形式的技术工艺，更重要的是它还关注对物质形式的纸张文物的保护，例如书籍和手稿。

该项目由中国华夏文化遗产基金会资助。在过去七年（2008-2015）中，通过五个国家的相互合作与共同实施，项目得以成功开展，并为今后的工作打下了坚实基础。

and paper conservation techniques in East Asia declined substantially. Traditional paper making and conservation are facing great challenges. Within this context, UNESCO initiated in 2008 the “Paper Conservation: Methodology of Paper Conservation and Paper Making Traditions in East Asia” project. Through the identification of relevant institutions, partners and experts from all five cluster countries – the Democratic People's Republic of Korea (DPRK), Japan, Mongolia, the People's Republic of China and the Republic of Korea (ROK), the project aims at promoting intercultural dialogue and fostering technical exchanges among East Asian countries on the subject,

with the following four key objectives:

- Preserve traditional paper making and paper conservation techniques in East Asia

- Explore and suggest solutions to problems encountered in paper conservation across East Asia
- Establish a scientific system that will maximize capacity to conserve and restore paper making and paper conservation techniques
- Develop corresponding training materials and formulate a set of Paper Conservation Guidelines

The project not only focuses on revitalizing the intangible skills and knowledge associated with paper making and paper conservation in

East Asia, but more importantly, also on the effective preservation of tangible paper artifacts, such as books and manuscripts.

The project is financed by the China Cultural Heritage Foundation. Through joint cooperation and contributions from multiple partners from all five cluster countries over the past seven years (2008-2015), the implementation of the project has been successfully carried out, and has laid a solid foundation for further work.

项目活动

PROJECT ACTIVITIES

- 调查研究 Research
- 能力建设 Capacity Building
- 会议 / 技术交流 Meetings/Technical Exchanges
- 出版物 Publications



为建立该项目的理论和实践基础，各国首先对各自的传统纸张制造材料、工艺和保护技术的现状进行了调查和评估。调查评估结果应用于各国相关培训和能力建设的发展与实践。此外，每年都举办国家和地区技术会议。

在项目实施框架下，东亚文化遗产保护学会纸质文物保护专业委员会于 2012 年成立，作为该项目的重要发展成果，它为东亚纸张遗产保护创建了可持续保护体系和交流平台。委员会旨

In order to establish a theoretical and practical basis for this project, each country first conducted research and assessment of the current condition of the traditional paper making materials, techniques and conservation skills in their countries. The research and evaluation outcomes were then used to develop and carry out relevant training and capacity building activities in each country. Technical meetings at the national and regional level were held annually.

As an important outcome and development during the implementation of the project, in 2012, the East Asia Paper Heritage Conservation Committee was launched, creating a communication platform as well as establishing a sustainable conservation system for the conservation of paper heritage in East Asia. The committee aims to encourage

在鼓励并加强所有利益相关者的参与，交流促进实践经验，为东亚纸张遗产的保护和修复提供技术指导。

过去七年，东亚五国通过一系列项目活动（调查研究、培训、会议）形成了一系列以国家为单位的纸张保护指南，并整合成项目最终成果——东亚纸张保护出版物。这份出版物呈现了项目的研究发现，分享了各国纸张保护的优秀实践，为今后该领域的发展提供了技术指导。

and strengthen the engagement and participation of all relevant stakeholders, to exchange and promote piloting experiences and to provide technical guidance with regard to the conservation and restoration of paper heritage in East Asia.

Through a series of project activities (research, trainings, meetings) undertaken in the five cluster countries for the past seven years, all cluster countries developed a set of country-based paper conservation guidelines, which collectively forms the final project outcome – a master paper conservation publication. The final publication presents the project research findings, share paper conservation good practices from cluster countries, and provide technical guidance for further work on the subject.

