

International Expert Meeting on Cultural Heritage and Disaster Resilient Communities  
Within the Framework of the  
Third UN World Conference on Disaster Risk Reduction (WCDRR)

# TOKYO STRATEGY MEETING

11–13 March 2015

Emerald Hall, 28F, Main Tower,  
Shinagawa Prince Hotel, Minato-ku, Tokyo, Japan

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# Tokyo Strategy Meeting

## Session 1

### Cultural Heritage and Disaster Risk Reduction

[Facilitators] Giovanni Boccardi, Kumiko Shimotsuma

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## Welcome Address

Johei Sasaki

President,

National Institutes for Cultural Heritage (NICH), Japan

The Agency for Cultural Affairs of Japan (ACA), UNESCO, ICCROM, and NICH have organized the International Experts Meeting on Cultural Heritage and Disaster Resilient Communities within the framework of the Third UN World Conference of Disaster Risk Reduction (WCDRR), with generous support by ICOM and ICOMOS. I am extremely happy to be able to warmly welcome numerous participants from around the world to Japan for this International Expert Meeting.

I would like to especially thank Mr. Masanori Aoyagi, ACA Commissioner; Mr. Giovanni Boccardi, Chief of Emergency Preparedness and Response, Culture Sector of UNESCO and Dr. Stefano De Caro, Director-General of ICCROM, and all distinguished specialists from both Japan and abroad for taking the time out from their busy schedules to join us here today. The meeting will last until March 17<sup>th</sup>, in Tokyo as well as in Sendai, and I ask everyone for cooperation and contribution for the success of this meeting.

Today, March 11<sup>th</sup>, marks the fourth year since the 2011 Great East Japan Earthquake. I again express my deepest condolences to those who lost their lives and extend my sympathies to many people affected by the disaster and remain living in temporary housings to where they were evacuated.

Following the devastating earthquake, NICH set up an office in the National Research Institute for Cultural Properties, Tokyo, to develop cultural property recovery projects. An emphasis has been put on the recovery of cultural properties in Fukushima Prefecture, where a significant number of disaster affected cultural properties remain isolated due to the Fukushima Daiichi nuclear plant disaster.

Various large scale disasters, including landslides, water and wind damage caused by typhoon, and volcanic eruptions have occurred throughout Japan in recent years. There is also a concern about imminent massive earthquakes such as Nankai Trough Earthquake and Tokyo Inland Earthquake, so the establishment of an effective recovery system is inevitably needed. We have been confronted

by numerous disasters in the past, including the Great Hanshin Awaji Earthquake and the Great East Japan Earthquake. Although we held many discussions after these disasters, we may not have responded as efficiently as we wanted. Now, however, each of us should be more than ever determined to quickly react to emergency situations. Particularly, just as preventative medicine is recognized as an effective means of averting illnesses, preventative preservation for cultural heritage should also be emphasized, and practical approaches should be developed.

Considering these circumstances, the Headquarters of the National Task Force for the Japanese Cultural Heritage Disaster Risk Mitigation Network was established within NICH in July 2014, with myself appointed as executive director. Collaborating with ACA, the Network aims to develop human resources, gather, analyze, and disseminate information, and conduct research necessary to mitigate disaster risk and build an effective rescue and recovery system in times of emergency.

With all these tasks we must undertake, it is a very timely opportunity to have various experts gather in one place and exchange ideas today. The Tokyo Strategy Meeting, which runs from today until the 13<sup>th</sup>, provides a platform to discuss future of cultural heritage DRR and lay out points that need to be addressed within the “post-2015 Framework for Disaster Risk Reduction” adopted at WCDRR in Sendai. I look forward to each person participating in this meeting actively discussing and reflecting upon the significance of cultural heritage DRR, so that the outcomes of the discussion will encourage further meetings and will play a positive role in development of international DRR initiatives. I also anticipate the meeting will become the first step in constructing a cooperative network between organizations within and outside of Japan.

Finally, to close my remarks I would like to express my deepest gratitude to the people whose efforts have made the holding of this meeting possible, and I pray for every success of this Meeting.

Thank you.

## Welcome Address

Masanori Aoyagi  
Commissioner,  
Agency for Cultural Affairs (ACA),  
Government of Japan

I would like to extend a very warm welcome to the participants who have come from all over the world. It is my privilege to address you at this opening of the International Expert Meeting on Cultural Heritage and Disaster Resilient Communities.

It gives me great pleasure that this third UN World Conference on Disaster Risk Reduction has given us the opportunity to invite the leaders in cultural heritage disaster prevention from all over the world, and that we can carry out discussions and exchange views on the future development of cultural heritage disaster prevention.

I would like to express my sincere gratitude to all of you.

Japan is considered to be a nation prone to many disasters. Earthquakes occur frequently, and many typhoons hit Japan every year, and there are also occurrences of heavy rain, tornadoes and volcanic eruptions. I feel that the damage inflicted on cultural heritage due to insects and pests as a result of climate changes and urban development is getting more extensive.

In particular, the Great East Japan Earthquake, which occurred on this very day four years ago, triggering a tsunami and a nuclear power plant accident, has caused immense damage over a large area. Even now, many people are still affected and are unable to regain a secured livelihood. I would like to express my deepest condolences to those who lost their lives and extend my sympathies to those who were affected by the earthquake.

In the field of cultural heritage as well, prefectural and local municipality office staff members have lost their lives, and restoration works are being carried out in extreme conditions.

Not only for people who were affected by the disaster but also for everyone, it is a highly stressful period. This is a moment when we need to rethink the meaning of culture, art and cultural heritage.

The grievances and hardships after the disaster are different for everyone. The strength of culture is needed for people to come to terms with their feelings, to regain the strength to communicate with other people once again, and to reconstruct

the social bonds in local communities that were lost in order to tie up with the hopes for reconstruction.

After the Great East Japan Earthquake, ACA has been reviewing measures for promoting culture and art through discussions on innovative approaches for disaster recovery. Also, ACA has been working on restoration projects for nationally important cultural heritage affected by the disaster, and at the same time has been involved in surveys, support and temporary measures for many other cultural properties. It is necessary to restructure the organization to facilitate quick responses in times of such a large scale disaster. As part of this effort, ACA is providing financial support for NICH to carry out promotion programs for cultural heritage risk reduction network.

I think at this point of time when we need to think about how the experiences from the Great East Japan Earthquake can be applied for the future protection of cultural heritage, it is very beneficial for Japan to have all of you here to share information and exchange opinions at this International Expert Meeting.

Personally, I was involved in archaeological survey research related to the recovery of natural and cultural environment affected by the eruptions at the foothill of Mt. Vesuvius volcano in southern Italy. As a specialist, I greatly look forward to this International Expert Meeting as an opportunity to expand the circle of international cooperation for strengthening the resilience of cultural heritage and the resilience of local communities through culture and cultural heritage.

Lastly, I would like to express my gratitude to UNESCO, ICCROM, NICH, ICOMOS, and ICOM. Also, I would like to express my gratitude to Professor Kenzo Toki of Ritsumeikan University, who introduced the conditions of cultural heritage under the disaster prevention framework at the 2nd UN World Conference on Disaster Risk Reduction and also made great contributions to the opening of this meeting.

## Opening Remarks

Giovanni Boccardi

Chief of Emergency Preparedness and Response,  
Culture Sector, UNESCO

Good morning, everyone, Mr. Aoyagi, Mr. Sasaki, I wish to thank you again for convening us all here. I would like to say a few words on behalf of UNESCO, also on behalf of my colleagues Tim Curtis and Akatsuki Takahashi, who are here from the UNESCO offices in the region.

I would like to start by, of course, paying tribute to the victims of the Great East Japan Earthquake four years ago. I read in this morning's newspaper about the number of people still living in sort of temporary housing to be 200,000. My thoughts go out to all of them.

I would like to start maybe by surprising you by asking if in the face of all these disasters and crises that we face every day, whether another meeting was really necessary. We had many meetings in the past and every time people come from all over the world. My answer to this is that, in this particular case, I think we have a special reason for being here, not only because, of course, of this conference that will take place next week in Sendai, which occurs every 10 years, but also because of the issues that this conference is presenting to us, the challenges to our sector, to the heritage sector.

It is a challenge that is forcing us to reframe our position, our discourse, and our practices as professionals in the field of cultural heritage. We will be talking about this for the next three days, but in my view, there are two main points that are driving this process. One is the realization that disaster risk reduction, climate change, and sustainable development are all three aspects of the same larger issue and are all strictly connected. This is something that is only now becoming apparent, and 2015 is a critical year when in three different locations, in different parts of the world, these three aspects will be discussed. First, here in Japan – disaster risk; then, of course, in New York at the General Assembly of the UN – the issue of sustainable development in September; and then in France, at the end of the year – the Climate Change Conference. In reality, they are all part of the same larger problem, the problem of resilience.

The second sort of revelation is that culture, in-

cluding heritage, is intrinsically relevant to resilience. It is at the nexus of all these three aspects and a major component for the resilience of people. And so the questions that I think this meeting will be addressing are: what are the implications for us in terms of policies, in terms of actions, and also what indicators might we be able to find to measure our contribution to resilience?

The deliberations of these three days will then be brought to Sendai, bringing our message to the conference. We will be speaking to a different audience, and so I think it's a great opportunity that we are given by Japan, by the National Institutes for Cultural Heritage, the Agency for Cultural Affairs that have convened us, have supported this financially, and also done a great deal of coordination.

I would like to acknowledge also my colleague Kumiko Shimotsuma for the wonderful work she did in preparing this. Thanks also for the commitment of other partners such as ICOMOS, ICCROM represented here by its Director-General Stefano De Caro, Joseph King and others, ICOM and all of you who have come from very far to take part in yet another meeting, but hopefully one in which we'll be able to make a difference for once. Thank you so much for your attention.



Opening Remarks by Giovanni Boccardi, Chief of Emergency Preparedness and Response, Culture Sector, UNESCO (Photo by Randolph Langenbach)

## Opening Remarks

Stefano De Caro  
Director-General of ICCROM

I will associate to what Giovanni Boccardi has just told about our long-lasting condolence for the Great East Japan Earthquake. People suffered so much and we will remember them.

On behalf of ICCROM, it gives me a great deal of pleasure to personally welcome all of the participants to this very important initiative, the International Expert Meeting on Cultural Heritage and Disaster Resilient Communities, which is occurring within the framework of the third World Conference on Disaster Risk Reduction.

For at least the past 30 years, ICCROM has played an active role in promoting disaster risk management, what we called risk preparedness at that time, for the cultural heritage community. Publications such as *Between Two Earthquakes* by Bernard Feilden and *Management Guidelines for Risk Preparedness for Cultural Heritage* by Herb Stovel, were both early contributions to this important effort.

Especially over the past 10 years, ICCROM has been very active in this field. During a visit by Professor Kenzo Toki to ICCROM, we discussed the possible partnership between ACA, UNESCO and ICCROM in a thematic session at the second World Conference on Disaster Reduction. This session, held in cooperation with Ritsumeikan University introduced the key concepts related both to the protection of cultural heritage in times of emergency and also the use of cultural heritage as a positive force in promoting a culture of prevention.

In the intervening 10 years, much progress has been made. Working within the framework of the World Heritage Convention, a strategy for disaster risk reduction was developed, as was a resource manual on managing disaster risk for World Heritage. International meetings have been held on key topics such as integrating traditional knowledge systems into risk management strategies and an International Training Course on Disaster Risk Management of Cultural Heritage, a partnership between Ritsumeikan University, ICCROM, the UNESCO World Heritage Centre and ICOMOS-ICORP is now in its 10th year.

At ICCROM, we continue to consider the issue of disaster risk to be a key area of our work as con-

firmed by our most recent council meeting last year. We currently have a programming area entitled Developing and Promoting Disaster and Risk Management, which integrates concepts for both movable and immovable heritage. Here, I would also like to call attention to the fact that we are considering not just the impacts of natural disasters, but also those that are man-made. Our most recent course on First Aid to Cultural Heritage in Times of Crisis will begin at the end of this month in the Netherlands. One only needs to open the pages of a newspaper today to understand why the protection of heritage in conflict areas is becoming an important and integral part of the larger field of disaster risk management. You will hear more about ICCROM programs and activities in this area tomorrow, during a presentation by my colleague Aparna Tandon.

As with most activity areas, ICCROM's strength lies in the partnerships that it creates with like-minded people and organizations. Over the past 10 years, we have developed strong partnerships with ACA, UNESCO and its World Heritage Centre, ICOMOS-ICORP, Ritsumeikan University, the Smithsonian Institution, the Dutch National Commission for UNESCO and the Prince Claus Foundation, just to name a few.

In ICCROM's view, we can achieve much more by working together than we can ever achieve as an individual organization acting alone. It is within this spirit that I would like to express my greatest appreciation to our partner organizations who have worked so hard on the development and implementation of this meeting, including ACA, UNESCO, NICH, ICOMOS-ICORP, and UNISDR. With its inclusion in the third World Conference on Disaster Risk Reduction, we can say that cultural heritage is now seen as one of the key factors in disaster risk management. We have come a long way in the past 10 years, but we have a long way to go. It is my hope that this meeting will serve as an important milestone in our journey towards protecting and utilizing cultural heritage as a key resource for building resilient communities. Thank you so much.

## Introduction to the International Expert Meeting

Joseph King  
Site Unit Director  
ICCROM

It is my pleasure to take a few minutes to introduce to you the schedule and format of the International Expert Meeting in which we will all be participating over the next few days.

This expert meeting is held within the framework of the third World Conference on Disaster Risk Reduction (WCDRR), which will start on March 14<sup>th</sup> in Sendai, Japan. It also follows on a successful thematic session called Cultural Heritage Risk Management, which took place ten years ago in Kobe, Japan at the second World Conference on Disaster Reduction.

In regard to this meeting, we've been in the process of planning over the past year. Giovanni Boccardi prepared the draft concept note, and we've been developing our ideas based on the conception of Giovanni. Particularly, since September 2014, we've begun putting together the program and organizing everything. I'm happy to say that we have managed to bring all of you here for this meeting today.

In organizing the meeting, we felt that it was important to link our work to the actual program of the WCDRR. We didn't want this session to be something that was an outlier or to be something that wasn't an integrated part of the activities that were going to take place in Sendai later in the week.

With that in mind, we based our structure on the zero-draft of the "post-2015 Framework for Disaster Risk Reduction." This post-2015 framework will be the outcome document of the 3<sup>rd</sup> WCDRR. Within the zero-draft, four "priorities for action" were identified.

The first priority for action is "Understanding disaster risk," the second is "Strengthening governance to manage disaster risk," the third is "Investing in social, economic and environmental resilience," and the fourth is "Enhancing preparedness for effective response and building back better in recovery and reconstruction."

We decided to organize this expert meeting along the lines of these four priority areas. It is important that the results of this expert meeting should feed into the Working Session on "Resilient

Cultural Heritage" that we have later in the week within the 3<sup>rd</sup> WCDRR. In line with this thinking, we divided the four priority areas into six sessions of this expert meeting in order to capture the richness of the subject.

The Session 1 is an introduction, which is not a part of the priority areas. It is essentially a statement of why culture and cultural heritage matters within disaster risk reduction. This topic includes a basic introduction to the key concepts that we will be talking about over the course of the three days. After this introduction, we begin to cover the four priority areas.

The Session 2, under the priority area of "Understanding disaster risk," looks at the role of cultural heritage in understanding disaster risk.

The Session 3 is on strengthening governance in institutions, specifically related to cultural heritage for managing disaster risk.

The next priority area is on response, recovery and reconstruction, we have divided that into two sections. One is dealing with technical issues and another is dealing with cultural heritage and resilient communities.

Finally, the Session 6 is on investing in disaster risk reduction for sustainable development.

To structure our work over the next three days, each of these sessions will have two facilitators. One will be the moderator and one will act as a rapporteur, gathering up the key points and the possible recommendations that may be coming out of the session.

In order to capture the ideas that come out of various sessions, we have planned that, on each of the first two days, the last one hour after the session 3 or 6 would be used for group discussions to develop conclusions and recommendations. We would like to have three groups each day. Today, there will be a group discussion by three groups, one for Session 1, one for Session 2, and one for Session 3. Tomorrow, Sessions 4, 5 and 6 will be dealt with in the same way.

We are asking that the groups be composed of the speakers of that session, the facilitators of that

session, and then other interested people in the room who may want to be a part of that discussion. Those people who will make a presentation tomorrow, may participate in any of the three groups today, whichever they have a particular interest in. Each group will get together for the last hour of the day to come out with a series of conclusions and recommendations that we can put into a final document.

The final session on Friday morning will be to present the consolidated conclusions and recommendations. That session will be conducted by Giovanni Boccardi and myself.

We consider that the conclusions and recommendations should be concrete and action-oriented, as much as possible. We are not looking for philosophical statements, but we really want to know what we can do over the next ten years to improve the situation for cultural heritage and disaster risk.

There will be also a number of other events related to these particular meetings which will be announced by our Japanese hosts. These events will include several public symposia, site visits, optional tours, and of course, there is the working session at the third WCDRR.

Finally, I want to announce that we are expecting to produce a conference report from this activity, so we will ask speakers for their permission to use their slides, written papers, and photographs, if available. We will get back to you with details on that later, but I want everyone to be aware of the fact that we will eventually compile a report of this expert meeting.

I hope that I have been able to give you a summary of what will be happening over the next few days. To conclude, I want to say that I look forward to working with all of you, whether you are old or new friends. I look forward to hearing the presentations over the next two days and listening to a rich discussion. Thank you.



Fig.1: Opening Remarks by Stefano De Caro, Director-General, ICCROM (Photo by NICH)



Fig.2: Introduction by Joseph King, Site Unit Director, ICCROM (Photo by Randolph Langenbach)



Fig.3: at Osaki-Hachimangu Shrine in Sendai (Photo by Kumiko Shimotsuma)

## Keynote Presentation (1)

### Understanding Culture and Risk: People's Culture, Organizational Culture and the Protection of Heritage

Terry Cannon  
Senior Research Fellow,  
Institute of Development Studies,  
University of Sussex, UK

*Note : Terry Cannon is the lead editor and one of the authors of the "2014 World Disaster Report – Focus on culture and risk" that was published by IFRC. All the figures and photos in this paper are from the Chapter 3 of the above-mentioned report.*

#### 1. Introduction

I want to talk to you today about the big questions asked earlier by Giovanni Boccardi from UNESCO of why we are here, and what the need for another meeting is. I would like to make some challenges as well as present some aspects of the "World Disasters Report 2014 – Focus on culture and risk" [Fig. 1]. These challenges would involve us thinking about some buzzwords, including "resilience," "sustainability," "governance" and "community" and whether we use them properly.

A chief buzzword used today is "resilience." You cannot discuss disasters without this word coming up. I would challenge us all to consider an actual

definition of resilience and what we mean by it. Other key issues are why we need resilience, what has happened to make us use the word resilience now, and why people are not talking about vulnerability or the causes of vulnerability that necessitate resilience.

Other buzzwords that we use very easily are "sustainable" or "sustainability," and "governance." The last one, which is actually in the title of this conference, is "community." A part of the research that we did for the *2014 World Disaster Report* is critical for the concept of community, which is often used without sufficient thinking.

You should all have a copy in front of you of the *2014 World Disasters Report*, which I am very pleased to bring for you. The video that I showed at the beginning of this presentation is available at the link of <http://www.ifrc.org/world-disasters-report-2014> or on YouTube.

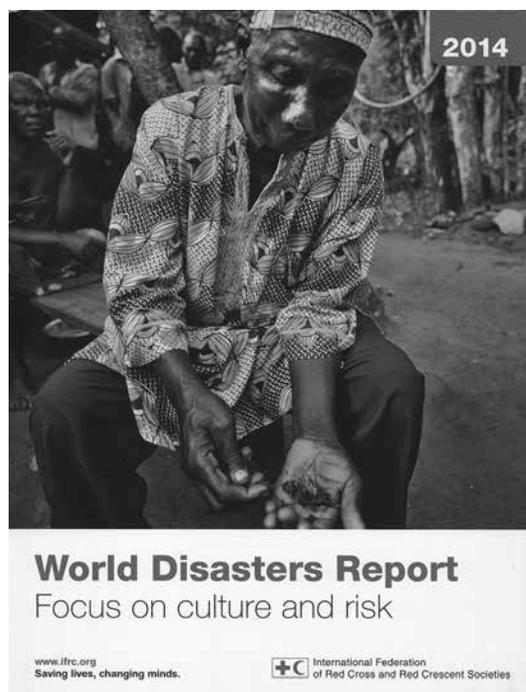


Fig.1: Cover of the *2014 World Disasters Report – Focus on culture and risk*

#### 2. Culture of People and Culture of Organizations

In the *2014 World Disasters Report*, we analyzed two forms of culture: popular and organizational. For the former, it is important to stress that we were not simply interested in so-called people's culture which tends to focus on the unusual things that people around the world believe about risks and disasters. For the latter, we wanted to look at the unfamiliar beliefs that organizations have; the rationality and irrationality of organizations. Maybe we ourselves need some self-reflection amongst our own organizations about the way we behave irrationally in relation to various aspects of our work. We are thus looking at these two aspects of culture: that of people facing risks from extreme hazards, and that of institutions (or organizational culture).

Much of the *2014 World Disasters Report* is informed by an assessment of disasters. What may be less known to you is how much disasters are socially constructed. Many organizations now accept the fact that there is no such thing as a 'natural disaster.' Disasters are all socially constructed through

the effects of political, economic, and cultural factors and processes. These influences result in a situation in which people are living under dangerous conditions at dangerous places. Many of these ideas were outlined in the book entitled *At Risk: Natural hazards, people's vulnerability and disasters*. The first three chapters of this are available free at the UNISDR link of [http://www.preventionweb.net/files/670\\_72351.pdf](http://www.preventionweb.net/files/670_72351.pdf). I'm also proud to say that this book was translated into Japanese by Professor Masayuki Watanabe (<http://www.tsukiji-shokan.co.jp/mokuroku/chosya/ben-wisner.html>).

Let us look at what we mean by culture. Of course, there are many definitions of it. In the *World Disasters Report* we used a functional definition, in which we focused on what aspects of culture might be of significance with regard to people's behavior in relation to risk. Through this functional definition, the first point we emphasized is that people have beliefs that are acquired through processes including particularly upbringing, family education or religious institutions, and lead to values. It is values that determine people's priorities in the potential threats that might affect them in their lives, the things that they care about, or their worldviews. These worldviews often include and justify power systems under which people have to live. I will discuss this point later.

The values are then translated into attitudes towards risk. These attitudes then lead to behaviors. What is or is not done in relation to risk? What is invested in terms of time, effort, or money? And

who invests in it? In other words, the behavior is how culture is operationalized in relation to many different kinds of risk that people face.

