Proceedings of
UNESCO Chair Programme on
Cultural Heritage and Risk Management,
Ritsumeikan University, Japan

INTERNATIONAL TRAINING COURSE (ITC) on DISASTER RISK MANAGEMENT of CULTURAL HERITAGE

Webinar Series

Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times
27 June and 4 July, 2020

and

Workshop on

Good Practices for Disaster Risk Management of Cultural Heritage
8 to 10 October, 2020

Organized by Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University (R-DMUCH), Kyoto, Japan and the International Centre for the Study of Preservation and Restoration of Cultural Property (ICCROM)

A photo of the Ponto-cho preservation district in Kyoto, Japan. Taken during the COVID-19 pandemic, July 2020. This area is normally a popular area for tourism.

Proceedings of
UNESCO Chair Programme on
Cultural Heritage and Risk Management,
Ritsumeikan University, Japan

INTERNATIONAL TRAINING COURSE (ITC) on DISASTER RISK MANAGEMENT of CULTURAL HERITAGE,

Webinar Series

Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times
27 June and 4 July, 2020
and

Workshop on

Good Practices for Disaster Risk Management of Cultural Heritage
8 to 10 October, 2020

Organized by Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University (R-DMUCH), Kyoto, Japan and the International Centre for the Study of Preservation and Restoration of Cultural Property (ICCROM)

Date of Publication: February 2021

Published by: Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University
58 Komatsubara Kitamachi, Kita-ku, Kyoto 603-8341 Japan

In cooperation with: ICCROM

Authors: Presenters of the Webinar

Coordinated by: Rohit JIGYASU, Project Manager, ICCROM
Dowon KIM, UNESCO Chair Holder, Associate Professor, Ritsumeikan University
Lata SHAKYA, Associate Professor, Ritsumeikan University

Edited by: Rohit JIGYASU, Project Manager, ICCROM
Dowon KIM, UNESCO Chair Holder, Associate Professor, Ritsumeikan University
Lata SHAKYA, Associate Professor, Ritsumeikan University
Wesley Webb CHEEK, Researcher (JSPS Post Doctoral Fellowship)

Printed by: HOKUTO Printing Co., Ltd.
38-2 Shimogamo Takagi-cho, Sakyo-ku, Kyoto Japan

Preface

The “Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University (R-DMUCH)” was established as a permanent research institution in 2013 and has handed over activities from former organization as “Research Center for Disaster Mitigation of Urban Cultural Heritage” which was started by Prof. Kenzo Toki from 2003.

The “UNESCO Chair International Training Course on Disaster Risk Management of Cultural Heritage” started from 2006 as one of our important educational activities, and fortunately we can continue it up to this year through close collaboration with ICCROM and with support of , ICOM, ICOMOS/ICORP and various national and international organizations. We are very much fortunate for NICH (the Independent Administrative Institution National Institutes for Cultural Heritage in Japan) has supported us to provide the educational resources and lessons which are the integrated protection systems of movable heritage in Japan, by lectures and visiting the Kyoto National Museum. I would like to thank these colleagues for supporting us and participants from all over the world. The purposes of this training course are education of practical experts in each field of cultural heritage conservation and disaster risk management, and development of draft plan for disaster risk management to secure the safety of people and cultural value in each cultural heritage site and historical city. I hope these plans will become actual projects in each country and contribute to cultural advancement in the world.

Unfortunately, ITC 2020 was canceled because of COVID 19 and as alternative projects, we implemented Webinar series “Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post COVID Times” on 27th June and 4th July 2020, followed by the Workshop on “Good Practices for Disaster Risk Management of Cultural Heritage” for our former ITC participants through 8th to 10th October 2020.

The webinar series were focused on the impacts of COVID 19 to cultural heritage and the possible response against this challenge. The outcomes of the discussion showed many new challenges and possible solutions in terms of multi hazards as well as the local knowledge to response on the COVID 19.

The three days’ workshop was the showcase of the good practices cultural heritage undertaken by former participants, and to discuss future directions based on the lessons learnt. It was also an event for enhancing the network with our former ITC participants.

Thank you all again for supporting this activity, and please keep in touch with us for inheriting cultural heritage for next generation.

Takeyuki OKUBO Director,
UNESCO Chair Holder,
R-DMUCH Professor,
Department of Environmental and Civil Engineering,
Ritsumeikan University

Preface

Since 2006, the Institute of Disaster Mitigation for Urban Cultural Heritage at Ritsumeikan University (R-DMUCH), Kyoto, Japan in close collaboration with the International Centre from the Study of Preservation and Restoration of Cultural Property (ICCROM), an intergovernmental organization headquartered in Rome, Italy has been spearheading capacity building in the area of disaster risk management of cultural heritage as part of the UNESCO Chair Programme on Cultural Heritage and Risk Management; one of the unique programmes on this theme in the world. The target groups for this course include government institutions, departments, universities, NGOs and private consultants from cultural heritage, as well as disaster management fields. The three-week course is based on lectures by eminent experts, field visits, exercises and discussions. From the inception of the course in 2006 until 2019, nearly 152 professionals from more than 62 countries have been trained through this annual course that is held in Kyoto and other historic sites in Japan such as Minamisanriku Cho (East Japan), Nara, Himeji, Kobe, Sasayama and Takeda .

The COVID-19 pandemic has caused unprecedented health crisis and global disruption and as a result we could not organize our annual training course in Japan this year. However, the pandemic also made us rethink about how to manage disasters caused by biological hazards. Besides huge impacts on peoples' lives and livelihoods, this pandemic has also impacted heritage sites and cultural institutions as well as cultural heritage. Many heritage sites and cultural institutions such as museums and libraries were shut down due to lockdowns. According to the data collected by the UNESCO World Heritage Centre, almost 90% of World Heritage Properties were totally closed for some days in April and May.

This pandemic has posed a huge challenge in maintaining and monitoring these heritage sites and cultural institutions, also affecting tourism revenues and the livelihoods of people who are directly or indirectly depending on them. Moreover, many crafts persons and building artisans lost their jobs, while festivals and cultural practices were disrupted thereby affecting intangible heritage. At the same time, invaluable role of cultural heritage in providing psycho-social support to communities has also been brought forward in this pandemic, bringing forward innovative practices in monitoring and communication using digital technology. Research has indicated that the causes for the increasing intensity of these epidemics lie in climate change, rapid urbanization, the increasing of global mobility and economic globalization. There is already enough evidence indicating that the importance of traditional knowledge in planning and management can provide a healthier living environment. So, on one hand, we need to think about reducing vulnerability and risks to cultural heritage due to disasters caused by biological hazards and improving local capacities. On the other hand, we also need to reconfigure response and recovery as we pass through this crisis and emerge from it. Clearly there are lessons to be learnt from this pandemic that cuts across all aspects of disaster risk management and cultural heritage conservation.

As we move towards post-COVID times, it is time for us to reflect on how we should continue capacity building in disaster risk management of cultural heritage by tailoring the existing knowledge and skills, identifying and filling gaps in terms of knowledge areas/topics, target audience, and pedagogy based on the lessons learnt from this pandemic. The webinar series of UNESCO Chair Programme on Cultural Heritage and Risk Management by R-DMUCH at Ritsumeikan University and ICCROM held during July 2020 aimed to discuss the future directions of cultural heritage management through presentations by resource persons of ITC (International Training Course on Disaster Risk Management of Cultural Heritage).

While we could not organize course this year, the pandemic situation also provided us with unique opportunity to pause and reflect on what we have achieved during last 14 years and where we need to proceed in the future. Therefore R-DMUCH and ICCROM decided that this year we should reconnect with our past

participants and evaluate what they have done after attending the training course and learn from their experiences rooted in their own contexts. Therefore, a workshop on "Good Practices for disaster risk management of cultural heritage' was also organised by R-DMUCH and ICCROM in October 2020. The call for applications was targeted towards former ITC Participants and it aimed at encouraging them to showcase initatives on disaster risk management of cultural heritage undertaken by them in their home countries. The workshop was very successful in providing us very useful feedback on the achievements as well as needs that we aim to address through future ITC initiatives in coming years. R-DMUCH and ICCROM will continue to work closely towards fulfilling our mission of building capacity of professionals from cultural heritage and disaster risk management sides to build resilience of our cultural heritage sites and institutions against disasters.

Rohit JIGYASU
Former UNESCO Chair Holder
Project Manager
Urban Heritage, Climate Change and Disaster Risk Management
ICCROM

Table of Contents

1 Introduction

Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University and Its Training Course

The International Training Course on Disaster Risk Management of Cultural Heritage is a follow-up of the recommendations adopted at the Special Thematic Session on Risk Management for Cultural Heritage held at UN-WCDR (World Conference on Disaster Reduction) in January 2005 in Kobe, Hyogo, Japan. One of these recommendations advocated the need for the academic community to develop scientific research, education and training programs incorporating cultural heritage in both its tangible and intangible manifestations, into disaster risk management. The importance of strengthening knowledge, innovation and education to build a culture of disaster prevention at WH properties was reiterated also by the World Heritage Committee at its 30th session (Vilnius, Lithuania, July 2006).

Furthermore, the "Declaration", adopted at the International Disaster Reduction Conference (IDRC) of Davos (August 2006) confirmed that "concern for heritage, both tangible and intangible, should be incorporated into disaster risk reduction strategies and plans, which are strengthened through attention to cultural attributes and traditional knowledge". The Sendai Framework on Disaster Risk Reduction adopted at the World Conference on Disaster Risk Reduction in Sendai, Japan has further highlighted the importance of protecting cultural heritage from disasters. Cultural heritage has also been included one of the sectors in the new ten essentials that have been adopted by UNISDR's resilient city campaign.

In response to these recommendations by the international community, the Institute of Disaster Mitigation for Urban Cultural Heritage at Ritsumeikan University (R-DMUCH) has been acting as a focal point for organizing international research, training and information network in the field of cultural heritage risk management and disaster mitigation. Besides R-DMUCH also functioned as the international secretariat for ICOMOS-International Scientific Committee on Risk Preparedness (ICORP) from 2011 to 2014 and many resource persons of the course are expert members of the Scientific Committee.

152 participants in total from 62 countries have participated in our training courses till date. These participants are from East Asia (Indonesia, South Korea, China, Philippines, Malaysia, Myanmar, Vietnam, Thailand and Laos), South Asia (India, Pakistan, Bangladesh, Nepal, Bhutan, Sri Lanka and Maldives), Oceania (Palau, Fiji, New Zealand and Australia), Central and South America (Argentina, Costa Rica, Peru, Chile, Jamaica, Haiti, Colombia, Mexico, Ecuador, Honduras, Brazil and Panama), Europe (Armenia, Serbia, Moldova, Italy, Albania, Croatia, Bosnia and Herzegovina, Spain, Netherlands, Romania, France, Georgia and Belgium), Middle East (Iran, Iraq, Turkey, Afghanistan, Syria, Palestine, and Jordan), Africa (South Africa, Ghana, Kenya, Uganda, Nigeria, Tanzania, Egypt, Morocco, Malawi, Ethiopia and Zimbabwe).

Objectives and Methodology of the Training Course

The main objective of the course is to provide theoretical and practical knowledge on various aspects of disaster risk management of cultural heritage. In particular, the course provides interdisciplinary training to:

- ✓ Undertake an integrated risk assessment of tangible and intangible, immovable and movable cultural heritage by analyzing their vulnerability to natural and human induced hazards that can cause disasters;
- ✓ Build integrated system for disaster risk management of cultural heritage, incorporating various mea-

sures aimed at reducing risks, responding to disasters and recovering from them.

- ✓ Formulate disaster risk management plans for cultural heritage that correspond to the local/ urban, national and regional plans and policies for disaster risk management and development as well as humanitarian response and recovery mechanisms;
- ✓ To learn practical tools, methodologies and skills for disaster risk management of cultural heritage such as cost benefit analysis, value assessment, budgeting and communication methods with various stakeholders ranging from the decision makers to local communities; and
- ✓ Strengthen the international scientific support network in order to build the institutional capacity needed to formulate comprehensive disaster risk management plans that are based on the characteristics of cultural heritage and nature of hazards in the national and regional context

The course comprises lectures, site visits, workshops, discussions, team projects and individual/group presentations. Participants are expected to actively participate throughout the course. The course aims at promoting the development of collaborations and network building among scholars and professionals in cultural heritage protection. This course is provided scientific support by UNESCO and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

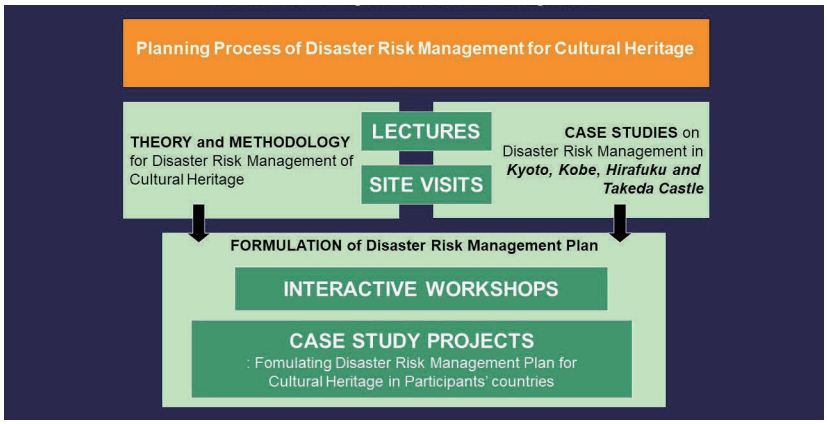


Fig.2 14th International Trainig Course on Disaster Risk Management of Cultural Heritage 2019

Based on the knowledge obtained from lectures, site visits, and exercises through interactive workshops, the training course also sets the goal of raising planning skills in disaster risk management of cultural heritage, by having each participant formulate outline of a DRM plan of a case study site or museum from the participant's home country in line with the country's respective social, economic and institutional context. In order to do so, the Institute asked the selected participants to collect relevant data/information related to the cultural heritage, hazard characteristics and local context before coming to Japan.

Alternative activities of ITC 2020

The COVID-19 pandemic has posed a huge challenge in maintaining and monitoring heritage sites and cultural institutions, also affecting tourism revenues and the livelihoods of people who are directly or indirectly depending on them. Moreover, many crafts persons and building artisans lost their jobs, while festivals and cultural practices were disrupted thereby affecting intangible heritage. At the same time, invaluable roles of cultural heritage in providing psycho-social support to communities has also been brought forward in this pandemic, bringing forward innovative practices in monitoring and communication using digital technology.

Research has indicated that the causes for the increasing intensity of these epidemics lie in climate change, rapid urbanization, the increasing of global mobility and economic globalization. There is already enough evidence indicating that the importance of traditional knowledge in planning and management can provide a healthier living environment. So, on one hand, we need to think about reducing vulnerability and risks to cultural heritage due to disasters caused by biological hazards and improving local capacities. On the other hand, we also need to reconfigure response and recovery as we pass through this crisis and emerge from it. Clearly there are lessons to be learnt from this pandemic that cuts across all aspects of disaster risk assessment and cultural heritage management.

As we move towards post-COVID times, it is time for us to reflect on how we should continue capacity building on the disaster risk management of cultural heritage by tailoring the existing knowledge and skills, identifying and filling gaps in terms of knowledge areas/topics, target audience, and pedagogy based on the lessons learnt from this pandemic.

Considering above aspects, two main activities were planned during 2020 using online medium. These included Webinar Series "Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times" held on 27th June and 4th July 2020, and the Workshop on "Good Practices for Disaster Risk Management of Cultural Heritage" organized from 8th to 10th October 2020.

(1) Webinar Series "Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times"

The webinar series of UNESCO Chair Programme on Cultural Heritage and Risk Management by R-DMUCH at Ritsumeikan University and ICCROM aim to discuss the future directions of cultural heritage management through presentations by resource persons of ITC. Webinar is structured with two parts. The first webinar focused on the stages before the disaster that is "Disaster mitigation and Preparedness" and the second webinar focused on the stages after the disaster that is "Disaster response and recovery".

(2) Workshop on "Good Practices for Disaster Risk Management of Cultural Heritage"

The workshop aimed to showcase various projects on disaster risk management of cultural heritage undertaken by the former participants of International Training Course on Disaster Risk Management of Cultural heritage nicknamed as ITC, being organized by Ritsumeikan University and ICCROM since 2006. In addition, it aimed to review the activities of ITC since 2006 and works towards building a stronger network among the ITC lecturers and the former ITC participants.

The call for applications to former ITC participants who have participated in the ITC since 2006 were opened. Seven projects were selected through review of 27 applications submitted by the alumni of this course. All selected presenters presented their project during the workshop and, after consideration by our jury members, two presenters were selected for the Best Practice Award and one presenter was selected for the Exemplary Practice Award.

Besides, a video message from Prof. Kenzo TOKI (Special Research Fellow of Kinugasa Research Organization), the founding father of ITC, and former director of DMUCH was presented. In addition, video messages of former ITC participant's memories of the program were also presented. These messages recalled the history of the establishment of ITC, the efforts of our former resource persons, the memories of ITC former participants, and the implementation their learnings from ITC in their projects.

8 to 10 Oct 2020, 11-13 AM (CET) 18-20 PM (JST)

Workshop on

GOOD PRACTICES FOR DISASTER RISK MANAGEMENT OF CULTURAL HERITAGE

Ritsumeikan University, DMUCH, and ICCROM invite you to participate in our online workshop on Good Practices for Disaster Risk Management of Cultural Heritage. This workshop aims to showcase good practices undertaken by the former participants of the International Training Course on Disaster Risk Management of Cultural Heritage (ITC) and discuss the future directions based on lessons learnt. The presenters for this workshop were selected through a review of submitted applications. An internationally acclaimed jury will select two presenters with awards for best practices in disaster risk management of cultural heritage during the workshop. Please do not miss this opportunity. We are looking forward to your participation.

