



Ritsumeikan University
Global Center of Excellence for
Education, Research and Development
of Strategy on Disaster Mitigation
of Cultural Heritage and Historic Cities

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■ Research Topic ■

Survey of Damage Caused by the Great East Japan Earthquake to Cultural Heritage on the Outskirts of Sendai

On March 11, 2011, an M9.0 earthquake struck in the Pacific Ocean off the coast of Tohoku. The resultant disaster known as the Great East Japan Earthquake caused major damage to the cultural heritage in the region. Damage was also reported to cultural heritage structures in the M7.1 aftershock that struck on April 7. Accordingly, on April 30–May 3, after the emergency operations had subsided somewhat, an eight-person team led by experts from the Ritsumeikan University Global COE surveyed the damage in Sendai and surrounding areas. The scope of the survey included the cities of Sendai, Iwanuma, Natori, and Higashi-Matsushima, and Matsushima, all situated in Miyagi Prefecture.



Chouon-ji Temple, submerged in the Tona Canal

Overall, the damage caused by the earthquake's tremors was minor, but the damage caused by the tsunami that followed was enormous. However, there were some fortunate circumstances— for example, the main building of Zuigan-ji Temple just happened to be undergoing repairs at the time, so the roof tiles had been removed. As shown by the case of the Karamon Gate of the Takekoma Shrine in Iwanuma, which had been reinforced in advance to make it more resistant to earthquakes and as a result suffered no damage, there is naturally a need to think about carrying out the appropriate reinforcements in the future. But reinforcing cultural heritage structures so that they can withstand a tsunami will probably be a difficult task in light of the need to preserve the historical and cultural value of the structures. Accordingly, it is important from the perspective of cultural heritage disaster mitigation to closely examine and clarify why the tsunami did not reach the grounds of Zuigan-ji Temple, looking at factors such as the impact of the islands in Matsushima Bay and the topography of the seabed.

We would like to acknowledge and express our gratitude to Ikuo Oe of Nishimatsu Construction and Takashi Suzuki of Kajima for their cooperation in conducting the survey.

(Kazuyuki Izuno, Chief Secretary, Global COE)

2011 International Training Course on Disaster Risk Management of Cultural Heritage held as part of UNESCO Chair Program on Cultural Heritage and Risk Management

The 6th UNESCO Chair Program International Training Course on Disaster Risk Management of Cultural Heritage was carried out over the two-week period from 10 to 24 September 2011. In recent years there have been frequent occurrences of natural and manmade disasters that have resulted in serious harm to cultural heritage as well, making disaster risk management for cultural heritage an issue of international concern. The International Training Course was launched after Kenzo Toki, the director of Ritsumeikan's Research Center for

Disaster Mitigation of Urban Cultural Heritage, visited the UNESCO headquarters in Paris and suggested the importance of holding a session on disaster risk management of cultural heritage at the UN World Conference on Disaster Reduction (UN-WCDR) in Kobe in 2005; the UNESCO Chair Program was created as a result of that session, and the International Training Course has been held annually since 2006.

This year's course brought together nine participants from Colombia, Jamaica, Mexico, Kenya, Uganda, India, Bangladesh, and China to examine the theme of "An Integrated Approach to Disaster Risk Mitigation for Historic Cities." It was the first time that the program had participants from Africa.

The course comprised of lectures, site visits, workshop focused on heritage sites in Kyoto and projects on case studies from participants' home countries. Through this process, participants were expected to acquire the methodology for drafting a cultural heritage disaster risk management plan that considered comprehensive risk assessment of cultural heritage, risk mitigation, emergency preparedness and response, and recovery and rehabilitation.