### 3. Disasters, Risks and Vulnerability

Now, I would like to return to the *World Disasters Report*. In it, we developed a very simple model to explain that disasters do not occur naturally. Then, how do we understand the causation of disasters? We all know that disasters are related to hazards. But the hazards will lead to disasters if they hit vulnerable people.

A classic example is a hurricane that travelled across the Caribbean to hit three different countries, Cuba, Haiti, and Florida in the USA. In Cuba, nobody died because of an effective warning and evacuation system. In Haiti, many people were killed. Then, in Florida, nobody died but billions of dollars' worth of damage was caused. One hazard brought three different types of effects: no disaster, loss of life, and heavy financial losses. The different social conditions produce different effects.

This is why we need to understand the vulnerability components that cause disasters. The vulnerability components are largely determined by structures of power. These power relationships are normally allocated to categories of class, gender, ethnicity, caste and also culture. These determine who is or is not vulnerable to a hazard. They are very important factors in determining how risk approaches people.

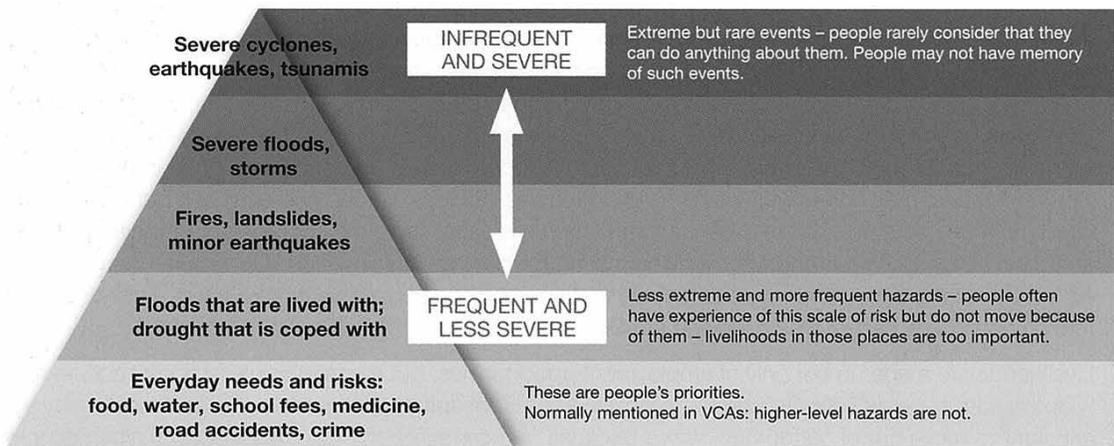
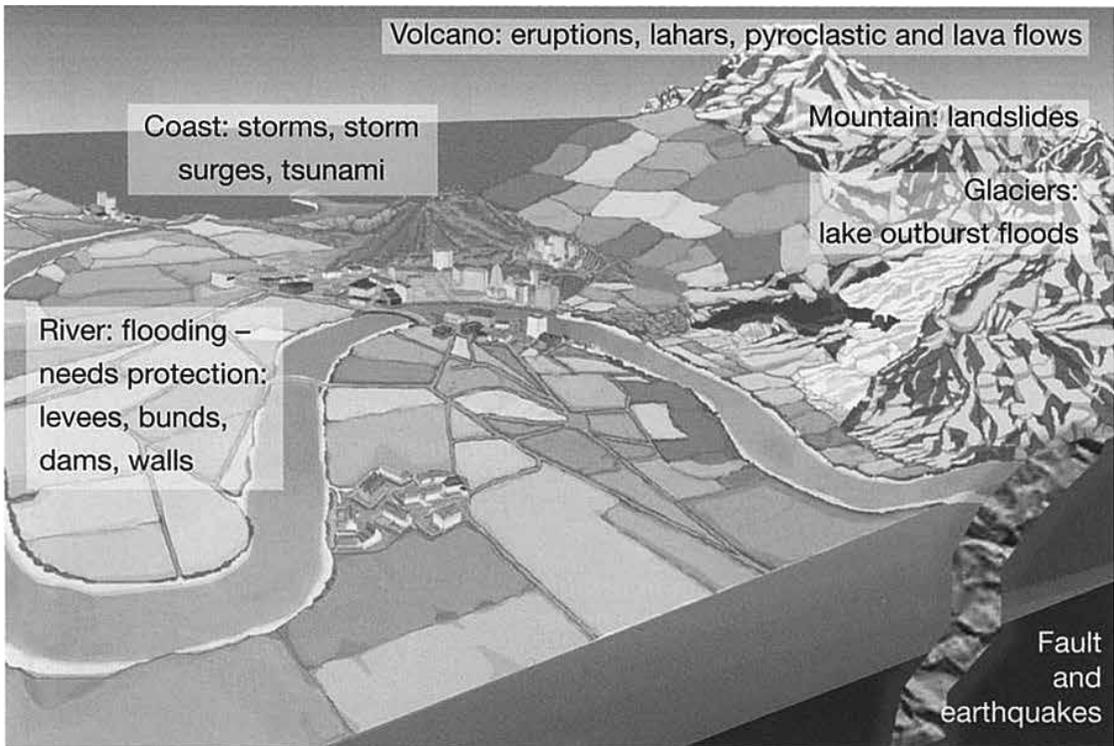
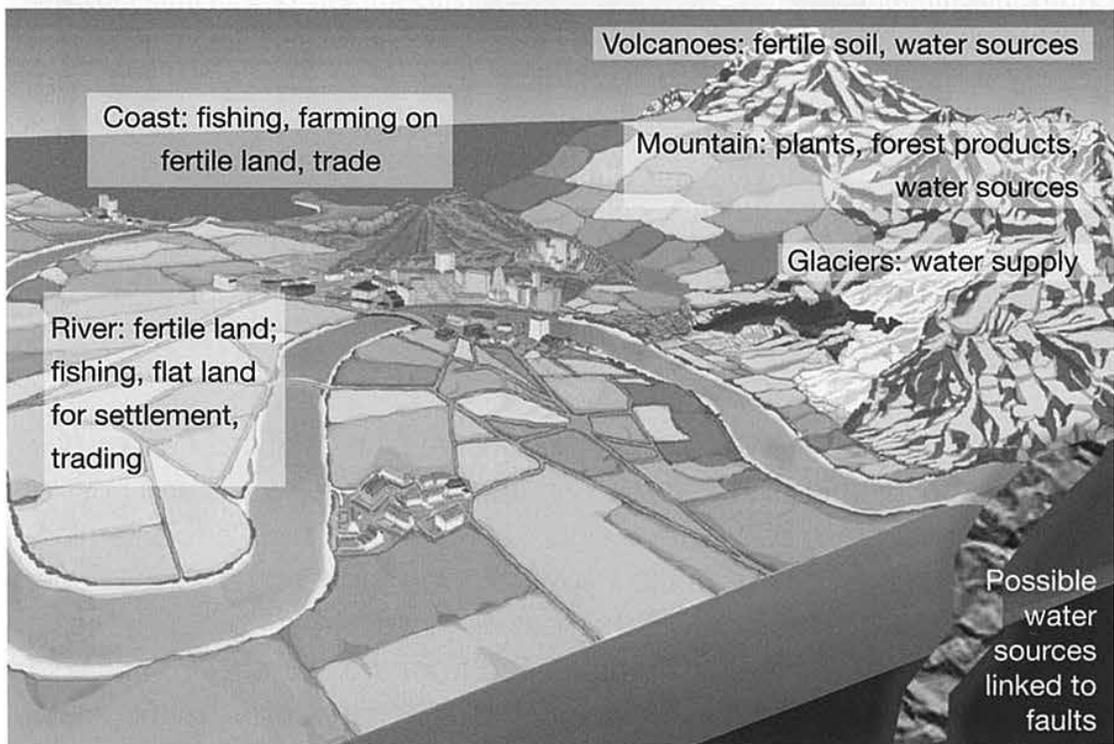


Fig.2: Risk hierarchy (2014 World Disaster Report, p.68)



The viewpoint of the DRR organization: hazards are obviously the main problem to be dealt with



The viewpoint of most people: the landscape is a source of livelihood resources

Fig.3: Two ways to see the landscape: risk or opportunity (2014 World Disaster Report, p.69)

#### 4. Risk Hierarchy

Another part of the approach we took was to understand how people behaved and received risks. This is what I call the risk hierarchy [Fig. 2]. Risks at the top are very rare but very intense and extreme events. Risks at the bottom are more common and less extreme events. In it, we have the risk reaction. People feel that they cannot do very much for the very extreme ones; the bottom events are very often common and coped with. Some of you may have heard of the idea: people live with floods in Bangladesh, it is a part of their livelihood and they require those floods (so long as they are not too severe) in order to survive.

But what most people worry about is not extreme hazards but the problems of everyday life, especially poverty, illness, putting food on the plate or payment of school fees. In developing countries, these are what give people their real concerns. This has been borne out by thousands of investigations all over the world that have confirmed that people are not concerned about extreme risks. We, with our interest in DRR need to be concerned about the effect of that on us, if we are trying to deal with risks with which people are not concerned. That is something that we need to build into our discussions: How can we get people to support protection of cultural heritage when in their own lives they are not giving severe hazards a high priority?

To illustrate this, here is exactly the same landscape perceived in two completely different ways [Fig. 3]. People see their landscape as providing opportunities for their livelihoods, not as risks. For instance, the coast is a place for opportunities, the volcanoes provide fertile soil, the river land is flat and good for farming, and the rivers provide fertility when they flood. On the other hand, disaster risk managers have a completely different perception – in the second version of the landscape all that is noticed is danger – the hazard risks. Organizations have their own priorities that ignore what the people are concerned about. I argue that the organizations are therefore irrational because they are ignoring the people's priorities and imposing their own rationality on the situation from their viewpoints of disaster risk reduction.

A lot of what the people want in their own priorities is what we would call development. It comes under what you might call sustainable development goals or the Millennium Development Goals. This is a part of the problem that we have in this division between the different organizations in not doing

these things in a conjoined way. A logical consequence is that DRR cannot be achieved unless people's development needs are solved first or in conjunction with DRR interventions.

#### 5. Why culture?

I should explain that the *2014 World Disasters Report* is independent but published by International Federation of Red Cross and Red Crescent Societies (IFRC). I'd like to thank two of the people in this room, Giovanni Boccardi and Randolph Langenbach, who are contributors to this book.

Culture is complex. There is no single definition, but it must not be ignored because DRR is embedded in all aspects of life, including how people define risks. It is actually extraordinary how culture is ignored by almost all disaster risk reduction organizations. This room probably contains more people who are concerned about culture in relation to disasters than there will be in Sendai next week. That is quite a telling thing to say that most DRR organizations do not take into account culture in what they are doing because they are not interested in how other people think, but only in what the organization thinks. It is a classic case of insider - outsider relationships, with a huge gap between the different types of goals.

Why culture? Because beliefs lead people to perceive risk in particular ways, and because risk is always perceived and even produced through the lens of culture. It is embedded in people's everyday behavior and affects their way of dealing with their different risks. And culture is vitally important as it can both increase and reduce vulnerability. We are not criticizing people's beliefs, even though many of them make DRR difficult. But what we have to do is actually to work with people in their beliefs rather than to say they are irrational.

DRR projects fail when they ignore how people really relate to risks. For this reason, we need a new approach as to how organizations behave and perceive risk, and how they act themselves. That is a vitally important part of the process.

This extraordinary photo in La Paz, Bolivia, illustrates some of these points [Fig. 4]. This was taken by Dr. Fabien Nathan. He went there to do his Ph.D. on disaster risk and discovered people living like this. They are not the poorest of the Bolivians – significant investment has gone into the houses. Although they are clearly in a dangerous situation, the people have managed to come up with stories to claim that it is a good and safe place to live. It is

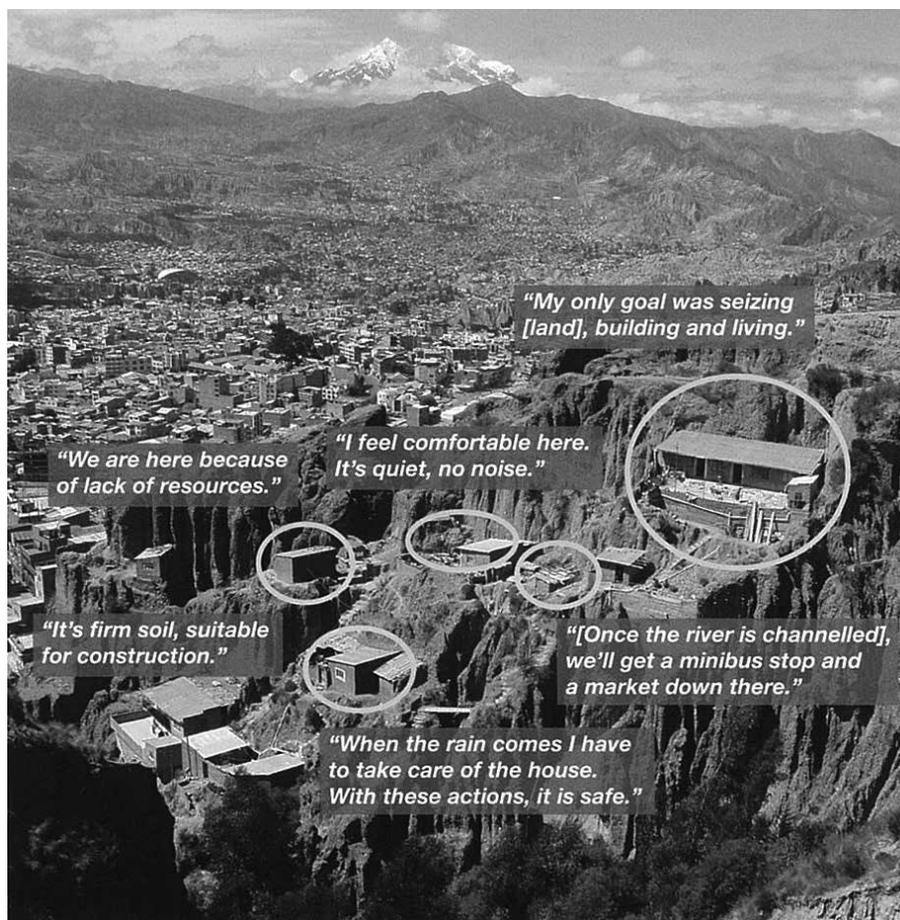


Fig.4: La Paz: residents interviewed by Fabien Nathan (2014 World Disaster Report, p.70)

these types of stories, multiplied by the millions around the world, that we need to understand.

However, DRR organizations must acknowledge that their perception of risk is usually very different from that of the people. The normal institutional DRR response to people living like this is to say “you must move out of there,” which is not what people want to do. We have to deal with this clash of cultures between organizations and people. So, we are arguing that organizations need to analyze their own behavior in relation to these particular clashes, because we are asking people to be different from what they are and to do what we want in our risks.

## 6. Culture, Risk and Community

To conclude I want to talk a bit about culture, risk and communities. A key chapter in the *2014 World Disaster Report* actually challenges the concept of community and suggests that it is largely a myth. Because what is often called a community includes

complex power relationships that affect risk, exposure and vulnerability. A simple example from a village in Nepal is mentioned in the Report, where only the people from a particular caste were allowed to be present at a vulnerability assessment meeting, and the others were not. This would be very common in many places around the world.

If we look at a supposed community where DRR activities are proposed, it will have a boundary, within which the project funding is spent. Let us view it in different ways, because in fact this so-called community is full of divisions. The first division relates to class. In many countries, unequal rural social classes exist mainly determined by unequal land ownership. A small number of families owns a lot of land, a huge number of households at the bottom has no land at all. For example, 30-60 % of the households in South Asia are landless. How can they engage in DRR when they have very little control over their own existence as defined by the

dominant land tenure system?

The second division is “gender.” Every single community in the world is divided in half on gender grounds. Women tend to get less food, healthcare or education, and have fewer rights. In some parts of the world, there is an imbalance in the numbers because of the selective abortion of female fetuses and even female infanticide. In some parts of India and China, the ratio of male to female is as high as 115, even 120. The ability of women to deal with risk is often severely constrained, and yet they are supposedly part of the community. These and other divisions within so-called communities are leading to many people being more vulnerable: yet the causes of that vulnerability are often a result of exploitation and oppression that is going on within the community.

What these represent is that there are fundamental divisions in every single so-called community in which we work. What I want to emphasize here is that we are actually imposing our concept on people when we use the term of “community“, and that our concept is not always relevant. Furthermore, we are imposing that concept in order to make us feel comfortable so that we can do our work effectively at the grassroots level. This is because we want to have that value given to us that we are concerned about poor people. What proportion of the poverty and the vulnerability that DRR organizations are concerned about is actually being caused by processes that are going on within the community? These are the questions that we need to think without using the buzzword, and instead analyzing.

## 7. Links with DRR

In the *2014 World Disaster Report*, we also looked on the positive side, which Randolph Langenbach will talk about later, at the way local building culture can be used and mobilized for protection of buildings in preparation for disasters, and about the need for reinforcement of traditional and cultural forms of building and structures.

But, what we have to be really concerned about is the way that power operates, and that power will operate in the Sendai meeting next week. I do not think we can get away from the fact. In the forthcoming meeting at Sendai, there will be a discussion about whether climate change can be included in the post Hyogo Framework for Action. Some governments are insisting that climate change cannot be included into DRR, which is a blatant example of irrationality resulting from beliefs of organizations that do not want to confront the truth. Climate change must be integrated with DRR and development. Otherwise we are going to be pulling in three different directions which would produce a problem.

People tell themselves stories of disaster risks that are not going to happen to them. Not only the people in La Paz but also the British government, the US Republicans, climate change deniers and big oil companies are all telling themselves stories that they are perfectly safe. Unless they do something next week in Sendai, we know that they are going to slide down the hill into hell. Thank you.

## Keynote Presentation (2)

### Cultural Heritage, Social Cohesion and Sustainable Development

Yasmeen Lari  
Chair,  
Heritage Foundation of Pakistan

My presentation will be limited to understanding or to underscoring the urgent need for achieving large-scale disaster preparedness and resilience among flood-prone communities by nurturing women as agents of change and executing holistic, integrated models that are drawn from local cultural heritage and traditions. The focus will be on inexpensive alternatives for village level strategies to bring about societal transformation in marginalized post-disaster communities.

The attempt is to illustrate that if DRR-compliant options are drawn from local and vernacular traditions and are low cost, and if an effort is made to build technical competence, communities can themselves acquire coping mechanisms to withstand disasters. And of course, within community, I give emphasis on women.

It will be seen that the use of local materials helps provide alternative livelihood opportunities as well as local economic regeneration, thus helping to tackle core poverty issues and creating resilient communities. Now, this is something that is very much applicable to countries like mine (Pakistan), and I will be talking more about this.

When I think about Terry Cannon's presentation, I couldn't agree more with the viewpoint that he has presented about culture. And I think it is very important to look at the different aspects that actually are held dear by communities, and to consider how we can best maximize on those.

So it would be misleading to assume that poor people do not have cultural roots or are ignorant about their traditions. As you know cultural legacy is transmitted through materials, objects, and written or oral traditions. Those who are poor in material possessions are usually rich in intangible resources, ancient knowledge, and age-old procedures.

Why should we ignore the cultural attributes of communities whose roots go back thousands of years? Why should there not be a conscious effort to draw upon vernacular heritage instead of imposing alien and urbanized solutions? Why should we not carry out research and build a reservoir of in-

formation that can then be used to devise alternatives which will resonate with community's own traditions and will be thus accepted and practiced more readily? It is clear in the work so far carried out by my organization that fostering pride and stake through participative approaches must be the cornerstone of post-disaster development and even emergency work.

This also shows that even the poorest nations must protect their cultural heritage. And for them to be relevant in developing DRR or DRM approaches, community engagement for heritage stewardship needs to be ensured. That is why I'm very heartened to hear the speakers from ICCROM and UNESCO, who are now talking of emergency action to be taken up everywhere. I know that a lot of organizations have been working on it, but I think the problem now is far aggravated because of climate change. And I think we all have to work together to make sure that we try to protect whatever is there.

I would like to show some examples. First one is our Bronze Age, Mohenjo-daro, the World Heritage site where we can learn a lesson about building on platforms. This must be done in all flood prone areas in Pakistan, at least. Then, second is about traditional heritage or the vernacular heritage that we have, and that exhibits sustainability of materials; the way mud is used, and the way thatch is used. The third is the *dhajji dewari* that Dr. Langenbach will be talking about, which bespeaks how you can use traditional ways of building and how these can still be used today. We have innovated a little bit. We don't use wood anymore, we only use bamboo. And the last one is, of course, women's crafts, which resonate with everybody. So these are the things that we have to be looking at.

Increased dependency on aid, loss of respect and pride: these are brought to us by aid-giving agencies, constantly given a lot of aid, and a lot of aid obviously misused. Vulnerability has been increased due to successive disasters, climate change impact, and recurring annual disasters. And you can see that in the 2005 earthquake, which is very

well-known. I have to say, the kind of help we got from all over the world was just amazing. So much money came in, but still, there were 400,000 families that had been displaced. Since 2010, 2011, 2012, 2013, and 2014, every year we've had floods, and over 2 million families have been affected. Similarly, in 2013, we had the earthquake in Awaran with 50,000 people being affected.

However, I do not show the dismal picture to solicit more aid or grants. The mechanism of distribution has, to my mind, been detrimental to the self-respect and dignity of the people and has spawned a culture of dependency and ready acceptance of handouts. Rather, I present these figures to inform you that the displacement of families is far greater than what governments and aid givers can ever hope to cope with through handouts.

Past experience of earthquakes tells us this: the earthquake in 2005 amply demonstrated the infutility of pouring millions of dollars into building unsustainable urbanized houses leaving insufficient funds left over for social infrastructure. Today, just 10 years after the earthquake, only 50% of schools and only a small percentage of health facilities were able to be rebuilt. Unless we are willing to learn from the ineffectiveness of unsustainable approaches, we will continue to deprive our communities from reaching the targets that were envisaged in the Millennium Development Goals (MDGs). The MDGs have not been met, obviously, when our approaches are so totally off track.

Next, the points I present are the approaches adopted by most aid givers in Pakistan. As a result, in spite of the injection of enormous funds, communities are, by and large, left helpless and dependent. Please forgive me if I sound a little harsh, because while being grateful as a nation for the generous assistance that Pakistan has received from the UN agencies, INGOs, and donor governments, I believe there is an urgent need to revisit humanitarian aid procedures, since distribution of charity has resulted in making affected populations into supplicants and beggars, shorn of initiatives and self-worth.