日本 中国 韩国

JAPAN, PEOPLE'S REPUBLIC OF CHINA
AND REPUBLIC OF KOREA

简介 Introduction

中国在纸张制作的发展中扮演着重要的角色。历史资料证明，早在大约 2000 年前中国就开始造纸，后来造纸技术逐渐在中国各地传播发展，并逐步扩展到朝鲜半岛和日本。

日本、中国、韩国都有着悠久的纸张制造和保护历史，其中很大一部分纸张是用来记录历史资料、官方文件和绘制作品的。然而

China has played a crucial role in the development of paper making, with some records suggesting that it began to make paper as early as around 2000 years ago. Some of the paper making techniques developed in China gradually spread to the Korean Peninsula and Japan. China, as well as Japan and the Republic of Korea have a long history in paper making and paper conservation, as large quantities of paper were produced and widely used for historical records, official documents and paintings. In recent years, however, knowledge about traditional paper

近年来，中国、日本的传统造纸和保护技术在一定程度上迅速地流失，而这一现象在韩国更加严重。

目前，日本、中国和韩国的部分研究机构、博物馆、图书馆和档案馆负责传统纸张的保护工作。尽管如此，纸张文物和传统纸张制造的保护，以及其保护技术依旧面临着巨大的挑战。

making and paper conservation techniques has declined to a certain extent in China and Japan and more substantially in the Republic of Korea.

Today, a number of technical institutions, museums, libraries and archives are entrusted with paper conservation in the three countries. Despite these efforts, preserving paper artifacts, as well as traditional paper making and paper conservation techniques, remains a significant challenge.



● 调查研究 Research

日本、中国和韩国的纸张调查研究，主要关注两个方面：传统造纸技术以及纸张保护现状。

日中韩面临的重要任务是制定标准以促进纸张文物修复用纸的合理选择。项目选取了传统造纸工艺和造纸材料保存相对完整的地区作为项目点进行调研，如中国浙江、贵州、广西、重庆和四川

The research conducted in Japan, People's Republic of China and Republic of Korea mainly focused on two subjects: traditional paper making techniques and the current status of paper conservation. A key issue for these three countries was to identify a reference point and a certain standard to facilitate the selection of appropriate paper for restoration of paper heritage. Research was carried out in areas where traditional paper making techniques and materials are conserved comparatively well. In China this included Zhejiang, Guizhou, Guangxi, Chongqing and Sichuan Provinces as well as the key Xuan paper making

省，以及宣纸的主要生产中心——安徽省；日本的高知（Kochi）、奈良（Nara），韩国的闻庆（Mungyeong）等。我们通过图片、影片以及书面材料获取了一系列准确的专业数据。

在纸张保护现状研究方面，项目选取了日本、中国、韩国具有代表性的博物馆和研究所，重点关注纸张保护方法、专业技术以及面临的挑战。

center in Anhui Province. In Japan research was carried out in Kochi and Nara and in the Republic of Korea in Mungyeong. This resulted in a solid collection of data from the academic perspective both in photo and video recording as well as written materials.

Research on the current status of paper conservation focused on the approaches, expertise and challenges in selected museums and institutions in Japan, People's Republic of China and Republic of Korea.

传统造纸 Traditional Paper Making

· 中国 浙江宁波 Ningbo, Zhejiang Province, China



· 中国 贵州贞丰 Zhenfeng County, Guizhou Province, China



· 中国 四川夹江 Jiajiang County, Sichuan Province, China



· 中国 贵州印江 Yinjiang County, Guizhou Province, China (土家族和苗族 Tujia and Miao Ethnic Minorities)



