

Conservation and Restoration of Tangible Cultural Properties : Rescue Operations Related to the Great East Japan Earthquake

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Conservation and Restoration of Tangible Cultural Properties: Rescue Operations Related to the Great East Japan Earthquake

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1 Introduction

The earthquake which occurred off the Pacific coast of Tōhoku (figure 1) at 14:46 on March 11, 2011 became the Great East Japan Earthquake which caused unprecedented damage (figure 2). A great many folk objects, which are tangible cultural properties, were damaged in this catastrophe. Here, by folk objects I refer to those historic objects consisting of tools and instruments of daily life, livelihood, and religious rites, nurtured and utilized within the local culture.

To conserve these pieces of cultural heritage, the Cultural Agency issued a call for a nationwide support system, and the “Committee for Salvaging Cultural Properties Affected by the 2011 Earthquake off the Pacific Coast of Tohoku and Related Disasters” was formed. The actual activities consist of rescue, temporary storage, and emergency treatment of cultural properties affected by the tsunami.

Here I will report on my involvement in the rescue operations and conservation activities of folk objects.



Figure 1 Map of Japan showing the region attacked by a tsunami.



Figure 2 Appearance of the town affected by the disaster (20.06.2011).

2 Rescue system for tangible cultural Properties

Rescue operations for tangible cultural properties damaged by the Great East Japan Earthquake had to be on a nationwide scale, as the extent of damage was great. To organize a systematic approach, the Cultural Agency issued a call to national research institutions associated with cultural properties, and on March 30 the “Committee for Salvaging Cultural Properties Affected by the 2011 Earthquake off the Pacific Coast of Tohoku and Related Disasters” (“Rescue Committee”) (figure 3) was established, with the rescue system headquartered in National Research Institute for Cultural Properties, Tokyo. The following is a list of institutions which participated in the Rescue Committee.

- Museums and art galleries, etc.: National Institutes for Cultural Heritage; National Museum of Art; National Museum of Nature and Science, Tokyo; Japanese Council of Science Museums; National Diet Library; Japanese Association of Museums; The Japanese Council of Art Museums
- Universities, etc.: National Institutes for the Humanities (of which the National Museum of Ethnology, Japan is a member); National Council for University Museology Programs
- Academic societies, etc.: Japan Society for the Conservation of Cultural Property; Japan Society for Scientific Studies on Cultural Properties; Japan Society of Archives Institutions; Cultural Properties Rescue Network

The activities of the Rescue Committee and the types of objects eligible for rescue are specified in the prospectus. Briefly, the activities consist of providing support for rescue, temporary storage, and emergency treatment of cultural

treatment. Out of these, rescue and temporary storage must be performed on site, under considerably poor conditions.

The actual rescue operations involve battling the swirling dust from the rubble-clearing work going on nearby, as well as enduring the stench of sludge and oppressively high temperatures. In addition, as the days went by in the wake of the disaster and things began to rot, we had to address the risk of tetanus. Furthermore, the disaster-damaged museum facilities had no electricity and we had to work in total darkness. The floor was littered with debris and we had to be careful of uncertain footing as well as of things falling from the ceiling. We therefore had to wear a protective mask, helmet, protective clothing with long sleeves and pants, thick working gloves, safety shoes, and headlight (figure 4). This was the kind of environment in which we had to search for cultural properties buried under the broken glass and tsunami-borne sludge covering the floor (figure 5). Our goggles steamed up very fast and we were dripping with sweat as we worked. It was an exhausting experience.

For temporary storage, the cultural properties had to be transported all at once to the place of safekeeping, within the limited time available to have the curator of the disaster-stricken museum standing. The reason for this was that, given the extent of damage in the Tohoku region, even museum curators could not devote themselves solely to museum matters, as restoration and rebuilding of the entire living situation had to take priority over the rescue of cultural properties. In order to load as many articles on the transportation truck, we had no time to wrap every salvaged piece properly, aside from fragile objects. Therefore, we decided to load the truck with strong, durable pieces on the bottom with lightweight pieces placed on top of them.

Compared to the chaotic rescue and temporary storage operations, the



Figure 4 Equipment for the rescue activities.