What I see in the proposals I read are the implementation processes that we see in countries like Pakistan. I believe there's a lack of sensitivity and knowledge of each country's cultural heritage. Very few organizations actually look into that. We find imposition of inappropriate urbanized solutions in rural areas with minimal contributions from local technical expertise. Everything is flown in from

outside and is implemented without seeing whether it's relevant to the area that it's being built in. There is lack of emphasis on research and development for devising sustainable solutions, utilization of high carbon footprints, or high cost models.

Somehow, as I think Terry said in his presentation, it is that all the time we are looking at what we want from people, rather than what people really want for themselves. There is a lack of environmental impact studies when building thousands of units. I don't believe, to my knowledge, there is any study that's carried out when 25,000 poplars are hacked in Swat to build 1,000 emergency units, or on burnt brick structures, or on the use of steel girders or the use of cement concrete.

There is an absence of involvement of local women. I address the issue of how there are hardly any women—perhaps a larger percentage of woman in countries like ours—involved in any of the processes. Of course, lip service is paid. People do talk about women having to be brought into it, but hardly any women are actually made to work or be involved in the process.

I also have to say that when a disaster occurs, it's really the women and children that are the worst sufferers, and somehow that understanding is also not there. This is the reason why women have to be brought into the whole scenario; they have to be brought into doing everything that has to be done as far as DRR is concerned.

Then there is the lack of providing training for technical competence of communities. The solutions that are brought in are difficult because they are urbanized, and many times they do not relate to people's lives, and so hardly anybody learns. So, it is really people being brought from outside who come and construct.

Then, there is not much emphasis on disaster preparedness. We talk about it, but actually these things are not happening. There is a lack of integrated approaches and an absence of coordination between different organizations pursuing different goals. So, for example, shelter, WASH, literacy, food security, water harvesting, or whatever—these are being done by different organizations, and nobody is trying to take an integrated approach.

So, the interventions pursued by well-meaning aid providers have so far failed to lift majority of the people out of the morass of apathy, and so they continue to remain highly vulnerable. Without a coordinated and integrated approach and with a lack of opportunities, and strategies, the sequel is likely to

remain unsatisfactory. Please, I do not want you to get the impression that I'm criticizing anybody. I think this is the way the policies have been drafted, this is the way the system works, and every organization is obviously following that. But this may be the time to think about how we can bring about more integration.

If one agency such as, say UN-Habitat, pursues shelter in certain villages, the other pursuing WASH, such as UNICEF, is likely not to have a presence in the same village, nor FAO to provide food security. And all these organizations have enormous work in Pakistan. So this is not, as I keep on saying, is not to criticize them, but this is the way the models have been presented, this is the way they operate in our country. This approach results in a highly fragmented and disjointed outcome. The funds invested are largely wasted or at least not able to attain the required resilience—that elusive factor that all of us are aiming to achieve.

I suspect this may be the result of the much-hyped UN cluster system, which, as I'm sure all of you must be aware, was devised during Pakistan earthquake 2005. It might have been beneficial once, but it has now sequestered each activity into seemingly watertight compartments with no overlap or attempt to developing an integrated approach. Due to the lack of studies or environmental impact assessments, we are inflicting greater damage due to reconstruction in place of vernacular sustainable construction that were there prior to the disaster. The urbanized 400,000 housing units using concrete and steel, built in the aftermath of Pakistan earthquake 2005, have been hugely detrimental to the environment, contributing greatly to the increase in carbon emissions. I suspect that the World Bank and Asian Development Bank had another objective, and that was to build industrial complexes of cement and steel in Pakistan, forgetting about what the people really wanted.

So what was needed was to provide technical improvements to vernacular construction methods, and I believe Dr. Langenbach will be talking about it later in his paper about *dhajji dewari*, which is in Kashmir, northern Pakistan.

Now, this slide is really to show you some of the models that are being imposed on rural areas: they are highly urbanized, and as you can see, the use of burnt brick, the use of steel girders, reinforced concrete frame, and again brick infill and precast panels—these have nothing to do with the rural areas of Pakistan, but they are imposed all the time in all

parts of the country. Whether it's the mountainous area or whether it's the plains, this is what is being taken up everywhere.

There is a study by Magnus Wolfe Murray, whom I hold in the highest regard. He is a DFID advisor or was until sometime ago, and he calculated that if 100,000 units were built of burnt bricks, then there would be a carbon emission of 316,470 tons because of the kilns' use of wood in firing the bricks and deforestation to the tune of 50,770 acres for 10 years. This does not take into account the energy that is being used for creating, fabricating, or making cement and steel.

So, you can see the huge amount of damage that this kind of construction is causing in countries like ours or anywhere in the world. In our studies, we have seen that the unfamiliarity of rural artisans with utilization of burnt brick, concrete, and steel joints results in poor construction, leading to collapse of many structures that were built in response to 2010 floods, by INGOs and by the UN system itself. Heavy material such as reinforced concrete beams or steel girders, when poorly built, have been seen to inflict greater harm when they collapse during a disaster compared to those built from mud and bamboo, which are fairly light.

Next, I would like to show what we are trying to do (Fig.1). You can see the isometric of a small unit, a one-room shelter using mud in the walls, bamboo for the roof, and again a layer of mud on the top. Another example shows the HF-IOM model where Heritage Foundation of Pakistan is the technical advisory partner, and IOM has gone and built these. It is clear that if the impact of climate change is to be mitigated, we need to reduce carbon emissions during emergency assistance as well as during post-disaster reconstruction. This requires innovative, out-of-the-box solutions so that the emphasis is on self-building, self-motivation, pride, and self-worth. Without these ingredients, the core poverty issues will not be addressed and resilience will remain elusive.

The Build Back Safer with Vernacular Methodologies program devised by us after the 2010 floods in Pakistan has resulted in the largest zero carbon—or low carbon footprint shelter program in the world, due to a collaborative arrangement with IOM, as I said, and the funding had mostly come from DFID, for this purpose. The specially designed units rely on the use of lime as a stabilizer for mud, which also provides weather resistance resulting in its popularity among the communities and nick-

named KatchaKot, which means “unfired clay fortress.” They were very hesitant to use it in the beginning, but when the rains came—and the rains came every year—they found that the houses were solid, and they did not disintegrate, and so they are known as unfired clay fortress.

The use of lime is directly drawn from traditional construction techniques. For instance, we find it in the Buddhist stupas of early 8th century and in many later period structures built by the Mughals and later by the British in the subcontinent of Pakistan and India. So you can see that the cost is only \$300, which actually IOM provides. When we get involved in the communities, it’s only \$100. Compare this with the other models that I showed you earlier, which cost between \$1000 to \$1600 per unit. So, this is the kind of economic trade-off, if you like, that we could also have if we were to use sustainable materials.

These next images show how immediately after the completion of a unit, the sense of ownership is manifested. Since the techniques and materials re-

sound with their own aspirations, it is a woman who brings about her own artistic and creative sensibilities. Each one of the units is personalized and becomes a showcase for the resident’s pride. This unit is the first unit built, where 15 people climbed on the roof and they felt that, yes, it was safe enough. This was how we proved that it could be done. It’s incredible how women translate their own creative abilities from their crafts into the folk painting that they do on their own houses, making them from a shelter into a home. So this is something that is important for us to allow the communities to be able to do.

So using the basic material of mud, which they are familiar with, strengthened through technical interventions, the lime-stabilized mud walls carry strong bamboo joints. When fully treated, they are expected to last at least for a quarter-century. These roofs are accessible and provide refuge to families during floods. The same materials have been used successfully in seismic-prone areas after the Awaran earthquake in 2013 through the use of bamboo lat-

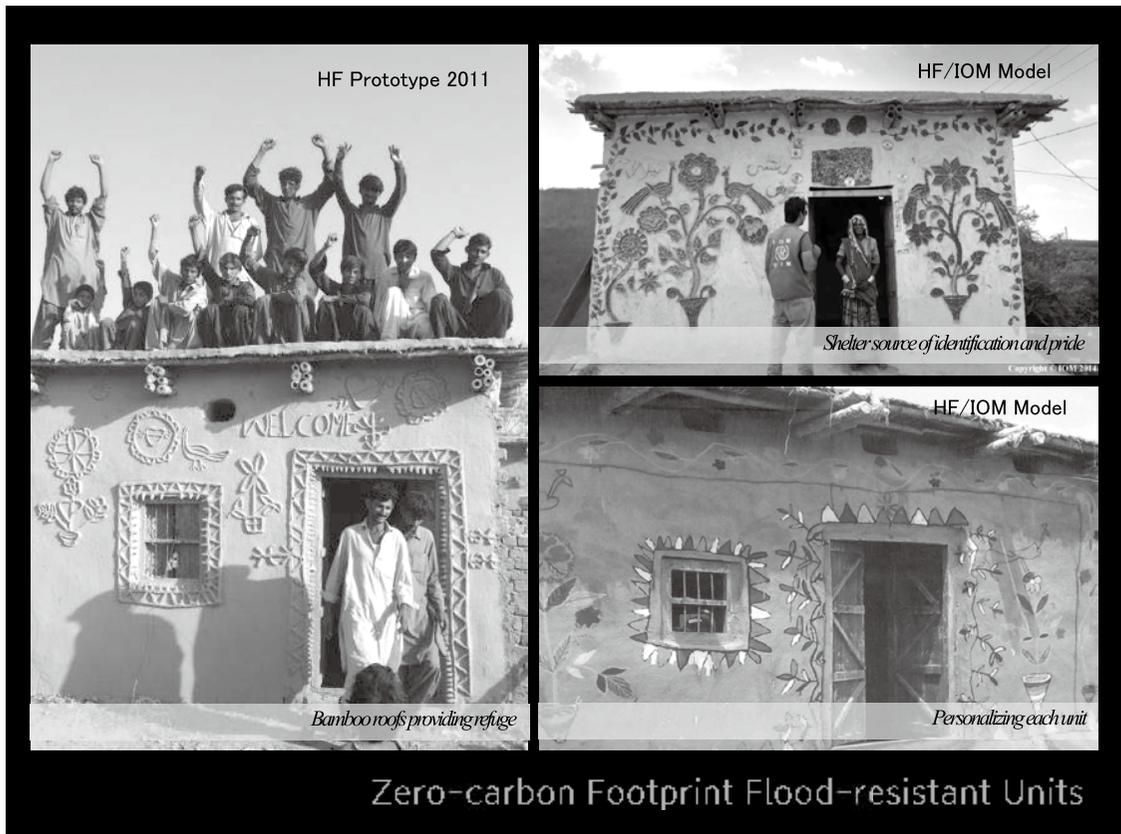


Fig.1: Zero carbon footprint flood resistant units

tice in corners and in walls. So this is something that we can do and we are pursuing religiously—just primarily the use of mud, bamboo and lime, which are all sustainable materials.

Next, since all structures built must contribute to flood preparedness—and there was a mention made of places like Bangladesh, where the people live with floods—there is no reason why these can't be designed to be strong, as the example shows, particularly where these are in floodplains. Every year these communities are confronted with floods, but for the last 4 years, they've survived pretty well.

So what we propose is that all community buildings should be designed and built to provide refuge to vulnerable groups and family groups. The safety of these is of extreme importance: schools, women's centers, and health clinics are all designed to provide safety during floods. These are all sustainable buildings using unfired clay or local stone, lime, and bamboo. What you see in the slide on the top is derived from the *dhajji dewari* construction method, which normally uses wood. Here we have translated that into the use of bamboo, so it has become much more sustainable.

Another thing that I feel very strongly about is that DRR themes have to be brought into the mainstream. Right now, they are hidden away into the area of floods or somewhere else, and really the general public has no idea that everybody must now prepare for disasters. And so we have a theme park. The examples show the theme park, and an eco-village built by the Heritage Foundation of Pakistan, which presents the essential elements for disaster preparedness at the community level. A variety of green skills are imparted here, but most of all the settings provide a holistic model ranging from shelter, to WASH, and hygiene as well as technical training for alternative income generation. The presentation areas allow for large gatherings in order to mainstream the significance of disaster preparedness.

The venues are now utilized with great enthusiasm, particularly by women and children. It is those women who are stepping out of their own houses, which is usually unheard of. The fame of this education has spread, and large groups are brought to the training venues for making green products, which foster really the coping mechanisms as well. At the same time, trainers are taught about marketing—enabling villagers and participatory self-building techniques. I have to say that I'm also surprised myself of the great success that we've encountered,

Because everybody, even the villagers, who have seen such structures before, since they are all drawn from what they have had, are still surprised and delighted to see that this could be done.

This is a matrix, showing how you can transform lives (Fig.2). With \$30,000, can you build a village of 100 households? This is the proposal that we've done, and we've actually put it into practice because, just recently when last year we had this Emirates' Greener Tomorrow Award, one village was transformed in 6 months. I will not go through the whole thing now, but very quickly, I might just tell you that a lot of these are zero-cost solutions. The DRR center is where all the training takes place. In the villages where we operate, this costs about \$5000. The shelters are only \$100 which people themselves can build and do a lot of things, aside from the materials that we provide. There are the eco-toilets, which cost about \$60. There is a raised water pump costing \$80, there is smokeless stove, which costs zero because it can be done by people themselves. There are platforms to place your water and your other goods onto, so that you are safe from floods.

I have to say that people who suffer the floods are equally concerned about them as they are about earthquakes. I have to tell you that when women and children are in water, they don't really like it. They want to do something about it, and we have to train them so that they will not be in water again. We can do it. There are lots of things which are of zero carbon footprint and zero cost, and there are others which cost a little bit more. In this, I have also added how we can start up schools that might otherwise be defunct. Core poverty issues relate to deficits of all kinds, especially health and especially education. There is a huge amount of illiteracy, and we have got to tackle that if we want to say that we want to make resilient communities.

There is also farming on the roof, which is again, zero cost. There are animal enclosures that are separated. They make compost out of the dung and whatever of the animals, and they sell, and they are all making money. This is something that is happening and that can be done, but it requires a huge amount of effort into the training of people, which is not really being done at this time at all—or very little. So, I think that building up the capacity of people themselves is the key to building stronger communities.

Lastly, I would like to show you how women actually can be trained—that they are the ones who can actually bring about a transformation (Fig.3). They

are the ones who are working on the landlords' land, because they have no land of their own. Most of the people are *haris*, which means that they are landless, but because we work in mud—so nobody is threatened—the amazing thing is that no landlord has ever stopped us from building houses for the people.

And this is what is happening today, and you can see the women. They are non-literate and neglected, but they require uplifting and they can do huge amount of work. So, the system of training Barefoot Village Entrepreneurs, BVE, provides the women the skills that they use for alternative income as they provide guidance to others for making sustainable green products.

The creation of BVEs is helping to rapidly spread technical competence among rural women. It is also political in some ways because these women are becoming very smart, and very bright, and very outspoken now. The most recent example is that of a village woman, Champa, who has successfully targeted a dozen neighboring villages to guide the pro-

cess of over 2000 fuel-efficient smokeless stoves—earthen stoves. She now earns over \$500 per month compared to the earlier \$30 per month. She charges a fee of \$2 from each housewife, and she trains them how to make stoves, and the women do it themselves.

Rural master trainers conducting training sessions with the use of drawings, images, and tablets to impart technically sound techniques was once thought to be unheard of. Non-literate village women have learned to do layouts, provide lime concrete in the base, slake lime, make mud bricks, and carry out construction of various elements.

This is all possible with women, and they are the most neglected part of all our country. We really have to bring them up, because there is a hunger in them to learn and to get on and do things, because there is a whole one year between floods, when all the village people can actually get together and develop preparedness. What we have to do is to get down to them, to catch them at that time, to train them, and to let them build so that nobody else has

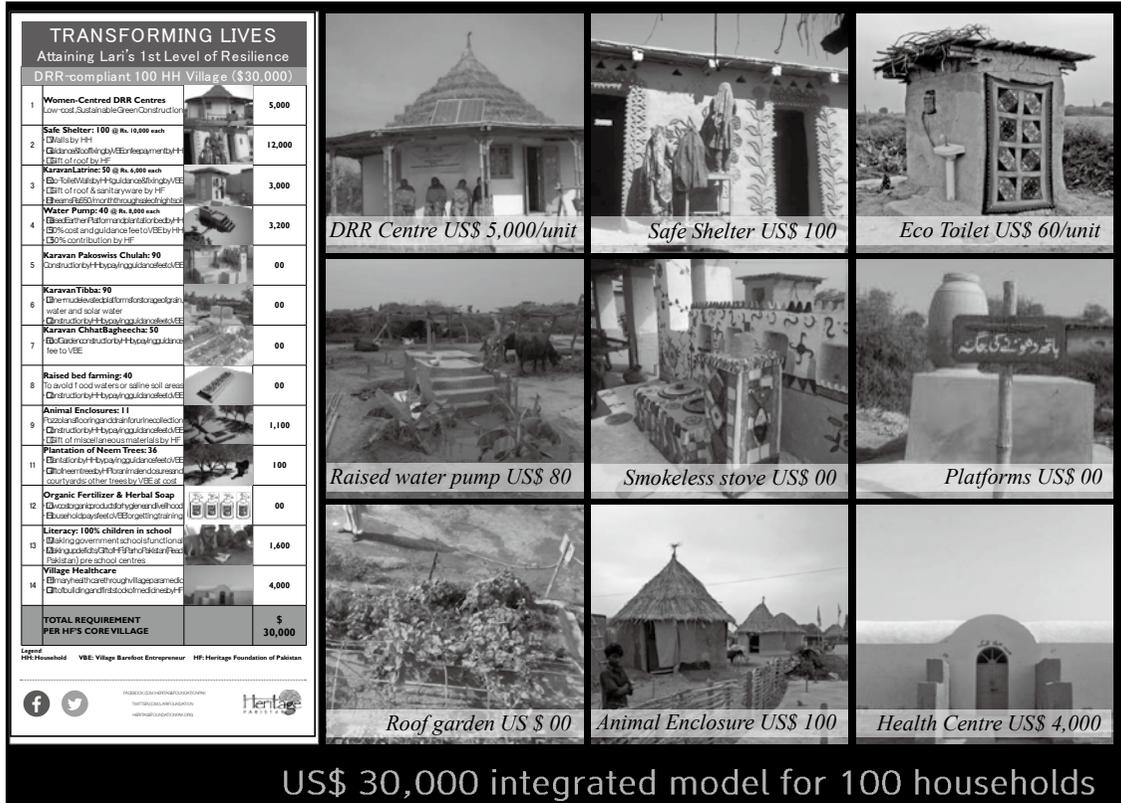


Fig.2: US\$ 30,000 integrated model for 100 households

to come in and do anything—they can do it themselves.

The DRR-compliant earthen fuel efficient smokeless double stove here is our most popular product to date, which is helping to lay the foundation for further work in these villages. These examples are showing the isometric that we did, and then how the women made their own innovations. This is the amazing thing that is happening just with mud. Each trainer is a social franchisee, and each Barefoot Village Entrepreneur is earning by marketing her product and by teaching others.

I will not go into the amazing transformative effect that the lowly mud stove has spawned. Each one evokes the pride of the owner and her creativity by personalizing it so that not one is the same as any other. She is now able to provide hygienically cooked food to the family and sits on the elevated earthen platform as a queen as she dishes out meals to the family. The hand washing arrangement prevents waterborne diseases and all the utensils are neatly tucked away in the niches of the storage wall.

This woman's status in society has risen, and the stove has become the family dining space when once it was on the ground amidst unhygienic surroundings. Earlier, Terry Cannon also gave suggestions and said there should be more concrete suggestions. I have some concrete suggestions. You can read them, and maybe we can discuss them later.



Fig.3: Social cohesion, self-respect and resilience

## Keynote Presentation (3)

### Cultural Heritage and the Resilience of Communities

Takamasa Saito  
Councillor for Cultural Properties,  
Agency for Cultural Affairs, Government of Japan

The title of my speech today is "Cultural Heritage and the Resilience of Communities." Before proceeding, however, I would first like to show everybody a short 6-minute video on this topic. It contains a message which Japan wishes to convey to all.

(Video commences)

#### **Cultural Heritage and Disaster Resilient Communities" (Summary)**

*Cultural diversity and cultural heritage form essential foundations for human-centered social economic development, and yet every year, precious cultural properties are lost to disasters around the world.*

*On the 11th of March 2011, Japan was struck by the Great East Japan Earthquake and the tsunami that followed. More than 15,000 people lost their lives. Even today, 2600 people remain missing. Four years after the earthquake, many residents remain in temporary housing, some in the same distant locales to which they were originally evacuated.*

*This disaster also caused damage to Japan's cultural heritage. In 19 prefectures, there were 744 cases of damage to cultural heritage safeguarded under the cultural properties protection law. But, of course, these statistics account for only a fraction of the actual damage to Japan's cultural properties.*

*In the seaport community of Kesennuma in northern Miyagi Prefecture, the tsunami washed over areas of the city facing the bay. Of Kesennuma's seven registered heritage buildings, one was swept away completely, while six sustained serious damage. Though these historic buildings were originally given up for loss by their owners, they received support from the local community and from Japanese and overseas private funders. Today, they safely await full-scale restoration.*

*The earthquake's shaking and liquefaction also damaged a nationally important preservation district located in the city of Katori, in Chiba Prefecture. Despite the damage, members of the local community elected to hold their annual festival according to schedule in 2011, in hopes that it would aid in the recovery effort. This coordinated community ap-*

*proach to recovery, in turn, engendered great support from within Japan and from abroad.*

*What was the motivating force behind these successful recovery efforts?*

*The impact of the Great East Japan Earthquake is not limited to tangible cultural properties, such as buildings, historic sites and famous locales. Intangible cultural heritage, such as festivals and annual events also suffered damage from this disaster. For example, the props, costumes, and masks used for traditional dance forms, as well as many of the individuals who embodied living cultural traditions were lost in the tsunami. In some regions, communities were displaced and scattered. However, many survivors of this natural disaster found the impetus to recover through the shared culture that had been preserved within their local communities.*

*With help from private and corporate funders, neighboring communities, and civic groups with related cultural traditions, the impacted communities have repaired or remade their festival costumes and crafts, and people are once again praying, performing, and dancing.*

*In Japan, intangible heritage supported the resurrection of spirit, and tangible heritage supported the inheritance of memory. They both provided the vital energy needed for the rebuilding of lives and the recovery of communities.*

*In the chaos after the Great East Japan Earthquake, government, academia, industry, and community-based organizations worked together to try and contain the loss and damage to heritage. For movable heritage, more than 6,800 exports contributed to the rescue, emergency treatment, and temporary storage of heritage objects at 90 locations in the four of heavily affected prefectures. In the realm of immovable heritage, architects surveyed the damage to over 4,000 buildings. One important challenge going forward is how to maintain and expand this network into the future.*

*Regions all over the world face disasters, and when disaster strikes, it is culture that has the power to inspire people in affected areas to restore relationships and to regain the energy needed to rebuild their lives.*

*This is why it is so essential that we turn our attention to the cultural heritage at the foundation of our daily lives. As we continue preserving this heritage, we must also ensure its inclusion in regional and national disaster plans. Regular efforts to build capacity, to promote research, to develop networks, and to establish partnerships are also essential, and we need to enrich international collaboration through existing systems such as the International Committee of the Blue Shield.*

*Cultural heritage is a cornerstone of disaster resilient communities. It is up to us to ensure that cultural heritage, along with the communities that harbor it, is safely preserved from disasters so that it may be handed down to future generations.*

(Video ends)

Figure 1 is actually one of those used in the video. It was kindly made available by Aparna Tandon from ICCROM. It shows a statue of the Virgin Mary, which happened to be saved from the rubble



Fig.1: (Photo by Aparna Tandon)

of a church that collapsed during the Haitian earthquake. As you can see, the area surrounding the statue has been cleared away and some plants placed around her.