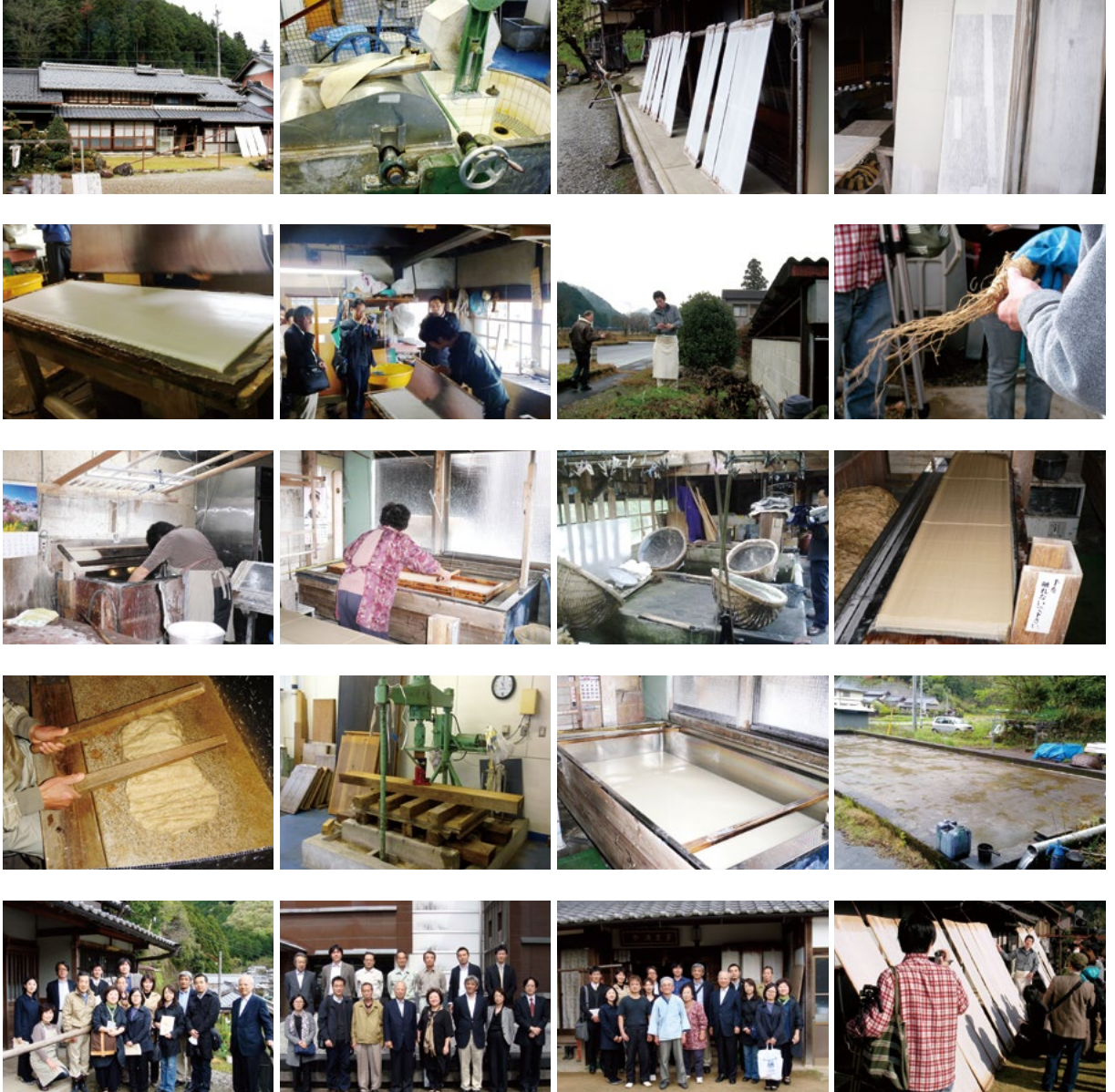
· 中国 安徽泾县 Jing County, Anhui Province, China



· 中国 重庆梁平 Liangping County, Chongqing City, China



· 日本 高知 Kochi, Japan



· 韩国 闻庆 Mungyeong, Republic of Korea



纸质文物保护现状 Current Status of the Conservation of Paper Heritage

· 中日韩专家在甘肃博物馆调查馆藏纸质文物

Experts from China, Japan and the Republic of Korea visit the Gansu Museum for Paper Heritage



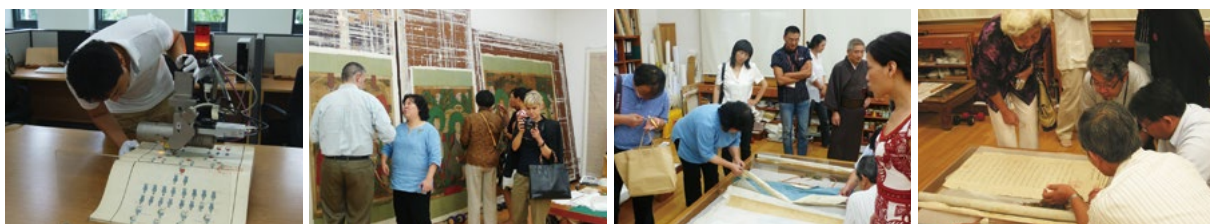
· 中日韩专家在甘肃考古研究所调查出土纸质文物

Experts from China, Japan and the Republic of Korea visit the Gansu Archaeology Institute for Unearthed Paper Heritage



