

Support activities for salvaging materials damaged in the Great East Japan Earthquake

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1 Introduction

On March 11, 2011, a magnitude-9 earthquake and subsequent tsunami shook Japan. The disaster inflicted massive damage along the Pacific coast area in Tohoku; 18,926 people were left dead or missing by the earthquake and tsunami. Afflicted people are taking steps toward recovery, but there is still a long way to go. In addition, a critical nuclear disaster happened at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant when it was struck by the earthquake and tsunami. Many residents living in the vicinity of the power plant were forced to evacuate with no immediate prospect of return.

The earthquake also devastated libraries and valuable cultural heritage in those areas. The following is a report on the situation of damage to the libraries and cultural heritage and the National Diet Library (NDL)'s support activities for recovery.

The NDL has the Tokyo Main Library and the International Library of Children's Literature (ILCL) in Tokyo. In spite of a distance of over 370 kilometers away from the hypocenter, seismic intensity levels of 5 plus were observed in Tokyo. The result was that 1,800,000 volumes contained in the stacks of

the Tokyo Main Library fell from their shelves. It took about three weeks to reshelve these materials for service. However, materials in underground stacks sustained little damage, and the building of ILCL, which has a seismic-isolated structure, had no damage. It would be safe to say that underground stacks and base isolation devices are effective for earthquake resistance.

The NDL conducted a survey on the theme of the Great East Japan Earthquake and libraries, and published the research report on this theme in March 2012. Basically, the following information is based on the report.



<<Books fallen from shelves in the Tokyo Main Library>>

2 Situation of affected libraries

2.1 General Overview

Japan's national library is the National Diet Library. The Japan Library Association (JLA) exists as an organization of libraries of various natures. The jurisdictions of domestic libraries are broadly divided among public libraries, university libraries and school libraries. Public libraries are managed by local governments, while libraries at universities, two-year colleges, technical colleges, and schools fall under the jurisdiction of incorporated schools or the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). In addition, public libraries are divided depending on their administrative districts—prefectures and metropolitan areas, ordinance-designated cities, cities, towns and villages. Each facility attached to local governments is under their jurisdiction; producing a network of prefectural-level libraries revolving around libraries established by prefectures and metropolitan

areas.

Along with this vertical structure, many library associations have been created in order to promote horizontal cooperation and coordination among libraries—such as JLA, associations classified by area, national or public/private, facility type, or theme. There are no sections in national organizations that unify all domestic libraries.

At present, the JLA is aware of 39,780 libraries in Japan. 3,210 of them are public libraries and the rest are mainly libraries of universities and high schools.

Based on information from MEXT, there were a total of 885 human casualties at MEXT-related facilities (644 fatalities and 241 injuries) and 89 people are still missing after the earthquake and tsunami. Cases of fatalities and missing persons were mainly found in the three prefectures that experienced the worst of the earthquake's violent tremors and tsunami (Iwate, Miyagi and Fukushima), while injuries were spread across 11 prefectures and Tokyo metropolitan area. The majority of these victims were people connected to educational facilities (national, public and private schools)—namely children, students, educational staff, etc. Among these victims, there were 638 fatalities and 229 injuries. There were 4 fatalities and 11 injuries at social educational facilities, physical educational facilities, and cultural facilities (libraries, community centers, sports facilities, museums, etc).

In addition, 12,150 cases of physical damage have been reported in MEXT-related facilities. The majority of these incidents occurred at national, public and private school facilities, with damage occurring at 7,988 schools, while 3,397 cases of physical damage occurred at social educational, physical educational and cultural facilities. As for libraries, damage to 251 facilities have been reported to MEXT.

MEXT data describes the following conditions of major damage: “The collapse and burning of school buildings and gymnasiums; inundation, submerging, or flooding due to the tsunami; land subsidence; cracks on or difference in the levels of school buildings; outer wall or ceiling collapse; outer wall cracking; glass damage; etc.”

However, with regard to library facilities, in addition to the aforementioned types of damage, it is assumed that damage such as “books and materials being thrown down,” “destruction of bookshelves” and “damage to glass cases” may also be included.