Figure 2 shows some of the devastation inflicted upon Kesennuma by the Great East Japan Earthquake. On the streets of a city catastrophically damaged by tsunami, you can clearly see a red torii, the archway of a Shinto shrine. In actual fact, residents living in the vicinity wanted to rebuild this torii, which belonged to Ikkejima Shrine, even before they repaired their own homes. The earthquake struck on the 11th of March 2011. I have been told, however, that the local community still managed to hold their regular major festival a mere six months later in September.

In showing you these photographs, I would like to focus upon a similar cultural phenomenon that seemed evident in Haiti and Japan. As human beings, we need to be sensitive to this sort of cultural power which can arise in the wake of a disaster. What drives this sort of power is that the cultural heritage in question enjoys a close affinity with the lives of the people. Moreover, among this cultural heritage, there are many examples of that which is not subject to the protection of legal provisions.

As was also introduced in the video, of the total number of items of cultural heritage which are safeguarded by the cultural properties protection law, the Great East Japan Earthquake inflicted damage in 744 cases, the impacted items being located in some 19 prefectures throughout the country. Of these 744 cases, for the 92 where the damage inflicted was especially severe, the Agency for Cul-



Fig. 2: (Photo by Kumiko Shimotsuma)

tural Affairs has made use of national subsidies to fund restoration projects. To date, the total budget allocation for these projects is approximately ¥89 billion, with restoration in 79 cases (or 86% of the total) planned for completion at the end of this month (March 2015). For such items of cultural heritage, which deserve to be preserved by the nation, restoration support activities have continued. However, as is always an issue when confronted by a major disaster, the problem is how should those cultural properties which fall outside the protection of the legal provisions be saved and their restoration supported.

Concerning those cultural properties that the nation is unable to support financially, the Commissioner of the Agency for Cultural Affairs has cooperated in calls for donations, which have been made by the Foundation for Cultural Heritage and Art Research, and also by the Japan National Trust. At the Foundation for Cultural Heritage and Art Research, in addition to its cooperation with the Agency for Cultural Affairs, by it both coordinating and cooperating with organizations such as Samsung Japan Corporation and the World Monuments Fund, etc., it had successfully secured some ¥370 million in donations as of May 2014. From 2012 to 2014, the Foundation for Cultural Heritage and Art Research subsidized roughly 160 projects. At the Japan National Trust meanwhile, the Natural and Cultural Heritage Recovery Support Project was established in May 2011. Furthermore, by May 2014 they had collected approximately ¥66 million in donations. This money has subsequently been used in the support of some 41 projects.

In the wake of the Great East Japan Earthquake, due to community relocations and land-usage revisions, numerous large-scale development projects

have resulted. Such projects in turn have created the necessity for a balance being struck with respect to archaeological cultural properties. Against the backdrop of there being the desire for a speedy recovery, such a set of circumstances is a classic example of a situation whereby cultural properties may come to be regarded as a form of shackle. However, it should also be recognized that underground relics represent important evidence that is capable of conveying the history of local areas. Thus, steps have been taken by the Agency for Cultural Affairs and by various regional bodies to both secure funding and enhance systems. Then, while responsibly informing local populations, efforts have been made to quickly survey the applicable sites. Figure 3 shows an archaeological dig occurring in the foreground, while preparations for a residential development continue behind. By proactively displaying to local residents the results of the archaeological digs that have been undertaken within the context of the surrounding restoration projects, some of the excavated ruins were subsequently adopted as a symbol of the contemporary recovery efforts. There have also been examples of major parts of archaeological digs subsequently being retained and preserved within the areas of land that had been allocated for the construction of disaster-recovery public housing. While on the one hand there has been loss of cultural property within the context of the Great East Japan Earthquake, on the other, due to the reconstruction undertaken by regional communities, there have been discoveries made as to the possible benefits that both culture and the cultural heritage might offer.

Through accumulating, analyzing and sharing information that deals with a great variety of such cases, and by then strategically formulating the results thereof, I believe we will find that a future objective of disaster risk reduction is to enhance the manner in which cultural heritage is normally protected. Furthermore, to fulfill the basic mission of the Agency for Cultural Affairs, which is to save as much cultural heritage as possible, and to improve our emergency chains of command, so that we may also swiftly engage in rescue activities, we are currently considering steps that shall allow us to quickly enhance those networks that we share with related parties. What is more, with respect to the local disaster-prevention plans developed by various regional bodies, we feel that support should be offered to enhance the cataloging of heritage items. The information thus generated will constitute ba-



Fig.3: (Photo by Archaeological Center, Iwate Cultural Promotion Agency)

sis data that can be used in the event of future rescue activities.

Additionally, in order to contribute to resilience, we also believe that steps should be taken to further enhance our cooperative relationships with relevant ministries and agencies. In the case of Kesenuma in Miyagi Prefecture, featured in the video, within the Post Disaster Needs Assessment (PDNA) initiated by the Ministry of Land, Infrastructure, Transport and Tourism, which paved the way for the subsequent recovery efforts, was the inclusion of a heading dealing with historic communities. In Kesenuma, while the buildings recognized as cultural properties, which were located in the vicinity of the bay, were greatly damaged, further inland many

historic structures remained along the city's streets. Thus, what the findings of this PDNA allowed for were proposals arguing that the city's historic environment should be given some consideration within the wider recovery process. Such arguments are linked to the current restoration of the cultural heritage buildings.

Although much remains to be done, the Agency for Cultural Affairs is deliberating as how to best follow up on the measures taken in response to the Great East Japan Earthquake. We are doing this to leave the nation's cultural heritage in an even better state, and also to assist in the creation of disaster-resilient communities.

## Overall Discussion

[Facilitators]

Giovanni Boccardi, Kumiko Shimotsuma

### **Joseph King:**

I would like to address my first question to Terry Cannon. You mentioned in your presentation that you were not convinced with the definition of some words, particularly “resilience,” “sustainable development” and “community.” With regard to “community,” it was quite interesting to hear your idea about the diversities or complexities within a community and the needs for understanding them. I would like to hear your proposals for replacing the definition of “resilience” and “sustainable development,” as I agree with you that these are jargon words and they mean different things to different people.

I don’t recall that “resilience” was a very prominent word 10 years ago in expert meetings like this. It has blossomed, for the last 10 years, into a popularized directional term. My questions to Terry Cannon are how we can avoid jargon, and what are you suggesting in terms of replacing its concept.

### **Terry Cannon:**

Thank you. What we have to think about is the politics or the power that are underlying the terms. When a term becomes a buzzword, it becomes convenient to organizations and governments that want to use the term for their particular purposes. The previous dominant concept was not “resilience” but “vulnerability.” I would say that you need to explain why people are vulnerable when you use the word “vulnerability.” On the other hand, you can leave out the explanation when you use the word “resilience.”

Nobody can be against the idea that we need to be more resilient. But the issue is why people are not resilient already. The explanation of why people need resilience is missing when the conceptual term is used in this way. I think it would be politically convenient for those who like to use the jargon words to avoid talking about the causes. What we exactly need to do is to look at the causes and to illustrate why people need to be resilient.

I used a similar argument about community. When the word “community” is used, it avoids looking at causes of the vulnerability within communi-

ties. However, vulnerability is actually generated at various community levels, including landlords, local residents, or local politicians. What we really have to understand and what we should not avoid is the fact that there is exploitation and oppression going on in these places. Therefore, my concern about the use of conceptual terms like these is that they are embedded in politics and that a political behavior usually tries to avoid looking at why a problem exists.

The same is true with the term “sustainable.” Sustainable is now used widely and conveniently by politicians in Britain, who don’t seem to have a clue what an original idea of sustainability was, shown in the Brundtland Report (1987), as an example.

Now, what buzzwords would I use instead? I would like to talk about the question by using the term of “development.” Development, if it’s done properly as we saw from some wonderful examples in the presentation by Yasmeen Lari, is going to be sustainable and it doesn’t need the word “sustainable” to be there. And development is defined as the improvement of people’s well-being.

For the last 10 to 15 years, development has replaced by the term “growth” or “economic growth.” Under the cover of the development, we have to drive economic growth that will eliminate poverty. However, I don’t believe this logic. It is economic growth that is causing the problems, I consider. We actually need to understand the politics that are underlying these words and concepts and the causes of the problems.

### **Giovanni Boccardi:**

Thank you. I would like to ask you where culture and heritage would fit into the definitions that you mentioned.

### **Terry Cannon:**

There was a slide which I didn’t show you during my presentation. In the slide, I’ve tried to link ideas of culture and heritage to power relationships. Culture means many things, and we know that culture is a reflection of class systems. In the Western Eu-

ropean world; we have what is commonly called “elite culture,” in which people go to enjoy operas or symphonies. On the other hand, we have “popular culture.” These reflect a class system.

Much of the tangible heritage that we’re talking about in the world is related to elite culture. They are cathedrals, temples, places of power and authority, which often survive over centuries because of good materials and craftspeople.

When disasters destroy material culture, while elite culture survives, we have very little of popular culture left in many places. What I would ask is that we actually start interpreting material and non-material culture through the understanding of power relationships. In most of their lives, people don’t take the main hazards seriously. Their priority is their everyday life, food on their plates, jobs, traffic accidents or sickness.

If people are not able to give priorities to the serious risks that they face, how can we expect them to take heritage seriously, especially when it represents elite culture? This is what I would like to argue at this meeting. How can we make connections among development, risk, culture, beliefs, and heritage? Building those links is an important challenge at this meeting, and we need to pay attention to a power system that is always embedded in this issue.

#### **Randolph Langenbach:**

I find the whole presentation by Terry Cannon extremely stimulating and interesting. From the standpoint of the work I’ve done, the word “resilience” is useful. In the fields of structural engineering and architectural conservation, talking about structure and earthquakes, strength has proved wanting in terms of the problems that I see.

In India, they say that pucca houses built of durable materials like brick, stone, timber or cement are strong, and kucha houses built of earth and organic material are weak. However, occasionally, pucca houses that supposed to be strong fall and kucha houses that supposed to be weak remain standing. The word “resilience” is good to make out what we are really trying to achieve in the structural engineering aspect.

I also enjoyed the presentation by Yasmeen Lari particularly the typology of new buildings she has done. She mentioned that they are actually flood resistant by means of mud walls or plinths consolidated by lime. I am wondering how you stabilize the superstructures made of mud for water infection

and how they have proven to be resistant.

#### **Yasmeen Lari:**

Thank you for the question. For the longest time everybody has thought that mud is not worth using as a building material, and Kucha is vulnerable.

In my experiences in a heritage field, I’ve used lime at various places, from the beginning and still today. I recognize that lime is not only resistant to weather, but also useful as insulation.

As Randolph Langenbach pointed out, there are places where flood water comes to the approximate height of 6 inches and consequently many buildings are destroyed. So, every time the plinth must be made higher than the recorded highest flood level, and then, I use a lot of lime over the building, particularly at the top part and the foot part. The top part has to be protected against heat, and lime has heat-resistance. The base is made of concrete reinforced by bamboo and lime, as lime has water-resistance. For the render, lime and mud are used to provide weather-resistance.

We studied the whole of Pakistan and recognize that there are different aspects in different areas. We need to have a solution for each one of them.

#### **Aparna Tandon:**

I would like to thank all the three speakers today for giving us a very good start. It is an excellent start to this conference.

I would like to make my first comment to the presentation by Terry Cannon. I agree with the idea that there are power plays, that there is an elitist culture, and that we are still discovering our real heritage. On the other hand, I consider that there is a dichotomy when we have to look at heritage from the viewpoint of power play. In the dichotomy, we are at risk of treating people as mere biological entities who just need or only worry about food, water, and shelter.

My second comment is to the presentation by Yasmeen Lari. She illustrated that, when they are looking for shelters, women want to paint them and decorate them. So there rests my argument that people are more than mere biological entities and wherever they are, they create an environment. There is a little more sophistication needed when we are talking about recovery, reconstruction, and culture.

#### **Paula Holland:**

I would like to thank all the speakers in this morn-

ing for very interesting presentations. My question is to Yasmeen Lari. In the Pacific, we are extremely and increasingly reliant on a cluster system as a way of getting different agencies to talk to each other, to become aware of the needs of each of the sectors, and to come up with some kind of holistic response to disasters. Therefore, I am dismayed to hear that this is ageing in Pakistan and I was interested to hear a little bit more about how it is not working and if you had any recommendations for improving it or alternative options to support that coordination and communication.

**Michael Turner:**

Thank you to the three speakers for a very stimulating start of the discussion. I would like to ask all the panelists about “vernacular solutions” such as repairs made by women in Pakistan. Do you feel that all disasters are in vernacular areas? Are we now in a situation that there are disasters in areas where the vernacular is less relevant to tradition that exists in a more universal area?

**Giovanni Boccardi:**

I understand that there are comments and questions to Terry Cannon and Yasmeen Lari. Aparna Tandon emphasized the fact that human beings are more than just biological beings. Paula Holland asked if you had any recommendations to help coordinating response of different humanitarian organizations. And Michael Turner asked you what you would do if disasters happen in a place with less traditional knowledge or vernacular buildings. Terry, you have the floor, then Yasmeen please.

**Terry Cannon:**

For Aparna Tandon’s comment, I don’t think at all that we have a difference on this. I said that people give priority to food, malaria, water, traffic accidents. These are the empirical results done around the world on what is called vulnerability and on capacity assessments. NGOs, the Red Cross, Red Crescent, and almost every country, especially developing countries, have done thousands of them. When you ask people what your risks are, these are the typical responses that they give. Therefore, I’m not playing down the fact that culture is important, but reflecting what people worry about.

What you’re saying about the importance of peoples’ non-biological behaviors and their needs is absolutely right. In a hillside community, a researcher found that people are more willing to

spend money on the annual festival of the place than disaster risk reduction. The reason is so logical, that the festival, which brings people together to create the clothes or to practice dances like at samba schools in Brazil—I mean samba schools, which are attended by some of the poorest people in big cities in Brazil—is a way of having their place in the society.

What I’m trying to get at is a mismatch between organizations and people. While organizations claim that they are wanting to help people to do disaster risk reduction, in fact, people do not want disaster risk reduction and they want the other things to be solved first.

In the book entitled *At Risk* that we published in 1994, there is an argument that you cannot deal with disasters separately from dealing with development. The two have to go hand-in-hand. It is absolutely pointless that disaster experts go to a village in a country and say “we are coming here as experts to help you deal with typhoons, volcanoes, or earthquakes.” After all, people will not be interested in disaster risk reduction unless you also deal with their everyday needs. It is after you have done that you can begin to get people to be interested in solving the problems which may not come for 5 years or 100 years.

**Yasmeen Lari:**

What Aparna Tandon said is at the core of the whole discourse today, I think. As I always say, if you can bring pride among people to what they do, half of the battle is done. If they know this is something that is going to belong to them, they have a pride in it and a stake in it, then they will take care to build in the way that we want them to build.

The problem is that, whenever particular questionnaires are circulated, culture doesn’t appear in any one of them. They only ask if you need food, water, or shelter. Therefore, I think that all disaster aid agencies also need to ask people what is valuable for them, because the question might bring us other answers.

We do a lot of heritage work apart from disaster aid. For instance, we have recently developed an inventory of 1000 sites in Sindh. Through the work, we recognized that each one of them is vulnerable, located in far-off areas, and a part of popular culture. Even stupas, mosques, or shrines, relevant communities actually built them and there is no elitism aspect at all. However, even at World Heritage sites such as Mohenjo-daro, we can see a case of

community involvement.

If people come to work together and start to take pride in the work, they will safeguard the heritage as their own property. Therefore, we really have to change our on-site behaviors and operations. While we usually operate through high level expertise, we should drill down the problem at the lowest level. That is what I am trying to do.

With regard to the Paula Holland's question, it is an issue that has bothered me for some time and even now. Many well-meaning agencies have come to help us but they are in different compartments. For instance, one agency has its mandate to build 25 shelter units in each village, and completes its task at one village-A. But the village-A has water supply problems. There actually is another agency who conducts water supply work in a neighboring village-B, and it comes to the village-A to develop a water supply system. Then, a food supply issue comes. Everything is happening in a very fragmented manner like this, as villagers cannot understand how they can handle disasters comprehensively from a fraction shown by one agency.

Each agency should do its own work. That is fine. But, it should work in a suitable way for the community. Therefore, we need to provide a model in which each agency's work can become useful and effective, and that people of the place can manage its products. How to bring a good coordination among all the relevant agencies is a big and important issue. We need to discuss a little bit more about how we can resolve this issue and how we can develop our recommendation.

Let's move to Michael Turner's question. I was so impressed by the video that shows Japan's recovery efforts after the 2011 earthquake and tsunami. While I admire some rich and wealthy countries' efforts, I do not consider that I can copy these in my country because of many issues including less concern by the Government, poor coordination system, and insufficient funding. Poor countries or low-income countries need enormous amounts of help and we have to have different strategies for them.

If a huge disaster happens in the Third World countries now, communities become vulnerable. Another following disaster would make their vulnerabilities lower. As I mentioned, the core of poverty is a real big issue. Unless immediately tackled through development, we will not be able to reach our goals. We have to find a different way of supporting particular communities in the Third World.

#### **Akatsuki Takahashi:**

Let me talk a little bit about the cluster system. After the Cyclone Evan hit Samoa in December 2012, I participated in PDNA with an expert from the Japan ICOMOS. We took part in the damage assessment from the viewpoint of culture.

The results of this assessment were used in some other PDNA fields, including housing, environmental protection and tourism. This gave me an impression that culture has intrinsically close relations to various elements of national development above and beyond the conventional field of heritage, museums, libraries, or archives.

I just wanted to share this information after the wonderful presentations.

#### **Giovanni Boccardi:**

PDNA will be discussed in another session.

#### **Timothy Curtis:**

Some important issues appeared from the presentations in this session, particularly coordination among organizations, and culture of organizations. Both in theory and through experiences, I understand that the coordination issue is quite often linked to the culture of organizations.

My question to Terry Cannon is if there are any good ideas or plans to deal with these issues, for example an ethnographic approach to start unpacking and restructuring these organizations in a more systematic way. Whether it is in the area of disaster risk reduction, economic development, or humanitarian affairs, this is actually a big problem.

#### **Giovanni Boccardi:**

Before Terry Cannon responds, I want to talk about the facilitators' difficult task to come up with specific action points from each session. We have now 10 more minutes. I would like to use the rest of this session time to inspire you to draw suggestions or proposals from what we have heard and discussed.

#### **Terry Cannon:**

The four coeditors of the IFRC's *2014 World Disaster Report* that focuses on "Culture and Risk," we have actually been trying to work on culture and disasters for quite a while. We had two conferences in Germany, and an academic book will come out in a couple of months, which is more ethnographic about people than organizations.

As a concrete outcome from those, next year at the British Museum in London, a conference on an-

thropology, archaeology and climate change will be organized. I am going to propose to put a session on the anthropology of organizations.

I would like to welcome the participation of experts from this meeting.

**Giovanni Boccardi:**

As a representative of UNESCO, I fear this inquiry into the organizational culture.

**Joseph King:**

Conversely, as a representative of ICCROM, I would welcome such a study. I expect that it may bring good changes.

I would like to make a comment on cluster systems. They get developed and sometimes they work, and sometimes they don't work. People always need to go back to learn what is working and what is not, or what is helping the systems and what is not. What we are actually accomplishing and what we need to accomplish, a way of working together in good cooperation and coordination.

Therefore, the question of "culture of organizations" is very valid, I think. We tend to think of culture as what other people do. But, we have also culture and we need to learn our culture itself.

**Yasmeen Lari:**

Let me say a few words on this. At the UNESCO conference on culture in Florence, Italy, I heard one UNDP representative said that UNDP is very keen to bring culture into development. I went up to her later to tell that every UNDP development project in Pakistan has nothing to support cultural activities because UNESCO is not at all involved in it.

I think there is a lack of coordination among UN agencies. This conference should really make a point to say that they have to coordinate. They come and discuss how much funding is required. I appreciate that. But they have to come together at the same table to work out where they have to give priorities to put their money. Because if all the relevant elements are put together, the effect becomes far greater than the one of a single unit being put up next to the community.

**Peter Stone:**

This morning, we have heard a lot about the need for bottom-up organization. If communities are transmitters, we also need receivers at the other end to catch their voices. Thinking about UNDP and culture, I am extremely disappointed with the

fact that there was no mention of culture in the Millennium Development Goals (MDGs).

I know that there are lots of discussions going on at the moment about the revision of the development goals.

Perhaps one message that this group might want to put together collectively is that culture needs to be a fundamental building block of any future millennium goal system. Because without this concept, any change of the systems is in some ways meaningless.

**Giovanni Boccardi:**

Let me address this point. Indeed, major effort has been made to achieve precisely this objective, and many studies, conferences, and declarations have been conducted or developed. The UN General Assembly has adopted three consecutive resolutions reaffirming this principle and we are working as much as we can to make sure that this is reflected in the final outcome of this long process, but it's not easy. It's not easy not only for UNESCO but also for its member states.

I have some questions for Takamasa Saito. With regard to the Japan's efforts to rescue and recover cultural heritage affected by the 2011 earthquake, I consider that the information is quite useful for other countries. Do you have some tools to share the experiences, for instance, books, reports, or guidelines?

**Takamasa Saito:**

In the 2014 Fiscal Year, NICH established the Executive Committee of the National Task Force for the Japanese Cultural Heritage Disaster Risk Mitigation Network in order to promote the activities of the Cultural Heritage Disaster Risk Mitigation Network. In this framework, information on Japanese past experiences will be compiled. I am informed that an official homepage for the Program is currently under preparation in Japanese then in English as well.