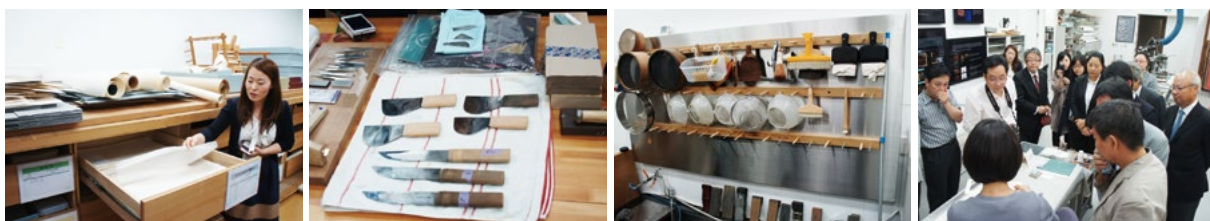
· 中日韩专家在韩国靖斋文化财保存研究所考察

Experts from China, Japan and the Republic of Korea visit the Jung-Jae Conservation Centre in the Republic of Korea



· 中日韩专家在韩国三星美术馆调查纸质文物保护

Experts from China, Japan and the Republic of Korea visit the Leeum Samsung Museum of Art in Seoul, Republic of Korea



● 能力建设 Capacity Building

日本、中国、韩国能力建设的主要培训对象是博物馆、研究所和档案机构的专业人员。而由于中国具备较高水平的纸张保护技术，

纸张文物修复的技术培训主要是由中国文化遗产研究院精心挑选出的专家组来进行。

The main target groups of the capacity building activities in Japan, People's Republic of China and Republic of Korea were professionals from museums, research institutions and archival institutions. Due to China's fairly high technical level in the field of paper conservation,

groups of professionals in the field were carefully selected by the Chinese Academy of Cultural Heritage to carry out the technical trainings on the restoration of paper heritage.

纸张保护技术水平 Level of paper conservation

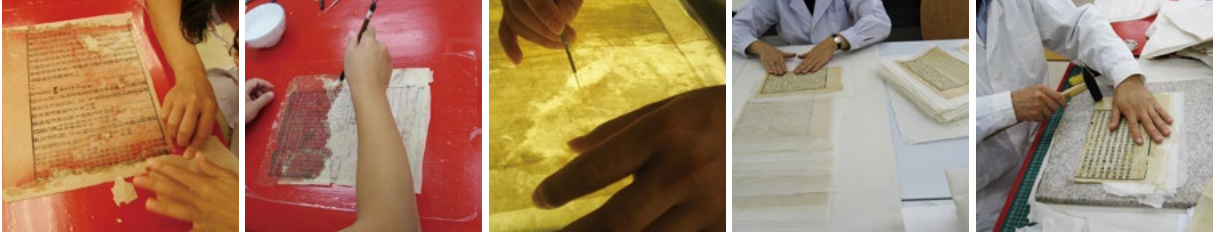
· 中国南京博物院
Nanjing Museum, China



· 中国宁波天一阁博物馆
Tianyige Museum, China



· 中国文化遗产研究院
China Cultural Heritage Research Institute



· 日本九州国立博物馆
Kyushu National Museum, Japan



· 韩国靖斋文化财保存研究所
Jung-Jae Conservation Centre, Republic of Korea



中国文化遗产研究院举办的培训班 Technical training at the Chinese Academy of Cultural Heritage



● 专业研讨会 Technical Symposiums

自 2008 年项目启动以来，日本、中国、韩国举办了一系列的纸张保护年度国际研讨会。其中，2010 年在中国兰州举办的纸

张保护国际会议汇集了东亚五国的共同参与，成为这一系列活动的亮点。

Since the launch of this project in 2008, a series of annual international symposiums on paper conservation were held in Japan, People's Republic of China and Republic of Korea, the highlight of which

was the organization of the International Conference on Paper Conservation in Lanzhou, China in 2010 with participation of the five cluster countries.