Selected Good Practice Presentations

8 October (Thu)

ITC 2014

Fire risk mitigation strategies for urban heritage site in Cairo, Egypt

Abdelhamid Salah Abdelhamid SAYED

ITC 2016

Heritage New Zealand Pouhere Taonga (HNZPT) draft guidance for preparing heritage risk management plans

Vanessa Anne TANNER

9 October (Fri)

ITC 2014

Utilisation of traditional water cisterns as water source in case of fire in Gijokastra, Albania

Elena MAMANI

ITC 2016

Mapping risks for cultural heritage in Mexico

Dulce María GRIMALDI

ITC 2015

Disaster risk management plan for Humberstone and Santa Laura altpeter works, Pozo Almonte, Chile

Marcela HURTADO

ITC 2010

Disaster risk management plan for Punakha Dzong, Bhutan

Junko MUKAI and Dechen TSHERING

Exemplary Practice Award Presentation

10 October (Sat)

ITC 2017

George Town world heritage city, Malaysia

Ming Chee ANG

Special Presentation

8 October (Thu)

ITC 2016

Good practices for DRM of cultural heritage in Japan

Barbara Minguez GARCIA

10 October (Sat)

- Special interview with Prof. Kenzo TOKI, the founding father of DMUCH and ITC
- Memories and vision of former ITC participants
- Announcement of the two best projects

Commentators

Joe KING (ICCROM)
Lee BOSHER (Loughborough Univ.)
Ksenia CHMUTINA (Loughborough Univ.)
Wesley CHEEK (Ritsumeikan Univ.)
Takeyuki OKUBO (Ritsumeikan Univ.)

Moderators

Rohit JIGYASU (ICCROM)
Dowon KIM (Ritsumeikan Univ.)

Registration https://bit.ly/2D06l60

Registration Deadline **30 September (Wed) 2020** http://www.r-dmuch.jp/en/project/ws_2020.html (for details)

ICCROM

United Nations Educational, Scientific and Cultural Organization · UNESCO Chair on Cultural Heritage and Risk Management, Ritsumeikan University, Kyoto, Japan

DMUCH

2 Webinar Series

Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times

2.1.1 Considering multiple risks and inequalities in COVID-19 times (and beyond)[1]

Ksenia Chmutina and Lee Bosher

Water Engineering and Development Centre (WEDC)
School of Architecture, Building and Civil Engineering
Loughborough University, England

Introduction

The COVID-19 pandemic has caused an unprecedented global health crisis which has elevated in prominence the importance of managing disasters caused by biological hazards. In this brief paper we question the value of overly focusing on low frequency but high impact crises and explore how such a focus might be at the cost of addressing the more frequent but (apparently) lower impact crises. Accordingly, it is explained that COVID-19 may actually be an opportunity to challenge the misleading idea that the virus, as with most disasters, is non-discriminatory. It is suggested that sound (disaster) risk management principles should be applied to ensure that multi-hazard/threat assessments are undertaken to guarantee that proportionate risk management approaches are adopted for Cultural Heritage (CH). We conclude with some reflections on the challenges and opportunities for CH that the COVID-19 pandemic might provide.

Black swan events vs. White Swan events

Effective (disaster) risk management is about the management of risks being undertaken in a suitably proportionate manner (Bosher and Chmutina 2017). In recent years there has been a tendency for risk managers and Governments to overly focus on 'Black Swan' events (i.e. rare but large impact events such as Tsunamis and global pandemics) compared to what could be termed the 'White Swan' events (i.e. those that pose more frequent problems but with apparently lower impacts) (Aven 2013). In Figure 1, those events are illustrated on a typical risk matrix that considers likelihood and consequences (after Bosher & Chmutina 2017).

It is suggested here that the framing of events as 'White Swan' or 'Black Swan' is misleading and may contribute towards an undue focus on the rare but more newsworthy mega events (box 'A') such as tsunamis and major earthquakes, while at the same time underplaying the more frequent but apparently less impactful 'White Swan' crises (box 'B'). It is likely that in the locally experienced reality these apparent 'low impact' events may actually be major or quite severe to local stakeholders (box 'C').

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Severe
Almost certain	M	H	H	E	E
Likely	M	**B**	H	H **C**	E
Possible	L	M	M	H	E
Unlikely	L	M	M	M **A**	H
Rare	L	L	M	M	H

Figure 1: A typical risk matrix that considers the likelihood of events and the consequences; the 'Black Swan' events would typically fall within the box marked A. The more frequent but apparently less impactful 'White Swan' events would be deemed to fall within the box marked B. When those frequent events have major (often under reported) impacts they would fall within box C.

1 This paper was presented as part of the ITC Webinar Series "Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times" on the 27th June 2020.

It is not the case that 'Black Swan' events should be ignored, but it is suggested here that they should not necessarily be the focus of Disaster Risk Management (DRM) activities and resources, especially if this leads to neglect of frequently occurring events that do not make the global news headlines. Thus, when it comes to considering multiple risks, we need to better understand underlying vulnerabilities (social, political, physical, environment and economic) and their root causes, and to acknowledge that frequent problems, apparently low impact events, can make it impossible for many people to cope on a day to day basis due to existing socio economic structures rather than natural processes.

COVID-19 and how the pandemic is portrayal as non-discriminatory

COVID-19 has been devastating but it has been problematic for some countries and sections of society more than others (especially those that have not benefitted from bailouts and social support). The global media coverage of and the Government statements on the COVID-19 situation has been promoting the message that the virus is non-discriminatory and anyone can get infected (e.g. Dowling 2020; Gove 2020). Whilst the latter is indeed true, the impacts of the pandemic have disproportionately affected the most marginalised sections of society that do not have the safety nets that the wealthier sections of society have. The evidence (APM Research Lab 2020; CRS, 2020; Lavell et al. 2020) so far suggests that people that do not have social safety nets (in nations without social support services), that cannot work from home (nurses and doctors), that need to physically attend work (manual labourers) and do not have free access to healthcare provision (most countries) are most likely to get infected with COVID-19 because they are more exposed and most likely have underlying health problems (possibly due to age, ethnicity and gender). Indeed, there will be knock on impacts on the wealthier sections of society because their everyday lives will be disrupted to some extent but at least they more likely to have (robust) safety nets that can enable them to cope.

Thus, the idea that COVID-19 is non-discriminatory is very misleading, and the sooner we grasp this point, the sooner we can appreciate that COVID-19 may have unfortunately helped to expose the underlying root causes that lead to differential vulnerability for sections of society. COVID-19 might therefore be viewed as a lens that has in some cases magnified those underlying vulnerabilities. It has become a reflection of a distorted form of development, in which neoliberalism has produced highly concentrated wealth,

Table 1: Overview of the DRM process (for heritage sites)

	Stage	Descriptor
1	Identify, characterize, and assess hazards/threats	**Hazard/Threat identification –** the process of finding, recognising and describing hazards/threats to which the site is exposed.
2	Assess the vulnerability of the site to specific hazards/threats	**Vulnerability assessment** is the process of assessing the susceptibility of the site to a hazard/threat that might lead to an event with a consequence.
3	Determine the risk (i.e. the expected consequences of specific hazards/threats)	**Identifying the level of risk** - magnitude of a risk or combination of risks, expressed in terms of the combination of the likelihood (chance of something happening) and the impact (consequences) of an incident caused by that hazard/threat. It utilises a **Risk Matrix** as a tool for ranking and displaying risks by defining ranges for consequence and likelihood (see Figure 1 for an example).
4	Identify ways to reduce those risks	**Identifying (and prioritising)** a course of action to address the hazard/threat, underlying root causes and any associated risks.
5	Prioritise risk reduction measures	

Source: Bosher & Chmutina (2017) and after British Standards Institution (2009)

enormous inequality and vast environmental destruction, with profound implications for the construction of risk to natural and anthropogenic hazards globally (Alcántara-Ayala et al., 2020).

Factoring COVID-19 into multi-hazard risk assessments & risk management

A key message is that we should not change how we assess risk because of COVID-19, but only if we have actually been assessing risk correctly in the first place. An overview of a typical (disaster) risk management process is provided in Table 1. Effective multi-hazard/threat risk assessment for cultural heritage (as for any context) should consider the hazards and threats in a proportionate manner, through considering the likelihood and possible consequences/impacts (Bosher & Chmutina 2017).

It is nonetheless common for those dealing with disasters/emergencies to overly focus on the most recent/topical issues (for instance we have seen this in response to tsunamis) instead of addressing the root causes (Wisner 2020). Thus, there is a fear that the focus of agencies, funding, policy and risk reduction activities might become overly preoccupied with dealing with COVID-19 concerns while neglecting other more common risks (i.e. related to earthquakes, floods and storms). So rather than propose a specific plan for what we should do, our recommendation is that COVID-19 concerns should be accurately factored alongside other hazards and threats into risk assessments and the required risk reduction measures in an integrated manner. As part of this plan we need to move away from focusing on single events by:

- Considering multiple/compound drivers
- Taking onboard different stakeholder perspectives
- Understanding underlying vulnerabilities
- Recognising that there may be a range of new/old adaptations

Overview of Challenges and Opportunities

There are clearly many challenges as well as some opportunities when it comes to reducing disaster risk to the world's Cultrual Heritage (CH) (Bosher et al. 2019; Chmutina et al. 2019). Many of these challenges and opportunities are likely to be site/context specific but some of the more general ones have been summarised in Table 2 by using 'political', financial', 'social', 'physical' and 'environmental' categories.

Challenges posed by COVID-19

COVID-19 is having major economic impacts on many countries, in some cases diverting important funding from causes (such as support for CH) that are now deemed to be less of a priority. In many places, COVID-19 lockdowns immediately brought critical restoration and rehabilitation work to a stop; over the past few months it placed a heavy strain on efforts to preserve and protect cultural heritage (Al-Said 2020). The impact of COVID has resulted in CH sites/buildings being closed and leading to loss of income which has contributed to loss of personnel and their skills. The restrictions brought about by COVID-19 have also constrained business opportunities indirectly, such as heritage walks and tour guides established by local companies and the knock-on impacts of lower visitors/tourists on the food and hospitality sectors. Where some sites have been able to adapt and welcome visitors, they have invariably been hit with the increased costs of adapting buildings/facilities and providing PPE to comply with COVID-19 restrictions.

Largely, COVID-19 found the cultural heritage sector unprepared, without an established and effective virtual presence for something other than dissemination of their on-site activities (Vayanou et al. 2020). The overall loss of income through redirected funding and/or lack of income due to lower visitors can pose physical challenges to heritage sites, such as deterioration of tangible CH due to lack of required maintenance and/or increased heritage crime activities. Fundamentally, if CH sites are closed due to COVID-19 impacts and related restrictions, people are likely to lose their jobs and the local communities and stake-

Table 2: Overview of some key COVID-19 related challenges and opportunities for CH

COVID19 Challenges for CH	COVID-19 Opportunities for CH
Political - Funding diverted to COVID19 focused activities - CH drops down list of priority considerations	Political - Possible appreciation of CH practices in reducing spread of C19? - Increased understanding of root causes of vulnerability
Financial - Site/building closures leading to loss of income - Personnel/skill losses - Lost business opportunities (i.e. heritage walks) - Increase expense of social distancing measures/ PPE	Financial - Diversification of (remote) income generation activities? - Possible to charge a cost to access online exhibitions/tours?
Social - Job and livelihood losses - Changed practices leading to erosion of intangible CH - Deterioration of important CH sites/events	Social - Use of living sites by the 'locals' - Development of innovative ways to present museums/exhibitions remotely (increasing accessibility to people that otherwise may not be able to visit)
Physical - Short/long-term deterioration of tangible CH (lack of management) - Short/long-term deterioration of tangible CH (crime) - Possible requirement to change layout of buildings/sites - Erosion of links to intangible CH	Physical - Less visitor impacts on CH sites/buildings (due to less footfall)? - Opportunities to upgrade buildings (if funding available)?
Environmental - Increase in single use plastics (PPE)	Environmental - Less visitor impacts on CH sites/areas of natural beauty

holders may experience an unmanageable reduction in their income; all of which may prose major challenges for intangible CH.

Opportunities arising in light of COVID-19

However, it is not all bad news, as COVID, like other disasters, could present opportunities to better understand and hopefully tackle the status quo that has reinforced the crisis for some, for instance the underlying root causes that lead to differential vulnerability for sections of society. More directly, some of the possible opportunities for CH sites is that less visitors (reduced footfall) could have reduced the negative impacts that visitors have on some sites, such as less damage to infrastructure due to less wear and tear and reduced (people and traffic) congestion in the areas around sites. The pandemic also gave an opportunity to find the non-traditional ways of engagement: for instance, museums increased their online presence by 80% during the lockdown, offering more social media interactions, broadcasts, virtual tours and online exhibitions, and observed more than 40% increase in online visits (NEMO 2020). These opportunities may be minor compared to the challenges, but they nonetheless offer some aspects for further development and action. What COVID-19 revealed is the ability of the cultural heritage sector to mobilise and adapt in order to introduce effective measures to reduce the risk contagion and to engage with various audiences in an innovative and, in many cases, more inclusive way. It has also emphasised the importance of, in particular, intangible cultural heritage in people's lives as a source of well-being (Cook 2020).

Most importantly, it is time for us to reflect on how we should continue capacity building in disaster risk management of CH by tailoring existing knowledge and skills, identifying and filling gaps in terms of knowledge areas, and target audiences based on the lessons that need to be learned from this pandemic. Understanding the opportunities and challenges provided by COVID-19 is relevant for policies for managing the multifaceted dimensions of risk and consider multiple hazards. This understanding requires a holistic, transdisciplinary perspective that acknowledges that the causes of any disaster – be that COVID-19 or otherwise - must be addressed in order to develop effective solutions for cultural heritage and beyond.

References

Alcántara-Ayala, I., Burton, I., Lavell, A., Mansilla, E., Maskrey, A., Oliver-Smith, A., and Ramírez-Gómez, F. (2020), 'Editorial: Root causes and policy dilemmas of the COVID-19 pandemic global disaster', *International Journal of Disaster Risk Reduction*, https://doi.org/10.1016/j.ijdrr.2020.101892.

Al-Said N. (2020), *The Impact of COVID-19 on the Protection of Cultural Heritage*. IPI Global Observatory, available at : https://theglobalobservatory.org/2020/06/impact-covid-19-on-protection-of-cultural-heritage/

APM Research Lab. (2020). 'The Color of Coronavirus: COVID 19 Deaths by Race and Ethnicity in the US'. Available at: https://www.apmresearchlab.org/covid/deaths-by-race

Aven T. (2013), 'On the meaning of a black swan in a risk context'. *Safety scienc*e, 57, pp.44-51

Bosher L.S. and Chmutina K. (2017), *Disaster Risk Reduction for the Built Environment*, Wiley, London

Bosher L.S., Kim D., Okubo T., Chmutina K. and Jigyasu R. (2019), 'Dealing with multiple hazards/threats on cultural heritage sites: An assessment of 80 case studies', *Disaster Prevention and Management*, Vol. 29 No. 1, pp. 109-128

British Standards Institution (2009), *Risk management: Principles and guidelines*. London: British Standards Institution Group

Centre for Risk Studies (CRS) (2020). 'The GDP@Risk over Five Years from COVID-19 Could Range from $3.3 Trillion to $82 Trillion, Says the Centre for Risk Studies'. Available at: https://www.jbs.cam.ac.uk/insight/2020/economic-impact/

Chmutina, K., Jigyasu, R. and Okubo, T. (2019). 'Securing future of heritage by reducing risks and building resilience'. *Disaster Prevention and Management*, 29 (1), 1-9

Cook, S. (2020), *The essential role of art has been exhibited during the COVID-19 shutdowns*. Rice Kinder Institute for Global Research, available at: https://kinder.rice.edu/urbanedge/2020/06/18/essential-role-art-has-been-exhibited-during-covid-19-shutdowns

Dowling, P. (2020), 'Covid-19 does not discriminate, now we are all in the same boat'. *The Independent*, available at: https://www.independent.co.uk/news/world/coronavirus-refugees-covid-19-unhcr-urges-solidarity-a9429106.html

Gove, M. (2020), 'Virus does not discriminate'. *SkyNews*, available at: https://news.sky.com/video/coronavirus-virus-does-not-discriminate-gove-11964771

Lavell A., Maskrey A., Mansilla E., Ramirez F. (2020), *The Social Construction of the COVID-19 Pandemic: Disaster, Risk Accumulation, and Public Policy*. Available at: http://desenredando.org

Network of European Museum Organisations. (2020). *NEMO report on the impact of COVID-19 on museums in Europe*. Available at: https://www.ne-mo.org/fileadmin/Dateien/ public/NEMO_documents/NEMO_COVID19_Report_12.05.2020.pdf

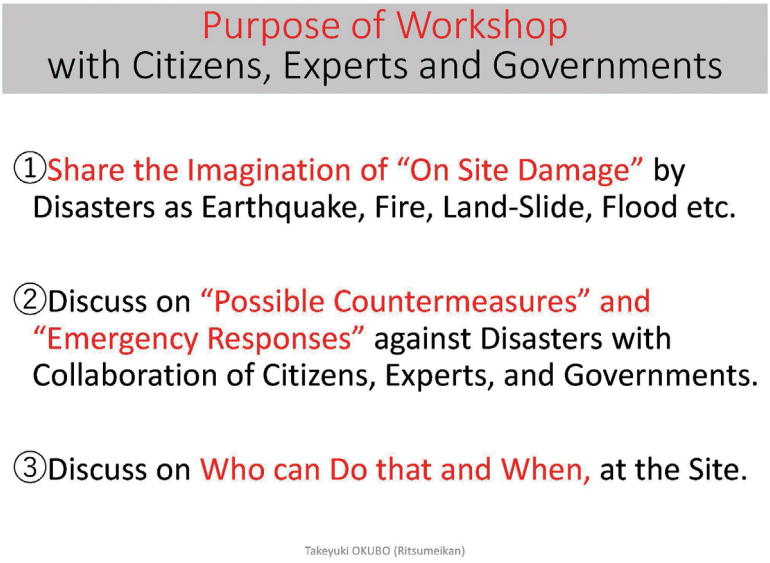
Vayanou, M., Katifori, A., Chrysanthi, A. and Antoniou, A. (2020). 'Cultural Heritage and Social Experiences in the Times of COVID 19'. In: In Proceedings of *AV I* 2 *CH* 2020: Workshop on Advanced Visual Interfaces and Interactions in Cultural Heritage (*AV I* 2 *CH* 2020). ACM, New York, NY, USA. Available at: http://ceur-ws.org/Vol-2687/paper2.pdf

Wisner, B. (2020), 'Five Years Beyond Sendai—Can We Get Beyond Frameworks?' *International Journal of Disaster Risk Science*, Vol. 11, pp. 239–49.