In the 2013 Fiscal Year, a report on the recovery of cultural heritage was published in both Japanese and English.

In this way, we would actively like to share our experiences and facilitate better communication with other countries.

**Giovanni Boccardi:**

We have reached 11:30. I would like to make some closing comments based on some key questions

still retained in my mind.

For Terry Cannon's presentation, I am considering how we can make sure relevant institutions—not only to DRR but also to cultural heritage—apply a culturally-sensitive approach, how we can practically make it happen, and what sort of tools we should develop. These might be something to think about when we develop our recommendations.

Yasmeen Lari presented a wonderful example of what she is doing in Pakistan. But, it seems to be efforts by a single NGO that works more or less in isolation. I can also feel a gap between what she is doing in her country single-handedly and what could be done everywhere. I wonder what we need to do to make sure government agencies, NGOs, or humanitarian organizations do what she does in Pakistan as a standard practice, what kind of tools or capacity building activities should be developed, and what sort of policy changes are required.

The Takamasa Saito's presentation was another magnificent example to show a power of heritage and culture. There were many specific suggestions in his slides and video, including administrative chain of command, support to local governments, and development of inventory. We could consider all these things to develop our recommendations.

I'm turning to Kumiko Shimotsuma. Is there anything else that you would like to say?

#### **Kumiko Shimotsuma:**

I am happy to say that the first session was very productive.

Firstly, it was meaningful to discuss the definitions of some keywords, including "resilience," "community" and "sustainable development." With regard to a definition of "resilience," while there were some differences between Terry Cannon and Randolph Langenbach, they showed the common concept that causes of risk should be appreciated and analyzed appropriately to achieve the strength ensured by local populations.

Secondly, highlighting the role of communities, we could recognize the need to pay attention not only to elite culture but also to popular culture. On this point, especially from my standpoint, cultural authorities are required to review their conventional protection methods to develop policies to help people conserve what is truly valuable for them.

Thirdly, when we consider popular culture, I have an impression from Terry Cannon's presentation that recognition of the relationship among belief, sense of value, attitude, and the behavior may

bring us to important suggestions to ensure a connection between development and culture.

The three keynote presentations and the roundtable discussion in the Session 1 provided enough suggestions to give us a fundamental direction for discussions to follow.

#### **Giovanni Boccardi:**

If there are no other comments, I would like to close Session 1. Thank you so much.



Fig.1: three Keynote Speakers, Terry Cannon [right], Yasmeen Lari [center], and Takamasa Saito [left] (Photo by NICH)



# Tokyo Strategy Meeting

## Session 2

### Roles of Cultural Heritage in Understanding Disaster Risk

[Facilitators] Timothy Curtis, Takeyuki Okubo

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## Presentation (2-1)

### Change in Historic Environments and the Needs to Prevent New Risks

Christopher E. Marrion  
CEO of Marrion Fire & Risk Consulting

When we look at cultural heritage including buildings, sites, urban ensembles, and landscapes, we see that at one point in time when they were originally designed and built, the designers knew the risks and hazards which they needed to mitigate. However, over time environments change, and the risks change accordingly, and that can ultimately impact heritage. This report examines some of these different changes to the environment and the resultant impacts on heritage, and how we may be able to address these impacts in the future.

Urbanization, for instance, creates a situation where the society and cities have to adapt to the population flows from rural to urban areas. Cities are expanding their areas horizontally and spread vertically to the skies and underground. It has been suggested that by 2050, roughly 65% of the developing world and over 80% of the developed world will be urbanized.

It often happens that fast paced changes with insufficient planning cause unpredictable impacts. Among them, the impacts on many heritage sites that existed for hundreds, or even thousands of years, including rainwater flooding and diversion of water sources, vibration, air pollution, noise pollution, aesthetical, and spiritual problems. Additionally, the factor of overcrowding becomes a source of direct fire and explosion hazards in warehouses, road and railway tunnels. Thus, there are a number of impacts to people, buildings, infrastructure, land use and cultural heritage.

On top of this, there were cases of the demolition of cultural heritage for new construction, or rebuilding of the early 1900s historic buildings, as it happened to the Hearst building in New York City. The interior of this building was completely removed, leaving only the facade with the new structure placed on top. As we see, there are plenty of examples where the advances of urbanization are impacting cultural heritage.

Another risk introduced to cultural heritage in urban areas is the construction of the cities' iconic landmarks. The Freedom Tower in New York City, for instance, has at least four cultural heritage build-

ings in close proximity that may be potentially affected by this adjacent iconic structure.

From urbanization to the other extreme comes the desertification. It is a loss of biodiversity and productive capacity within an area or a region. Such loss is oftentimes caused by overgrazing, over-farming, deforestation, diversion of surface water resources, depletion of groundwater, and climate change. There are a number of areas around the world impacted by desertification. These hostile environments are causing impact on human lives, as well as on plants, animals, and vegetation, erasing important cultural heritage works and destroying or altering traditional ways of life. It is said that desertification had also played a significant role in the fall of various empires and civilizations, from the Roman Empire and Carthage to Ancient Greece.

Changes to land and water use also impact our heritage. One can see the impacts, for instance, from the Tigris River floods in the early 1900s. Over time, the adjacent urban development caused impact on the water as well as the ground area of the river. The increase in vegetation and the agricultural expansion had altered the surrounding area, making the remaining structural components more fragile.

Changes to the land and water use occur in historical sites located near water, such as Venice. The transit of large ships and the overflow of the population in the area is interfering with the movement of water in the canals, creating stresses on the city's infrastructure. The overall impacts on the shorelines and building structures is leading to the gradual destruction of Venice's cultural heritage.

In addition, there are changes going on with land in terms of fracking. This can be better seen at national parks and archaeological sites. Fracking is resulting in significant water usage, water pollution, and air pollution, as well as in increasing seismic activity in the areas. One can see the exponential growth in the number of such activities impacting some of the national historic sites and other areas.

Another risk is changes in functionality in management mechanisms and ownership. For instance,

the placing of McDonald's into different types of structures including historical buildings. The resulting change of internal environment increases the stress on interiors in terms of mechanical, electrical, plumbing, and other structural facilities, impacting aesthetics and architectural layouts. It is also potentially imposing additional hazards through heating, cooking, and related fire hazards that may not have existed prior to the conversion. On one hand, the structures are being saved and not torn down, but there are additional hazards being posed.

In terms of the functionality and ownership change, the Krásna Hôrka Castle in Slovakia went from a fort to a castle to a museum, and one may imagine some of the transformations. This fort remained intact for 500 – 600 years. And somewhat ironically, back in 2012, two 12-year old boys were smoking cigarettes at the bottom of the hill and lit the hill on fire, which then ignited the grass, caught the trees on fire around the castle, leapt to the wooden roof and heavily damaged the historic structure.

With the changes in use, the risk levels are changing. At the time of the fort, the vegetation around was probably kept low to prevent something like this from happening. There were no trees growing around the castle for a number of reasons. However, now that potential hazards and risks have changed over time, it is important to pay attention to the impacts of fire and other external hazards. Even if things were safe and how they were intended to be at one time, as ownership, management, and functionality changes, one needs to be aware to address hazards differently.

Another risk for cultural heritage is mass tourism that is attracting big numbers of people to tourist destinations, damaging or destroying sites and structures. Introducing the changes to accommodate large occupant loads often creates a significant impact on cultural heritage sites because of the insufficient regulations on where the tourists are able to go, and the abundance of people allowed on sites.

Regarding climate change, it is impacting all buildings including historic buildings, and historic and archaeological sites. Acid rain represents a particular man-made natural hazard. It slowly deteriorates the structures with its acidity, corrosiveness, smog, and carbon, and consequently also causing impact on cultural heritage.

Wildfires nowadays are becoming more devastating than before. Therefore it is important to un-

derstand their mechanism. Wildfires are naturally occurring phenomena. Several hundred years ago fires were more frequent. They lasted for shorter durations of time, burning lower vegetation but stopping at the trees that were able to resist these smaller, low energy fires. However, over time, we tried to prevent fires for various reasons, obstructing the natural thinning and clearing out of the vegetation, which led to the accumulation of much more combustible material within the forest baseline. Accordingly, the frequency of fires reduced, but when they occur they are much faster, and release larger heat energy. Trees, resilient to short duration fires, when receiving such high amounts of heat energy, become completely destroyed. This is obviously impacting archeological sites, national parks, and other cultural heritage. Moreover, because there is nothing to keep supporting the earth and sand, landslides are caused. If the forests are ruined, it will change the overall ecological systems and environment.

At times, historic buildings and cultural heritage sites may be moved to another site for conservation reasons. While it may save the sites from destruction, it is important to remember that the relocation can introduce additional shocks, stresses, and hazards. One example is the moving of Ramesses Great Temple back in the 1960s. It was located near the river and was going to be submerged due to the dam construction, so it was moved to a slightly different location. One, though, needs to consider whether this alternate location is safe. What is the impact of the new location on this particular monument? If we are moving things, what does that change, and can this introduce new hazards and risks?

There are many examples of purposeful destruction or knowingly impacting cultural heritage. For instance, numerous dams have been built over the years that endanger cultural heritage adjacent to rivers. These dams are causing floods, damaging important cultural heritage sites. Some examples of the negative impacts on cultural heritage of damming include the work at the Three Gorges Dam, Zeugma, and Hasankeyf.

Under the theme of purposeful destruction, there are a lot of mining activities at times occurring at the location of heritage sites or archaeological sites. For instance, near Kabul a mining company had given the archaeologists just a couple of years before they were going to start mining and destroying the numerous heritage underground. That is an

extremely short amount of time permitted for the excavation and removal of heritage that existed for several thousand years. Even realizing the value of heritage, we will eventually damage it by changing our environment, as has happened many times.

Malicious destruction has occurred throughout time, and we are now experiencing an increase in this meaningful destruction in Iraq and Syria as of late.

There are also a lot of things happening that are increasing hazards and risks, impacting cultural heritage, impacting the environments in which it was originally designed and constructed. Therefore, we need to be mindful in order to limit these impacts. These new risks and hazards are now gradually changing the environments in which cultural heritage has existed for many years. It was not originally designed to withstand those hazards and risks. Therefore, we must continue to explore what can be done to help mitigate them.

Regarding the increase in activities on the protection of heritage sites and structures, one method worth noting is the incorporation of disaster risk reduction requirements into financing agreements when global banks or other organizations are funding some of the ongoing projects. Such agreements are protecting the investments during restoration works, which can generate new hazards. In addition, the incorporation of appropriate prevention and mitigation measures is one aspect of heritage protection.

Media plays an important role in disaster risk reduction, creating awareness, and getting the right stories and information to the public. This is true before, during and after an event has occurred.

Additionally, the incorporation of traditional knowledge, materials and systems is very important, as there is a tremendous amount that can be learned from it. One has to think about the role that traditional assets play in the development of urban and rural communities. It is also important to keep in mind the 1000–2000-year-old temples here in Japan that were designed and built to be able to resist earthquakes over the centuries. Another example is the gingerbread houses in Haiti and their resistance to the last earthquake compared with other structures of alternate construction methods that did not withstand the earthquake.

Finally, there are a number of constructive opportunities and abundant potential in the future in terms of protecting our cultural heritage from disasters. Here in Japan, there is our organization and the activities centered on the Sendai Framework for Disaster Risk Reduction. Among other organizations that are necessary and important for the protection of cultural heritage, there is the Resilient Cities campaign and the Ten Essentials document activities.

These considerations are important in order for cultural heritage to be strongly incorporated and properly described in the framework documents. However, the implementation of these policies is equally important. This can be done with the help of various international organizations including UNESCO, ICCROM, ICOMOS, ICOM, and others that continue to develop and implement strategies to assist in protecting our cultural heritage throughout the world.

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## Presentation (2-2)

### Use of Traditional Knowledge Systems to Promote DRR

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Traditional systems indicate that there are different perceptions of disasters and of crises by different cultural groups. Africa, as a continent, is known to be prone to disasters all the time. However, the majority of these are man-made rather than natural.

Perhaps the biggest disaster which happened to Africa's heritage was caused by HIV AIDS, as well as the structural adjustment program of the 1990s to 2000. These had a greater impact on the way heritage was managed to the extent that, today, heritage institutions in Africa are still trying to recover. Institutions were affected by loss of funds and limited human resources.

Civil conflicts in Africa are probably the major disasters in the continent. There are of course, other threats to Africa's heritage. For example, the construction of dams as part of development – this is a question which Africa, as a developing continent, always has to address.

Tradition systems and customs are generally regarded as a double-edged sword. On one side, traditional systems may actually make communities vulnerable to disasters. But at the same time, the fact that they have gone through these disasters over a long time means they have built some resilience.

Generally speaking, traditional customs and knowledge systems come out of day-to-day practice in response to what is happening on a daily basis. Traditions tend to be very persistent, but there is always one thing which is important; there is continuity, there is always change and this at times comes into conflict with experts' definition of heritage, particularly on the issues of authenticity and integrity. Traditions change all the time.

Knowledge systems, as they are envisioned by local communities, have a major role to play in times of crisis, far more important than the large contingents of expertise who tend to flock to Africa when disaster occurs, and even more important than the funds which come in.

However, when one talks about Africa, we have to realize that Africa is a continent, not a country. Africa is a continent with 55 countries. I would also dare say that the traditions change from place to

place. There is no one African tradition or African culture, but they are African traditions and cultures. Africa has been impacted by different religious belief systems—the so called triple heritage (traditional religion, Islam and Christianity)—and these tend to affect also the way communities respond to and mitigate disasters.

Equally important to note is that African traditional knowledge and practices have been neglected over many years. The management of heritage places has at times incorporated traditional management systems with some success. Take the example of Kasubi Tombs in Uganda. This is a site which has survived through colonial occupation, survived even the brutal regime of Idi Amin, the military adventures of Milton Obote who followed Idi Amin, and even the present government attempts to crush traditional systems.

The system has developed a resilience of some kind. The place I introduce next is a burial for the Kabakas, the kings of Buganda. The Bunganda have always known that there will be changes, and there have been changes in the way the tombs have been built. For example, in the 1970s, some of the tombs were actually roofed using corrugated iron sheets. However, when the site was then nominated to the World Heritage List in 2001, this was described as one of the best examples of vegetable architecture, and therefore, it had to be re-thatched so that it looked traditional.

Here was another danger of freezing traditions for the Ugandans, the place is a burial place for the Kabaka. Whatever you put on the roof does not change the way the place is perceived by the local communities. For World Heritage, it must have that thatched roof for it to maintain the Outstanding Universal Value. Unfortunately, the site was destroyed by fire in 2010, and the community again came together to try and help making sure that they can repair or restore the burial place. However, the restoration has not taken place up to now (2015) for the simple reason that there has not been an agreement between the experts and the traditional managers. And at times you begin to wonder who should have



Fig.1: Kuomboka Ceremony—the village on the move

a say here, because the community has been looking after this place for many years.

Another place, another crisis. This time, civil crisis in Mali. We all were taken aback when we had that war, which affected the Timbuktu World Heritage site. This was a site renowned for its traditional system in terms of building the tombs, but at the same time, there had been a controversy. Before this civil strife the South African government had built a library to house the manuscripts. However, for many year this building (library) was condemned by the World Heritage Committee. In fact, at one time, the decision was to destroy it because it was not compatible with the World Heritage site. However, at the same time when the war started, this is the building which provided protection to the manuscripts. This at times indicates the lack of coordination within UNESCO and other organizations.

But perhaps more importantly, the manuscripts were saved by the fact that the majority actually reside with families. The destruction was partly on the library and the Mosque. Most of the manuscripts were with family members. Traditionally, they have always keep them, they have made copies, even some of the copies which have been destroyed in the library you could find with families. However, here was a situation where traditional systems could have helped, because if we had continued reinforcing the fact that families could keep these books, perhaps there would not even be a target for the rebels. What I am advocating is not that we abandon modern systems, but that we pay attention to traditional systems and practices.

The question of different perspectives to disaster is illustrated by the Kuomboka ceremony in Zambia. Every 3 to 4 years, it is well known that the Zambezi River will flood. There are more than 20

tribal groups who live along the Zambezi Valley, but only one tribe has turned the disaster into something much more colorful, and perhaps turned a disaster into a new heritage. This is the Lozi group, which came into the Zambezi valley in the 1800s, later than all the other groups. They have turned the floods into a cultural activity. They have built a summer village on high ground and then another village in the low ground. Once the Zambezi starts flooding they will then begin to move to the high ground areas through a colorful ceremony. The ceremony moves the whole village on the river with all their livestock and everything. The livestock are saved and the village or the tribe survives.

It can therefore be argued that different cultures perceive disaster mitigation in different ways. Given the colorful ceremony it even now attracts a large number of tourist who visit the Victoria Falls site. As a result the ceremony has now been turned into an annual event.

At times the definition of what is heritage and what is protected differs between experts and communities. This is illustrated by the Site of Domboshava in Zimbabwe. The site is a national monument due to its rock art, which is important to the archaeologists. But the caves are also a rain-making center for the communities. The legal instruments in Zimbabwe only protect the archaeological remains and not the rituals. This led to a conflict which resulted in the community destroying the rock art because they were being prevented from carrying out ritual activities there. What was forgotten by the legal instrument was the fact that the community had been practicing this ritual for many years without necessarily affecting the art. In this case, traditions look at the totality of the heritage, but we as experts look at one aspect of it. It is important to learn from traditions and try to ensure that we incorporate them in our efforts to protect the heritage.

In most African countries traditions are very strong, and they respond to social, economic and political issues much faster than our legal instruments. In managing heritage sites we should not separate the way people regard and value the place. We should incorporate the voices from the communities and their traditional language systems, and also then infuse them with a modern system. We need to create a dialogue rather than parachute solutions and impose certain systems without understanding what the local communities are actually doing.

## Presentation (2-3)

### Traditional is Modern:

#### Traditional Building Technology for Resilience in the Modern Era

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It is a pleasure and honor to come back to Japan, to participate in this world conference in a place of rich culture and cultural heritage. I am going to do something a little different – I am going to try to get you to see buildings in a slightly different way. This means all buildings – modern buildings, old buildings, historical buildings – because what I am going to talk about is what the local people have taught me in different parts of the world. What has been revealed to me has often shattered the conventional wisdom about earthquake resistant design, and in particular, the expectation of vulnerability of certain masonry buildings and even of buildings constructed of mud.

Last year, when consulting for the European project called the Global Earthquake Model (GEM) on the development of a ‘taxonomy’ to be used to evaluate buildings for their risk of collapse in earthquakes, I was told:

*The GEM taxonomy should be able to distinguish differences in seismic performance between different building types, ranging from the highly vulnerable stone masonry buildings to modern buildings designed in compliance with the latest building codes.*

It is difficult for anyone to argue with this state-

ment. Nonetheless, how is one to reconcile it with what is seen in the view in Fig. 1 of Gölcük in Turkey after the 1999 Kocaeli Earthquake?

The mosque that is entirely intact, including its tall minaret, is unreinforced stone masonry. All of the collapsed buildings surrounding it were of reinforced concrete (RC), like the one barely still standing. These at least should have conformed to the Turkish building code.

But then, even when confronted with this particular scene, wouldn't it be safe to say that, in general a minaret and a mosque as a whole would be less likely to collapse if made of RC? Then how does one cope with the scene in Fig. 2, or the view of its collapsed RC minaret visible at the link in footnote no. 1?



Fig.1: Gölcük, Turkey after the 1999 Kocaeli earthquake (AP photo by Enric Marti (NY Times, Aug.20, 1999))



Fig.2: Mosque in Adapazari, Turkey, 1999

Not only is the minaret down but the mosque is down as well, in spite of the fact that Turkey has modern building codes for RC construction. To avoid relying only on the selection of pictures to make the point, I turn to a team of Turkish engineers who did a quantitative study of every single building in a sample of damaged areas to analyze the damage by building type (Fig. 3). The white bars are the reinforced concrete frame buildings. All of those of traditional construction, including unreinforced masonry, are the darker bars.

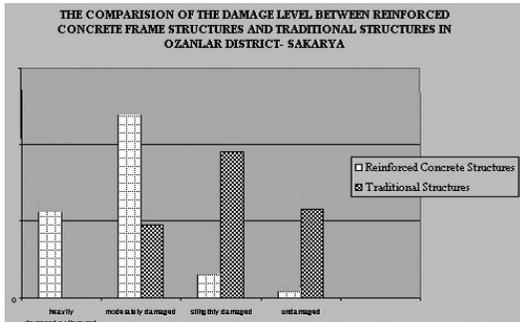


Fig.3: Gulhan and Guney, 2000<sup>2</sup>

To avoid giving the impression that I believe that all RC frame buildings are bad, I mention the widely circulated photo taken after the 2011 earthquake and tsunami in Tōhoku, Japan, of a building with a large cruise ship on its roof. I am sure nowhere in the building code is there a requirement that a building should be able to hold such a large boat on its roof after enduring a tsunami wave<sup>3</sup>. Only reinforced concrete would survive such a profound event.

Okay, now let us make it easier – how about a building constructed entirely of mud in a large earthquake such as the one that struck the Iranian city of Bam? In that city, the Arg-e-Bam, a world famous archeological site, has been described as the world’s largest single interconnected earthen structure. A leading Iranian engineer told me that, because of its collapse, there was a proposal to ban all new earthen constructions in the country.

When I got to Bam and started examining the site four months after the earthquake, things got interesting in unexpected ways. All the parts of the

construction that had not been restored in the 20th century were still standing. They were ruins, of course, because they had been abandoned without maintenance for almost 200 years, but it was easy to distinguish between the decay over time and the damage from the 2003 earthquake by looking for fresh rubble on the ground.

Looking further, I found that only the restored parts were completely infested with termites. Thus, I could see that we were no longer dealing with the simplistic question of whether unfired clay is vulnerable. Instead, the differences proved that the collapses were a product of the loss of cohesion of the clay itself. In addition, the 20th century restorations had overloaded the much weaker archaeological remains, which as a result were crushed during the earthquake.<sup>4</sup>

Turning now from Iran to Haiti: Haiti was devastated by an earthquake in 2010. Soon after the quake, the numbers of people reported to have been crushed in collapsing buildings rose quickly to more than a quarter of a million. The iconic images in Haiti were of the National Palace and the Cathedral (Fig. 5-left), both of which had collapsed.

However, I am sure that few of you have seen photos of the Chapel of St. Louis de Gonzague on the right of Fig. 5, standing as if nothing had happened. It is almost as big as the Cathedral used to be. It never shut down. Services continue there to this day. Its structure is a framework of steel or wrought iron imported from France at the end of the 19<sup>th</sup> century which embraces and reinforces walls of masonry panels.