蒙古 MONGOLIA



简介 Introduction

蒙古宝贵的文化遗产和传统知识得以在几世纪后的今天留存下来，要归功于文献编集、信息记录和文化传播。档案文件、书籍和佛经的手稿是无价记忆遗产的重要代表，需要流传给后人。积聚和保留下来的大量手稿文集中包含宗教经典、历史档案和医学著作。

蒙古的文献遗产主要存放于国家档案馆、国家图书馆、甘丹得千林寺（该寺庙储藏了上百万卷佛经和书籍）以及国内的其他大

小寺院、乌兰巴托和蒙古境内的各种博物馆。

尽管通过以往的保护和保存工作使得这些文献得以留存至今，然而由于不完善的保存条件，各类包括老化、虫害、霉变等的病变，正规储存条件的匮乏，以及设备和相关从业者能力的不足，都使得蒙古纸张遗产保存工作正遭受着严重威胁。

Thanks to the work of documentation, recording and transmission which has enabled the conservation of Mongolia's precious cultural heritage, Mongolian traditional knowledge has been preserved over centuries. Manuscripts – archival documents, books and sutras – represent a substantial portion of this priceless recorded heritage and they are valued resources which need to be passed on to the next generations. The vast corpus of manuscripts accumulated and preserved contains religious sutras, historic documents as well as medical treatises.

The main Mongolian holders of the national documentary heritage are the National Archives, the National Library and the Gandan

Tegchenling Monastery, which is repository of over 1,000,000 sutras and books, together with monasteries all over the country and various museums in Ulaanbaatar and all around Mongolia.

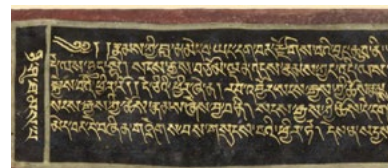
Despite the protection and conservation which made possible to preserve these documents until today, insufficient preservation conditions, various types of degradation including ageing, insects and fungi, lack of resources to provide proper storage conditions along with insufficient equipment and capacities of relevant staff contribute to threatening the preservation of Mongolian paper heritage today.



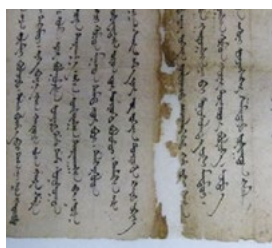
宝石年鉴，蒙古最长的书卷（长达 71.1 米）
Gem Annual, longest Mongolian scroll (71, 1 meters)



折叠的佛经
Folded sutra



黑纸金字
Example of black paper with golden letters



由于老化、保存不当、真菌和虫害造成的纸张破坏
Examples of damage caused by ageing, improper storage, fungi and insects



蒙古最大的经书（23*72.5 cm, 107839 页）
Biggest Mongolian sutra-form book
(23 x 72.5 cm, 10, 7839 pages)

● 调查研究 Research

蒙古的研究主要专注于其造纸历史，研究发现，在引进中国纸张之前寺院内的纸张制造已经出现上百年。此次研究主要针对造纸环节中的物料、技术和工具做了仔细的记录。然而也发现由于一些植物的消亡导致相同的纸张已无法再被制造出来。

Research in Mongolia focused on the history of paper making with the surprising discovery that own paper production existed for several hundred years in monasteries despite import of paper from China. A careful documentation has been made of the materials, techniques and tools used for the paper making process. However due to the disappearance of certain plants the same paper could not be recreated.

研究的另一部分则专注于纸张的保护，尤其是其保护现状以及蒙古相关机构保护技术水平现状。这些相关机构主要包括国家档案馆、国家博物馆、文化遗产中心以及负责包括纸制品在内的相关政府文物保护单位。

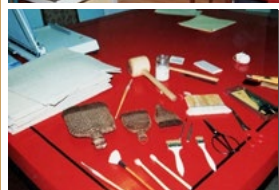
Another part of the research focused on the conservation of paper, its status and skill level today in the relevant institutions in Mongolia, such as the National Archives, the National Library, the Cultural Heritage Centre, as well as the government institutions tasked with hands-on conservation of objects including those made from paper.