2.1.2 Community-based DRM workshop with a digital network for post-COVID times

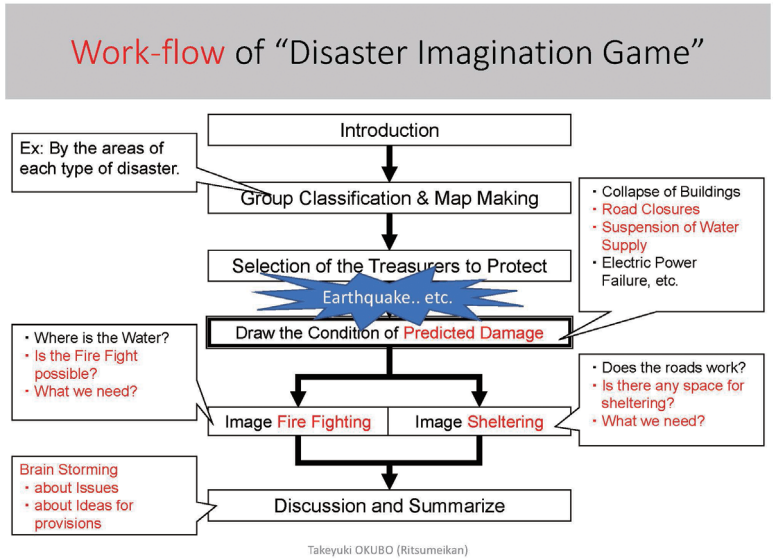
Takeyuki Okubo *Professor & Director, Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University*

I'd like to talk about technical solutions during the post-COVID times. My specialization is civil engineering and architecture, and for disaster risk management, we should develop a communication strategy, a workshop for example that involves the local people. Protection of cultural heritage with the involvement of the surrounding community is very important. Without this we cannot save the culture itself. This is the reason for holding risk communication workshops between citizens, experts and governments.



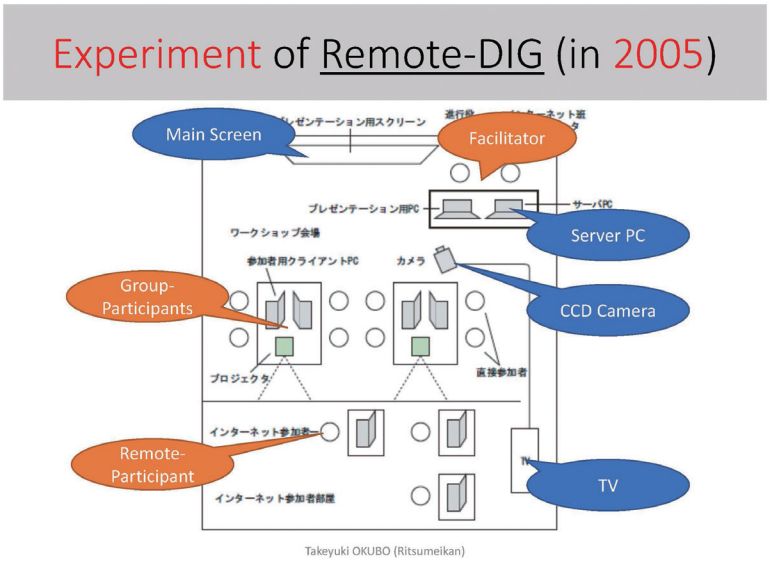
The first point of this workshop is sharing how we imagine on-site damage that could be caused by various types of disasters. The second point is to have a discussion on possible countermeasures and emergency responses against disasters with the collaboration of the people. During this discussion, we can find some ideas for developing measures to mitigate the damage caused by disasters. Lastly, we should discuss about who can undertake these mitigation measures and when these measures can be initiated at the site.

For these purposes, sometimes we use a workshop that we call the Disaster Imagination Game, or we call DIG in short. In this workshop, we use large scale maps and discussions by the groups. In these discussions we ask what kind of disasters and what kind of the damages might occur. We follow this up by asking what kind of measures can be carried out. The groups discuss this while using a large map of the area.



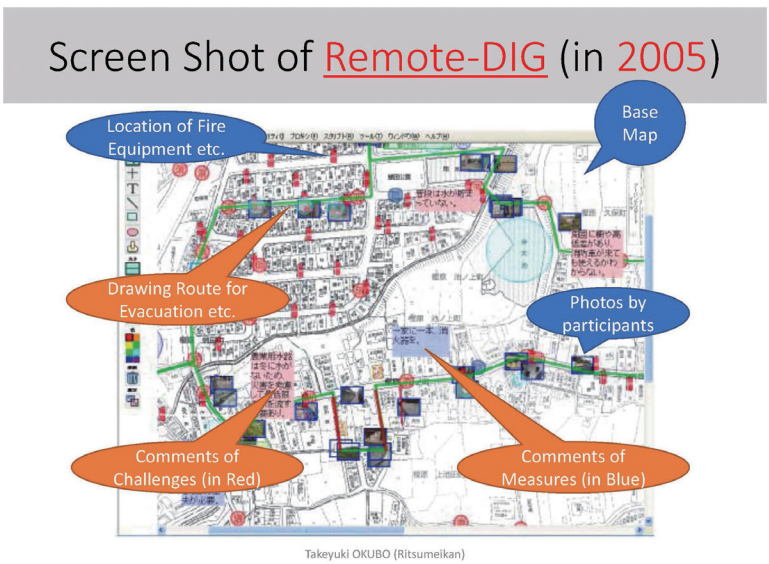
This is the workflow for the DIG workshop. First, we divide people into small groups. Second, we ask them to select some important buildings and sites: of course these are generally their houses or cultural heritage sites. Third, we ask them to imagine that a disaster—like an earthquake, for example— has occurred. Therefore they start to develop detailed possibilities on the map. For example, in the case of a serious earthquake, most of the old buildings might collapse and some narrow roads will be blocked. After that, we ask them to imagine the challenges for primary firefighting activities; Where is the water and is it possible to fight that fire? What will we need to do such activities?

For the next stage, we ask the group to imagine emergency shelters. Are the roads functional or not? Where are the safe spaces? What do we need at these times. Again, we use the large-scale map. Lastly, we ask them to do a brainstorming activity about the major issues adding in some ideas or provisions.



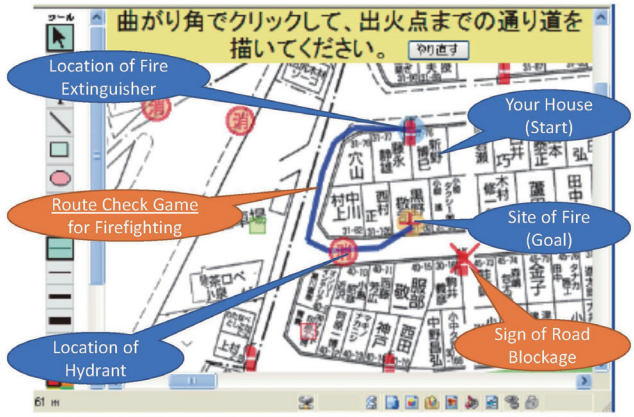
It should be noted that the participation of all the people is very difficult because of individual business schedule or other time or space limitations. Because of this we tried to develop the tool, named "Remote-DIG" in 2005 for limited number of participants. We tried to develop a new mapping system, which can be shared by the people on the internet using a basic HTML program.

This slide shows a site plan of the experiment on Remote-DIG held in 2005. The facilitators and group participants stayed in the same room and we developed a server PC and used the main screen. For remote participants, we set up CCTV cameras and connected each personal computer with the internet.



This slide shows an example, you can see the base map and the people can freely put some kinds of photos on the map, and they can use the tools to draw lines and put their comments on the red tag as challenges. They can also put a blue tag with comments of possible countermeasures against the challenges.

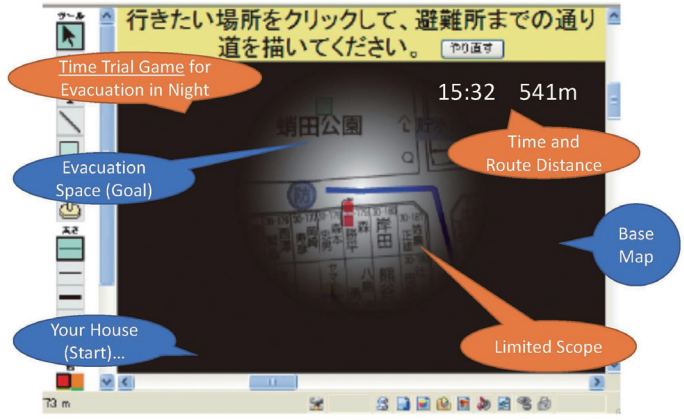
Screen of Firefighting Game (2005)



Takeyuki OKUBO (Ritsumeikan)

After trying this remote-DIG workshop, we also tried to develop some kinds of games to share a similar experience after the workshop. This is one example of our "Firefighting Game." You can check how much distance is needed to reach the primary firefighting site from your house, and on the map you also can see the signs of road blockages because of debris on the road. Using this you can check your route and understand how firefighting is difficult in the event of a serious disaster like an earthquake.

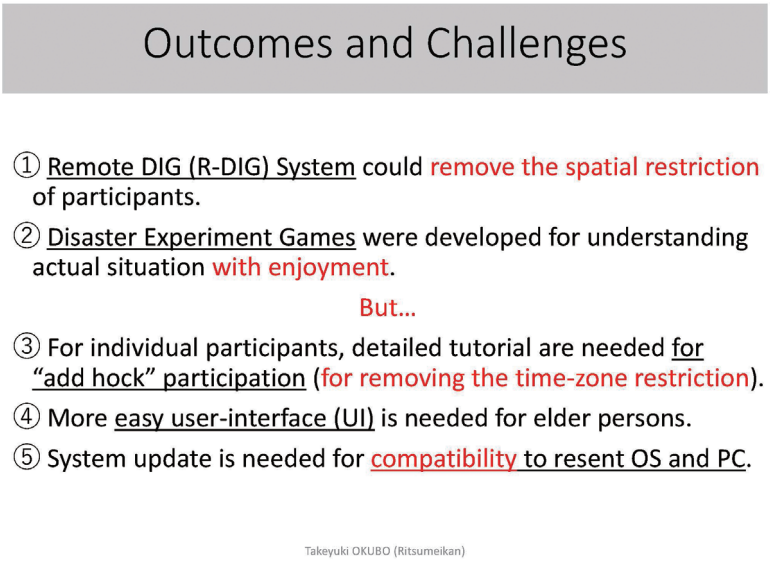
Screen of Night Evacuation Game (2005)



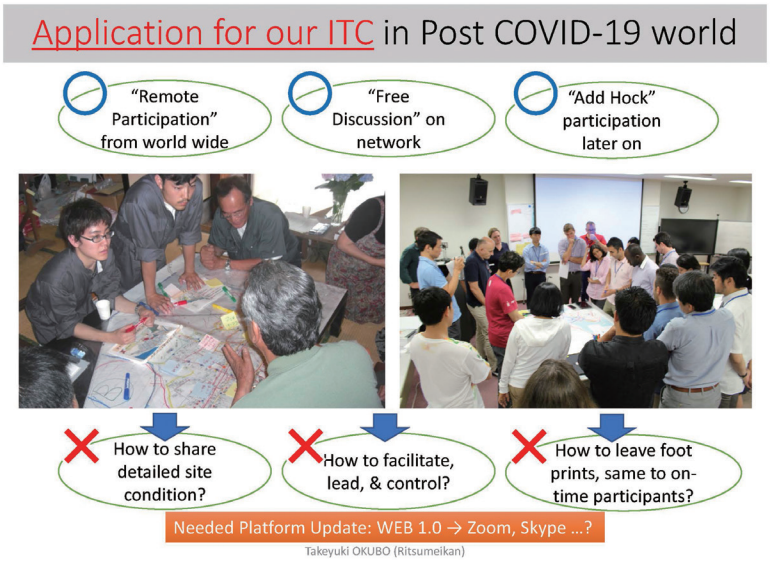
Takeyuki OKUBO (Ritsumeikan)

This is another game called "Night Evacuation Game." As you know, disasters don't only occur in the daytime. In the case of earthquakes that happen at night, it is possible that many people cannot move easily

because of darkness. We try to stimulate this kind of situation using this game. You can see the base map in a limited manner. If you have a park as an evacuation space, due to limited view during night time, you need more time to reach your goal. You can check the time and distance to go through the maze to the final destination. It's a kind of time-trial game for evacuation at nighttime.



After these experiments, we found that the Remote-DIG system could address the challenge of limited number of participants who are physically present. These "Experimental Games" were developed for understanding actual situations but also proved to be enjoyable after Remote-DIG. For individual participants, detailed tutorials are needed for ad-hoc participation, and an easier user interface is very important, because some of the elder people are not skilled at using internet and computer systems. A system update is needed for compatibility to recent operation systems and PCs, because the original system was developed in 2005.



In conclusion I would like to discuss the application of the DIG in our International Training Course, and its possibilities for the post COVID-19 era. Allowing for remote participation from worldwide, free discussion on a digital network and ad-hoc participation are good points of this system, but we should think about how to share the detailed site conditions beforehand. In most cases, that kind of workshop should be held after events such as observation of a town or walking tours. We should share this information with participants from all over the world. The point of how to facilitate, lead, and guide the Remote-DIG are also very important in order to encourage free discussion on network.

We should think about keeping track of the participants who access this mapping system after on-time workshop. To address the time gap, we should share this information while using the ad-hoc information systems. However, that is not yet completed. We should update this system, and nowadays we can use Zoom or Skype or other online technologies so that we can successfully implement this system into a new platform for future.
Thank you very much for your kind attention.

2.1.3 Consideration of climate change for disaster risk management and influence of COVID-19

Yoshifumi Satofuka *Department of Civil and Environmental Engineering, College of Science and Engineering, Ritsumeikan university*

1. Introduction

Heavy rains that are thought to be caused by climate change have occurred frequently in the world in recent years. In 2020, large-scale flood disasters have occurred in the Yangtze River basin of China, and serious flood damage has been reported in Bangladesh, Indonesia, Japan and Vietnam etc. The tendency for heavy rainfall to occur will continue, and the situation will become more serious. Effective countermeasures to reduce damage are expected for Disaster Risk Management. The importance of software countermeasures against flooding has been highlighted in recent years. Especially, warning and evacuation systems are rapidly advancing and are expected to be the most effective method against flooding. On the other hand, the spread of the COVID-19 virus is thought to have a significant impact on the operation of evacuation systems. For example, in the months following the Great Hanshin-Awaji Earthquake that occurred on January 17, 1995, hundreds of people died of influenza. The harsh environment at the evacuation shelters is thought to be one of the causes. Evacuation systems need to be improved under conditions where infectious diseases continue to spread.

2. Increasing of heavy rainfall events in Japan

Figure 1[1)] shows the annual number of times 400 mm or more of daily precipitation is observed at AMeDAS site. Figure 2[1)] shows the annual number of times 50 mm or more of rainfall per hour is observed at AMeDAS sites. It can be clearly seen from both figures that heavy rainfall is increasing in Japan. Most of Japan's heavy rains are caused by typhoons or rainy season fronts. Table 1 shows examples of heavy rain disasters that have occurred in Japan in recent years.

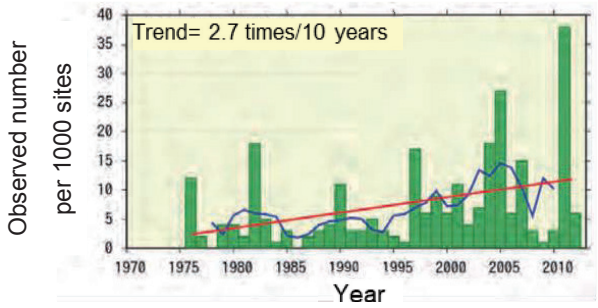


Figure1: Annual number of times 400 mm or more of daily precipitation

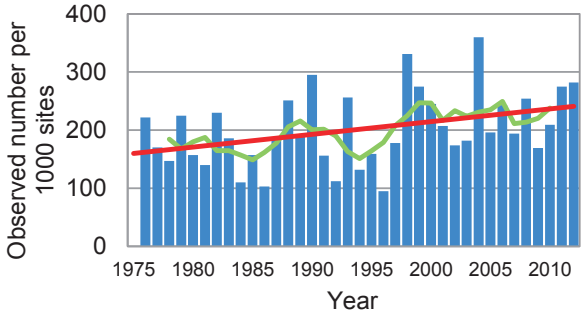


Figure2: the annual number of times 50 mm or more of rainfall per hour

Table 1: Heavy rainfall disasters in JAPAN (2011-2020)

Year	Causes of heavy rain	Death toll	Missing
2011	Typhoon Talas	83	15
2012	Rainy season front	30	0
2013	Typhoon Wipha	40	3
2014	Typhoons	84	0
2015	Typhoon Etau	20	0
2016	Typhoon Lionrock & Rainy season front	26	3
2017	Rainy season front	40	2
2018	Typhoon Prapiroon & Rainy season front	263	8
2019	Typhoon Hagibis	86	3
2020	Rainy season front	82	4

3. Damage to cultural heritage caused by heavy rainfall

Damage caused by heavy rain is not limited to the general society, but extends to irreplaceable cultural heritage. In 2011, the large typhoon Taras, struck the Kii Peninsula in Japan. The very famous Kumano Nachi Shrine is located on the Kii Peninsula. At this time, the Kumano Nachi Shrine was damaged by the debris flow, the most sacred area was filled by a lot of sand and gravel.