The Palace and the Cathedral were constructed of reinforced concrete, and both were about a century old. The reason why they fell down is not be-



Fig.4: Arg-e-Bam, before and after the 2003 earthquake (left photo courtesy of Kerman Province)



Fig.5: Cathedral (l) and St. Louis de Gonzague Chapel (r) after the 2010 earthquake in Haiti

cause of bad construction, but because the rebars had rusted away. So we are now dealing with a modern material, RC, embraced around the world where its lifespan is based on a ferrous metal – steel – embedded into the core of the walls and columns.

Now, why don't we make our expectation of collapse even easier still by going to a Haitian slum settlement where one can reasonably expect to find poorly made buildings which in no way can be expected to be code-conforming, even if Haiti had possessed a building code, which it does not? Since the first news reports after the earthquake showed bodies of United States and United Nations officials, including the leader of the UN mission, being removed from the pancake-collapsed 5-star hotels that were even further from the epicenter than Port-au-Prince, then expecting to find masses of fatalities in the concrete and masonry slum settlements would not at all seem unreasonable. In fact, news photographs showed many scenes where these houses had cascaded down the hillsides.

Even to this day, the death toll often cited is a quarter of a million or more casualties, but this may have been a result of the quick estimate by a forensics engineering firm, RMS (Risk Management Solutions) Corp. ([www.rms.com](http://www.rms.com)) of that number only 5 days after the earthquake. As explained to me, the reason for their early estimate was in part that when they saw that the Hotel Montana was down, they assumed that everything else went down too.

When some months later ICOMOS was given access to an aerial survey of the entire damaged district by Pictometry International Corp, I found that except on steep sites, the scene was consistently like that shown (Fig. 6-top). The steep site collapses

can be explained by the fact that poor people do not build retaining walls. On less steep slopes, most of the slum houses survived. This was true despite their being of bad construction done by untrained people.

Adding to the contrast with conventional wisdom is that the upper-class houses shown (Fig. 6-bottom) have collapsed, while the massive unrein-



Fig.6: Pictometry Int'l Corp photos of slum settlement (bidonville), and (bottom) upper-class houses, after the 2010 earthquake

forced masonry, late-19th-century “Gingerbread” house, now the Hotel Oloffson, suffered so little damage that it never closed (see endnote 5). Less than a stone’s throw behind that hotel was another hotel, an 8-story RC building that completely pancaked.

Moving to even more vulnerable buildings, nobody would claim that river-rock rubble stone is a Class A seismic area building material, yet a number of such buildings, well over 100 years old with little maintenance, have survived, even though in some cases the rubble stone panels have partially collapsed. One such building, the Villa Castel Feuri, featured on the cover of the World Monuments Fund published book *Preserving Haiti’s Gingerbread Houses*,<sup>6</sup> once a presidential palace, has only a skin of fired brick while much of the rest of the walls are of rubble stone. It is still standing, while a modern reinforced concrete house that the owner built for herself almost a century later in the back garden of the Villa collapsed completely. The only saving grace was that she had died 2 years before the earthquake, or she would have been crushed by the collapsed concrete roof.

So, I have shown one counterintuitive observation after another. One of the reasons why I got into this subject is that, when I moved to California, the only way to really put my arms around the issue of seismic rules for historical buildings which required their demolition or heavy reconstruction was to understand their behavior in earthquakes. Little did I expect to discover that they would fre-

quently be found, not only to survive earthquakes, but actually to do better than the modern buildings in the many earthquakes that have occurred over the 3 decades since my move to a seismically active area.

I now take you to what started me on this whole project – the discovery of this traditional construction in the area of northern India known as Kashmir. What I found there was almost like a mediaeval city of leaning and tipping buildings of different types of construction. My research began because I wanted to understand what they were and why they were like this. What I learned is that there are two types of traditional masonry construction in Srinagar. One is known in as *dhajji dewari*, ancient Persian for “patchquilt wall” (visible in the center of Fig. 7-left). The other is known as *taq* in Kashmiri, (Fig. 7-middle). Both evolved primarily in response to the fact that they are on one of the softest soil sites on which a major capital city is built.<sup>7</sup>

I then found reports in the British Library that talked about it in the 19th century, with quotes such as this:

*The city of Srinagar looks tumbledown and dilapidated...but the general construction in the city of Srinagar is suitable for an earthquake country; wood is freely used, and well jointed; clay is employed instead of mortar, and gives a somewhat elastic bonding to the bricks...If well built in this style the whole house, even if three or four storeys high, sways together, whereas more heavy rigid buildings would split and fall.*<sup>8</sup>



Fig.7: Srinagar, Kashmir (l & m). Kathmandu (r)



Fig.8: *Hımış* next to collapsed RC (by ©Adem Doğangün) (l), and new *hımış* house in Duzce (r)

As counterintuitive as to say that it is better to find the use of “clay is employed instead of [lime] mortar...” because it gives a “somewhat elastic bonding to the bricks...” these buildings have actually proven to be earthquake resistant because of the timbers in the walls which hold them together. We can compare them to examples in nearby Nepal in Fig. 7-right, photographed before the 2015 earthquakes, which lack the timber ring beams, a shortcoming that became manifest when only a month after the WCDRR, two earthquakes struck Nepal.

The first test of the findings from my research was in Turkey, after the large earthquakes in 1999. There, I was able to witness the timber and masonry *hımış* construction next to RC frame construction (as seen in Fig. 8-left).

I even found one family where, at the time of the earthquake, the husband was building a new building out of RC. When he saw the collapsed RC frame buildings compared to the almost no damage to the *hımış* house which his father had built, he stopped and started over with the traditional *hımış* construction (seen in Fig. 8-right).

The 2005 Kashmir earthquake was the next earthquake to test these kinds of buildings. It mainly struck the Pakistan side of the border. 80,000 people died in northern Pakistan, including downtown Islamabad. In one of the towns to which I was taken to by my colleagues, Maggie Stephenson of the UN-Habitat and Tom Schacher of SDC, rubble stone houses had fallen, but the local residents could see that the one building that had survived was of *dhajji* construction. As a result, the people of this town, contrary to the government’s early edict saying they had to use reinforced concrete or con-

crete block, proceeded to build *dhajji* houses (Fig. 9-left). New post-earthquake stone construction with timber ring beams, is called in Pakistan *bhatar* (Fig. 9-right).

A year after the earthquake, the government of Pakistan was persuaded (in part by my colleagues listed above) to approve *dhajji*, and the following year *bhatar*. Now, a decade later, there may be as many as quarter-of-a-million new houses constructed in these traditional forms of construction throughout northern Pakistan.<sup>9</sup>

#### Conclusion:

So how can the traditional ways of construction here inform us of how to fix the modern buildings from collapse? We are no longer just talking about how to protect heritage here. In the process of understanding heritage, I have discovered ideas which potentially are of great pertinence today. This also can change the argument over whether a historic building can be saved when instead of presenting as a risk, it can be shown in fact to be safer than newer buildings of RC nearby.

At this point, in my WCDRR Keynote, I described the transformation of engineering design of buildings in the modern era to an emphasis and focus on structural frames—braced frames and moment frames—leading up to the invention and proliferation of ‘skyscrapers.’ This has left behind what had been for thousands of years an emphasis on masonry construction with timber floors and roofs, from small houses to massive structures, from Hagia Sophia in Istanbul to St. Peters in Rome. These are what I call by comparison to frames, ‘solid wall’ buildings of mud, stone or brick.



Fig.9: New *dhajji* house (l) and *bhatar* houses in rural Pakistan after the 2005 Kashmir earthquake

When it comes to earthquakes, the frame structures have had a mixed history—from extraordinary resilience to catastrophic collapse. The point to be made here is not to say that masonry buildings have now proven to be better than referenced in the quote by GEM at the beginning of this talk, or that the examples of modern building collapses are all explained because they failed to be in conformance to the building codes. The recent earthquakes in Nepal that have occurred subsequent to the presentation of this address in Japan, certainly has shown a preponderance of examples of failure of masonry buildings, while many concrete buildings have done better.

The point is actually much more basic, and yet timeless. It is that the art of building in general for a community, society, and nation as a whole most importantly must focus not on what is possible, but what is probable.

If one focuses on this basic philosophical point, one inevitably must come to the conclusion that alongside of the understanding and further research on structural design of frames, solid wall buildings need to be understood as well. This is because they most often are the technology and materials that ordinary people have affordable access to. A good example of this difference is demonstrated by the fact that the sections of the Indian and the Nepal National Building Codes that deal with non-engineered construction are specific only to timber and masonry construction of stone, brick or unfired clay. They definitively do not include RC moment frames.

In Haiti, it is the solid walls of masonry that kept the still standing slum settlements from collapsing

while almost half of the contractor-built concrete frame structures in Port-au-Prince collapsed both from poor construction and environmental decay. It was in fact the infill masonry that actually was responsible for the survival of the first generation skyscrapers in San Francisco during the 1906 earthquake, rather than their frames alone. It was the timber-laced and infill masonry that kept houses standing, both in 1999 in Turkey, in 2001 in Gujarat, India, and in 2005 in both in India and Pakistan, while scores of modern concrete buildings crumbled.

It is from these examples that the concept of “Armature Crosswalls” was proposed and described at the WCDRR (illustrated in Fig. 10). The principle is to replace the usually stiff but brittle infill masonry walls in modern concrete moment frame construction with a sub-frame with smaller more flexible masonry panels that can give in an earthquake without collapsing, providing the kind of friction and ductile behavior that can contribute to preventing the RC frame from collapsing.<sup>10</sup>

In closing, I want to give homage to concrete where it is due. Here shown in Figure 11 is a building shown in a drawing by the 18th century Italian artist Piranesi combined with a photo of it taken by me only a decade ago.

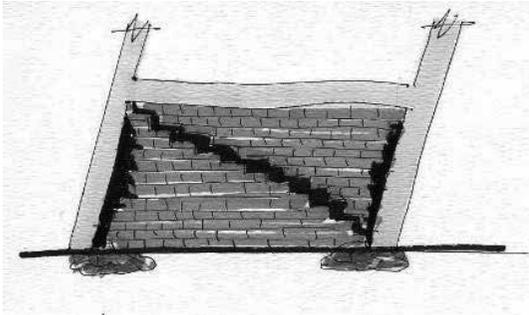
It is 2000 years old, and it has probably not seen any maintenance for probably 1800 of those 2000 years. This roof is of concrete – unreinforced concrete! It gives real pause to look at this example and think about buildings, and about what we can learn from what people have done in the past. Thank you.



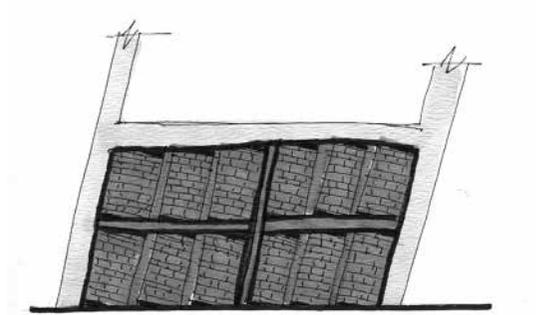
(A)



(B)



(C)



(D)

Fig.10: Brittle infill walls (the photo A and the drawing C) compared with traditional *humus* (the photo B) and with proposed "Armature Cross-wall" (the drawing D)

- 1 Collapsed minaret and mosque in Sakaria, Turkey, 1999 <http://www.epa.eu/disasters-photos/earthquake-photos/turkey-earthquake-collapsed-mosque-photos-99450569>
- 2 Gülhan, Demet, and İnci Özyörük Güney(2000) "The Behaviour of Traditional Building Systems against Earthquake and Its Comparison to Reinforced Concrete Frame Systems," *Conference Proceedings for Earthquake-Safe: an International Conference on the Seismic Performance of Traditional Buildings*. Istanbul, Turkey, 2000. (<http://www.icomos.org/iwc/seismic/Gulhan.pdf>)
- 3 See photo at <https://www.pinterest.com/pin/284852745157800104/> or Google search string: "tsunami tohoku japan boat on roof"
- 4 For more information, see : 2004 "Soil Dynamics and the Earthquake Destruction of the Arg-e Bam," *Iranian Journal of Seismology and Earthquake Engineering*, Tehran, Iran, Special Issue on 26 December 2003 Bam Earthquake, 2004, Volume 5:#4 & Volume 6:#1. ([www.conservationtech.com](http://www.conservationtech.com)) .
- 5 See <http://www.conservationtech.com/haiti.html> for link to free PDF. Page 48.
- 6 IBID, Cover + pages 29 and 64.
- 7 For a detailed description of the subject of Kashmir, please see the book by Langenbach, *Don't Tear It Down! Preserving the Earthquake Resistant Vernacular Architecture of Kashmir*, published by UNESCO, 2009. ([www.traditional-is-modern.net](http://www.traditional-is-modern.net))
- 8 Arthur Neve, *Thirty Years in Kashmir*, E. Arnold, London, 1913.
- 9 See *World Disaster Report 2014*, Int'l Red Cross and Red Crescent Societies, Chapter 5. (<http://www.ifrc.org/world-disasters-report-2014>).
- 10 See <http://www.conservationtech.com/armaturecrosswalls.html>



Fig.11: Grandi Terme in Hadrian's villa, near Rome, Italy, with engraving by Piranesi, ca. 1750

## Presentation (2-4)

### Local Disaster Risk Reduction Activities Based on Integrated Heritage Conservation

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Municipal History Compiling Officer,  
Education Board of Takayama City, Japan

I would like to give a brief explanation regarding the disaster risk reduction (DRR) activities being undertaken by Takayama City in Gifu Prefecture. Historically, Takayama was a castle town. In the old days, the castle was located here. Next to where it was, we still have a district of the modern city where remnants of the old townscape are preserved (Fig. 1). Talking about the Takayama “self-defense fire brigades” that contribute to DRR, what distinguishes them is that they are based upon the old “float teams” that were created by the various local communities who retained festival floats within the castle town. In other words, the basis of the modern self-defense fire brigades are social units that were initially established some 400 years ago. Back then, each of these social units retained a festival float, and over time teams were created to maintain and operate them during festivals. The people involved in these teams were the ones who created the citizens’ group to preserve the historic townscape of Takayama. Furthermore, following on from this, it was also these citizen preservationists who played a leading role in the development of the modern self-defense fire brigades.

In 1996, we unfortunately experienced a major fire in the city. In the district where the remnants of the old townscape are preserved, there was a significant blaze that engulfed five buildings and cov-

ered an area of approximately 2000 square meters. When this occurred, the self-defense fire brigades were put to work. The Takayama City Fire Department was immediately notified when the fire was discovered, and it was members of the townscape preservation association who both initially noticed the flames and then raised the alarm. Given the city's geography, it would take about eight minutes for fire engines from the city fire department to reach the scene. In other words, it would take eight minutes for help to arrive. Not disheartened, units of the self-defense fire brigades swung immediately into action. Although they could only access small-volume fire hydrants, they nevertheless commenced fighting the blaze. Soon after, units from the city fire department arrived at the scene. Subsequently, self-defense fire brigade units, units from the city fire department and firefighting units from private organizations cooperated in battling the blaze. In total, some 540 people were to play a part in fighting the fire. It ended up taking approximately five hours to completely extinguish the blaze (Fig. 2).

Next, I would like to talk about the city's traditional earthen fireproof storehouses and its water supplies for fighting fires. In Takayama’s case, as a response to the risk of fire, for perhaps the last 300 to 400 years, a great emphasis has been placed on

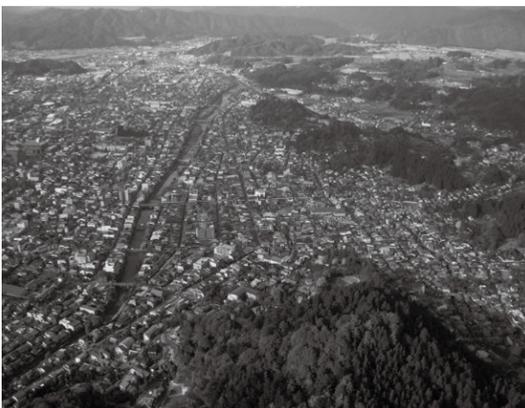


Fig.1: The historic center of Takayama City



Fig.2: Self-defense fire brigade units in action

both the building of traditional earthen fireproof storehouses and the setting aside of sufficient water supplies. Historically speaking, to ensure that conflagrations would not leap from one district to another, and that any fire did not spread, rows of traditional earthen fireproof storehouses were built within the castle town. In contemporary times, generous subsidies have been given by Takayama City Hall to repair these cultural assets. Concerning a blaze that broke out in the city in 2008, under normal circumstances it might well have been expected that the building that housed one of our very precious festival floats would have burnt to the ground. However, because the building in question was a traditional earthen fireproof storehouse that was impervious to fire, the festival float stored inside was rescued unharmed. If, for argument's sake, the festival float in question had been destroyed, it would have taken roughly ¥400 to ¥500 million to faithfully recreate. However, the traditional warehouse was able to prevent this from happening (Fig. 3).



Fig.3: *Yataigura*, a traditional earthen fireproof warehouse

I would now like to discuss Takayama's network of canals. Again, these canals have been developed over roughly the last 300 years in response to the risk posed by fire. Water constantly flows through this network. Of course, when fire occurs in the city, water can be drawn from the canals and put to good use. Furthermore, in that Takayama has an abundant snowfall during the winter months, snowbanks can be deposited in the canals so that they can be melted and carried off. Large volumes of snow also build up on the roofs of buildings, and if earthquakes were to occur, there is the risk of such structures collapsing under the weight of the accu-

mulated snow. Thus, with the canals, there is the opportunity to quickly remove such accumulations and get them melted and carried off. This is another role that the canals fulfill (Fig. 4).



Fig.4: Takayama's network of canals

The next topic I would like to mention is how we have deployed our firefighting equipment. In the wake of the major fire that I alluded to earlier, we learned a great many things. For example, we considered what sort of firefighting equipment best suited our needs. On this topic alone, the city's stakeholders gathered together on 20 or 30 occasions to debate and discuss matters. The outcome of these discussions was the decision to focus such equipment in one location. Infrastructure was developed, its placement was both keeping with the scenic environment and was not overly prominent. With our equipment, there are no keys needed for access. However, measures have been put in place to make sure that members of the public do not access it.

Fire hydrants, that are usually accessed by professional firefighters when preparing to fight fires, have connection couplings for the hoses that are 65 millimeters in diameter. As such, it is not possible to handle the hydrants unless there are two firefighters at hand. Instead, we use 50 millimeter couplings, which a single member of the city's self-defense fire brigades can handle and connect to a hydrant. Prior to the large fire that I described earlier, we only had two of these positioned in the vicinity. When the blaze broke out, an attempt to extinguish it was made by joining just these two hoses together, but the combined length was insufficient. We have now added another three hoses for a total of five in the vicinity. When joined together, we can now get wa-

ter from a hydrant to locations approximately 100 meters away. Moreover, with 100 meters of hose to play with, the equipment can now be carried onto the roofs of buildings. Thus, we are making use of what we have learned through past fires (Fig. 5).



Fig.5: Fire hydrant tools (right side of the photo)

Our self-defense fire brigades carry out this sort of training once a year. Members of our self-defense fire brigades also make traditional clothing that is called *sashiko*. When water is applied to it, it becomes fireproof. With regard to this *sashiko* clothing, each of the old float teams boasts a different design. As such, when carrying about the festival floats that I mentioned earlier, historically each of the float teams used to wear a different design of *sashiko*. These traditions were then carried over when each team subsequently established their own self-defense fire brigade (Fig. 6).

In the wake of the major fire, we have placed our greatest focus on the installation of automatic fire alarms. In doing so, we have connected together batches of five to eight buildings into groups. Thus, if a blaze were to break out in one of these, the alarms installed in the other seven would give notification as to the possibility of fire having broken out nearby. By having people then go and check the situation, we can achieve mutual surveillance. Accordingly, throughout the townscape we are installing automatic fire alarms by adopting a system of group monitoring (Fig. 7). Although we initially gave up on the idea of installing automatic fire alarms on rank-and-file wooden buildings, we were fortunate enough to receive some technical assistance. This has resulted in installation being possible throughout the city. Since these installations, we have actually discovered approximately three fires



Fig.6: Self-defense fire brigade in action wearing traditional clothing, *sashiko*

before they could take hold. One such incident involved an elderly person cooking *tempura* and then forgetting to turn off the heat. This resulted in the oil in the cooking pot erupting in flame. A neighbor heard the fire alarm and rushed next door. Such an incident demonstrates how fires can happen and be prevented.

Finally, I would like to discuss the issue of maintaining the city's fire-prevention systems and promulgating them more widely. There is a lot I could mention. However, first it is important to recognize that Takayama learned a lot from the big fire of 1996. As to what was done poorly, the doors of two traditional earthen fireproof storehouses were left open, and this resulted in their loss. They were burnt out completely. Thus, from a functional perspective, when owning a traditional earthen fireproof storehouse, the basic premise is not to forget to keep the doors closed. This was another insight that was shared with the self-defense fire brigades. Meetings were held together with them, and the situation was reflected upon. The skills of the self-defense fire brigades were used after the blaze. When it actually occurred, two brigades rushed to the scene. The one responsible for the immediate area quickly opened its hydrants and made them ready for use. Meanwhile, the neighboring unit used a pump on their engine to direct water on the fire. Thus, for the eight minutes before support from the city's fire department arrived, both of these self-defense fire brigades tried their hardest. Additionally, as part of the recovery efforts after the disaster, people involved in the self-defense fire brigades and the townscape preservation association joined together to prepare a DRR plan. These efforts resulted in the development of a fire-prevention system of which the nation can be proud.

A great variety of activities were subsequently undertaken, and one that was particularly unsuccessful was the application of fire-resistant paints. As is readily understood, wooden facings are a highly flammable material. Thus, a number of trials were conducted to see if they could be made impervious to fire through the application of paints. However, these trials did not go well, so measures were undertaken to see if the wooden facings could be overlaid with steel ones. In other words, everything that could be done has been done.

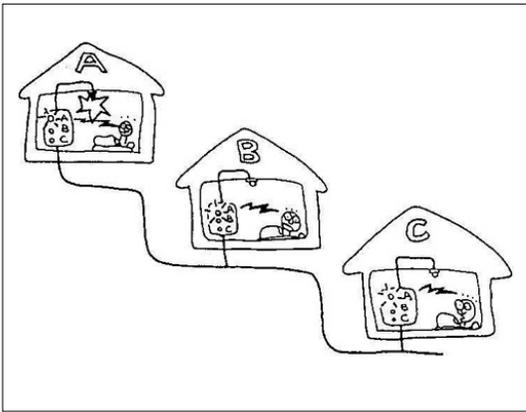


Fig.7: Group monitor; When a sensor works at House A, alarms are activated at House A, B and C.