蒙古传统造纸技艺及生产过程
Mongolian traditional paper making technique, a recreation of the production process



国家档案馆修复中心
Restoration and Renovation Center of the National Archives



修复工具
Instruments used for restoration

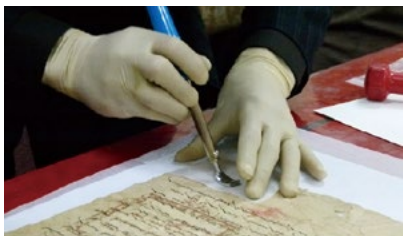
● 能力建设 Capacity Building

能力建设作为项目的一项主要内容，旨在培养重要机构中主要专业人员能够正确、专业地对手稿和古纸文物进行作业和防护性保

A main component of the project was capacity building for key professionals and experts of key institutions on the correct and professional handling of manuscripts and paper heritage as well as preventive conservation. Six training workshops which aimed at filling

护。项目下共组织了6次培训，共有18人接受培训，培训旨在填补技术空白、加强技术操作。

gaps and enhancing relevant techniques identified as lacking by the preliminary research, were organized under the project with a total of 18 people trained.



受训人员动手体验修复工作
Hands-on restoration activities during the training workshop

对甘丹得干林寺的紧急救援 Emergency Assistance to the Gandan Tegchenling Monastery

2011年9月在对蒙古佛学的中心 - 甘丹得干林寺手稿档案的实地考察过程中，国际专家发现寺院内的屋顶有大面积破损情况，超过10%的存档手稿因此遭到了严重破坏。情况刻不容缓，专家们立即决定在甘丹得干林寺内组织紧急培训和救援行动。幸运的是冬季的蒙古（十月到来年三月）温度基本维持在零下40度，使得微生物无法继续滋生，同时也为紧急救援行动的培训准备工作争取了更多时间。

During an on-site visit of the international training experts to the manuscript archive of the center of Mongolian Buddhists – Gandan Tegchenling Monastery in September 2011, a substantial roof damage was discovered which had caused extreme harm to more than 10 per cent of the archived manuscripts. Given this emergency situation, the next training together with a rescue operation were organized at the Gandan Tegchenling Monastery. The harsh winter temperatures of -40°C from October to March provided a stable condition for microorganisms to not further develop and allowed for more time to prepare for the

甘丹得干林寺的住持们也认识到情况的严峻，同意让寺庙中的喇嘛也加入到紧急救援行动的培训当中。而在参与培训的36人中，还包括了10位其他寺院的僧侣。与此同时，双方也同意之后制作一本有关紧急救援的指南和一本工作手册发放给所有蒙古境内的寺院，以便他们日后更好地保护佛经和纸张文物。

emergency and rescue operation with training.

After the leaders of the Gandan Tegchenling Monastery had recognized the severity of the situation, it was agreed that the emergency and rescue operation with training would include lamas of the Gandan Tegchenling Monastery, in total 36, together with lamas of 10 other monasteries in Mongolia. It was also agreed that a manual and a work book would be prepared from the emergency and rescue operation with training to guide monasteries all over Mongolia in the protection of sutras and paper heritage in the future.



屋顶渗漏导致手稿严重破坏

Disastrous situation of manuscripts damaged by a roof leakage



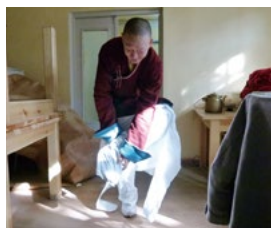
甘丹得干林寺

Gandan Tegchenling Monastery storage room for manuscripts



参与手稿营救的工作人员

Participants of the training workshop in protective clothes



僧人在清理手稿前需穿着保护衣物以防真菌感染

Lama wearing protective clothes before the cleaning of manuscripts affected by fungi



用干净的布料包裹修复后的书稿

Successfully restored manuscripts with cleaned textile covers



正在清理损坏书稿的僧人

Lama working on the cleaning of damaged manuscripts

朝鲜

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA



简介 Introduction

朝鲜的纸张制作传统历史悠久，包括制作某些有特定用途的纸张，有些用于官方文件和使用，也有些是用于日常生活。今天，传统纸张仍在进行生产，但是生产规模却大大缩小且一些技术已经流失。

古纸材料，尤其是书籍和手稿，主要存放于人民大学习堂、中央历史博物馆、平壤民俗博物馆和妙香山历史博物馆之内。

The Democratic People's Republic of Korea has a very long history and tradition of paper making. Specific types of paper were for example produced for official records and purposes as well as for everyday life. Today, traditional paper is still being produced, but on a much smaller scale, and some techniques have been lost.