Figure 5 Folk objects inside a storage after the disaster.

emergency treatment was carried out under relatively stable conditions. The main source of contamination of the folk objects damaged by the earthquake and tsunami was the sand carried in by the tsunami. We also had to consider the saline content of the seawater which was another source of deterioration. Therefore, for emergency treatment, we considered the removal of surface sand and salt content.

To remove the surface sand, it is obvious that the visible contamination must be removed. We could not leave the sand-covered pieces standing within the temporary storage facility, which is a clean environment. In addition, the surface sand contains salt, which attracts moisture and promotes mold growth. Furthermore, the contamination made the objects difficult to handle, which posed the risk of significantly hampering the sorting and organizing activities being carried out in the temporary storage facility. Decontamination, therefore, was an immediate necessity.

To deal with salt, the other major cause of deterioration, we considered desalination [Hidaka 2010]. However, due to the need for water tanks and drainage facilities, we decided that this procedure was not feasible within the fiscal year 2011.

For the above reasons, we determined it was impractical to include desalination in the emergency treatment, and decided on a two-step treatment method.

- The first step consisted of removing the sand and sludge contaminating the surface of the objects and making them difficult to handle. Initially, we thought the use of water was an absolute must for this kind of operation, as in my past experiences with flood-damaged folk objects, the normal procedure was to first soak the article in water to soften and loosen the surface sand and sludge, then using a soft brush to remove the foreign matter (figure 6). This method was highly successful in the rescue of folk objects housed in a museum which had

been flooded with the raw material from an adjacent paper-making factory (figure 7). However, in the process of performing emergency treatment on folk objects at other disaster sites, it occurred to us that the situation was slightly different. That is, the matter contaminating the surface of the Tohoku tsunami-damaged articles was sea sand, and when dry, it could be removed satisfactorily simply by brushing off, without the need to use water. In addition, we were entering the rainy season as emergency treatment progressed, and the use of water posed the risk of mold while the pieces were left to dry. We therefore decided to use a cleansing kit consisting of soft brushes instead of water to treat many of the folk objects. Needless to say, those pieces which we judged to require washing with water were subjected to such washing, with ample consideration for thorough drying after the washing procedure. In the emergency treatment process, we were able to perform first-stage cleansing of as many as 4,000 or so pieces of folk objects, thanks to the extremely clear-cut criterion of removing only the sand that could be removed by the cleansing kit.

- The second stage of treatment consists of desalination, a task which we have been performing since fiscal 2012. Specifically, this entails a status assessment of the rescued folk objects, followed by an investigation of the effect of the salt content on the pieces, followed by a deliberation of whether to perform desalination treatment. As a result of these procedures, we came to the conclusion that objects mostly made of wood required desalination to prevent salt-related deterioration (figure 8). We also concluded that desalination should be performed as soon as possible, as the salt in salt-containing articles attracted moisture and led to mold, posing the risk of contaminating the entire temporary storage facility. At present, we are collaborating with disaster area museums and universities to put together a full-fledged system for desalination, and considering the application for a budget to perform desalination as a full



Figure 6 Cleansing kit.



Figure 7 Objects contaminated with sand, sludge and pulp.

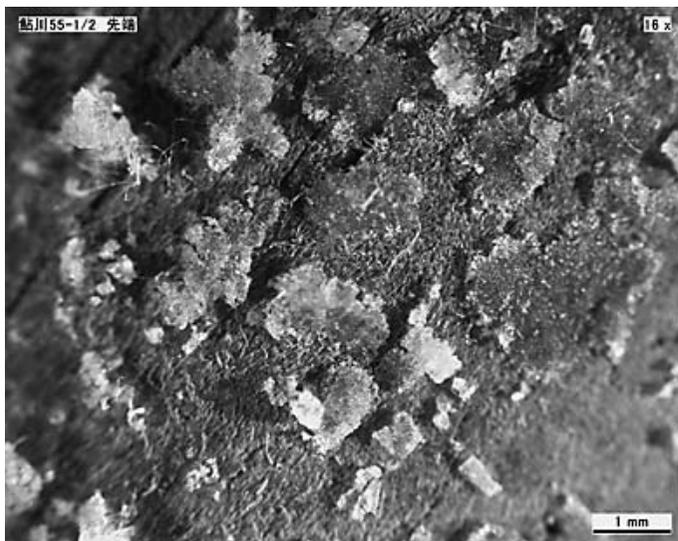


Figure 8 Salt deposits on the wood surface.

program of conservation on the massive amounts of folk objects.