Going forward, memories of the major fire that occurred in 1996 are dimming with the passage of time. So as to connect what was learned to the next generation of people, there need to be occasions and forums where people can gather and discuss things. In light of this, at the townscape preservation association, a range of activities are being undertaken. With the Summer Tanabata Festival and the Takayama Festival held in April, there are occasions when everybody can gather together. When these events occur, it is important to remember that a long time ago there was a large fire that broke out in Takayama. It is on such occasions that a drink may be shared among participants while discussing whether a suitable amount of care is being taken, and while talking about issues such as DRR. It is necessary that such a long-term approach is adopted.

Finally, what is most important is the necessity of developing future leaders and people who can advise on such issues. From a systems perspective, our city has been fortunate in having received much assistance from the Agency for Cultural Affairs with respect to DRR equipment and the repair of our traditional earthen fireproof storehouses. However, for what reason is Takayama seeking to preserve its townscape? If people do not understand why, they will not apply themselves to the task. Systematically speaking, the argument is that through the systemization of DRR procedures and by technical means, fire can be prevented. Beyond this, however, in order to create within people a strong desire to protect Takayama's townscape, it is also necessary that opportunities to learn about the city's history and culture are offered. As such, we are actively conducting a range of study meetings.

That ends my presentation on the DRR measures being taken with respect to Takayama's townscape. Thank you very much for your attention.

## Roundtable Discussion

[Facilitators]

Timothy Curtis, Takeyuki Okubo

### **Jeremy Barns (National Museum of the Philippines):**

Thank you. I'm here to share our experience of the National Museum of the Philippines, which is the agency of the national government that's taken the lead in the rehabilitation recovery, restoration, and reconstruction of many cultural properties damaged by recent natural disasters.

Today I will talk about the Typhoon Haiyan, which happened on November 8, 2013, one month after the Bohol earthquake. This typhoon is being held up as an event linked to climate change. Locally known as Yolanda, it ripped right through the central Philippines, and was one of the strongest tropical cyclones ever recorded, reaching over 300 kilometers per hour in terms of sustained winds, and it was the deadliest Philippines typhoon on record—and our records stretch back to the 18th century—killing around 6300 people.

It affected a dozen provinces throughout the islands, but despite the general devastation, only one cultural property of maximum national importance was devastated. It was the 18th century church complex in Guiuan, Eastern Samar. After the disaster, this site was assigned to the National Museum for appropriate recovery action.

The church is a beautiful example of Philippine baroque of the 18th century, with many 19th-century elements. The site was considered to be listed in a UNESCO World Heritage Site of Baroque Churches of the Philippines. This church features many chapels and a fine altarpiece from the 18th century, carved under the Jesuit order. But what made this church especially significant was the shell ornamentation, which is completely unique to the Philippines. The National Museum has been supporting the conservation of this church over the last decades. Unfortunately, this disaster occurred and we had to rethink our conservation plans.

After the Typhoon passed the coastal town, a small fishing village, a very picturesque area, was completely devastated. From the army helicopter we could see that the church was completely wiped out by the strong winds. So what could we do after

such an event? The remoteness of the location was a formidable barrier. And of course, the first response was focused on humanitarian aid, and you can imagine that we weren't given much priority.

Finally, we managed to obtain one seat on the plane from some of the private relief organizations. So, I sent our Chief Conservator to check out the damage condition of the church. We understood from his photographs that the facade had fallen in, the roof blew off, and some of the walls collapsed. Because of the debris, it was difficult for him to get inside. In the interior, although the panels of the painted ceiling and the altar had collapsed, thankfully, the side chapels with the shell ornamentation had survived. The surroundings of the church were flooded, including the residence of the parish priest.

The Typhoon happened on November 8th. The next opportunity for us to go there only came about at the end of January, when a mining company invited me to go with them to see the affected communities. Of course, they had their mining interest too. We talked about whether we would accept any help from this mining company. They could offer us the logistics to set up mobile storage, mobile offices, and conservation labs to help start the recovery and also provide key equipment. However, even though it was funneled indirectly through the museum, because of the poor track record of mining in the Philippines, the local community had vetoed this offer. As a result, our efforts to recover the cultural properties were delayed even further.

You might have seen from footage of relief efforts from many countries that it takes many months to recover a semblance of normalcy. It was 4 months after the event that we could go to the site. That means that the cultural properties were left exposed during that period. We could only commence the work systematically 7 months after the event.

All of these priceless artistic treasures, cultural and sacred treasures were left exposed, except for those that the priest and his colleagues managed to retrieve to safety. Once we got the work started, we managed to carry it out fairly quickly. However, that

was just the emergency recovery and salvage. Of course, the major conservation work, structural studies, restoration, and reconstruction program are still underway.

It was very difficult for National Museum personnel from Manila to bring the whole team out there, so we had to hire people on the ground and provide them with adequate payment. They started under the supervision of three museum workers. The clearing efforts were made manually over a period of 2 weeks because there was no equipment that could enter the site.

For the clearing of the rubble, we deployed our archaeologists to the site and they managed it as an archaeological site. There was very careful recording of the original location of each stone in the walls. Slowly, over this 2-week period, we managed to salvage all of the fallen objects, including movable images. Finally, we had the structural engineers to go inside and make the survey, so that we could understand the condition of the structure.

While this was all ongoing, the community built a temporary church. Religion plays a very important role in this very devout community, and having a church building was very important for them.

Just 2 weeks ago the [French] President François Hollande gave a speech at the National Museum in Manila in preparation for the Climate Change Summit, which will be held in Paris later this year. Then, he travelled to Guiuan to see the recovery of the town and he even made a statement that all of his efforts on tackling the climate change issues would be done in the name of this small town. He inspected our church and we talked him through our plans for its eventual restoration. And I also have to acknowledge the support of the US government, which has liberally provided the funding for the restoration of this church through the ambassador's cultural heritage fund. Thank you.

**Takeyuki Okubo:**

Thank you. It is almost 14:56, when we would like to take 1 minute of silence to remember the victims of the 2011 tsunami in Japan, which was exactly 4 years ago. [Silence.]

**Alissandra Cummins (Barbados Museum and Historical Society):**

Good afternoon, ladies and gentlemen. In a Caribbean setting, subject to many disasters, there is a simple traditional way to encapsulate the phenomenon, which is not easily understood, such as “the

devil beating his wife with a *cou cou* stick.” It signifies a condition of both sun (the heat of the devil's anger) and the rain (the wife's tears) occurring simultaneously, and is easily extrapolated into a severe disaster being interpreted as a punishment resulting from God's wrath.

Even earlier, Pre-Columbian Caribbean peoples introduced a key concept in its contribution to global communication, which we today consider to be fundamental to our shared knowledge, which has resonated through millennia. Alongside the hammock, barbecue and savannah, the Caribbean Taino also conceptualized, constructed, and contributed words such as canoe and, of course, hurricane, the latter of which is central to Caribbean mindsets today and in the past.

In 1955, the Hurricane Janet destroyed so much of the Barbados island's infrastructure that this event reverberated for decades after. The transmission of those memories had a complete transformative action upon the capacity of those people to rebuild and reconstruct thereafter. However, today, after five or six decades, that memory has been eliminated over time and there is a loss of intergenerational exchange of knowledge and understanding about what that disaster did and how it affected local communities. Failure to acknowledge the significance of rural disasters hampers the institutional mitigation and management of acceptable risks within the context of preserving cultural heritage. This is a statement found in your *World Disasters Report 2014*. <http://www.ifrc.org/world-disasters-report-2014>

Spirituality and belief systems have had an enormous impact on the means by which local populations either accept fatalistically the results of disasters, or react proactively in recovering from them. But what I am going to address today are two or three opportunities where there are means for risk reduction; but it is the mindset, philosophy, and psychology of the current situation in the Caribbean that may prevent an effective action along these fronts.

I want to thank my colleague Akatsuki Takahashi from the UNESCO Apia Office for bringing to my attention a particular paper by Dr. Simon Hollis called “Disaster Risk Reduction in the Caribbean: Opportunities and Challenges for Achieving Greater Resilience.” I appreciate this because due to the time constrains I cannot cover all elements of the background but I would recommend this paper strongly, because it helps to define the parameters

of our experience.

The Caribbean experience of natural hazards and disasters has continued to increase over the last half-century. The intensity and number of weather-related disasters combined with existing social, political and economic vulnerabilities form a complex arrangement that threatens the livelihoods of individuals and communities.

We, in the Caribbean, share a turbulent and painful past of oppression. Slavery, indentureship, and colonial rule have applied layers of historical experiences that created difficulties for establishing a common story and, hence, a cohesive and strong self-identity. A present-day mixture of beliefs and ethnicities, and relatively newly claimed independence—all of these are important features that have severely affected the ability of communities to ground their customs in a historically defined script.

As a result, we have something that Dr. Hollis has identified as a “culture of non-preservation,” evident from the lack of will for preservation. Why should we preserve something that has been imposed, that represents a foreign culture, or something that completely lost its significant meaning to local populations? The result is a distance between the communities and the structures that you see as historically significant in any of the locales around the region.

The culture of non-preservation not only reflects this uneasy coupling between the past and the present, but it also limits the depth of vision for the future, and it has a barricade effect impeding the development of resistance and resilience mechanisms in communities.

As Dr. Hollis points out, power relations are embedded in some cultures, which leads to different allocations of risks. He also points out that organizations must reflect on their internal culture and how it interacts with the culture of people they intend to support. Now, I just want to raise a couple of points to show the impact it had on the communities.

We all heard about such thing as “high turnover.” The first thing that happens is the social political system tends to direct investment away from DRR. The second thing is the prioritization of the limited resources in other sectors that has resulted in heavily underfunded and understaffed national emergency management agencies. If those are heavily underfunded, then you can imagine that the mechanisms for resilience and rebirth within the communities are equally underfunded and under-

resourced.

I would mention just three steps in terms of regional systems. When the resources are limited, we have a situation where some sectors are prioritized over the others (the first step), which has resulted in this kind of high staff turnover (the second step), and had a direct impact on the ability of the entities to deliver what they are committed to (the third step). Such mechanisms are often given low status within all ranks of government, but also have an impact. There is a tendency to restructure government sectors after elections, which also creates challenges for establishing a sustainable emergency management system.

Dr. Hollis points out the need for encouraging intra- and inter-regional cooperation and coordination, and I remind you that this was a significant pillar of the Barbados Program of Action that was also adopted on Mauritius, and more recently, Samoa.

For us, the Caribbean Tsunami Information Center as a partnership initiative between the government of Barbados and the UNESCO Intergovernmental Oceanographic Commission (IOC) has been a critical step forward. Yet, it remains under-resourced and is in danger because of the lack of funding to effectively fulfill its goals and strategies, namely: monitoring and detection, hazard assessment, warning communication, information dissemination activities, preparedness, readiness and resilience. So, there is an opportunity for this kind of resilience based in inter-regional arrangements.

At the national level, I want to raise one point that I haven't heard mentioned today. Let me bring to the table the role of museums and their ability to stimulate activities within the governmental sector, NGOs, and civil society through their educative function. Museums are able to target schools and students, and to build knowledge, which has now been, as I said, divested between different generations; to explore science and technology as fun, leading to a comprehension of what happens in a disaster setting.

I will mention the last point I wanted to look at, which is the various aspects of intangible cultural heritage (ICH) and their change in meaning over the centuries. Just a few weeks ago, my museum hosted a special presentation by a visiting professor called “Landship, Entrepreneurship and the Ship of State in Barbados: The Many Uses of Heritage in Barbados.”

Why did we examine that particular element of ICH? The Barbados Landship is a unique perfor-

mance tradition, influenced by the British Royal Navy ships, ranks and uniforms, which began in the 19th century. At least, this is as far back as we can date it. At its peak of popularity, in the early to middle 20th century, it contained thousands of members across numerous ships in the small nation of Barbados. It was embedded in every village and every community. Although much reduced in membership, the Landship emerged later on as an emblem of Barbadian culture, and is routinely touted by governments and state actors as a model of cultural heritage.

But what was interesting was not so much the presentation itself, but the response of the audience afterwards. The diverse audience expressed their views on why the Landship was in trouble and how it changed its meaning, because it no longer possessed the mutual support system that had tied it into the community.

It now functions only as a very artificial performance. The underpinnings that gave it meaning and credibility within the society have disappeared over time in a postcolonial and post-independent setting, and the Landship has lost its authority and potency within the island's community. Societal transformations towards a formal banking system and centralized administration have left the Landship solely its performance function.

What occurred to me was that here was an indigenous ethnic form of social resilience in search of a new relevance. Why not explore the Landship and its capacity to generate support and belief in society and to aid resilience and risk reduction within the communities? With a renewed vision, we could see the Landship "sailing the seas" again.

Thank you very much for your attention today.

**Yuji Hasemi (Waseda University):**

Recently, not just in Japan but in other places as well, we have seen the occurrence of large-scale disasters. I feel that a topic that has been raised in this conference is the limitations of modern disaster-prevention technologies. On this occasion, however, we need to stress the necessity of the functionality of modern disaster-prevention technologies, even though disasters do not occur frequently. The disaster-prevention equipment possesses what may be called a "serviceable life"; however, the frequency of disaster occurrence may exceed this "serviceable life." It is an extremely difficult issue to maintain their appropriate functionality.

Japan is a country prone to disasters such as ty-

phoons and earthquakes. Within the country, there are also regions that have not been damaged by significant disasters for hundreds of years. These historic regions, in my view, may have overcome some limitations of modern disaster-prevention technologies.

We were fortunate enough to have Akira Tanaka introduce a range of examples from Takayama City in Gifu Prefecture, Japan. Among the examples given, there were traditional events such as shrine festivals as well as numerous local activities linked to disaster prevention. While I have also been involved in the work of Takayama, I would like to take this opportunity to convey a slightly different case.

Located at the most-westerly tip of Honshu (Japan's main island) in Yamaguchi Prefecture, we have the community of Sasanami-ichi in Hagi City. Recently, this area was selected as an Important Preservation District for Groups of Traditional Buildings, which is a historic district of national significance in Japan. Sasanami-ichi is a historical agricultural village that is on the thoroughfare between the center of Hofu City along the Seto Inland Sea and the center of Hagi along the Japan Sea. During the Edo period, the village served as a post town and stopover point for travelers. The community settlements are situated along the valley that stretches east to west. Therefore, to enter, one has to cross over the mountains either north or south. The terraced fields along the mountain road create a beautiful and picturesque landscape.

Hofu City, at the southern end of the thoroughfare, is 30 km away from Sasanami-ichi. In the city, in July 2009, an intensive mudslide occurred and regrettably killed 7 people who were in a nursing home. Looking at the aerial photograph of the affected area before the nursing home was built, we can tell that the mudslide ran through an existing mountain stream route with little forestation. The area can be observed as a land with high potential risk of landslide. Perhaps somewhere along the line a decision was made to utilize the land just because it was open, without investigating why it had remained unused. There have been many similar examples in postwar Japan.

To return to Sasanami-ichi, looking carefully at the geography surrounding the community, we can recognize that the area is not so safe. Upstream from the community, the mountain streams merge into a river that used to be a swamp and now is a field. The area is easily flooded. Therefore, the place was not suitable for housing. In short, the

community was created at a site somewhat removed so as to avoid the impact of flooding.

The paths across the mountain usually follow the mountain streams. However, as mudslides may run through these routes, people avoided building houses there, developing fields instead. People tend to build houses on the plains along the valley, again avoiding places where the streams merge. One can assume that through these measures, for a period of four centuries, the people of Sasanami-ichi have been able to lead their lives preventing major disaster damage.

The basic shape of the Sasanami-ichi community was formed somewhere back in the 17th century; however, upon entering the 21st century, disaster-susceptible land was used just because it was available, resulting in a calamity a few years later. We need to re-evaluate the technologies that were developed in early-modern times.

Furthermore, another issue that is important to consider is the beautiful and picturesque landscape created by the crooked road that resulted from these traditional disaster-prevention measures. One may think that they build their houses anywhere, since no disaster damage has occurred for hundreds of years, but that is not the case. The more we follow the building rules, the safer and prettier the community becomes. This is something that had been left behind in modern architecture and contemporary urban planning.

On a less fortunate note, even in Sasanami-ichi, some fields that served for disaster prevention are beginning to be developed. The reason why historical and cultural heritage has been preserved for hundreds of years is proof that traditional disaster prevention measures have been effective during that time. This is something that needs to be considered with much more care.

In the modern period the concept and circumstances of cities have also changed greatly. Sasanami-ichi is one case in a rural setting. In historical urban areas in places like Kyoto, where urban growth continues to expand, concentrating only on modern disaster prevention methods does not suffice. That concludes my comments. Thank you very much.

**Kensaku Kikuchi (Agency for Cultural Affairs, ACA [retired]):**

I would now like to offer a little of what has happened concerning folk cultural properties and how they were damaged in the wake of the Great East

Japan Earthquake (2011). I was the official responsible for these properties at ACA at that time.

The areas severely affected by the Great East Japan Earthquake included the coastal areas of Chiba, Ibaraki, Fukushima and Miyagi prefectures, where a traditional custom known as “*hama-ori*” (it literally means “to descend to the beach”) is conducted by many communities. In some locations, *hama-ori* occurs once annually, while in others it happens once every couple of years. There is even a case that *hama-ori* is only done once every 72 years. At such events, the spirit of a deity who resides within a Shinto shrine is transferred to a *mikoshi* (a portable shrine), and then conveyed to the seaside by groups of worshipers. Seawater is then drawn from the surf, or the *mikoshi* is actually carried into the water. A ceremony then revives the vigor of the ailing deity. These events constitute festivals that involve people coming into close contact with the sea.

The worshipers who convey the weakened deities to the sea and back to their shrines afterwards can create rather long processions. Upon reaching their destination, the worshipers try to draw their ethereal charges into the sea. The process of purifying the *mikoshi* with seawater takes place under conditions that involve rather high waves. In these festivals, matters can be difficult if the beach lacks a gentle gradient. As such, locations that have steep gradients that precipitously drop into deep water cannot readily be used. Accordingly, tradition has dictated that *hama-ori* festivals are held on the same stretches of beach over many years, with worshipers entering the surf at the same point so as to draw seawater. However, due to the damage caused by the earthquake, these same stretches of beach have been ravaged. Alternatively, those villages that have played host to such *hama-ori* traditions have themselves been devastated. Indeed, with traditions like these, they only truly come into their own as festivals once both the existence of participating worshipers and watching spectators is recognized.

In Fukushima’s north on the Pacific side is the city of Minamisoma. In this area, there is a small community called Minamiebi. Within this small community, there are the traditions of *shishimai* (lion dances) and *shishi kagura* (sacred dances and music), while a *hama-ori* festival also takes place somewhere along here. At the same time, there are at least another two shrines from outside the immediate vicinity from where worshipers carry their *mikoshi* in order to undertake *hama-ori* along the

same stretch of beach. However, there is a further tradition at play here. Namely, if other villages wish to make use of this bit of the coastline to undertake their own *hama-ori* festival, they must be led onto the beach by the *shishi kagura* of the Minamiebi community. Nevertheless, this tradition in itself is now problematic. This is because of the 70 households that once constituted Minamiebi, 60 were washed away by the tsunami following the Great East Japan Earthquake. And what is more, both equipment and people were also lost. Because of this, in addition to the tsunami damage inflicted upon the Minamiebi community itself, the reality of such a tradition is that the two other villages who had done *hama-ori* along the same stretch of coastline can no longer continue the practice. In other words, the culture of these other areas that used this same location is also being interrupted. This represents another form of damage. In direct terms, there are festivals and other events that have been indirectly affected, which are not readily apparent as damaged intangible cultural properties.

The festival in Miyako City, Iwate Prefecture, is another form of *kagura* music called *kuromori kagura*. *Kuromori kagura* is performed in January each year, its practitioners setting out to perform from door-to-door. One year, its performers will head in a southerly direction going out of Miyako, while the following year they will head north. Within this tradition, a basic premise is that music will continue to be played as the performers move in the direction of communities where they will be put up for the night, then they will continue to tour the area before returning to the city. While through very good fortune we have been advised that all of the *kuro-mori kagura* participants were able to survive unscathed, some of the locations where they might well be expected to stay overnight have been damaged. When asked what they would do in light of such developments, it seems that there is a willingness among the participants to switch from the traditional southern and northern tour routes along the coast to trips that would head inland. In other words, there is the possibility that the traditional tour routes will be slightly altered. Concerning intangible cultural properties and in particular folk cultural properties, it is said to be rather obvious that traditions can be maintained by making small adjustments over the long term. Indeed, in that in this instance changes appear to be already underway and will probably continue in the future, I am inclined to believe that such a flexible response to

the prevailing circumstances shall allow for the impacted festivals and culture to be handed down to future generations. Furthermore, I both hope and believe that the people of the areas impacted on this occasion shall be able to display such flexibility in responding to the circumstances that have presented themselves.

For this reason, shortly after the East Japan Great Earthquake, we imposed on the good graces of the populations of Iwate, Miyagi and Fukushima prefectures and conducted a survey among them. This project sought to establish which festivals and folk cultural properties had been traditionally handed down within the impacted regions. This was done for the future, in preparing for when those persons who have been evacuated return to their place of origin. It was also done to cover the eventuality that such people might relocate to other areas of Japan. In addressing either scenario, as a form of assistance, we wanted such people both to be aware of and to know the cultures that they had carried with them. It was for these reasons that the research was conducted. The results of this research have already been printed, and Japanese language reports issued for each of the three prefectures. Thank you very much.

**Timothy Curtis:**

Thank you very much. The presentations by the four discussants provided very concrete and valid examples to enhance the understanding of the session theme. Now, discussion is opened and any comments and questions are welcomed.

**Diane Douglas:**

I have a question for Webber Ndro. During your presentation, you mentioned that in response to HIV, Ebola and other diseases, international organizations were coming into the country and interjecting their expertise in a way that could adversely affect the traditional systems within the country. I was wondering if you could elaborate on how the international organizations come in and how they are actually affecting the traditional systems. And what would you recommend when aid agencies are coming in, in order to take traditional measures into consideration?

**Webber Ndro:**

Not so much with HIV, but when Ebola broke out in West Africa, there was huge panic.

There is an article in *Lancet Medical Journal*,

which alludes to the fact that there is an outbreak of Ebola almost every 2 to 3 years in Uganda, and there is a cultural tradition of isolating the dead; the rituals that are performed to the dead are still performed, but without necessarily interacting with the dead.