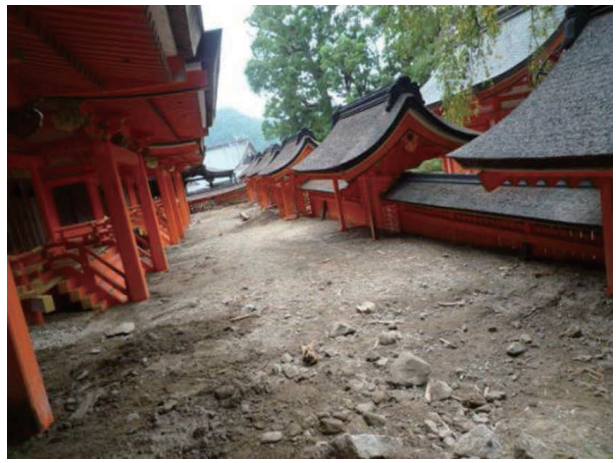


Figure 3: The most sacred area of Kumano Nachi Shrine damaged by the debris flow

In 2013, typhoon Wipha struck the Kyoto area. The subway in Kyoto was flooded and the damage was long-term. However, the Hiyoshi dam which is constructed upstream in the Katsura river was able to control the flood and reduce the water flowing downstream by about 90%. It is estimated that, in the Arashiyama area Kyoto City close to Katsura river , the number of inundated houses was halved by flood control measures enabled by the dam. If there were no dams and dikes, maybe there would have been more wide-spread damage of houses and cultural heritage occurring in Kyoto.

4. Climate change in the near future

The IPCC (Intergovernmental Panel on Climate Change) said that the global average temperature has increased by about 0.4 degree in the last 50 years. Human activity is the main reason for the warming observed since the middle of the 20th century The increasing concentration of carbon dioxide has most affected this warming. The IPCC predicted that the global average temperature will rise about 0.3 to 4.8

degree by the end of the 21st century. The rate of temperature rise depends on the scenario, but there is no doubt that the temperature will continue to rise in the near future. If the increase in heavy rainfall in recent years is due to the rise in global temperature, we must consider that the frequency and scale of heavy rainfall will continue to increase.

5. Adaptation policy for facilities by the Japanese government

The Japanese government has decided on adaptation policies of facilities for flood control: a) Maintenance of anti-flood ponds, b) Maintenance of underground retention basins, c) Expanding flood control capacity by raising existing dams, d) Effective use of pondage by adding spillways to existing dams, e) Establishment of rainwater retention and permeation facilities. Unfortunately, there is a financial limit to making new hard infrastructure measures. Therefore, it is necessary to enhance 'soft' measures.

6. Promotion of soft countermeasures for flooding in Japan

The Japanese government has decided on an adaptation policy focusing on crisis management supported by soft countermeasures for flooding: a) Sharing of information in advance regarding water damage risk (Hazard map shown in Figure 4), b) Preparation of warning systems, c) Evacuation plans and timeline settings. These soft measures depend on new techniques. Accurate and detailed terrain information, high-precision rainfall observation systems, and real-time flood runoff prediction systems are required. In order to build a more advanced evacuation system, more accurate and detailed rainfall prediction methods are also required. Appropriate evacuation routes must be set and evacuation shelter operation procedures must be prepared.

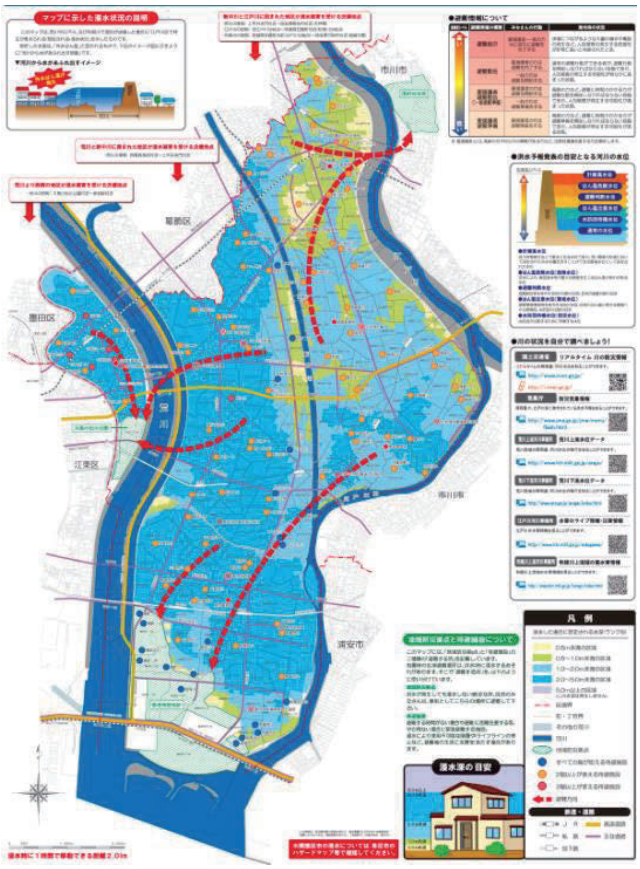


Figure4: Example of Hazard map

7. Influence of COVID-19 for soft measures

COVID-19 has a strong influence on shelters setting up, operation of shelters, and recovery from a disaster. These are all important factors of the evacuation system. Each local government in Japan tries to proceed with this soft countermeasure. It is very difficult to improve by their limited staff and budget. For example, shelters need larger space, because we need to keep distance even in the shelter. In past evacuation plans, each local government has created its own plan by themselves. But in the future, it will be necessary for multiple local governments to cooperate with each other to create an evacuation plan for a wider area. It is the only way to secure the evacuation space.

8. Conclusion

Heavy rainfall events are increasing due to the rise in the global average temperature. Therefore, the frequency of large-scale flooding disasters are increasing and the damage is enormous. This trend is predicted to continue in the future, so it is necessary to prepare hard and soft mitigation measures. Soft measures that utilize new technologies are expected to progress rapidly and reduce damage. On the other hand, the spread of infectious diseases will require a larger evacuation space, so it is necessary for local governments to work together to create a wide-area evacuation plan.

Reference

1) Japan Meteorological Agency: Climate Change Monitoring Report 2012, 2013.

2.1.4 How should international organizations working in the field of cultural heritage sector rethink their activities in the light of COVID-19?

Joseph King *ICCROM*

First I would like to take the opportunity to thank Ritsumeikan University for their partnership on this webinar and our now long-term partnership in the implementation of the International Training Course on Disaster Risk Management for Cultural Heritage. The partnership is marking its 15th year in 2020, and the COVID-19 crisis is proving a particularly difficult, but also important moment for us, given the nature of the crisis. It points to a need for us to perhaps rethink or reshape the course for the future to take into account all that we are learning at the present time. And this of course leads directly to the question, "How should international organizations working in the field of cultural heritage sector rethink their activities in the light of COVID-19?"

In order to answer this question, it is first important to distinguish between the different types of international organizations and their roles in the conservation of cultural heritage. The web of international organizations is diverse and each has its own scope and place within the larger overall system. ICOMOS and ICOM for example, are international NGOs which serve as professional networks to bring together professionals, first at the national level through their national committees, and then from around the world through their international activities. ICOMOS for example makes a strong contribution to the establishment of professional practice through its now long list of international charters.

International organizations such as the World Bank and other international development agencies partner with national and local governments and other organizations on project implementation and development, while intergovernmental organizations such as UNESCO and ICCROM work directly at the Member State level on heritage issues. UNESCO, of course, focuses on the development and monitoring of international norms, policies, and conventions for heritage conservation. It's work on the 1972 *Convention concerning the Protection of the World Cultural and Natural Heritage*, the 1954 *Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict*, and the 1970 *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property* are only three of the important conventions that UNESCO has put forward to safeguard common our cultural heritage. ICCROM for our part, is more focused on capacity building and technical issues related to conservation. Our work over the years on training heritage professionals includes the implementation of the Architectural Conservation Course which was took place for over 30 years and was more recently transformed into a course on Conservation of Built Heritage. We also focus on training on disaster risk management, heritage and sustainable development, people-centered approaches, and the interlinkages between cultural and natural heritage.

Although not strictly international organizations, it is also worth mentioning the work of universities in the international arena. In recent years, there has been a push at many universities to include a stronger component of international students, making them important actors at the international level for education, training, research, and site projects.

It is important to emphasize, however, one thing that international organizations are not tasked to do. None of us, are the heritage police. It is important to remember that direct responsibility for conservation of heritage rests with national and local governments, and very importantly with local communities and people. The international system is set up to help foster collaboration and cooperation but not to police

conservation activities. It is surprising, how many emails ICCROM receives asking the organization to force a government to safeguard a particular building or site. Of course we can work with governments, communities and other proper authorities when invited, but even within the World Heritage Convention, the text is clear in Article 4 that, "Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State." Furthermore, Article 6 of the Convention fully recognizes the sovereignty of the States with regard to their heritage. Even in the formulation of World Heritage Committee decisions, the Committee tends to "invite" or "recommend" States Parties to undertake actions for the protection of their heritage. The international system, therefore, has developed as a means, not wielding a punitive stick, but rather to foster cooperation and collaboration amongst countries and their peoples.

With this in mind, there are a number of ways that international organizations can promote the safeguarding of cultural heritage:

1. setting Professional Standards and methodologies;
2. promoting and carrying out research;
3. developing tools and resource materials;
4. promoting and implementing capacity building at all levels for those involved in the conservation of cultural heritage.

Considering these four areas, we can ask ourselves how the COVID-19 pandemic changed what international organizations do?

Activities such as the theme of this webinar is already one example. Most of our focus on DRM in the past has been related to the physical wellbeing of the heritage. But this crisis has provided a realization that wellbeing is not just limited to the physical state of conservation, but also the wellbeing and mental health of its related communities and people. The crisis has provided us with a push to the digital/virtual world, to ensure that everyone stays connected and gets the information that they need through available means. In its simplest forms as related to heritage, actions include the plethora of virtual tours of both museums and sites that have now popped up on the internet. More directly at the professional level, there are now an abundance of webinars, both to provide new information and to keep people connected. For years, ICCROM has been discussing the need to increase our distance learning opportunities. And we have done so on occasion in the past. But, this crisis has pushed us to confront this issue and try to quickly move forward. This webinar is an example. We have also started a regular on-line lecture series, with the first series of lectures directly connected to the pandemic, many organized through our programme on First Aid and Resilience in times of Crisis.

It is important, however, to caution against an over-enthusiasm for the virtual. It can be argued that a virtual tour of the Roman Colosseum, the World Heritage properties in Kyoto, or the Louvre Museum can be an enjoyable experience, but can never actually replace an in-person visit. Digital documentation of our heritage, while a very powerful tool, cannot replace the conservation and maintenance of the heritage over time. The pandemic has pushed us to focus more time and energy on the digital documentation and presentation of our heritage. This may help us to improve our documentation skills quickly. But, this does not replace the need to conserve the original objects and places, in their authenticity.

The same is true for training. Some things can easily be done on-line, and the crisis is showing us the way forward. But some things do not adapt themselves, and we should not pretend that an on-line experience

can always substitute; both in terms of hands-on training, and also the networking benefits that are derived from being in the same place at the same time over a period of time.

In terms of the content of our capacity building, the pandemic has made us realize that we have not been paying much attention to biological hazards previously. While we have given a strong focus to hazards such as earthquakes, fires, and floods, we have not given the same attention to other hazards which we have now learned may have a significant impact on our communities and their heritage. This is an area of our work that needs strengthening.

We have to focus more on complex emergencies. During this pandemic, we have also had cyclones and resulting flooding in India and Bangladesh, and there was a recent earthquake in Mexico City. How does our response to COVID-19 affect our response to these cyclones or earthquakes; and inversely, how does a cyclone or earthquake affect our response to the pandemic. We have, of course, talked about complex emergencies in the past, but the particular characteristics of COVID-19 are making us reexamine how we look at these complex emergencies. At ICCROM, the First Aid and Resilience programme is looking exactly at these issues.

The Pandemic is also forcing us to look at expanding our target audiences, both in terms of participants in activities and partners. While we have already been trying to expand our audience in recent year to include a wider slice of DRM professionals such as humanitarian agencies and civil defense related organizations, COVID-19 points to a strong need to also include health professionals in new ways based on biological hazards rather than just in dealing with health effects of physical hazards.

As a concluding thought, the COVID-19 pandemic is certainly going to force international organizations to think in new ways about disaster risk management to ensure that we have the right people and organizations involved in our work of safeguarding cultural heritage. But, it is important to also consider the longer term issues of recovery. One of the things that we are very bad at in the international community is focusing on long-term recovery efforts. We respond well to the initial crises, but our attention gets distracted as the next crisis hits. We do not devote the necessary time and resources to long-term recovery. We cannot afford to lose concentration in the case of this pandemic which affects us all. People are already getting tired and want to "move on". It is my sincere hope that we will one day learn our lesson and make sure we invest the necessary time, effort and money in the long-term recovery process.

2.1.5 Webinar 1 DISCUSSION

Rohit Jigyasu *Facilitator*

Rohit Jigyasu:

One of the key points that came up during the presentations was that we need to look at biohazards, but not in isolation. We need to consider both rare events with high impact as well as frequent events with low impacts. COVID-19, is a lens to better understand underlying vulnerabilities. Besides, we need to consider digital technology for creating virtual platforms for tools such as disaster imagination game that seek to engage diverse sections of community. We should also main streaming cultural heritage in climate actions and disaster risk management. Moreover preparedness measures should take into consideration the special requirements of social distancing and hygiene during epidemics. And also, an important point that came up during presentations was the importance of refocusing new ways of communication, dissemination, capacity building, developing tools and methodologies by the international organizations. So, I will now ask a few questions to our panelists.

The first question I have is for Lee and Ksenia. You have pointed out the importance of underlying vulnerabilities. What kind of systemic changes can be made in order to address the vulnerability issues for those communities, who are very intimately connected to cultural heritage? For example, artisans, craftsmen, or those who are maybe engaged in the management of heritage sites. So, if you can tell a bit more on how we can refocus to address the challenges faced by these sections of community.

Ksenia Chmutina:

Well, it is a difficult question. First of all, we need to understand what are the systemic challenges and the systemic problems not from our privileged perspective, but actually through engaging with the communities that are so closely connected to heritage and whose livelihoods are also dependent on heritage. And to understand not just their challenges but also their strengths in order to figure out how these strengths can actually contribute to systemic changes. It is not enough to just provide more economic resources, for example, or to make the site more accessible. Because the systemic changes are that need to be made in the current political system. And what the system generally wants is, profit. The system kind of doesn't really care for people's lives. I think we have seen this quite a lot in the context of COVID-19. So, yes, to understand what the livelihood depends on and how that can be supported, I suppose through their livelihoods, through those people and their strengths is one way to do it.

Lee Bosher:

Yes, so I will briefly follow up on Ksenia's point. This is where cultural heritage actually can play a really important part because it can make people value the livelihoods that may otherwise be undervalued. And this is important because it can give the most marginalised and undervalued section of society more of a voice. So, part of what we need to do – and this just takes time – is to make sure that there are mechanisms put in place to actually listen to and to communicate and let these communities actually be part of not just decision making but actually how the issues are framed. There is an assumption that some of these frequent events are low impact events, but actually for some sections of society, they might have major impacts. So, putting mechanisms in place by involving the representatives of those communities and understanding what the issues are, and then helping them come up with solutions and ideas which are appropriate for their needs are important.

Rohit Jigyasu:
Thank you very much for answering this query, Lee and Ksenia. So, the next question is for Professor Okubo. You explained how we can use digital technology for disaster imagination game,; so, can you give some other examples or any other ideas on tools that we can develop, which can help us in disaster risk management or maintenance or monitoring, using these new digital media or communication tools available.

Takeyuki Okubo:
I believe various types of reality systems should be used to make a research and to understand the actual situations, and the outcomes would be implemented at the actual site. But because of the COVID-19 pandemic, we should keep the social distance and take care of our health even during the research and risk communication activities. Although, if we can develop the whole digital copy of reality systems, then so we can make the research about risks or actual conditions and so on in the digital world. For example, before the disaster imagination game, we need to go to the town watching or town walking to pick up important information about the risk of disaster or important elements with cultural values. Those kinds of recorded digital images, are very useful. But I believe that some kind of interactive information sharing phases with the local people is also very important. So, we should understand the limitation of those digital technologies, and utilize them to their utmost for future.

Rohit Jigyasu:
Thank you very much, Professor Okubo. So, the next question is for Professor Satofuka. can you please explain different parameters which should be considered while designing evacuation routes considering the special requirements of the pandemic situation?

Yoshifumi Satofuka:
The parameters are not changed for evacuation. Usually we can use same parameters, because on the evacuation route, the situation can be same even during COVID. But only in the shelter, the space is limited.

Rohit Jigyasu:
Thank you very much. There is an interesting comment made by an attendee. According to him, in this dicussion it might be interesting to know about the impact of increased compound risks that were mentioned by Ksenia and Lee for example the case of Oaxaca Mexico earthquake where more than 20 hospitals were damaged, and similarly Cyclone Harold in Vanuatu that had an impact on shelters during COVID-19. So, there is also need to balance stopping COVID-19 transmission and undertaking economic recovery, and I believe that cultural heritage sites, including religious sites, could also be a hotspot for transmission especially in Latin American countries. We have to consider from this perspective as well.

I have next question for Mr. Joe King. Jo. The question is, don't you think these opportunities such as the use of digital sources may also represent risks to some heritage sites as they may be abandoned or less cared for. We need to consider how to address that kind of risk?

Joseph King:
Well, I think there are potential issues there for sure, but every generation passes down to the next generation, those things that it considers to be the most valuable. If I understood the question correctly, we are always revaluing our heritage in one way or another. And we are choosing what we are passing down to the next generation. That's what the world heritage is supposed to be all about, that the international

community is coming together and it's valuing certain heritage in a certain way and passing it to the next generation. But this kind of reinterpretation or rethinking, is a natural part of what we do. Yes, that does create certain risks. As I said, we, in the international community should be working to foster cooperation and communication and trying to figure out ways to make sure that everyone has a voice, and can express themselves and that solutions are found that meet various needs of all the interested parties as much as possible. And I think that probably the most important role that we in the international community can play, is allowing for that discussion to happen in a neutral place , and moving forward in a positive way. And I think that's again just going back to ICCROM's people-centered approach, that is based on the concept that we need to be providing a place for this dialogue and for different communities with different values with differing viewpoints to come together in a positive way.

Rohit Jigyasu:

There is a good suggestion here that "is it possible to develop general guidelines by cooperating with World Health Organization to educate managers of cultural heritage sites and institutions on ways of mitigating biological hazards". There is also one interesting comment which is indeed a challenge. "In many developing countries, the detailed data related to potential hazards, for example, on debris flows, is rather limited. In such situations, how do we develop effective mitigation strategies in those countries in the absence of adequate data? So, anybody would like to answer that question? Yes, Lee.