On March 11, 2011, Japan suffered enormous damage in the Great East Japan Earthquake. In order to learn from this great disaster, a special program was developed during the course, including a special lecture by Professor Makoto Kamiyama of Tohoku Institute of Technology and a field report by Global COE members. In addition, site visit was carried out in Minamisanriku-chou, Miyagi Prefecture, in cooperation with the fire departments of Kyoto and Minamisanriku-chou. On the final day of the course, participants presented cultural heritage disaster risk management plans that they had drafted for sites from their home countries. They received comments from the instructors, along with praise for their hard work and a diploma for successful completion of the course.

The Japan Consortium for International Cooperation in Cultural Heritage (<http://www.jcic-heritage.jp/top.html>), which seeks to promote linkages and cooperation between Japanese and overseas efforts to preserve cultural heritage, introduces this training project on their website as dealing with "multiple countries and regions."

Building on the accomplishments to date, the UNESCO Chair Program International Training Course on Disaster Risk Management of Cultural Heritage has been carried out through the active participation of our team of lecturers—, researchers from within and outside Ritsumeikan University, as well as experts from international institutions, governments, and from the sites themselves— and the international group of participants. We will continue to look for ways to improve the content of the course and to further reduce disaster risks to cultural heritage.

(Rohit Jigyasu and Naoko Itaya, International Training Course Steering Committee)



Site visit to Minamisanriku-chou



A participant is presented his course diploma

International Symposium on Cultural Heritage Disaster Mitigation

The International Symposium on Cultural Heritage Disaster Mitigation was held in South Korea on March 3–4, 2011, on Myongji University's Yongin Campus. Myongji University is a collaborative institute of Ritsumeikan University's Global COE for Education, Research and Development of Strategy on Disaster Mitigation of Cultural Heritage and Historic Cities, and the two institutions have been carrying out joint research since 2008.

On the first day of the symposium, young researchers presented their research findings, with postdoctoral fellows and graduate students from the Global COE participating, as well as students from Myongji University and Andong National University who are involved in the joint research project and researchers from the University of Seoul. The researchers came from Japan, South Korea, China, and Thailand, and in addition to reporting on the efforts in Japan, South Korea, and Thailand to mitigate risk to cultural properties the event offered them a venue for the exchange of information and network building.

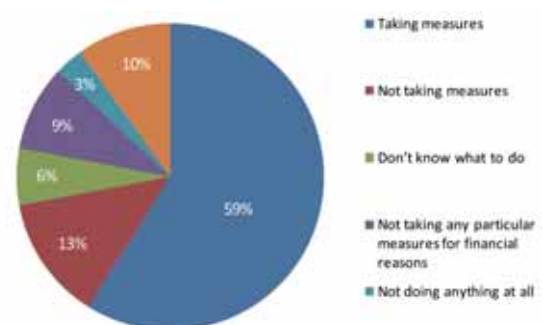
Looking at the topics of the researchers' presentations, there was one that offered a proposal for effort to mitigate the risk of fire damage to Korea's cultural properties, which has been underway since a fire destroyed Seoul's Great South Gate (Namdaemun), and seven were case studies that were focused on local issues. Looking at the geographical focus of those case studies, there were 4 on Japan (3 on Kyoto, 1 on Kamakura), 2 on South Korea (1 Seoul, 1 Andong), and 1 on Thailand; the types of damage addressed included earthquakes (1), fire (6), and flooding (1).

The main portion of the symposium was held on March 4, beginning with Professor Kenzo Toki of Global COE giving the keynote speech on "15 Years of Education, Research and Development in Japan of Strategy on Disaster Mitigation of Cultural Heritage." In Session 1, the results of the Japanese-Korean joint research project were presented; in Session 2, case studies of damage to cultural heritage were introduced along with lessons learned and initiatives to address that damage; and in Session 3, a panel discussion was held for a multinational research project on protecting East Asia's wooden construction cultural areas from damage.