Historical paper-based materials, particularly books and manuscripts, are stored mainly in the Grand People's Study House, the Central History Museum, the Folklore Museum in Pyongyang, and the Mt. Myohyang History Museum.



高丽博物馆内展示的手稿
Manuscripts on display at the Koryo Museum, Kaesong



中央历史博物馆内展示的手稿
Manuscripts on display at the Korean Central History Museum, Pyongyang

● 调查研究 Research

朝鲜的调查研究活动主要关注其纸张历史和制造。文献记载和综合分析表明在高丽年间(918-1392)纸张制作技术发展迅速,使得当时的纸张制成品质量极高。为满足日益增大的需求,高丽国

在大力支持桑树的种植及私营造纸工业的同时还在首都建立专门为纸张制作服务的政府机关。高丽纸曾大量出口邻国,其优良材质和突出的制作工艺被广为赞赏。

Research in the Democratic People's Republic of Korea focused on the study of paper history and paper making. Literature review and consolidated analysis revealed that during the Koryo Dynasty (918-1392) paper making technology developed rapidly and led to the production of paper of the highest quality at that time. To meet the increasing

demand, Koryo encouraged the cultivation of paper mulberry and private paper making industries, and established a professional office for paper making in the capital. Koryo paper was widely exported to the neighboring countries and admired for the quality of materials and the outstanding technique utilized.



朝鲜半岛传统造纸
Representation of traditional paper making in the Korean Peninsula



高丽国起使用桑树造纸
Paper mulberry plant (Broussonetia Papyrifera L.) used for paper making since the Koryo Dynasty (918-1392)

在李朝年间 (1392–1910), 纸张制造技术日益精密, 具有特定用途的新纸张应运而生。比如某些纸张是专门用于向皇帝呈递文书, 书写外交文件和出版重要书籍。李氏王朝建立了一个中心造

During the Ri Dynasty (1392-1910), paper making technology became more sophisticated, with new types of paper developed for specific purposes. For example, specific types of paper were produced for presenting messages to the kings on auspicious occasions, writing diplomatic documents and publishing important books. The Ri Dynasty

纸厂以大量生产不同品种的纸张。从此, 纸张制造得以更系统化和专业化的发展。下面的图片展示了在培训活动中参观的当地造纸作坊的造纸过程, 该工艺至今仍在使用。

established a central paper manufacturing unit producing several kinds of paper in great quantities. Since then paper making became more systematic and specialized. The following pictures show the traditional paper making process still in use at a local paper mill visited during the training.



清洗浸泡过后的桑树皮
Hand cleaning of the previously soaked and cooked mulberry bark



使用金属机器打压纤维
Metal press used to smash fibers with a mechanical technique



抄纸
Resulting paper pulp scooped from the basin



压榨脱水、干燥后的纸张
Dried and pressed paper sheets

● 能力建设 Capacity Building

项目的另一个重要活动是能力建设, 旨在培养重要机构中主要专业人员能够正确、专业地对手稿和古纸文物进行作业和防护性保护。项目下共组织了 4 次培训, 参加人数达 88 人。培训为所有

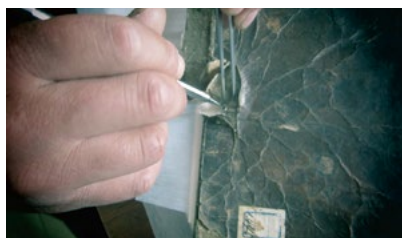
A main component of the project was capacity building for key professionals and experts on the correct and professional handling of manuscripts and paper heritage as well as preventive conservation. Four training workshops were organized under the project with a total

参与者提供了理论知识和实际操作技术, 同时, 这也是第一次有一系列专门针对专业人员, 具备国际水准的相关技术培训在朝鲜国内开展。

of 88 participants. The trainings provided both theoretical information and practical skills to the participants and represented the first time in which a series of consolidated skills training on international level was provided to a large group of professionals.



培训活动现场 Training workshop with practical restoration activities under the guidance of UNESCO's international expert



修复书页 Restoration and cleaning of book covers and pages





PAPER CONSERVATION

紙張保護