Lee Bosher:

It is a very good question. I don't think we should use lack of data, as a reason for not taking mitigating actions. One thing that I have learned by trying to understand the prevalence of natural hazards in the last 20 or so years is that actually we can already get plenty of information even by talking to local communities and reading maps. So, data of course is very important to help us make more informed decisions. But in cases where there is lack of data, we should not use that as a reason to not understand what the prevailing hazard profile is. Also some areas that have had moderate impacts from floods and storms and things may actually have more severe impacts due to the impacts of climate change. So, my suggestion would be to consider the worst-case scenario by taking into account the historic events but perhaps also considering that there might be exponential increase or stronger impacts in the future.

And ideally if you can get data, then that is great. There are increasing amounts of low-cost monitoring equipment, for example for landslides and flood risk management. So, there are mechanisms for data collection, which can be increasingly more affordable.

Rohit Jigyasu:

Thank you. Professor Satofuka, maybe we can have your comment as well.

Yoshifumi Satofuka:

I showed the hazard maps. There needs to be accurate data on the topography and rainfall. But usually in developing countries, it is very difficult to find such data. A student from Afghanistan came to my laboratory and studied about flood predictions in Afghanistan. But there is no data to make such analysis. So, in such case, he could use satellite data provided by the Japanese government So, that kind of international collaboration is sometimes useful for developing country.

Rohit Jigyasu:

Thank you very much, Professor Satofuka. There is this last comment by an attendee "There is a concern in many developing countries about lack of professionals, who are able to understand these issues and ad-

dress them. Therefore there needs to be much more capacity building, not only at the global level also at the national and regional levels to tailor to the specific requirements of those placesThis is the very reason why Ritsumeikan University and ICCROM are continuing to do this capacity building activity for last 14 years. We recognize that there is more and more need to build capacity for different regions in the world. I will now thank all the panelists and attendees for such useful questions and comments.

2.2.1 Multi-hazard emergency responses and risk mitigation for heritage in times of COVID

Aparna Tandon *Senior Programme Leader, First Aid and Resilience Cultural Heritage in Times of Crisis, ICCROM*

Scenarios of Muti-hazards

At the outset, I would like to thank the Ritsumeikan University for inviting me on behalf of ICCROM to share our experience of developing capacities for emergency preparedness and response for cultural heritage.

To begin with, I would like to present a scenario: imagine that your city has been hit by an earthquake, while strict social distancing restrictions are in place due to the ongoing pandemic. The museum that you are working for has suffered considerable damage- its historic building has suffered partial collapse, while the collections of objects inside have fallen off their display shelves, and several of them are buried under the debris of broken shelves and collapsed building parts. You are not allowed to visit the site, and inspect the damage. Only a few emergency responders are available to do so, as their resources are stretched thin due to the ongoing health crisis and securing your museum is not among their priorities. The top priority of emergency responders in the immediate aftermath of a disaster is to save lives and to secure vital infrastructure.

The scenario that I have described is based on the real-life experience of Croatian museum professionals. On March 23, 2020, Zagreb, the capital of Croatia was struck by an earthquake, causing considerable damage to the historic city centre as well as museums housed in historic buildings.

In order to respond in such complex scenarios in which two or more hazard events overlap, it is important to identify capacities that a memory institution such as a museum or a library must build. Primary among these capacities are the mechanisms for inter-agency coordination between heritage and emergency management sectors, which would allow staff of the affected heritage institution to gain access to the site in the immediate aftermath, as well as assistance of structural engineers to inspect the safety as well as useability of the damaged buildings, if any.

Other capacities include those of trained staff and volunteers, who can assess the damage and secondary risks; salvage, evacuate and relocate heritage collections; assist in emergency stabilization of damaged buildings; and ensure business continuity which includes maintaining an online presence or other such services for its primary audiences.

Furthermore, learning from multi-hazard scenarios such as the one that occurred in Croatia, it is abundantly clear that within the heritage sector, we are inadequately assessing and treating known risks, while

new risks have already been created or are in the process of creation. This implies that we have to build capacities for prevention, preparedness, response, as well as for recovering and building back better. In nutshell, we have to move towards scenario-based planning and enhance capacities for dealing with worst case scenarios.

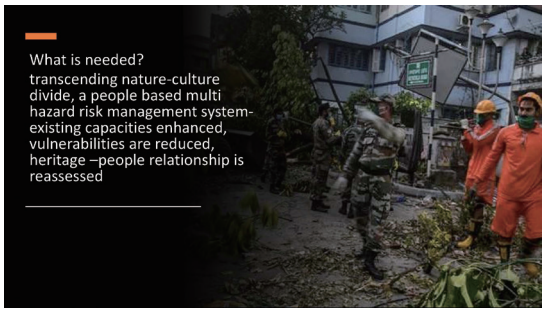
Another example of overlapping hazard events involving damage to heritage is that of super cyclone Amphan that struck eastern India in May 2020, when the entire region was under lockdown due to the COVID pandemic. Sundarbans, a natural World Heritage site in the region was flooded after the cyclone. As the site is located at the edge of the sea, it is prone to flooding especially during high tides and cyclones. The periodic flooding with the salty water from the sea is threatening the delicate ecosystem of site.

The people who live on the edge of this world heritage site are forest dwellers. They subsist on the forests and are poor as well as marginalized. Furthermore, they are threatened by tigers and poisonous snakes. As the area was cut off from the mainland due to the flooding, relief in the area was delayed. As a consequence, risk of COVID and other diseases is high. Because of the flooding, animals have broken the nets of the nature reserve in the World heritage site.

Needed Capacities and Mechanisms to Respond Multi-hazard

Which capacities as well as mechanisms are needed to respond and recover in such a scenario? Again, first and foremost, there is a need for a humanitarian response and recovery to be coordinated with that for the securing of the natural heritage.

As the forests, which are mangroves and act as a cyclone and tsunami barrier are threatened by upstream developments, thus in order to reduce risks, in the recovery phase, the negative effects of the upstream developments have to be mitigated, which are causing harm to the natural reserve.



People who live here have traditional knowledge on how to mitigate floods and also how to maintain the ecosystem of the site. Yet instead of being considered as a source of resilience, the local community of forest dwellers is regarded as a threat by the nature conservationists. Therefore, post Amphan, it is extremely important to enhance the capacities of the local community and engage them in developing effective disaster risk management strategies for the area.

Complexity – Health crisis- rising inequality-unemployment-civic unrest-extreme weather events

A lesson that can be drawn from this scenario is

that emergency response for natural and cultural heritage cannot be completely segregated from that for the local communities. This also challenges the traditional definition of what constitutes heritage and which heritage should be prioritized after a disaster.

COVID Pandemic has also revealed the inequalities that exist within the heritage field, which is largely informal and unorganized area of economic activity. As a consequence, workers engaged in heritage-based industries lack safety nets such as insurances or subsidies, making them extremely vulnerable to pandemics and disasters.

Thus, the increasing inequality within and beyond heritage sector is an emergent risk driver, which in combination with unemployment and negative effects of climate change is fueling civil unrest in many parts of the world.

The Risk Assessment and Multi-hazard Risk Management

In order to map such emergent risk drivers and other negative impacts of the COVID 19 pandemic, ICCROM with the help of the network of the international training course on DRM of cultural heritage and its First Aid and Resilience for Cultural Heritage networks developed forms to assess impacts, needs as well as risks arising out of the current pandemic. These forms have been translated into more than six languages and have been used by heritage institutions in several countries.

A summary of the collective feedback received through the assessment forms is given below.

1. There is an increased need for knowledge, information and tools for multi-hazard risk management for heritage.
2. Interdependent capacities for prevention, preparedness, response and recovery for heritage have to be considered in a continuum, not in silos.
3. It would be crucial to develop robust systems and effective on-the- ground mechanisms for multi-hazard risk management of cultural heritage. Yet these cannot be developed without the active engagement of the local communities and other primary stakeholders.
4. Equally important is to exploit the existing traditional knowledge and communal networks for protecting heritage sites.
5. Moving away from an expert-centric vision, heritage institutions have to consider the needs of the local people by investing in subaltern discourses for valorizing heritage. Therefore, for effective disaster risk management, how people value heritage should be given primacy.
6. Finally, in order to reduce disaster risk, systemic vulnerabilities within and beyond the heritage should be reduced proactively. This would entail creating safety nets, livelihood diversification as well as providing access to internet and digital tools for artisans, crafts people and those engaged in digital services.

In conclusion, in order to develop capacities for multi-hazard disaster risk management for cultural heritage and associated communities, a concerted and coordinated action is required. In this direction, ICCROM has developed a flagship programme, First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR). The network of cultural first aiders generated through the programme spans 83 countries. In collaboration with the Ritsumeikan University and its ITC network, the FAR programme aims to identify effective coordination mechanisms between cultural heritage and disaster risk management agencies and develop community based multi-hazard risk management strategies for heritage.

2.2.2 How can we address sustainable and resilient recovery by mainstreaming cultural heritage?[1]

Dr. Wesley Cheek *Japan Society for the Promotion of Science Doctoral Fellow at Ritsumeikan University Disaster Mitigation of Urban Cultural Heritage Institute*

Introduction

In his classic text "The Production of Space" published in 1974—French Philosopher and urban theorist Henri Lefebvre—posed the question "What would remain of the Church if there were no churches?" (1992, 44)

Lefebvre did not ask this question because he was particularly worried about the Christian religion, The question he was posing to us was "What would happen to a particular community of people—"The Church" in this instance—if the buildings—the physical spaces that are both the space in which they gathered and the symbol of their connectedness "a church" ceased to exist. This is an interesting question for those of us who are involved in cultural heritage and disasters because we face this dilemma not as a philosophical conundrum, but as an actual issue that we are asked to solve.

For us, oftentimes the building has ceased to exist. And the community—however scattered and traumatized—wish to retain their connection. Our answer—generally—is about the elasticity of heritage—whether we term it cultural heritage generally, or intangible heritage or moveable heritage specifically—

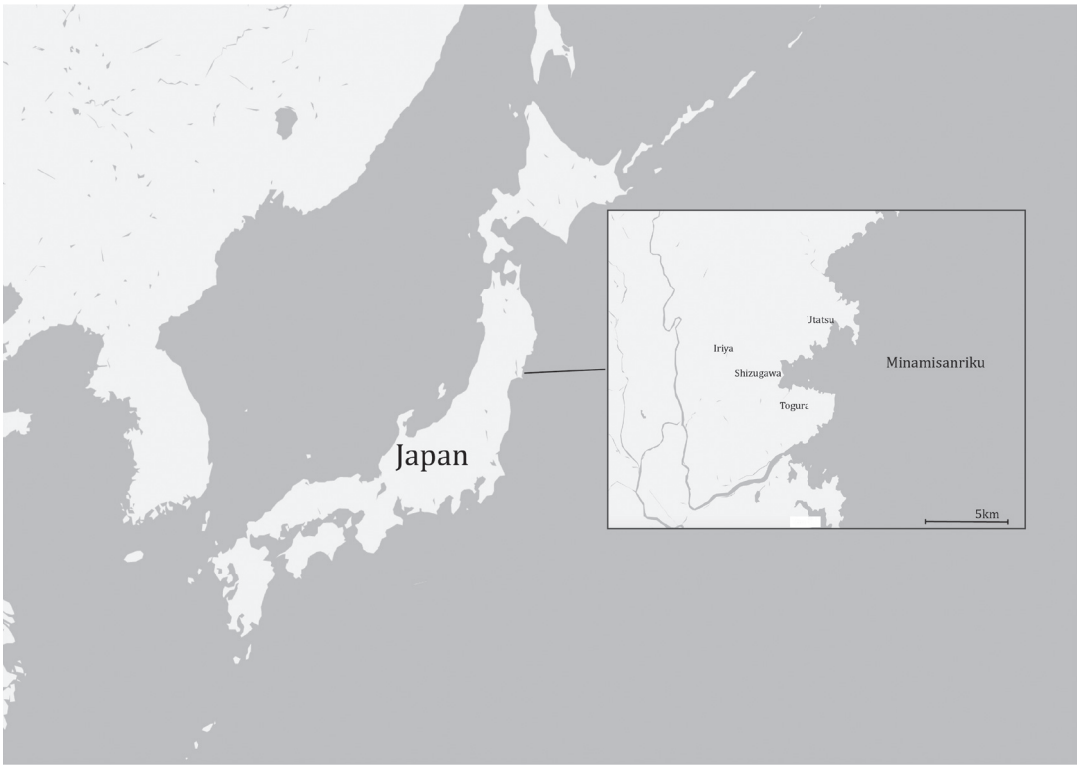


Figure 1 Map of Minamisanriku. By author using data from Google Maps.

1 This paper was presented as part of the ITC Webinar Series "Capacity Building for Disaster Risk Management of Cultural Heritage: Challenges and Opportunities in Post-COVID Times" on the 27th June 2020.

we understand that there is a connection that exists outside of the physical structures—but that this connection also exists in relation to these physical structures. Our work exists in that nexus between these maddeningly, endlessly breakable physical structures—interacting with the inspiringly resilient human beings who utilize heritage both to sustain themselves and to retain or reconstruct their built environment.

In my research I have been trying to understand this the small fishing town—Population of around 10,000 people—of Minamisanriku in Miyagi Prefecture. Minamisanriku was drastically affected by the 2011 Great East Japan Earthquake and Tsunami. Also known as 3/11. When I look at the connections that allow for the community to exist while buildings are damaged (Cheek 2020), I often emphasize community connections such as—Mutual Aid and volunteerism—such as members of the Peace Boat organization distributing meals in Ishinomaki days after the tsunami or Pakistani restaurant workers who drove to Kessenuma on their own to cook for people who had lost their homes.

Local heritage such as this festival at Kaminoyama Hachimangu in Minamisanriku. Even though the location of this festival was destroyed by the tsunami and later disrupted by reconstruction—the town kept the festival going to maintain their bonds to each other. This continues despite the fact that the annual *Okuribi* Festival—for departed souls making their way home for the *Obon* holidays—has had to adjust itself to the reconstruction schedule, often dodging around piles of concrete, mounds of dirt, and unfinished roadways. Recently it has moved to a seaside park, complete with torches, food stands, and booths promoting the area (Cheek 2019; MAEDA et al. 2015).

Figure 2 *Okuribi* Matsuri at Kaminoyamahachimangu in Shizugawa. Photo by author.

Heritage can also be sustained through traditional culture—such as the women in this community center located in a temporary housing are for people from Minamisanriku in the nearby town of Tomei. They are making a type of intricate paper cutouts called *kiriko*. There are also important decisions to be made about what happens to the physical structure of the town—that generally happens in local community meetings. Generally, we advocate for working with and for the community to make important decisions regarding the built environment.

Figure 3 Residents of Minamisanriku in temporary shelter in Tomei city. Photo by author.

You can see where I am leading with these examples. These are usually the go to advice or evidence I use to demonstrate the elasticity of local heritage—of its ability to continue its own existence outside of the physical damage or loss of buildings and cites. However now COVID-19 has inverted this dynamic—or even worse—disabled part of it. We have buildings but we can't bring people together. In the worst-case scenario, we don't have the buildings yet either.

This affects us as researchers as well—In March of this year I had just begun a new research project—The town of Minamisanriku would begin holding community meetings to decide what to do with this building

—The Disaster Management Center—as the 10 years of guaranteed funding from the prefecture is due to run out. This building has become a national—and international symbol of the 3.11 tsunami (Cheek 2019; Littlejohn 2017). I probably don't need to recount the story—if you are interested it is well documented. There is a great deal of controversy in the town about preserving this building. It is actually—as many of you probably know—quite expensive to preserve a relic like this. When the money is coming from the outside that controversy can be quelled for a bit, but when you ask the townspeople to pay up for preserving a building many of them wish to be bulldozed, everything gets a little more complicated. I was going to attend the monthly meetings and chronicle what took place. But now I cannot travel across prefectural borders and possibly infect a largely elderly, rural population. Think of the research ethics involved in bringing a pandemic to the community you are researching. We, as researchers, are also in a difficult position.

Sometimes the best thing a researcher can say is "I don't know." I think we are in that period right now. A lot of us are trying to scramble and come up with answers about how to handle this crisis, but in reality, there is so much we don't know. It has been nine years since 3.11 and I am still trying to figure out answers to that disaster. That does not mean, however, that we can just throw our hands up. We should be thinking about these things in the present and using our past research and experience to navigate the present crisis—which is not just a pandemic but the economic, political, societal, racial, gender, geographic inequalities that we have yet to really solve.

We can look at this as "capacity building"—and that term gets thrown around a lot. As researchers, the main capacity that we should concentrate on building is understanding how all of these things we try to understand fit into the larger world. And how what affects the local issues that we study are products of larger—often globalized—structures.
I don't find myself particularly inspired by living out the echoes of community over the Internet. I am sure many of you are also already becoming a bit tired of online meetings, webinars, teleconferences, and the like. Of course—as a stop-gap measure—what else do we have? Maybe this "pause" in the everyday continuation of our present society will provide the opportunity to ask larger questions. It is certain that a ten-meter seawall is not currently protecting the Japanese coastline from a pandemic. Nor is it from a myriad of other hazards that are not tsunami.

I am sure this is true in your work as well—there is no giant infrastructure project (outside of public health as infrastructure) that is keeping us safe from this pandemic. Interestingly how we are keeping ourselves safe is through our mutual obligations to each other. Maybe this abnormal year will help us ask difficult questions about what it is that holds all of us together —we collectively— certainly seem to want to be together despite dire warning to stay apart.

Figure 4 Peaceboat workers distribute food to affected people in Ishinomaki. April 2011. Photo by author.

Maybe there is something in that—That people feel a collective need to be together, or to at least be around each other—in some way or another. As heritage specialists and disaster researchers we already understand that fact, I think. We see people with incredible odds stacked against them willing themselves towards mutual aid and cooperation.

References

Cheek, Wesley. 2019. "The Paradox of Community Involvement: Post-Disaster Reconstruction in Minamisanriku Japan – ProQuest." Dissertation, Tulane University, New Orleans.

Cheek, Wesley. 2020. "The Paradox of Community Involvement: Rebuilding Minamisanriku." *Disaster Prevention and Management: An International Journal* ahead-of-print(ahead-of-print). doi: 10.1108/DPM-12-2019-0374.