In Session 1, Professor Wanjik Kim (Myongji University) reported on the history of cultural heritage disaster in South Korea, centered on Hanyang (Seoul) during the Choson Dynasty. He was followed in order by Yunsang Jung (Andong National University), Keisuke Himoto (Kyoto University), and Jungyong Park (Ritsumeikan University doctoral student). They reported on the current status of disaster mitigation for Hohoe Folk Village in Andong, which became a World Heritage Site last year, on a fire-spread simulation that was being undertaken, and on an opinion survey to gauge the awareness of the issue among residents and tourists.

In the second session, there were reports by Professor Taehwan Kim (Yongin University), Professor Linsheng Gu (Tsinghua University), Professor Masafumi Yamasaki (Ritsumeikan University), and Associate Professor Aiko Furukawa (Kyoto University) on Seoul's Great South Gate, the recovery in China's Sichuan Province following the earthquake, and the behavior during earthquakes of historic masonry construction buildings in the city of Patan, Nepal.

In the final panel discussion, Professor Hitoshi Taniguchi, Professor Takeyuki Okubo, Professor Wanjik



Based on a questionnaire survey on the current status of disaster mitigation measures in Hohoe Folk Village in Andong



The scene at the International Symposium on Cultural Heritage Disaster Mitigation

Kim, Professor Yunsang Jung, and Professor Linsheng Gu took the platform to discuss potential themes and modalities for Japan-China-Korea trilateral research collaboration on cultural heritage disaster mitigation. Not only did the conference reaffirm the importance of transnational information sharing, but it also succeeded in demonstrating the new possibilities that emerge through international exchange among young researchers .

(Hitoshi Taniguchi, International Cooperation Committee)

Kathmandu Field Survey

Following on last year's activities, in August 2011 a field survey was carried out in the cultural heritage city of Patan, located in the Kathmandu Valley in Nepal. The survey was conducted as part of a Global COE joint research project being carried out by Ritsumeikan University and Tribhuvan University's Institute of Engineering (IOE) to develop a risk management plan for the historic city of Patan.

The survey this time focused on the Jatapur district of Patan, and two workshops were held focusing on the residents of Jatapur and the surrounding neighborhoods. The first workshop featured a map-based discussion as Disaster Imagination Game (DIG) on firefighting efforts and evacuation of the area in the case of a disaster, while the second workshop sought to reconfirm the content of that by actually conducting a disaster response type of firefighting and evacuation drill. Based on questionnaire researches distributed onsite both before and after the workshops, the project team was able to collect data on changes in residents' awareness, on their daily activity, and other information that will form the basis for disaster mitigation planning.

Because mutual assistance among the residents would be important in the case of a large-scale disaster, the project team also surveyed local community activities. Around this area designated as a World Heritage Site, the communities are formed around the natural water supply system and traditional stone waterspouts known as "hiti," and the team conducted interviews with representatives and administrators in each community to survey such things as the organizational system of the community and the content of community activities. The survey clarified the actual activities of each community, such as the maintenance of their own water supply system with the hiti as its source.



Participants carry out a tabletop disaster simulation known as a Disaster Imagination Game (DIG)

The project team plans to consider the potential for using the historical space and traditional hiti as a resource for disaster mitigation and issues that might arise by positioning that as the basis for disaster mitigation community, to create a disaster mitigation map that reflects dangerous spots in the area from the perspective of residents, and to create a plan and proposal for disaster mitigation activities that can be carried out on a local community basis.

(Takeyuki Okubo, Global COE Leader)

Conference on Disaster Mitigation of Cultural Heritage and Historic Cities '11

On Saturday, July 2, the Conference on Disaster Mitigation of Cultural Heritage and Historic Cities '11 was held on the Biwako Kusatsu Campus of Ritsumeikan University. The event drew more than 120 people from around Japan and featured 47 research presentations, which were accompanied by lively discussions. Sessions covered a broad range of topics, including disaster mitigation in central areas of towns, social systems, evacuation behavior, historic heritage, fire, fire fighting, disaster mitigation technology, earthquake resistance, the Great East Japan Earthquake, earthquake damage, case studies from abroad, and slope disaster mitigation. Next conference will be held around July 2012.