4 Activities leading to the restoration of disaster-stricken tangible cultural Properties

I have already given an overview of rescue, temporary storage, and emergency treatment operations performed on cultural properties affected by the recent disaster. I also mentioned the desalination treatment to be performed as the second stage of emergency treatment. These activities are not sufficient to restore the value of these folk objects that are local cultural properties. In order to restore their value, I believe the following 8 steps are needed [Hidaka 2011].

1. Disaster damage: The untreated state of the objects, damaged by the disaster with no treatment having been performed.
2. Rescue and temporary storage: Transporting the objects from the disaster site to a safe place for temporary storage.
3. Emergency treatment: First-aid treatment performed for the purpose of preventing the worsening of the objects, broken or contaminated by dust or mud.
4. Sorting, organizing, and recording: Counting the number of rescued objects and formulating a list to grasp the overall picture.
5. Conservation and repair: Work performed by conservation specialists on those pieces judged to require full-fledged conservation.
6. Permanent storage: Returning the restored objects to the owner's storage facility, or putting them in the care of a museum or similar facility for safekeeping.

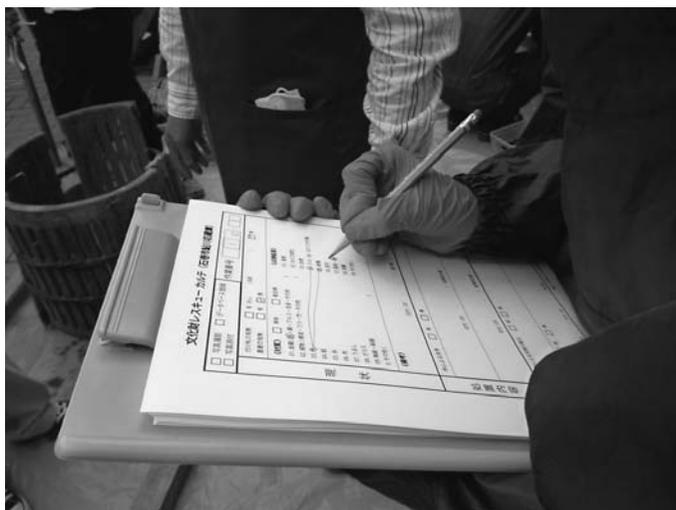


Figure 9 Making a list of articles.

7. Research and utilization: Compiling the information on the specialized research covering the activities performed to date, and adding the information inherent within the damage-stricken objects. Also, making the results of studies to date available to the general public.
8. Disaster prevention: Preparing for future disasters by utilizing the lessons learned throughout the disaster support process.

Out of these 8 activities, those performed by the Rescue Committee were rescue, temporary storage, and emergency treatment. And currently, we are working in coordination with the disaster-stricken regions to organize and record the rescued objects to formulate a list of articles, and to perform a part of the conservation and restoration work (figure 9). In the upcoming period, we must attempt to include research and utilization in order to impart the rescued pieces with the historic information required for them to be properly valued as cultural properties. In the disaster-affected regions, efforts must be made toward the permanent storage of rescued objects, to return them to their proper places.

5 Future activities

Currently, the disaster-stricken regions are steadily rebuilding. However, the people have not yet returned to their normal daily lives and restoration plans for museum facilities are far from satisfactory. These factors are leading to prolonged use of temporary storage facilities initially intended for provisional use (figure 10). To address this situation, the National Institutes for the Humanities, of which the National Museum of Ethnology, Japan is a member, has created a budget for research activities to support the disaster areas. I myself am the senior researcher



Figure 10 Temporary storage using an abandoned school.

for“Museums and the Revitalization of Cultural Heritage: Towards the Practical Involvement of Inter-University Research Institutes in the Reconstruction process after the Great East Japan Earthquake.” In the upcoming period, we will focus mainly on research, while also working with Professor Sonoda on the followings:

1. Formulating a system for the storage of tangible cultural properties stored in temporary storage facilities;
2. Building a system for museums to coordinate with one another in times of disaster.

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