Lefebvre, Henri. 1992. *The Production of Space*. 1 edition. Wiley-Blackwell.

Littlejohn, Andrew. 2017. "After the Flood: The Politics of Reconstruction in Post-3.11 Tohoku." Harvard University, Cambridge, Mass.

MAEDA, Kazuma, Go TANIBATA, Tomoki NAKAYA, Naoko ITAYA, and Yoshihiro HIRAOKA. 2015. "Inheriting the Local Culture with 'map of Memories' in Areas Damaged by the Great East Japan Earthquake." P. 100335 in *Proceedings of the General Meeting of the Association of Japanese Geographers Annual Meeting of the Association of Japanese Geographers, Spring 2015*. The Association of Japanese Geographers.

2.2.3 Reflecting on the use of the PDNA methodology in the COVID-19 context

Elke Selter *SOAS, University of London*

1. Reflecting on the Post-Disaster Needs Assessment methodology

An important aspect of responding to an emergency that has affected the culture sector and planning for recovery is assessing the impact that the emergency has had. Whether for the sector as a whole—nationally, regionally, or locally—or for a single site or institution, it is important to understand what damage was caused. How extensive was this damage? What will it cost to rebuild monuments or re-open museums? Is any specific technical support needed? Are interim arrangements like temporary storage required? There are numerous tools that can help professionals in the culture sector carry out such assessments—from manuals to detailed checklists (e.g. ICCROM 2018; ICOMOS 2010). The Post-Disaster Needs Assessment (PDNA) methodology is one of them.

This methodology was designed for the PDNA, a process through which the international community supports a government in the aftermath of a disaster to assess the disaster's impact across sectors. It follows a specific methodology, which is what I will focus on. To be clear, I am not talking about the process of conducting the assessment, but about the method that is used for the assessments. This methodology for conducting disaster impact assessments was developed by the EU, the UN, and the World Bank (2013), and focuses on physical as well as economic and social effects and long-term impacts of a disaster, across sectors. It covers a broad range of sectors of international intervention, including culture.

The following summary of my webinar presentation is a reflection on how the PDNA methodology can be useful in the context of the COVID-19 pandemic and its impact on the culture sector. My reflection is based on earlier, practical, experience applying the PDNA methodology for culture in disaster situations, and the particular challenges reported by culture sector professionals during the pandemic. I highlight some reasons why I believe that this methodology could be an interesting point of departure for culture sector professionals who wish to assess and measure, in economic terms, the impact of COVID-19 on the sector, their site or their institution, in view of facilitating post-pandemic recovery.

2. PDNA methodology in the context of COVID-19

As far as large-scale emergencies affecting the culture sector go, the COVID-19 situation is rather exceptional because of its scale, but also because the way in which pandemics (or epidemics) affect the culture sector has little to do with the virus itself. Mostly, the various measures imposed to prevent the spread of the virus affected the sector. In other words: the virus did not make monuments crumble or did not deteriorate the state of conservation of a painting in the way an earthquake or a flood could. Instead, the halt in global tourism, the forced closure of sites and institutions, the cancelation of public events such as concerts or theatre plays, have affected the culture sector. As a result, the sector has been affected in ways that differ from the types of disasters that most existing tools were designed for and that often cause major physical damage.

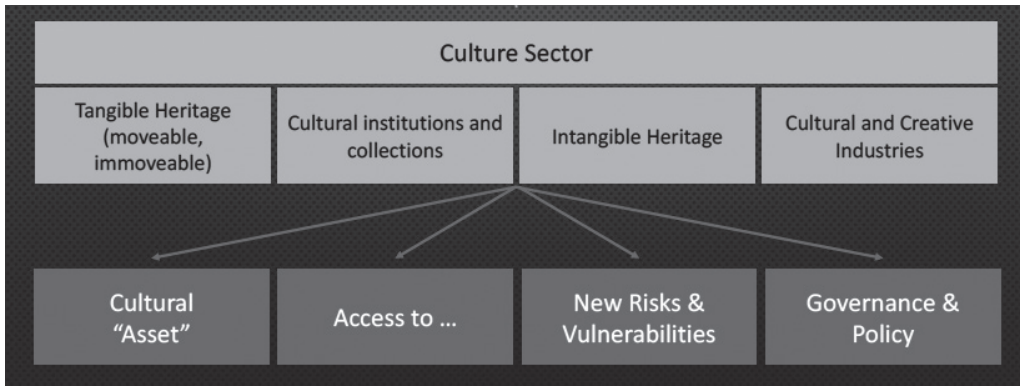
The PDNA methodology, too, was mostly designed for such contexts. But I believe that there are a number of reasons why this methodology could be useful, and perhaps more useful than other existing tools, to assess the impact of the COVID-19 pandemic on the culture sector. I will start by highlighting two reasons why this methodology, or part of it, could be very useful for any professional wanting to assess the impact

of the pandemic in his/her region, on his/her site or institution. These are: a comprehensive approach to culture, and a socio-economic focus.

First is the comprehensive approach to the culture sector. Many of the existing tools within the culture sector were designed specifically for built heritage or collections. For instance, they measure damage to a heritage building or to objects in a museum collection. This means that many assessments consider only a specific part of the sector, and a specific form of impact, i.e. physical damage. This can make them of little use for assessments that wish to measure the impact on the sector as a whole, but also for professionals who are managing sites and institutions, the focus on physical impact may at times be too limited. The PDNA methodology has from the start aimed to be more comprehensive. In the context of the COVID-19 pandemic, where the physical damage that is normally measured, is often absent, this comprehensiveness has become a major asset. At the moment, the culture sector is faced with issues of accessibility, social function, economic losses, jobs, and other non-physical impacts. People are no longer able to worship since places were closed or large(r) gatherings forbidden. Museums and sites remained closed for visitors, which impacts the visitors but also the institutions and sites themselves, which are left without income and their staff without jobs. Considering all these dimensions of a disaster's impact is one thing that the PDNA methodology can help with.

This illustration below depicts the scope of the PDNA assessment and the type of data it collects for the culture sector. This consists of two interconnected levels. The light grey summarizes the methodology's broad interpretation of "culture", going well beyond built heritage and cultural institutions or collections, to also considering intangible heritage, cultural and creative industries, and the linkages between them. The dark grey layer illustrates that for each of these aspects of the culture sector, the methodology considers a series of different dimensions: the cultural asset itself, the accessibility of the asset, new risks and vulnerabilities that may have emerged after the emergency, and issues of governance and policy pertaining to the asset (or the sector as a whole).

A particularly interesting aspect of this, is the PDNA's inclusion of governance as a category for assessments, emphasizing the impact on public or institutional budgets and management. These are elements that are easily overlooked when assessments measure physical impacts. Yet, public budgets, and government management capacities, are essential elements in a sector's, or an institution's, recovery. In the case of the current pandemic, too, the governance aspect plays an important role. Information presented at intergovernmental meetings organized by UNESCO showed, broadly, two approaches (UNESCO 2020). There are countries where, because the government has to invest significantly more in other sectors, like the health sector, the budgets of sectors that are considered less important are reduced. Culture is often a victim of that. In other cases, public budgets, at the national or local level, are used to create new forms of



recovery funds. Parts of these funds can be allocated to the culture sector, which has, in many parts of the world, been forced to close for considerable periods of time. Subsidies provided to artisans and artists are an example of such public support systems created in some places. Logically, the impact on budgets and the availability of such forms of public support should be an integral part of assessing the impact of the pandemic and the options for recovery.

This brings me to the second reason why the PDNA methodology can be useful in the present context: the economic focus of the PDNA. The methodology, which was developed on the basis of an earlier tool developed by the World Bank, is often criticized by professionals, also in the culture sector, for being too much focused on the economic impact of an emergency. In the current context, this could be an asset. After all, in absence of much physical impact, the economic impact is, besides the social impact, one of the main ways in which the pandemic has affected the culture sector. Again, the multitude of tools that exist for damage assessments in the heritage sector rarely consider these other forms of impact. Since in the context of the pandemic, recovery is not so much about fixing building or restoring works of art, but more about making sites and institutions operational again, assessing the impact in terms of economic damage and losses matters.

This can include many things. An obvious factor is the direct economic losses in terms of revenue, for example because an event was cancelled, or a site or museum had to close down. This can also include a cut in public budgets, for example because the government is redirecting its funds to other sectors. These direct cuts in revenue or public budgets may impact an institution's ability to pay its staff, to carry out conservation work, or maintain its premises. But there are other losses as well, for instance the costs for "COVID-19" measures like hand sanitizer, masks for staff, new signage and maybe even new systems to guide visitors once sites re-open to the public. Within the PDNA methodology for the culture sector, there is room to include all these cost elements, and to measure the economic damage and losses in the short-term but also in the longer-term, for instance taking into account that tourism may remain slow for a number of months to come.

Besides these two reasons why the methodology could be a useful guide in the current circumstances, the current situation may also offer an opportunity to use "finetune" the methodology, or at least the sector's experience with implementing it. While I have just advocated for its value in covering the sector in the broadest sense possible, our experience thus far has focused primarily on physical damage, and on built heritage and collections. There are, of course, examples of PDNA's carried out for the culture sector that move beyond this, but intangible heritage, cultural and creative industries, or the social impact of disasters that affected the culture sector have remained less of a focus in the past assessments. There are, in my experience, a number of reasons for that. One is that, after a disaster with extensive physical damage, e.g. an earthquake, focus easily turns to that highly visible, physical impact. Second, is that, as mentioned before, the built heritage and collections sectors dispose of a variety of assessment tools and organizations to carry out such assessments, which can then feed into the PDNA. For cultural industries, for instance, there are no concrete tools available. Also, for intangible heritage or the social role of culture, measuring the impact requires a different skillset and set of tools than those designed with built heritage in mind. Hence, obtaining such data is considerably more complex. These are nothing more than observations, but they suggest an opportunity that the COVID-19 situation may offer. Now that the culture sector in large parts of the world is affected in a way that does not have major physical effects, this could be an opportunity to assess the disaster's impact in non-material terms—covering economic impact as well as its social and intangible dimensions. This could be a way to improve on the tools that exist and on professional capacities to capture such impacts.

3. Conclusion

In this short summary of my presentation, I have reflected, broadly, on the way in which the PDNA methodology could be useful for culture sector professionals in the current context of the COVID-19 pandemic. While this methodology was designed for a particular type of process that is unlikely to be carried out in the current context, the methodology itself could be useful for sector professionals for two main reasons. First of all, because it covers the sector in the broadest possible way and thus allows us to consider aspects of the culture sector that have been particularly affected by the pandemic—such as creative industries, or public budgets. Moreover, its economic focus allows considering the direct as well as indirect economic damage and losses incurred, which is essential to the sector's recovery, and perhaps even more so now that there are not many physical effects to be reported. Finally, I have also looked at the opportunity offered by the current situation. I called for the testing of this methodology to assess the impact of the pandemic on the culture sector at national, sub-national or local level from the perspective of intangible heritage and social impact, as way to improve capacities and tools to better include these dimensions in impact assessments in the future.

4. References

EU, UNDP, World Bank: Culture. PDNA Guidelines Volume B. UNDP, New York. 2013.

ICCROM: First Aid to Cultural Heritage in Times of Crisis. ICCROM, Rome. 2018.

ICOMOS: Methodology for Building Assessment and Mitigation following the January 12, 2010 Haiti Earthquake. Paris, ICOMOS. 2010.

UNESCO: Urban Solutions: Learning from the cities' responses to COVID-19. UNESCO, Paris. 2020.

2.2.4 The disaster risk management implementation during COVID-19 in George Town, Malaysia

Ang Ming Chee *General Manager*
George Town World Heritage Incorporated

As an ITC 2017 graduate and alumni, I will be sharing with you how we implement the theory and the knowledge I learned from ITC into site management in George Town, Penang, Malaysia. We do this by building resiliency through mobilizing support from the local community, building capacity with my team (from George Town World Heritage Incorporated), as well as mitigating the impact of COVID-19 at my site.

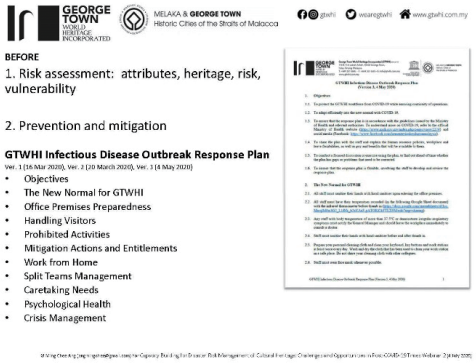
World heritage site, Malaysia in 2016
Source: GTWHI (2016)

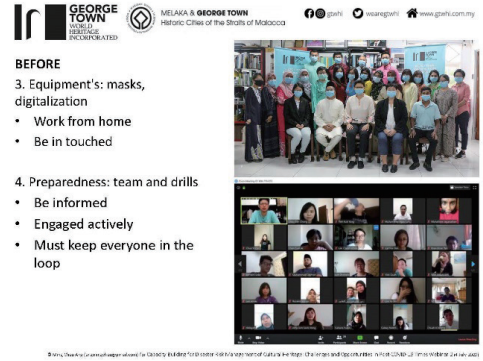
Pictures of two different environments can be seen in the same world heritage site This is one of our very popular temples in the site. Before COVID-19, it was full of people. I believe a lot of us face similar lockdown situations. In Malaysia, the government imposed a Movement Control order from the 18th of March. Picture 2 is the situation during the lockdown My presentation will detail what we do as site managers before, during and after COVID-19 at our site.

World heritage site, Malaysia in 2020
Source: GTWHI (2020)

The lessons I have learned from ITC have been helpful to my work in the site. At first, we have identified our historical attributes, our values, our heritage, and then we have utilized the lessons from ITC. We also have the culture of preparing Standard Operating Procedures (SOP) to deal with a disaster. Thus, when COVID-19 came up as early as December 2019 in China, the team at my site started to think about what can we adjust from the fire prevention SOP into a COVID-19 SOP.

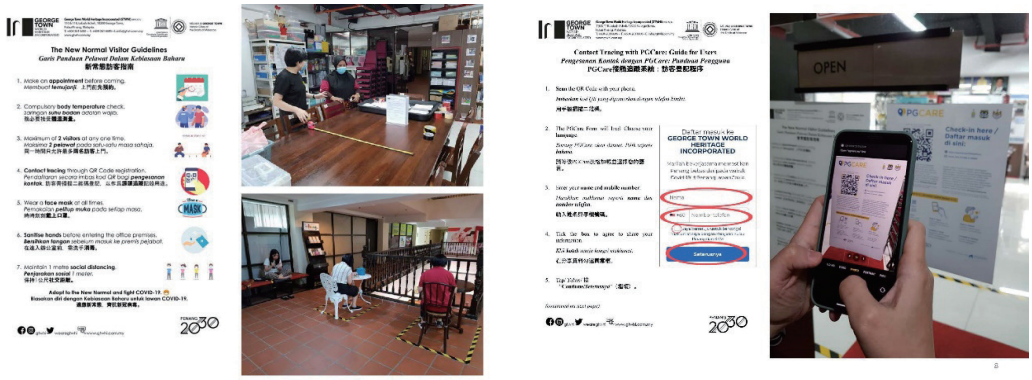
We prepared our own response plan. We have systematically listed what are the things we have to focus on. For example, what is the objective of the plan, the situation of our company, the situation of COVID-19 to our site. How do we handle the visitors? How do we handle the activities in our site? How do we handle crisis management?





GTWHI Infectious Disease Outbreak Response Plan (Preparedness)

It is very important to prepare the paperwork before you begin. We knew that COVID-19 was coming but we had to prepare ourselves and our team before the real risk came. We also have been preparing for flood and fire disaster risk management, digitizing all our documents. This preparation helped with our working from home. I think a lot of us are facing a resource scarcity problem but there are a lot of things that we can do without requiring too much. For example, you can get the phone number of your colleagues and your communities and can keep everyone in the loop. After 18th of March, 2020, a lot of people are not allowed to go out of their homes, but I have the opportunity as the site managers to view the site from time to time.



GTWHI Infectious Disease Outbreak Response Plan (Response)

We try to jump in to any projects by the local government or by the state government of how to fight COVID-19. We look into what are the opportunities and resources available, and address the problem that is needed by our local community at the site. I think efforts like this are very, very important. From time-to-time we address the needs of the most vulnerable people by texting them information about what is happening, and we call each other. That is very basic but very useful for George Town.

As you can see in pictures, this is when we had displayed notices outside of doors. A lot of shops had closed down. We were informed that the cases in Malaysia were low enough and safe for us to come to work this past May (2020).

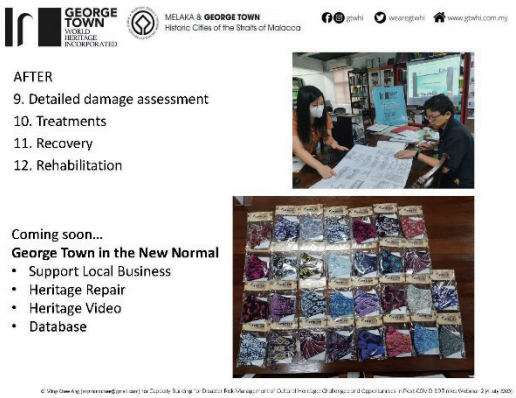
Disaster response in stores

In order to have normal life back, we have to prepare our site. We have prepared SOPs in three languages on how we accept visitors . We shared these with everyone at the site, so that all our staff can follow the best practices.

We provide masks to all our staff, so that they feel safe to conduct their daily activities as site manager with the local communities. We also work together with the state government who have created the Penang Pass System, that means we can trace a visitor in your office or in your site, museum and gallery when slowly we open up. In George Town, Malaysia, we use three languages, English, Malay and Chinese We translated these materials into all three and distributed them for free, so that it can help a lot of people to quickly adopt into new normal.

We are now dealing with life after COVID-19 because by today we only have 10 new cases and less than 1000 active cases. It is very important for Malaysia that we really open up fully. Under these conditions we are considering what we can do now to help our tangible and intangible heritage., We are having a lot of work still, but our meetings are virtually, online. Next Monday we are going to launch a new project called "George Town in the new normal." We are going to find the remaining resources that we can receive from the state government. For example, we are going to support local business by helping them establish themselves on the digital platforms, so that more people will know that they have good products.