It is necessary to consider carefully the following points regarding the effects of the recent earthquake

on libraries and other facilities:

- In addition to the main shock on March 11, the aftershock on April 7 also caused great damage to library facilities, equipment, books and materials.
- In general, there is a public tendency to focus on tsunami-caused damage along the Pacific Coast; however, earthquake damage to public facilities further inland was also severe.
- In Fukushima Prefecture, the impact of the nuclear accident at the Fukushima Daiichi Nuclear Power Plant—such as residents being unable to return to their homes—is still being felt.
- The nation continues to suffer effects from the disaster, such as the continued brownouts that were imposed after the onset of planned power outages immediately following the earthquake.

2.2 Public libraries in affected area

The following sections describe conditions at affected library facilities in particularly damaged areas (such as Iwate, Miyagi and Fukushima), detailing human casualties and physical damage such as damage to facilities, equipment, library books and library materials.

In Iwate Prefecture

All seven staff members at Rikuzentakata City Library were either killed or are still missing, while at Yamada Town Library, one staff member was killed. The following facilities were completely destroyed by the tsunami:

- Rikuzentakata City Library
- Otsuchi Town Library
- Noda Village Library
- Ofunato City, Sanriku Community Center Library Room

In Miyagi Prefecture

As for human loss, the director of the Minamisanriku Town Library was reportedly killed; one temporary staff member working at Ishinomaki City Library remains missing. Physical damage reported by public libraries includes damage to entryways due to inundation and the washing away of buildings by the tsunami; the washing away of or general flood damage caused to library books and materials; warping, creaking, and cracking of whole buildings; land subsidence; damage to walls and pillars such as cracks, fissures or total collapse; ceiling collapse; the breaking of window or entryway glass; and cracks to building annex connections.

In Fukushima Prefecture

Human casualties have not been reported. In regard to damage affecting public library facilities and equipment, 26 facilities out of 64 facilities reported “no damage.” At other facilities, reported damage included damage to air conditioning and electrical equipment, loosened stone at entryways, damage to lighting equipment and tempered glass, land subsidence, ground cave-ins and a wide range of falling objects—from building foundations to roofs, ceilings, walls, floors, window glass and equipment, as well as air conditioning ducts from ceilings. There are six public libraries in the Restricted Area, which is within 20km of the Fukushima Daiichi Nuclear Power Plant, and entry to those libraries has been prohibited.

3 Salvaging damaged materials

Many organizations and volunteers were involved in salvaging damaged materials. What follows will focus on salvaging treatment at Iwate Prefectural Museum from among the activities the NDL participated in. (For salvaging materials in Noda Village Library, please refer to: [“Recovery work in progress: a case of the Noda Village Library.”](#) Regarding the training program for repairing damaged materials, please refer to: [“Lessons learned: training programs for post disaster recovery from the Great East Japan Earthquake”](#))

As noted before, the Rikuzentakata City Library (in Iwate Prefecture) was destroyed by the tsunami. Among its surviving collection, old local documents and materials of 17th–19th century designated as prefectural cultural property were brought into Iwate Prefectural Museum in April 2011. Most of the saved items were stored in a freezer, some other items that were already dry were cleaned. Generally speaking, disaster response has two stages: (1) immediate response to disaster, (2) activities for recovery to get back to normal. In Iwate Prefectural Museum’s case, stage (1) had already been completed, and the NDL was in charge of stage (2). NDL staff members traveled to the Iwate Prefectural Museum and engaged in the recovery work as follows.



<<Drying and rebinding old documents at Iwate Prefectural Museum>>

After each item was numbered, bound documents were unbound, divided into thin piles of leaves, washed in water, hung to dry, and then rebound. Fragile or damaged documents, which were not suitable for treatment with water, were cleaned with a brush. The staff made photographic records before and after treatment for further reference. All these treatments were based on agreement with the owner of documents.

4 Conclusion

It was the cooperative relationship between libraries and related organizations which allowed the NDL to become a part of such activities. We will keep supporting the relief activities in the future.