Title: "Stabilization Processing" - Multi-Organizational Co-Operative Project for Preserving and Restoring Cultural Assets Damaged by Tsunami on March 11th, 2011

Publisher: The Committee for the Multi-Organizational Co-Operative Project for Preserving and Restoring Cultural Assets Damaged by Tsunami on March 11th, 2011

Japanese Association of Museums

ICOM JAPAN

Language: English, Japanese

Page: 256 pages

Release Date: December 26, 2014

Contents

Introduction ................................................................. 16–17

Chapter 1 The Great East Japan Earthquake and the Ensuing Giant Tsunami Damage
(1) The Great East Japan Earthquake and Giant Tsunami
  1) Occurrence of Earthquake and Tsunami, and the Damage Done to Japan.................. 18– 20
  2) History of Tsunami Damage in the Sanriku District........................................... 20– 23

(2) Damage to Cultural Facilities and Properties, and Efforts towards Their Salvage and Restoration
  1) Damage to Cultural Facilities in Iwate, Miyagi and Fukushima Prefectures........... 24– 28
  2) Efforts for Restoration of Cultural Facilities in Iwate, Miyagi and Fukushima Prefectures... 28– 31

Chapter 2 Salvage and Restoration of Damaged Objects
(1) Steps towards Restoration
  1) Establishment of the Committee................................................................. 32– 33
  2) Salvage and Restoration Activities in Iwate Prefecture...................................... 34– 37
3) Salvage and Restoration Activities in Miyagi Prefecture ........................................... 38 - 39
4) Salvage Activities in Fukushima Prefecture .......................................................... 40 - 41
5) Need for Wide-ranging Cooperation across Different Types of Facilities ............... 42 - 43
6) Volunteer Efforts across the Country ........................................................................ 44 - 47
(2) Problems in Salvage and Restoration of Cultural Properties .............................. 48 - 49

Chapter 3 Salvage of Museum Collections in Rikuzentakata City, Iwate Prefecture
(1) Damage Done to Cultural Facilities ................................................................. 50 - 57
(2) Recovery of Damaged Museum Collections ...................................................... 58 - 63
(3) Storage of Salvaged Objects
1) Expected Improvement of Environment and Facilities ........................................ 64 - 69
2) Actual Improvement to the Environment and Facilities ....................................... 70 - 73
3) Environmental Monitoring .................................................................................. 74 - 79

Chapter 4 Stabilization and Restoration
(1) Stabilization of Paper-based Assets ................................................................. 80 - 85
(2) Stabilization and Restoration of Cultural Assets
1) Stabilization of the Yoshida Family Documents, a Designated Cultural Property
   of Iwate Prefecture ................................................................................................. 86 - 89
2) Restoration of the Yoshida Family Documents, a Designated Cultural Property
   of Iwate Prefecture ................................................................................................. 90 - 93
3) Stabilization and Repair of Hanging Scrolls ......................................................... 94 - 97
4) Stabilization and Repair of Pictorial Maps .......................................................... 98 - 101
5) Stabilization and Repair of Artworks on Modern Paper ......................................... 102 - 105
6) Immediate Treatment for Oil Paintings ............................................................... 106 - 109
7) Stabilization of Canvas Paintings (acrylic paintings) ............................................. 110 - 113
8) Stabilization Process and Repair of Fabrics (dyed textiles) ..................................... 114 - 117
9) Repair of Folk Cultural Assets ............................................................................. 118 - 121
10) Stabilization and Restoration of the “Fishing Equipment of Rikuzentakata”
(Registered Tangible Folk Cultural Properties) ...................................................... 122 - 125
11) Stabilization and Restoration of Folk Performing Art Accessories
   - Ornamental Hairpins ......................................................................................... 126 - 129
   - Wig ................................................................................................................... 130 - 133
12) Stabilization and Restoration of Folk Toys .......................................................... 134 - 137
13) Stabilization and Restoration of Archaeological Metal Objects ......................... 138 - 140
14) Stabilization and Repair of Bone Tools ................................................................ 142 - 145
15) Cleaning and Digitizing of Photographic Materials ............................................ 146 - 149
(3) Stabilization and Repair of Natural History Specimens
Introduction

Written by Nobuyuki Kamba (Tokyo National Museum)

On the coast of the Tohoku district of Japan which was hit by the Great Eastern Japan Earthquake and the subsequent tsunami on March 11, 2011, many cultural institutions including museums, libraries and archives were severely damaged. In response to the outbreak of the large-scale natural disaster, the Agency for Cultural Affairs, the National Institutes for Cultural Heritage and other organizations started the recovery of cultural assets. These efforts to salvage damaged museum collection involved museums in Japan, such as member institutions of the Japanese Association of Museums and the National Museum of Nature and Science. In the affected area along the coast of Iwate Prefecture mentioned in this book, curators connected by the network of museums in the prefecture completed salvage of most of the objects by the middle of June, 2011. As of the end of August 2014, among 560,000 items managed by Rikuzentakata City, approximately 460,000 items had been salvaged, 150,000 of which were stabilized with protective measures. However, other salvaged items were waiting for establishment of stabilization treatments, and some are stored in freezers in Rikuzentakata City or Morioka City while care is being taken not to allow their degradation.