One of the examples of locally made cultural heritage products. The picture shows the batik masks, which are one-hundred percent handmade. We are helping them to promote their products. We are also going to launch heritage repair and heritage video projects.



Activities in new Normal (locally made cultural heritage products)

If you are keen to know about George Town World Heritage under COVID-19, please follow us on our social media, or on our Facebook, or you can email me, and I will try to share our experiences with you as much as possible. I wish everyone safety and a lot of strength in continuing to fight COVID-19 in your respective site. Thank you very much.

2.2.5 Webinar 2 DISCUSSION

Rohit Jigyasu *Facilitator*

Rohit Jigyasu:

The first question is for Aparna. How do you think we can work with humanitarian organizations and other related agencies differently for response and recovery considering the COVID-19 pandemic? So, what approach should we follow to work with the humanitarian sector?

Aparna Tandon:

Well, thank you Rohit. In this situation I think the first important aspect is to find out the organizations that are supporting livelihoods. As Elke mentioned there are not many assessment tools that look at the needs so the intangible heritage. However, there are NGOs, humanitarian organizations that may be known to you locally, for example Save The Children or Red Cross that are carrying out such evaluations, that look at crafts and creative industries, not per se for intangible heritage, but some of the proxy data can be picked up from them. However preparedness for this should happen before by establishing contacts with these organizations beforehand, but it's never too late even now. So, get in touch with who is working in your neighborhood to provide this kind of humanitarian assistance. There are programmes being run everywhere, for example people who are providing free meals or like the example given by Ang developing special products to help in generating livelihoods.

My suggestion would be to connect with these programs, pick up the data that they is already getting collected and use it as an indicative data, not as a fixed one of what are the impacts on the sector. It will also help with built heritage, for example, many of the conservation programs have been stopped and the laborers or the temporary workers or crafts people who were involved with this kind of work are not finding work anymore. But the humanitarians on the other hand are providing meals or other kind of things, so we can actually gather information and make arrangements for them. Moreover, we can also carry out post-event risk assessments with disaster relief agencies and national disaster risk platforms but at a local level by identifying local actors and working with them.

Rohit Jigyasu:

Thank you very much. So the next question is for Wesley. One of the challenges in recovery is relocation. People are uprooted from where they belong and so they always want to be located at the same place where they are born and brought up, so the question – how does one really implement the spatial plan in case of recovery following a disaster which can take care of both the protection of the community but also cultural heritage because they might not be go together well.

Wesley Cheek:

There is no perfect solution to address the issue. Moreover, not everyone even wants to go back.. We suppose they do and a lot of people do but some people, especially in my research, get fed up and say, "I am done with it, I do not want to be here anymore." And one thing I would caution us as researchers is we often do not talk to the people who give up and say they are not interested and leave but even for people who do want to be there, it's still a really difficult process. Therefore I think you have to accept that there is never going to be a perfect solution.

You are never going to make everybody happy. You are never going to get resolution, especially with the trauma suffered due to disaster. You need to think about it as a long process where people are going to disagree, and no one is going to be perfectly happy but as long as you are trying to work in good faith on the process and to acknowledge the inequalities that exist, you can make progress through it but there is never going to be a perfect solution.

Rohit Jigyasu:

Thank you, Wesley. I will be requesting our next panelist, Elke. Elke, this question is about PDNA. Is it possible to implement PDNA remotely at least some degree considering the current situation?

Elke Selter:

What I was trying to explain is not that we do not do assessments beyond material heritage. But that we do them far less well. We need to get better and this, I think, is an opportunity. We now have a crisis which allows us to put upfront the non-material and social impact of a crisis on the culture sector. Second question: can you do it remotely? I think you can, to some degree. I do not think that you can do it perfectly because it is really important to be able to work with people. Wesley has also shown what kind of challenges this poses at the moment. But there are loads of data out there that you can collect remotely. It also depends on how well you know the context, but if you are from there, it is perfectly possible to just get in touch with people over Skype and conduct interviews and focus group discussions online.

I wanted to add a little point to what Okubo-san asked on whether there are concrete tools that we can use for this among the existing ones, and I think that's exactly the problem. We have a lot of tools out there, but they are all so much focused on physical damage. They exist in many different formats, even online tools and apps. But I think this nonphysical aspect of disaster impact is something that we have a hard time including in the culture sector, such as in the existing tools. Some elements may be included in the assessments that humanitarian agencies carry out. But again, you would need to pick little elements out of big assessments, which in an emergency is never very helpful because nobody has time to go and look through all of that. So back to what I started with: this is a little plea to see if we can use this situation as an opportunity to actually prepare for getting better at assessing non-physical impacts of disasters on heritage and to develop something that allows us to do just better in the future because I guess this is not going to be our last crisis to deal with.

Rohit Jigyasu:

Thank you, Elke. I will now ask two questions to Dr. Ang Ming Chee. "What is your message to other site managers? Any key message you would like to convey because they might be frustrated?". I think is that many site managers are facing very difficult time and there are not enough resources available because they are dedicated to other things rather than for heritage and for conservation.. So, what is your message for them? How do we address this challenging situation?

Ming Chee Ang:

Thank you, Rohit. I think I only have one very simple message. Site managers are committed to care for the site 365 days a year and 24 hours a day. And when our site is hit with COVID-19, we have to work with our team for our site. The resources, or financial resources may be very challenging now but we have local resources, for example, the local knowledge, the local people, the local business, the local economic ecology. So, let's find the opportunity that we already have. Actually, this is a good time to rebuild the site in a simpler way, with tourism now coming to almost the restart mode. We can work out a better plan for our site considering what do we actually care most for our site. This is answer for one question.

Answer for another question is listen to the people. What I mean by people is the local community would tell you what they need most in the actual situations. While we know that digital platform will be the new normal. Everyone is trying to talk about webinars, digital promotion on the social platforms, but I have identified that maybe about 60% of the local community and the businesses in George Town have not started. So why is it happening that way? What can we do as site managers? All these opportunities will help us to identify ourselves as essential site managers in any worthy site. So that is my message. Thank you.

Rohit Jigyasu:

Thank you very much, Ang, for your response. We have also received a few more questions but because of shortage of time I think maybe we will have a little time at the end of the webinar for more questions to come in. However, we will be responding to them later. Thanks to all panelists and participants for your active participation.

3 Workshop on

Good Practices for Disaster Risk Management of Cultural Heritage

3.1 Programme

8 Oct 2020 (Thu)
CET (JST)

11:00 (18:00)
- Opening Remarks: *Rohit JIGYASU (ICCROM)*
- Welcome by Prof. Okubo, Director, R-DMUCH
- Video Address by Dr. Webber Ndoro, Director General ICCROM
- Introduction of ITC: *Dowon KIM (Ritsumeikan University)*
- Introduction of Jury members and Presenters: *Dowon KIM*

  Juries of the workshop
  - Takeyuki OKUBO (Ritsumeikan University),
  - Joe KING (ICCROM),
  - Wesley CHEEK (Ritsumeikan University),
  - Lee BOSHER (Loughborough University)
  - Ksenia CHMUTINA (Loughborough University)

11:15 (18:15)
- Special Presentation

  "Good practices for DRM of cultural heritage in Japan"

  Barbara Minguez Garcia, ITC2016

11:35 (18:35)
- Selected Good Practice Presentations

  Project 1:

  "Fire risk mitigation strategies for urban heritage site in Cairo, Egypt"

  Abdelhamid Salah Abdelhamid SAYED, ITC 2014

  -Dialogue with Presenter by *Ksenia CHMUTINA (Loughborough University)*

11:55 (18:55)

Project 2:

"Heritage New Zealand Pouhere Taonga (HNZPT) draft guidance for preparing heritage risk management plans"

Vanessa Anne TANNER, ITC 2016

-Dialogue with Presenter by *Ksenia CHMUTINA*

12:15 (19:15)
- Comments from the jury members
- Q&A Session from the Participants

12:45 (19:40)
- Special video on "Memories and vision of former ITC participants" part1

12:55 (19:55)
- Closing remarks: *Rohit JIGYASU*

9 Oct 2020 (Fri)
CET (JST)

11:00 (18:00)
- Opening Remarks: *Rohit JIGYASU*

11:05 (18:05)
- Introduction of Jury members: *Dowon KIM*
- Selected Good Practice Presentations

  Project 3:

  "Utilisation of traditional water cisterns as water source in case of fire in Gijokastra, Albania"

  Elena MAMANI, ITC 2014

  -Dialogue with Presenter by *Ksenia CHMUTINA*

11:25 (18:25) Project 4:
"Disaster risk management plan for Humberstone and Santa Laura altpeter works, Pozo Almonte, Chile"
Marcela HURTADO, ITC 2015
-Dialogue with Presenter by *Ksenia CHMUTINA*

11:45 (18:45) Project 5:
"Mapping risks for cultural heritage in Mexico"
Dulce María GRIMALDI, ITC 2016
-Dialogue with Presenter by *Ksenia CHMUTINA*

12:05 (19:05) Project 6:
"Disaster risk management plan for Punakha Dzong, Bhutan"
Junko MUKAI and Dechen TSHERING, ITC 2010
-Dialogue with Presenter by *Ksenia CHMUTINA*

12:25 (19:25)
- Comments from the juries
- Q&A Session from the Participants

12:55 (19:55)
- Closing remarks**:** *Rohit JIGYASU*

10 Oct 2020 (Sat)
CET (JST)

11:00 (18:00)
- Opening Remarks: *Rohit JIGYASU*

11:05 (18:05)
- Special video on "Memories and vision of former ITC participants" part2
  Moderator: *Rohit JIGYASU and Dowon KIM*

11:20 (18:20)
- Exemplary Practice Award Presentation
  "George Town world heritage city, Malaysia"
  Ming Chee ANG, ITC 2017
  -Dialogue with Presenter by *Ksenia CHMUTINA*

11:40 (18:40)
- Jury members give their overall views on the Projects

12:10 (19:10)
- Special video on "Memories and vision of former ITC participants" part3

12:23 (19:23)
- Special interview with Prof. Kenzo TOKI, the founding father of DMUCH and ITC
  Moderator: *Rohit JIGYASU and Dowon KIM*

12:45 (19:45)
- Announcement of the two best projects
  Prof. Takeyuki OKUBO

- A short dialogue with selected two presenters
  Moderator: *Rohit JIGYASU and Dowon KIM*

- Closing remarks by the Director of DMUCH
  Prof. Takeyuki OKUBO

3.2 Summaries and outline of the presentations

Welcome Address

by Okubo Takeyuki　Director, DMUCH

Disaster Mitigation for Cultural Heritage, which is the core concept of our ITC programme, was introduced 22 years ago by Professor Kenzo Toki, the former Director, who has contributed immensely towards the reorganization of former research center into present institute. The idea originated from the experience of the post-quake multiple fires caused by the Great Hanshin-Awaji Earthquake Disaster attacked Kobe in 1995. This idea was brought to the attention of UNESCO and ICCROM during the thematic session at the United Nations World Conference on Disaster Reduction in 2005, and the UNESCO Chair was granted to Ritsumeikan University in the following year.

I would like to express my deepest gratitude to ICCROM, which is our close partner. Out from 152 applicants in 14 years' history of the International Training Course on Cultural Heritage and Risk management, I would like to mention that the 12 training participants we meet here, are the ones selected through a very rigorous process. I hope that all of you will share meaningful and productive time during this workshop, although it is of limited duration. Thank you.

Opening Address

by Webber Ndoro　Director, ICCROM

First of all, I take this opportunity to congratulate all the presenters for their valuable contribution to this workshop on good practice and disaster risk management for cultural heritage. The projects undertaken by you after participating in the International Training Course in Japan will serve as a true source of inspiration for many to continue working towards reducing disaster risks and building resilience of cultural heritage in their own countries. ICCROM has a very long-standing relationship with Japan reinforced by many collaborative activities that have benefitted heritage professionals around the world. The collaboration between ICCROM and Ritsumeikan University started way back in 2004. Thanks to the initial efforts of Professor Herb Stovel a colleague of ours at ICCROM and Professor Kenzo Toki, former director and founding father of the Institute of Disaster Mitigation of Urban Cultural Heritage at Ritsumeikan University in Kyoto. These efforts lead to the establishment of this premiering course in 2006 in close collaboration with ICCROM. The course, now in its 15th year, has successfully trained 152 from 63 countries from around the world. After receiving their training, these participants have played a significant role in successfully establishing disaster risk management practices for cultural heritage in their own countries and regions as has aptly been demonstrated by this current workshop.

Unfortunately, cultural heritage is under increasing threat from disaster and conflict especially in regards to climate change, and therefore I hope that Ritsumeikan University and ICCROM can continue their strong collaboration to build capacity of heritage and disaster risk management professionals through this International Training Course for many years to come. ICCROM stands committed to continue supporting

Japan and Ritsumeikan University in this important endeavor. I thank you for listening.

3.2.1. Best Practice Award & Exemplary Award-winning projects

The presentations for Best Practice Award & Exemplary Award-winning projects were as follows.

<Best Practice Awards>

"Utlilisation of traditional water cisterns as water source in case of fire in Gijokastra, Albania"
Elena MAMANI, ITC 2014

The aim of this project was to use traditional knowledge and practices of the local people to cope with the threats and hazards facing Gjirokastra and Berat's built heritage. As such, this project intended to revitalize the historical water cisterns, as well as the intangible aspects of Gjirokastra and Berat's heritage, like the ritual of collecting rainwater and the knowledge of traditional materials and practices. In this project, the traditional water cisterns were integrated into the city firefighting systems by turning them into water resources in case of a fire.

The system contains installation of a pumping system within the cistern and its connection with a hydrant that can be used by the owner of the house where the pump is installed, as well as by the neighbours and the fire department. In case of fire, the owners can immediately react in the first crucial minutes of the fire and localize it while the fire department can connect their pipes and use the water of the cistern to completely extinguish the fire. The whole system is automatic and completely independent of electricity.

"Mapping risks for cultural heritage in Mexico"
Dulce María GRIMALDI, ITC 2016

An initiative to start disaster risk management has been developed by a conservation team working on the decorative elements for archaeological built heritage in the central area of the country. It consists of a simple activity: the disaster risk assessment and mapping of those decorative elements. This is an activity with little scope but intended to start and promote a broader and more complex process where the institution, the government, and the society get together to develop disaster risk management plan for cultural heritage. The purpose of the initiative is to show that a simple activity can provide a starting point for fulfilling the ambitious objective of disaster risk management for cultural heritage of the country.

<Exemplary Practice Award>

"George Town world heritage city, Malaysia"
Ming Chee ANG, ITC 2017

This program aims to protect the George Town World Heritage Site from the fire hazards, improve fire protection measures and enhance the communities' resilience to fire emergencies. This program intends to mobilize local volunteers and provide them with awareness-raising and understand the methods for fire-mitigation. The first batch of Fire Responders will be on a pilot basis serving as a demonstrate case to mobilize further sponsors and to expand the scheme to a larger group of local residents. The participating Fire Responders who in future, will also act as local leaders and focal points in influencing more local community members in participating in this effort.

3.2.2. Selected Good Practice Projects

(1) "Disaster risk management plan for Humberstone and Santa Laura altpeter works, Pozo Almonte, Chile" ***Marcela HURTADO, ITC 2015***

The project corresponds to the first part of a major project "Strengthening Disaster Risk Management at the three World Heritage Properties in Chile" supported by World Heritage Centre, in coordination with the National Centre on World Heritage Sites (CNSPM) and with technical support of the Department of Architecture of Technical University Federico Santa María. The project consists of the development of the Disaster Risk Management Plan for Humberstone and Santa Laura Saltpetre Works located in Atacama Desert, a World Heritage Site since 2005. The project considered a stage of gathering information from the institutions, specialized bibliography and in situ survey. The data analysis allowed identification of the main threats (fire, earthquake and environment pressures) affecting the site, defining vulnerability factors and estimating risk index. At the same time, the stakeholders associated with the site are mapped, as well as their responsibilities and relationship between them. Through workshops with these stakeholders, information about the project was shared and important information obtained about the perception and significance of the site for the different groups. Networks are established with each other and with our team to advance in the project and for the future implementation. The results of risk assessment allowed us on the one hand to define disaster risk reduction strategies through coordination of activities between different groups. On the other hand, a series of actions were defined based on prioritization of different assets, according to their degree of vulnerability and exposure. The Disaster Risk Management Plan for the Salpeter Works was completed and formally handed to the site manager. The last activity was a meeting for the constitution of a working group for its implementation. This group will be led by the site manager and is composed of professionals from local public offices and other relevant stakeholder.

(2) Disaster risk management plan for Punakha Dzong, Bhutan"
Junko MUKAI and Dechen TSHERING, ITC 2010

The project to prepare a Disaster Risk Management (DRM) plan for Punakha Dzong in Bhutan is an ongoing work that is being taken up as a pilot with the aim to enhance disaster risk management of nationally important cultural heritage sites in Bhutan. Having had the Punakha dzong severely damaged by a Glacial Lake Outburst Flood (GLOF) in 1994, the seventh-century Taktshang monastery known as the Tiger's Nest severely destroyed by fire in 1998, Wangduephodrang Dzong razed by fire in 2012, and other dzongs and several temples damaged by earthquakes in 2009 and 2011, enhancing resilience of heritage monuments is now a priority for Bhutan. Bhutan, a small landlocked country of 38,394 km2 with a population of over 700,000 is known for its cultural heritage monuments. Bhutan's cultural heritage monuments, which mainly include the Dzongs (fortress) are not only representations of its history but are a vital part of daily lives of its people, which is why they are known as "living cultural heritage". Dzongs in Bhutan are the central seats of both its administration and monastic bodies of the district. Further, it is also an important place for people to pay reverence and connect with spiritual and cultural values, which makes Dzongs vital for the upkeep of both tangible and intangible heritage values for preserving the vitality and social fabric of local communities and the entire population of the country at large. In this light, the preparation of DRM plan for Punakha Dzong is its first kind in Bhutan to look at integrating resilience in a holistic manner as a part of preservation of the site as well as in the overall management of daily activities and non-structural interventions. The plan also intends to look at coordination and support mechanisms within the Dzong community as well as within the district to put in place effective response systems during a disaster.