The research papers and reports presented at the conference have been published as Disaster Mitigation of Cultural Heritage and Historic Cities, Vol. 5. The papers and reports included in that volume are available online (<http://r-cube.ritsumei.ac.jp/browse-journaltitle>), so please visit our website. (Keiichi Ogawa, Global COE Secretary)



The scene at the conference session

3rd Annual Ideas Competition for Strategy on Disaster Mitigation of Cultural Heritage and Historic Cities

On Saturday, July 2, 2011, the second screening of entrants and the award ceremony for the 3rd Annual Ideas Competition for Strategy on Disaster Mitigation of Cultural Heritage and Historic Cities were held at the Biwako Kusatsu Campus of Ritsumeikan University.

This year, the competition solicited ideas for ways to promote disaster mitigation related to cultural heritage in the study area that comprised the Horikawa canal and its surrounding areas. This study area is at the center of the historic city, Kyoto, where citizens have been engaged in successfully reviving a portion of the once abandoned canal and creating a waterside park. Efforts have also been started by the neighborhood residents to “take care of the river” in the newly reborn canal.

To make sure that the applicants based their efforts on clear understanding of the situation in the study area, a site visit meeting was held on April 2. The site visit meeting included a lecture by two of the judges, Professor Takeyuki Okubo (Ritsumeikan University) and Tetsuo Yoshikawa (Chairman, Committee to Beautify the Horikawa Canal and Horikawa Street), and a Q&A session, following which the applicants took a walk along the canal with the judges to deepen their understanding of the area.



“Aquatic landscape that encompasses the edges”

After this prior training program, 45 entries were received from throughout the country. Public presentations of 10 entries, who had been selected through the initial screening, were conducted on July 2, following which the judges deliberated and Kenzo Toki, who chaired the selection jury, presented the 10 entrants with awards including special awards. The winning submissions are listed below. We would like to express our thanks to all those who applied and who attended the event for their cooperation.

(Shiro Takeda, Ideas Competition Steering Committee)

1st Prize

“Aquatic landscape that encompasses the edges”

Yasuhumi Murakami (Chiba Univ. Grad School)

“Extension of river”

Takahiro Kume (Ritsumeikan Univ. Grad School)

“Shinsen drainage system community”

Lulu Li (Univ. of Tokyo)

Honorable Mention

“A town bathed in sunlight filtered through trees”

Taku Yamasaki (Univ. of Shiga Pref. Grad School)

“A historical thoroughfare in the forest”

Seiya Harima (Tokyo Univ. of Science Grad School)

“Ripple”

Yusuke Ishii (Kyoto Univ. of Art & Design Grad School)

“Horikawa roundabout intersection”

Tomoki Ishizaki (Kyoto Univ. of Art & Design Grad School)

Special Award

“A town spun from waterways”

Yohei Kadoya (Kobe Univ. Grad School)

“Large pools and small pools”

Katsuaki Ichihashi (Osaka Institute of Technology Grad School)

“Bamboo lineage”

Tatsunori Sakamoto (Kogakuin Univ.)

NOTE : Only the name of the project representative (title omitted) is listed here.

■ Notice ■

Global COE Newsletter Shifts to an Online Edition

Starting with the next volume, this newsletter will be offered exclusively online in a PDF version. Current and past newsletters will be fully accessible on the Ritsumeikan University Research Center for Disaster Mitigation of Urban Cultural Heritage website (<http://www.rits-dmuch.jp/en/coe/newsletter.html>), so please be sure to bookmark the page. We are also in the process of preparing a system for registering those who wish to receive news updates via e-mail, so when that is ready, we hope that you will sign up. We would also like to take this opportunity to let you know that the website includes various information and resources on research activities related to disaster mitigation for cultural heritage, so be sure to visit the site regularly.

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