Following this disaster, stabilization treatments have been conducted in cooperation with an unprecedented number of organizations, attaining some success. At the same time, many issues remain unsolved from the perspective of salvage and stabilization of damaged cultural properties even after four years have passed since the outbreak of the disaster. We are dealing with many important issues including: the realization of the Blue Shield organization which
enables dispatch of specialized teams such as the Self-Defense Forces for salvaging cultural property; triage used for determination of priority of salvage; setting up of an environment to store salvaged objects temporarily; understanding and establishment of methods to stabilize objects by sterilization, sludge removal and desalination in order to protect them from deterioration due to mold and microbes, corrosion by contaminated substances, and deformation by acute absorption and release of water. Moreover, it is important to keep in mind a uniquely modern problem: decontamination of cultural assets polluted by radioactivity in Fukushima Prefecture.

Transportation of objects from the afflicted areas to a safe place is called primary rescue, while taking the minimum measures for the objects at a safe place is called secondary rescue. Stabilization processing of materials is the major activity in the secondary rescue. The conservation measures for the damaged objects taken after many past natural disasters were basically removal of contaminating substances (sludge, sand, etc.) attached to the surface of objects and repair of broken parts. The damage due to this disaster is totally different from the previous damage, with contaminating substances permeating into the materials (sludge lifted from the sea bottom by the tsunami, various bacteria contained in the sludge and drainage, and salts contained in seawater), and many kinds of physical damage with breakage, chafing and exfoliation. Although they were not submerged in the water for long, the damaged objects that were left alone contaminated by seawater and sludge for at least one month afterwards. This seems to be the reason for the permeation of contaminating substances, and increased the severity of the damage to the assets. In addition, the environment for temporary storage of salvaged and stabilized objects had not been properly prepared, and mold grew rapidly with increase of the air temperature in May. This is also regarded as one of the factors which facilitated deterioration of the assets.

The major operations of the secondary rescue effort following completion of primary rescue activities are, as mentioned above, removal of degrading factors that had permeated the objects, taking proper countermeasures against physical breakage or deformation of the objects, and storage and maintenance of the objects in a safe environment during and after these operations. Full restoration of breakage is distinctly different from stabilization processing, and has to be done after completing stabilization. The objects damaged by the tsunami will deteriorate further in the long term, and we are deeply concerned they will have a harmful influence on, undamaged objects near them, as well as the surrounding environment, due to degrading factors remaining in the objects. Accordingly, damaged items which have not been stabilized must never be stored together with intact items, and full restoration of objects in such conditions must be avoided as far as circumstances permit. Furthermore, observation is strongly recommended, even for objects which were stabilized. Only objects which have been
regulated as safe for many years after stabilization processing will be permitted to be stored in
a general standard storage facility. Stabilization techniques are thus in the process of being
developed, and stabilized objects should be carefully observed. It is necessary to check for
defects by observation after stabilization processing, correct them, to establish high credibility
and safety of the methods used.

The Iwate Prefectural Museum and the Tokyo National Museum, which have been
supporting the Rikuzentakata City Museum, as well as many other related institutions, have
accumulated a considerable amount of understanding concerning storage and restoration of
damaged cultural property, especially knowledge and techniques for stabilization processing
with the mutual cooperation of the organization involved. It is necessary to make such
information widely available to other countries as well as persons involved in domestic
museums to prepare for upcoming disasters. This book includes a description of the methods
acquired through trial and error by many experts who had been involved in the primary and
secondary rescue activities. These are invaluable experiences and research achievements.
Recording them will help all of us in preparation for future disasters, as well as in establishing
stabilization methods for the salvaged, but still frozen objects.
"Stabilization Processing"
Multi-Organizational Co-Operative Project for Preserving and Restoring
Cultural Assets Damaged by Tsunami on March 11, 2011

Application for brochures

Please fill in all the fields in "Entry".

<table>
<thead>
<tr>
<th>Institution</th>
<th>First Name</th>
<th>Middle Name</th>
<th>Last Name</th>
<th>Address1</th>
<th>Address2</th>
<th>City</th>
<th>state/province</th>
<th>Zip/Postal Code</th>
<th>Country</th>
<th>Phone number</th>
<th>E-mail address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Tokyo National</td>
<td>Nabuyuki</td>
<td>Kanda</td>
<td>13-9 Ueno</td>
<td>Tokyo National Museum</td>
<td>Tokyo</td>
<td>110-8712</td>
<td>JAPAN</td>
<td>+81-3-3822-1111</td>
<td><a href="mailto:guidebook2011@ren.jp">guidebook2011@ren.jp</a></td>
<td></td>
</tr>
<tr>
<td>Entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*After filling out, please send this form as an attachment file by e-mail to: guidebook2015@ren.jp.*