(3) "Heritage New Zealand Pouhere Taonga (HNZPT) draft guidance for preparing heritage risk management plans", *Vanessa Anne TANNER, ITC 2016*

In response to legislative requirement for New Zealand's National Historic Landmarks to have Disaster Risk Management Plans prepared for them a working group was set up within HNZPT to create a guide to assist the owners and managers of places and areas of historical and cultural significance or of those places and areas considered as taonga by Māori to prepare a risk management plan for their place and to implement risk management planning in their day to day management processes. The Guidance is currently in draft waiting approval by the organization's Executive.

(4) "Fire risk mitigation strategies for urban heritage site in Cairo, Egypt", *Abdelhamid Salah Abdelhamid SAYED, ITC 2014*

The project (Fire Risk Mitigation for Urban Heritage Site) has been implemented based on risk assessment conducted by the project team in the study area. The history of fire incidents s impacting historic urban fabric with its unique heritage features such as housing and traditional markets, leave no doubt that the level of damage from fire risk is severe. It is evident that fire risk is constantly increasing due to several factors with tragic consequences on heritage properties, people and live-hood in the study area. In the light of these facts, mitigation measures for urban fire risk are considered as priority actions within the framework of risk management of urban heritage. It is believed that risks from fire hazards can be significantly minimized through appropriate policies and planning. The proposed strategy within this project was formulated on the basis of in-depth understanding of the source of risks and potential ignition points. These will be analyzed along with vulnerability factors, the level of technical and financial capacities, manpower and the policies controlling the management within the site. Constructing a clear vision with integrated plans in the coordination with relevant stakeholders, with strong participation of the community. Moreover, mitigation plans have to be supported with preparedness measures for effective response, to reflect on Build Back Better (BBB) in reconstruction and recovery.

3.2.3. Special presentation "Good practices for Disaster Risk Management of cultural heritage in Japan" Barbara Minguez Garcia, ITC2016

The learnings were divided into three sections: 1) the Japanese good practices on institutional and legal frameworks; 2) the lessons learned from the extensive practice of Disaster Risk Management (DRM) for Cultural Heritage (CH); and 3) one of the keys aspects from Japan success: its experience engaging local communities in Japan.
Section 1: The main characteristic is a strong institutional organization. At the national level, Japan's institutions responsible for DRM and CH play key roles in ensuring the resilience of CH. One of the key elements to make this work is the Japan's system for identifying and designating its Cultural Properties by classifying them into six different categories. Tangible CP, Intangible CP, Folk CP, Monuments, Cultural Landscapes, Groups of Traditional buildings.

Section 2 includes several Japanese examples that illustrate good practices for DRM at CH sites through all the phases of DRM—risk identification, risk reduction, preparedness and response, and resilient recovery. Risk identification is carried out by different actors at various levels. Ministries and prefectures collect, assess, and provide basic information on natural hazards, based on which municipalities prepare hazard maps of their regions. Experts and institutions like universities work with municipalities to carry out detailed technical analyses to identify and assess risks. Local communities also identify risks through consultative processes and citizens' workshops.

To summarize some practices and the importance of conducting multi hazards approach, I would come back to Kiyomizudera area in Kyoto. As seen, it includes Earthquake-resistant traditional construction; Slope stabilization and monitoring; Lightning prevention system; Firefighting equipment avoiding visual impact; Periodic replacement of the old wood pieces and re-roofing with lighter materials and traditional techniques; and community engagement: the neighbors and store owners are trained and prepared to assist at the temple in case of emergency. In terms of resilient recovery, after the Kobe earthquake the foundation of the Shiryō-Net by a group of historians, students, and staff members of museums, archives, and libraries to help preserve historical material affected by the earthquake could be highlighted. After the Great East Japan Earthquake and Tsunami in 2011, the creation of the Cultural Properties Doctor Dispatch Project, an unprecedent joint cooperation project between the government and experts from civil society could be highlighted.

Section 3 is dedicated to community engagement. Private owners of CP, organizations, and community members living around and managing CP can have a significant impact on reducing risks at those CH sites. Their efforts and contributions, however small, can make a great difference. For example, in Pontocho, Kyoto, after the fire in 2016, various stakeholders gathered and discussed the challenges of preserving its historic neighborhood and the need to develop better mitigation and preparedness measures, especially against fire. As a result, the Ponto-cho Fire Prevention Measures Network was established.

To finalize, let me share an anecdote: when we were finalizing this publication, one of our Japanese high-level reviewers told us that we were giving the idea that Japan was doing very well with all these experiences, while in fact, they had still a lot of to learn and improve… and I think this is precisely one of the secrets of their success, to keep always learning and improving.

3.2.4. Messages from Commentators

Okubo Takeyuki: Congratulations to winners. Every project is fantastic for me because all of those projects used lessons learnt from the international training course (ITC). Every project looks very difficult to implement by the effort of individual person. I recommend to make good teams and communication and of course our ITC team is always cheering you. Though we will not be able to support financially, we will surely provide moral support. So please keep in touch and I would like to work with you in each country. Thank you.

Joseph King: These three days have really been a fantastic experience for me because these have enabled me to reflect on the course held all these years, to see the work undertaken by applying the methodologies that we've been introducing during the courses, and see how they actually come through to fruition in terms of projects.

All of the projects have involved communities. Strong relationship with communities and engaging them in disaster risk management process is very positive. Moreover all the projects have adopted the methodologies of the ITC course. We can see how the course has actually provided over time a framework for people to go back to their countries and to adapt what we've been teaching to their specific contexts, cultural situations, recognizing the diversity of heritage ranging from Cairo, which is a large and chaotic city to industrial and religious heritage sites.

So, I think we've had a chance to look at this from different angles, but I think in terms of the two winners, it's kind of interesting to me that the one was at the small scale, looking specifically at the issue of the cisterns, going up to the regional level in the case of second winner. Thank you.

Lee Bosher: I was very impressed with all the presenters and all the projects that I've been looking at. It was a tough choice, but the winners were well deserving. Congratulations Elena and Dulce. I also wanted to add that I have been very fortunate to be a resource person for the ITC courses since 2016 and I know the ITC participants have learnt a lot from the resource people, but I've actually learned loads from all the participants on the courses.

Ksenia Chmutina: The projects are amazing and I was just so glad to see all of you sharing everything that you've learned, good things, bad things, difficult things, exciting things. I think it's really important that we all keep sharing what we're learning. I was particularly excited and pleased to hear that all of you reflected on the involvement of different people and of different relationships and how difficult it is to manage these, but this is really what makes our projects real. I would like to thank you all for reflecting on how important traditional knowledge is for disaster risk mitigation rather than always coming up with novel solutions that are not largely accepted. Thank you all for sharing this and good luck with everything that you do.

Wesley Cheek: Congratulations to our two winners and to everybody. They were all excellent projects and I thoroughly enjoyed seeing them over the last three days. All of you have put a lot of emphasis on working with the people who live there, on trying to understand all the local issues confronting these sites. Besides you seem to look towards the future too.

3.2.5. Revisiting ITC with founder father and former participants Video message from Prof. Kenzo Toki

Prof. Kenzo Toki, the founder Director of the Institute of Disaster Mitigation of Urban Cultural Heritage at Ritsumeikan University is the main source of inspiration for creating a strong community of disaster risk managers for cultural heritage in Japan and around the world.

He explained about "Establishing the Institute of Disaster Mitigation for Urban Cultural Heritage and implementing an international training course", "Relationship with global institutions when launching the international training course" and "Collaborating with global institutions as part of the international training course" in this video.

Video messages from former ITC participants

The video messages by thirteen former ITC participants were shared during the workshop.
Former participant from each batch answered the following three questions.

1. "Please tell us one of our best memories from the training course that you attended in Japan?"
2. "How did your training in Japan contribute to your professional work after returning to your country?" and
3. "Please give inspirational messages for past and future participants of the international training course".

3.2.6. Closing Remarks

by Okubo Takeyuki

At the usual ITC's closing ceremony during past years, I always give a message for graduates as " Now you all finished our course, but you are just coming to the starting line for a long distance goal of implementation of your proposal.".

During this workshop, I am so moved to learn that, so many important projects have been realized by ITC alumni. We received many entries for this workshop, and many excellent applications truly deserve honorable mention. Therefore, I hope to continue exchanging this fruitful information with all ITC family members, and look forward to successful implementation of each project for saving the cultural heritage for future at the earliest as disasters don't wait for us.

At the closing, I would like to explain my deepest gratitude to all the participants who applied for this workshop, and all the juries, and "of course" support members that include my dear ICCROM colleagues and the administrative staff of Ritsumeikan-DMUCH.

I hope to see you again in the near future in the real world, beyond the COVID-19 situation.
Thank you very much once again.

4 Appendix

4.1 List of Applicants of the workshop on "Good Practices for Disaster Risk Management of Cultural Heritage"

"Chief Onlus - Cultural Heritage International Emergency Force: the Specialized Civil Protection Volunteering for the Rescue to Cultural Heritage
The Mission and the Rescue Activities during the Earthquake in Central Italy"
Barbara CARANZA, ITC 2013, Italy
FOUNDER AND PRESIDENT, CHIEF ONLUS

"George Town World Heritage City, Malaysia"
Ming Chee ANG, ITC 2017, Malaysia
General Manager, George Town World Heritage Incorporated

"The Dominican Convent of Santo Domingo Tehuantepec, Oaxaca. Pilot Project for the Design of a Participatory Disaster Risk Management Plan for Cultural Heritage."
David Antonio TORRES, ITC 2018, Mexico
Cultural Heritage Conservator
Instituto Nacional de Antropología e Historia (INAH; National Institute of Anthropology and History)

"Recall the Social Fabric and Cultural Heritage of Al-Farouk Street (Old Mosul city)"
Alaa Nabeel HAMDON, ITC 2014, Iraq
Director of remote sensing center – University of Mosul Remote sensing center – University of Mosul – Iraq

"Emergency Preparedness and Response Plan for the Gaiety Theatre Complex, Shimla"
Navneet YADAV, ITC 2016, India
Associate Director,Doers

"Heritage New Zealand Pouhere Taonga (HNZPT) Draft Guidance for Preparing Heritage Risk Management Plans"
Vanessa Anne TANNER, ITC 2016, New Zealand
Manager Archaeology Heritage New Zealand Pouhere Taonga

"Re-Functionalization and Adaptation of the Sarmiento Museum for RMP"
Virginia Fernanda GONZÁLEZ, ITC 2019, Argentina
Director, Historical Museum of Sarmiento

"Motta Sant'Agata: the Middle Ages inside the City"
Rosa Grazia DE PAOLI, ITC 2018, Italy
Official, MEDITERRANEAN UNIVERSITY OF REGGIO CALABRIA

"Ministerio de Cultura y Patrimonio del Ecuador (Ministry of Culture and Cultrual Heritage) Museum of Zaruma"
Juan Diego BADILLO, ITC 2014, Ecuador
Director de Seguimiento y Evaluación de la gestion de Patrimonio Cultural. (Director of monitoring and evaluation of Cultural Heritage Management)

"Utilisation of Traditional Water Cisterns as Water Source in Case of Fire in Gijokastra, Albania"
Elena MAMANI, ITC 2014, Albania/Greek
Deputy Director/Program Manager
Cultural Heritage without Borders Albania

"Disaster Risk Management Plan for Humberstone and Santa Laura Altpeter Works, Pozo Almonte, Chile"
Marcela HURTADO, ITC 2015, Chili
Associated professor, Department of Architecture/ Director Master in Sustainable Rehabilitation in Architecture
Technical University Federico Santa María

"Disaster Risk Reduction and Management Plan for Kathmandu Valley World Heritage Property"
Suresh Suras SHRESTHA, ITC 2009, Nepal
Chief Archaeological Officer (Under Secretary) / Head of the Section
World Heritage Conservation Section, Department of Archaeology, Government of Nepal

"Integrating DRM of CH in the Kandy World Heritage City, Sri Lanka"
Poorna Sandakantha YAHAMPATH, ITC 2012, Sri Lanka
CEO/Chairman Biosphere International (Pvt) Ltd

"Earthquake Risk and Resilience Management in Historic Bazaars of Iran"
Kambod AMINI HOSSEINI, ITC 2013, Iran
Associate Prof. and Director
Risk Management Research Center, International Institute of Earthquake Engineering and Seismology, IIEES

"Raising the Awareness for the Importance of Carrying out Disaster Risk Management for Cultural Heritage Based on Information and Knowledge from ITC Course"
Ivana FILIPOVIC YORKE, ITC 2008, Serbia
Senior consultant, Institute for the Protection of Cultural Monuments of the City of Belgrade

"Raising the Awareness for the Importance of Carrying out Disaster Risk Management for Cultural Heritage Based on Information and Knowledge from ITC Course."
Svetlana DIMITRIJEVIC MARKOVIC, ITC 2010, Serbia
Conservationist Architect, Freelancer

"Fire Risk Mitigation Strategies for Urban Heritage Site in Cairo, Egypt"
Abdelhamid Salah Abdelhamid SAYED, ITC 2014, Egypt
Chairman, Egyptian Heritage Rescue Foundation

"Safeguarding Cultural Heritage through Technical and Organisational Resources Management (STORM)"
Moh RAVANKHAH, ITC 2015, Iranian-German
Postdoc- researcher and lecturer, Institute of Spatial and Regional Planning (IREUS), University of Stuttgart, Stuttgart, Germany

"Conserving Intangible Culture: Strengthening Local Disaster Coping System"
Lawangen Omarging ABNER, ITC 2017, Philipines
LOCAL DISASTER RISK REDUCTION AND MANAGEMENT OFFICER, TUBLAY DISASTER RISK REDUCTION AND MANAGEMENT CENTRE

"Disaster Risk Management Plan for MuNDA, Museo Nazionale D'Abruzzo – L'Aquila (Italy)
Pilot Project: MuNDA as DRR4CH catalyst"
Monia DEL PINTO, ITC 2019, Italy
PhD researcher Loughborough University

"Historic Monuments Strategic Planning and Optimized Public Policies"
Catalin Andrei NEAGOE, ITC 2018, Romania
University lecturer | Cultural Heritage Expert for the Ministry of Culture |Academy researcher, Ministry of Culture of Romania'Ion Mincu' University of Architecture and Urban Planning, Bucharest, Romania
Romanian Academy – Institute of Solid Mechanics

"The Heritage Resilience Scorecard: Performance Measurement in Risk Governance of Cultural Heritage"
Sibel YILDIRIM ESEN, ITC 2012, Turkey
Assistant Professor., Middle East Technical University, Faculty of Architecture, Department of Architecture

"Disaster Risk Management Plan for Punakha Dzong, Bhutan"
Junko MUKAI, ITC 2010, Japan
Proprietor/ Cultural Heritage Specialist Rimo Associates

Dechen TSHERING, ITC 2010, Bhutan
Bhutan Disaster Risk Management Specialist

"Improving Response Measures against Fire Events in Peruvian Archaeological Cultural Heritage"
María ALMÉSTAR, ITC 2016, Peru
(Supervisora) Supervisor of Cultural Sector and Cultural Heritage advisor Contraloría General de la República del Perú

"Mapping Risks for Cultural Heritage in Mexico"
Dulce María GRIMALDI, ITC 2016, Mexico
Senior conservator of decorative elements, INAH (Instituto Nacional de Antropología e Historia)

"Mo. M. Monitoring of Town Walls. Technologies, Methodologies and Tools for The Preservation of Historical Town Walls Mo. M. U Monitoraggio delle Mura Urbane. Tecnologie, metodi e strumenti p er la conservazione delle mura urbane "", in Italian)."
Francesca GIULIANI, ITC 2018 Italy
Research fellow, Department of Engineering of Energy, Systems, Territory and Construction, School of Engineering, University of Pisa

"Sharing the Importance of Disaster Risk Management of Cultural Heritage for Colombia
Cartilla básica de gestión del riesgo para patrimonio material e infraestructura cultural
Basic risk management primer for tangible heritage and cultural infrastructure"
Celina RINCÓN, , ITC 2011, Colombia
Advisor of the Director of Cultural Heritage, Ministry of Culture of Colombia

4.2 List of former IT participants contributed to video message

ITC 2006
Fauzia QURESHI,
ICOMOS Pakistan President,
Pakistan

ITC 2008
Kai Ube Prasad WEISE,
Planners' Alliance for the Himalayan & Allied Regions (PAHAR Nepal),
Nepal

ITC 2009
Pauline BROWN,
Office of Disaster Preparedness and Emergency Management (ODPEM)- Jamaica,
Jamaica

ITC 2010
Zeynep GUL UNAL,
Faculty of Architecture Restoration Department,
Yıldız Technical University,
Turkey

ITC 2011
Janhwij SHARMA,
Archaeological Survey of India,
India

ITC 2012
Sangsun JO,
Safety and Disaster Prevention Division
National Research Institute of Cultural Heritage (NRICH),
Korea

ITC 2013
Hatthaya SIRIPHATTHA NAKUN,
Safety and Disaster Prevention Division
National Research Institute of Cultural Heritage(NRICH),
Thailand

ITC 2014
Abdelhamid SAYED,
Egyptian Heritage Rescue Foundation,
Egypt

ITC 2015
Mohammad RAVANKHAH,
Institute of Spatial and Regional Planning,
Iran

ITC 2016
Muhammad Fathi Hasan AL-ABSI,
RWTH Aachen University/ The Department of Antiquities of Jordan,
Jordan

ITC 2017
Khin Aye YEE,
Urban, Disaster Risk Management,
Resilience &Land, World Bank Group, Myanmar

ITC 2018
David Antonio TORRES CASTRO,
National Bureau for Cultural Heritage Conservation part of National Institute of Anthropology and History,
Mexico

ITC 2019
Alessia STROZZI,
Superintendence of Marche Region,
Ministry of Cultural Heritage,
Italy

Cherry blossom season at Onjo-ji, Shiga, Japan. Because of COVID-19 restrictions, there were few visitors. April, 2020.

United Nations
Educational, Scientific and
Cultural Organization

国際連合
教育科学文化機関

UNESCO Chair on
Cultural Heritage and Risk Management,
Ritsumeikan University, Kyoto, Japan

立命館大学 ユネスコ・チェア
「文化遺産と危機管理」 京都・日本