If you recall, in West Africa, quite a lot of the deaths occurred because of the cultural ritual which was supposed to be performed on the dead. So this paper suggests that if we had paid attention to what was happening, where Ebola used to occur, there were already traditional responses to that.

Africa has quite a lot of these disasters caused by diseases, and Ebola was one of them. And again, there is also a tendency to do that, even with cultural heritage. Timbuktu, for example, was one such area where we had to go in and try to protect the heritage without necessarily consulting the locals on how to respond to this.

The general idea of my presentation is that we need to create a dialogue between the traditional systems and the modern systems. I am not saying that experts should not come, but we should open up and see what traditional systems offer to see and whether this can also be used.

**Timothy Curtis:**

Thank you. I think that has summarized in a very neat way the importance of these traditional knowledge systems that have been discussed in this session. Next question, please.

**Unidentified speaker:**

I have a question to Randolph Langenbach. I arrived in my hotel room and dutifully started reading the instructions in case of an earthquake. I was informed that this building can survive the impact equal to the 1923 earthquake. When we are speaking about the traditional methods and traditional knowledge, it is usually about the 2-, 3- or 4-story buildings. The bad building code or bad building practice in Turkey is not an excuse for what happened. Do you feel that there is room for modern technology? What is in the new technologies to actually match and to give us solutions in the new urbanization?

**Randolph Langenbach:**

That's a very good question. I tried to open up to add an answer to that in my last few slides.

When I did consult with the Global Earthquake Model, I analyzed an entire database of buildings,

not just historical buildings. I was brought in because I had reached back in time and therefore I was dealing with a wider range of building types than somebody would be if they had been trained only with what is constructed today. One of the things I realized is that all engineers and architects are mainly taught frame theory.

We're taught how to analyze and calculate and how to design and build frames. Through the 20th century up to and including the present, we really think of buildings as frames. Most of our buildings are in fact a combination of frames and walls. That's the difference between a building and a bridge. The calculations that we do today for buildings are mainly to calculate a frame. The first invention of the contraflexure method for analyzing a frame actually reduced the amount of steel going into the steel frame buildings, after the turn of the 20th century, and was invented originally by a bridge engineer. Then building engineers picked it up. One British historian has pointed out that it came into the building engineering design theory in about 1910, thus it was after the 1906 San Francisco earthquake.

And so, that last picture where I talked about wall dominance, I think, opens up the whole direction. The reason why I presented the idea of an "Armature Crosswall," which I learned from traditional buildings, is that every time I see these pancaked buildings, many of them were built with the intention that they meet building codes. We're talking about a country that has very highly developed seismic engineering training in the universities.

If you go to New Zealand, consider where did most of the people die in the Christchurch earthquake? We saw many pictures of masonry buildings that fell down, but two thirds of the people who died in that earthquake died in only one building, and it was reinforced concrete frame. Another one would have killed an equal number, had it been fully occupied. It was the Pyne Gould Building. And then there was the 19 stories Grand Chancellor Hotel which almost fell down and the whole center of the downtown was essentially closed for 2 years until they demolished it.

Those were all engineered to meet or exceed the building codes, so what is missing is an understanding of the need for redundancy, that is the need in a building to have a secondary structural input for earthquake resistance—a secondary element that can assist or take over in the event the primary structural frame begins to degrade.

I hope for the idea that our thinking about build-

ings needs to be changed in some ways, while at the same time I'm completely with you that modern structural engineering is important and contributes a great deal. That's why I show the evolution of the modern structural frame in a positive light. In the case of the 1906 earthquake, even one of our contemporary engineers explained that he was mystified as to why the buildings survived so well. Those are steel frame buildings. Thank you.

**Timothy Curtis:**

Closing this session, I would like to ask Takeyuki Okubo to make a couple of comments.

**Takeyuki Okubo:**

Thank you very much for your active participation. Having heard the lectures and discussions in this session, I think we learned two important things to consider.

The first point is that it is important to learn how to identify risks from the disasters which have affected the place. The second point is that it is significant to understand traditional knowledge systems of the place from long-standing physical and social community systems.

At the end of today's program, we are going to have group discussions. Further discussion on the theme of this session is expected to formulate our opinions. Please join. Thank you.



(Provided by Takeyuki Okubo)



## Tokyo Strategy Meeting

# Session 3

## Strengthening Governance and Institutions to Manage Disaster Risk

[Facilitators] Paula Holland, Kanefusa Masuda

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## Presentation (3-1)

### Cultural Heritage and Disaster Risk Reduction in Sweden

– the importance of cooperation –

Erika Hedhammar  
Advisor, Conservator,  
Swedish National Heritage Board

The Swedish National Heritage Board is the agency of the Swedish government responsible for heritage and historic environment issues. Our mission is to play a proactive, coordinating role in heritage promotion efforts, and to ensure that the historic environment is preserved in the most effective possible manner. This includes protecting cultural heritage from disasters.

The watchwords for the Swedish National Heritage Board are openness, cooperation and professionalism. Especially the word “cooperation” is important for disaster risk reduction for cultural heritage.

Our work with disaster risk reduction for cultural heritage requires cooperation with other non-conservation organizations dealing with risk reduction, where the exchange of knowledge and experience is essential. Such organizations are, for example, salvage managers, fire brigades, police, insurance companies and owners of cultural heritage buildings.

Disaster preparedness for cultural heritage needs to be included in already existing routines at local, regional and national levels. It is also important that natural disasters and climate change are considered in preventive conservation plans.

The Swedish National Heritage Board is at present working with a three-year plan on climate change and cultural heritage buildings. The aim is to gain and spread more knowledge about climate change and cultural heritage. We plan a yearly seminar for the regional authorities working with cultural heritage and climate change.

As a vital part of the national disaster preparedness for cultural heritage, the Swedish National Heritage Board runs the Network for Fire Protection and Disaster Preparedness in Heritage Sites. Last year the new Network for Protection Against Heritage Thefts was launched. In these networks we have representation from salvage management, police, museums and insurance companies, as well as representatives from the Church of Sweden, the Swedish Civil Contingencies Agency and the Swedish Fire Protection Association.

The networks meet four times a year and discuss fires and thefts that have happened, and what we can learn from them. To meet continuously means that it is easy to get in touch when needed and especially during a disaster.

In 2014, the Network for Fire Protection and Disaster Preparedness in Heritage Sites did a study tour to our neighbors in Norway to learn more about their work with fire prevention in cultural heritage. Our two countries have a lot in common, for example, wooden buildings, similar legislation and climate. This year, we will also participate in a national conference for fire brigades to inform about cultural heritage and how they can work actively to protect it.



Fig.1: *The Network for Fire Protection and Disaster Preparedness in Heritage Sites on a study tour to Norway*

Since 2011, the Swedish National Heritage Board is a member of the Swedish National Platform for Work with Natural Disasters according to the Hyogo Framework for Action. Cooperation in the national platform involves liaising with various authorities and the opportunity to gain knowledge about natural disasters such as floods, landslides, flash floods and forest fires, as well as to disseminate knowledge regarding cultural heritage.

Every year, the Platform organizes a field trip. Last year we went to the northern part of Sweden, where there have been problems with landslides



Fig. 2: *Field trip with the Swedish National Platform for Work with Natural Disasters to an area with Iron Age graves and risks of landslides*

close to a river. In this area, there are a lot of ancient remains, such as Iron Age graves. Archeologists at the regional museum presented their risk assessment and told us about the excavations made before the eventual collapse of the graves.

One example of the work in the platform is a pilot study in the south of Sweden, where we combined the new nationwide elevation model, sea-level rise and cultural heritage values. We used the models for elevation and sea level rise with the information about ancient sites, listed buildings and got an overview where we can anticipate problems with the sea level rise. Thus, we can pinpoint which buildings and sites are most at risk.

The need for cooperation was highlighted during a forest fire in the summer of 2014 which threatened the Engelsberg Ironworks World Heritage

Site and seven churches. Measures were taken by the Church, the County Administrative Board, the owner, and the insurance company of Engelsberg Ironworks. The seven churches and the Engelsberg Ironworks were close to the fire, but the fire turned and they escaped unharmed. However, the situation showed the importance of preparation, communication, and cooperation both during and after the fire. There have not been many big wildfires in Sweden and that means that there was little experience to handle this big fire. There have been several reports about what happened during the fire and the lessons learnt. Some information in the reports will also be about the cultural heritage. For example, many ancient sites are in the area and foresters have to be careful not to destroy them. In addition, more ancient sites will probably be found after the fire.

There is a lot to do to improve the communication during disasters in Sweden. This work will continue. Some results of such work become clear from a newspaper that interviewed a fire brigade team leader. In this interview he said: “We work in the area where Engelsbergs Ironworks is situated. We have to protect world heritage at all costs.” By that we can feel secure that cultural heritage is claiming its rightful position also with the fire brigade.

Finally, the Swedish National Heritage Board was invited to the two dialogue meetings about the Post Hyogo Framework for Action in Stockholm in 2012 and 2014. The Swedish National Heritage Board is proud to be a part of the Swedish delegation to the UNISDR Sendai meeting.

## Presentation (3-2)

### Local Disaster Risk Reduction (DRR) to Conserve Local History and Local Identity

Sue Cole

(kindly delivered by Diane Douglas)

ICOMOS-ICORP

One of the key things that everybody has been talking about is bringing in local communities and traditional cultural knowledge versus global communities and international organizations, and trying to integrate those two. And this goes back to some of Terry Cannon's definition for cultures, values, identity and risk, how you value culture and how individuals and communities identify with it. A lot of our cultural clues are personal and come from our own backgrounds; who we are and how we were raised. For international organizations or other communities to go into somewhere and basically say 'this is what you need to value' inevitably causes problems. We need to take into consideration how those local communities value their own resources and heritage and respect the knowledge that they bring to preserving those resources themselves.

Cultural identity is or should be the core element of planning, whether it is at a local, community, city, region or statewide level, and the need for DRR must be incorporated into the overall planning. The key is that people are aware that cultural heritage is important for creating and shaping identity within a culture or within a community, and how this can be used to help respond to the disasters and to the long-term recovery as well.

I think one of the key elements of this entire presentation is the importance of involving communities in general DRR planning for reduction planning in general, but particularly, to get the bespoke protection of their own cultural heritage. As many of the presenters had talked about this morning, communities will have their own ideas and their own knowledge that they bring to the table on how to actually protect the things that matter to them. And they might not be the same as those of the people who are trying to help. A good example of this is Westminster Abbey (Fig.1). Sue noted that when she was preparing the Statement of Outstanding Value for the Westminster just recently, the Abbey staff had huge problems with the process. Despite being a World Heritage Site since 1987, they still resented the fact that they had not been involved, and that Westminster Abbey was nominated



Fig.1: Westminster Abbey

strictly because it was a beautiful structure and took no notice of the fact that it has been a living breathing place of worship for several hundred years, which for them was the most important thing. In their view, they had been looking after the building for nearly 1000 years, and the maintenance and DRR were intertwined in everything they did. But the rules of the process imposed on them by UNESCO meant that to recognize this intangible value as Outstanding Universal Value would require a re-nomination, something no one has the time or money to do. So the misunderstanding remains. And we see a lot of such cases.

And again, at Blenheim World Heritage Site, the UK Government basically came in and nominated the site, but none of the owners or managers were actually consulted or involved at all. They only learned about it after the inscription. And so, if you put yourself in their place, how would you feel if you were the one whose family had been managing the site for generations, and you had been there for your entire life or career to find out that the government has stepped in and they are now going to tell you how to manage your home, without actually consulting you on the process. You would probably be resentful too.

We looked at local heritage definitions earlier today and saw that heritage belongs to us all, particularly world heritage. However, we also have to understand that local heritage matters enormously to the people and communities who own it, experience it and fund it on a day-to-day basis. We can harness this passion by listening more and by helping to em-

power individuals or community groups in preserving cultural heritage resources, and exporting best practices as widely as we can.

I would like to give an example of Bewdley as the most perfect small Georgian town in Worcestershire. It is located on the River Severn, which floods routinely. In our DRR community, we have worked in flood disaster areas and know the damage it brings to cultural heritage resources. And so, people in Bewdley came together in the late 1990s and early 2000s and tried to identify the ways in which they can make their own community, their own village, more resilient to future flooding.

And so, they started the National Flood Forum (NFF) in 2002 with government funding. It focused on resilience in the community and involves the community to identify how best to preserve their own resources. So, the pressure from the NFF and their members, coupled with increased flooding led the UK Government to increase funding for preventative flood measures and issue more guidance on how to make all homes resilient to flooding, not just the historic ones. More importantly, the guidance is easy to read and practical, rather than full of expert jargon. NFF has also been working with insurance companies to make sure that homes in flood risk areas can be insured.

Lots of different methods of flood resilience were looked at - from flood proofing homes by putting in high level electrical sockets, stone or tile floors and back valves on water pipes, toilets and drains to hardening road surfaces to prevent them washing away, and installing flood barrier plates so that barriers can be easily erected in advance and then taken down when not needed. This method preserves the appearance of historic areas much



Fig.2: Preventative flood measures along the River Severn, Bewdley

more than the standard concrete anti-flood re-vetting! (Fig.2)

Another good example of community-based heritage is the Severn Trent Railway where volunteers got together to preserve, conserve and operate a steam railway (Fig.3). When the line suffered damage from landslides during a thunderstorm in 2007, volunteers and the community were very quick to appeal publicly on social media for funds to repair and restore the line. Being able to get the message out quickly via news organizations and other networks meant they were up and running much quicker. This is something we can use elsewhere and we should not underestimate the power of social media in getting a message out to request help—remember, a picture tells a thousand words.



Fig.3: Severn Trent Railway

The Ironbridge in Shropshire (Fig.4), known as the birthplace of the Industrial Revolution, straddles the River Severn which, as it was mentioned, floods regularly. Unfortunately, the Ironbridge Gorge is geologically unstable and it worsened during the Industrial Revolution because of mining, spoil heaps from factories, and tile works in the Gorge. The local council and community have been trying to identify the ways to protect buildings and structures in the area from landslides and flooding. So, community resilience guides have been developed for householders, where the emphasis was placed on respecting the historical integrity and industrial past of the area. This approach is now being used in other areas.



Fig.4: Ironbridge Gorge

Everybody has mentioned the fire brigade and the importance of the fire brigade in the preservation of historical resources. In the UK the fire engines are now being fitted with databases indicating what is important about the buildings and structures, so that they are not inadvertently damaged during the actual response to a disaster, which as we all know has happened in the past. Fire brigades are now being trained in the importance of cultural heritage, and are going around talking to owners and managers about preparedness and response measures.

We had discussed this earlier today, but there are other ways to repair buildings. One way of repairing disused or damaged buildings is to develop preservation trusts or community trusts - these can be responsive and locally based and, therefore, better able to raise, target and focus resources that the government does not necessarily have. One good example of this approach is a fire-damaged site Astley Castle in Warwickshire that has been rehabilitated and restored to a high level of historic accuracy, and is now used as a holiday venue (Fig.5).

To conclude, we have to understand the differences between national and local, and to make sure that communities are involved in the plans affecting their heritage and surroundings. As DRR and cul-



Fig.5: Astley Castle

tural heritage experts, we all need to understand that we have a lot to offer but also a lot to learn.

I would also like to add that ICOMOS-ICORP has been working with UNESCO on the 1954 Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict Second Protocol Committee and was trying to expand it to cover natural disasters and DRR, so that a peacetime planning and training in DRR can be encouraged. We hope that the Blue Shield is able to do more in the future. Thank you.

And thank you to Diane Douglas for delivering the talk in my absence.

### Presentation (3-3)

## The Need for Full Engagement and Empowerment of Local Communities, Leaders, and Administrators

Gabriele Weichart  
Senior Lecturer,  
University of Vienna

In DRR and also post-disaster reconstruction projects there is a strong focus on several issues. One is to integrate local communities, to strengthen the roles of local leaders and administrators, to implement grassroots participation, to protect cultural heritage, and, of course, generally to empower communities and local leaders, and also we talk about sustainability and resilience.

I am going to put up a few questions that came into my mind when thinking about the subject. And some of the questions, of course, have already been addressed, but I think it is nevertheless quite useful to rethink them again.

The question number one is what a community is, and who are its members? As we have heard before, we tend to think of society or a social group as something confined, something that we can define and we can address adequately. But more often, it is the case that it is much more fragmented, much more incoherent, and much more unequal than we might believe.

Who are the local leaders? That is also a question. Are the local leaders the same as the local administrators? And what role do they play? Are they traditional local leaders—and I will present a case study from Indonesia, from a country that is very different, of course, from Central Europe, where that is the case—or are they administrators, who have been installed by the local governments and who do not hold a traditional role in that society?

How is power distributed among the different stakeholders? In fact, again, we come to the question, of who holds power in the society, who holds power within smaller groups, but also in the larger regions.

And what does participation mean? Because the claims for participation in development and also in DRR have been very prominent over the last few years, but what do we actually mean, who participates and in what form? And also, what kind of status and authority do the participants have?

Then, the next question is, who defines and iden-

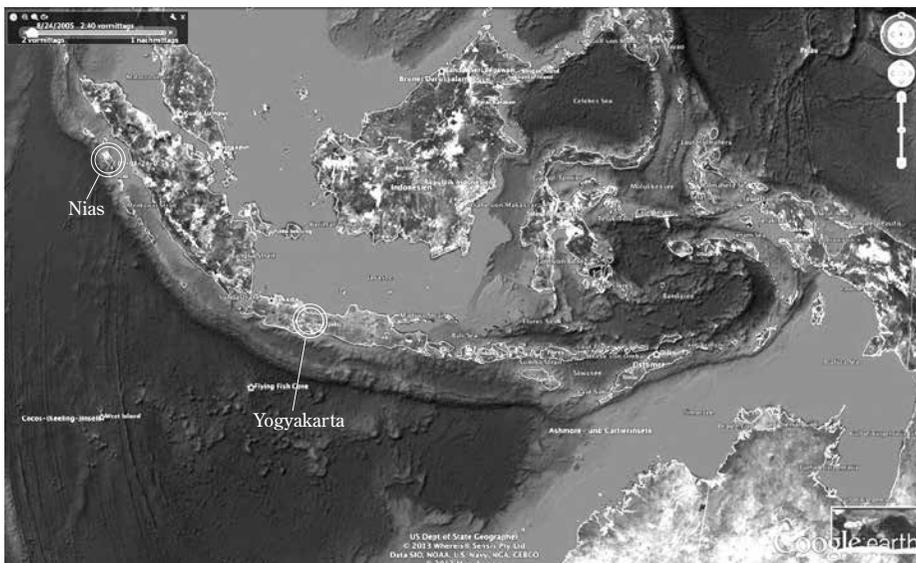


Fig.1: Location of Nias and Yogyakarta (Google earth is as the basemap.)

tifies cultural heritage? Again, who are the people who will say that an object or intangible cultural practice is cultural heritage? That again refers to the power structures in a society. Who are the ones who have a voice and who speaks for whom?

And last but not least, how can we define and measure sustainability and resilience in a specific context? Again, perhaps our colleague Joseph King will say that I should come up with a concrete answer, with a solution, and not only ask questions but I think in order to come up with a manageable solution, it is good that we have the right questions.

In the following, I want to present a case study of a project which is called Architecture, Space, and Society in Post-Disaster Built Environments in Indonesia, a very long title, so we had the abbreviation of ASSIP, which is much shorter and perhaps easy to remember. And in this project, I worked together with my colleagues from the anthropology department, but also from the architecture department in Austria and Indonesia.

And there are two regions where we focused our work. One is in the small island of Nias, which is west of the coast of Sumatra. And the other one is the area around the city of Yogyakarta, which is in Central Java. There are two regions that are very different in many ways. Nias is a small island with a rather small population concentrated in villages of approximately 2000 inhabitants each, while the average population per settlement in Indonesia is about 760,000 inhabitants.

On the other hand, Yogyakarta is a large city, and the area around it is one of the most densely populated in Indonesia. So, only in the Regency of Bantul, which is one part of the province of Yogyakarta, we have approximately 910,000 people living, and the villages here have an average population of about 25,000. So you can see there is a vast differ-

ence.

Economically, there is also a big difference, although in both regions, agriculture plays a great role. In Nias, the farmers have focused on growing cash crops in order to make a living. In Yogyakarta, it is mainly handicrafts, such as batik and leather puppets, or pottery, which have become very prominent over the last few years.

And why did we focus on these two regions? It is because both have experienced major earthquakes in about just within a year's difference. The first was in Nias, and Nias was also hit by the tsunami, which, as you remember, was on the 26<sup>th</sup> of December 2004. And only a few months later, they had a really strong earthquake of magnitude 8.7 in March 2005, and a year later on the 27<sup>th</sup> of May, there was one not as strong but also very strong of magnitude 6.3 in the Yogyakarta area. And we had many more victims in Yogyakarta, not least because of its much larger population of about 6000, whereas the population of Nias is approximately 900. And also, the number of houses destroyed and damaged was much higher in Yogyakarta.

But nevertheless, Nias benefited much more from international donors and international funds than Yogyakarta, and not least because of the tsunami experience. And because it was part of the so-called multi-donor fund that was established for the Province of Aceh and Nias, in order to repair, rebuild and reconstruct the area.

The main goal of this project was to rebuild the area after earthquake, so we were focused on the mid-term, rather than long-term effects. The mid-term effects could be seen after the reconstruction, but sometimes we could feel them during the reconstruction as well. But we were mainly looking at the architecture, and looking whether the architecture had changed dramatically, whether people



Fig.2: Houses in North Nias after the earthquakes (left) traditional houses, (right) standardized house

tended to build in new ways than before, or if they thought that the old ways were the right ways of building. So, we had a village in North Nias with some traditional houses with the thatched roofs and elevated floors. And, a building that was built with the money from the donors, and which was not only a very standardized, but also a very bad quality building. (Fig.2)

And when we went there in 2011 and 2012, many of the houses had already been abandoned because they were useless for the residents. In other words, they could not function as a dwelling.

Moreover, there was no canal system and no electricity to satisfy basic human needs. The residents had to provide for it themselves, and then they gave up, because they were lacking the financial means to deal with those issues.

There is a very different type of traditional house in Bantul area, which is in the province of Yogyakarta. And, again, there is a house that was rebuilt after the earthquake. (Fig.3)

What is especially remarkable for us in the traditional houses is that they had survived the earthquake much better than modern houses built at the same time. As a result, the great value of the traditional architecture became obvious not only for experts or researchers, but also for the local people, and we believe that it has changed the attitudes of local people towards their own architectural heritage. Instead of demanding something new and modern, people rediscovered the value of traditional architecture. Indeed, it did save people's lives, and one should think twice before abandoning it.

The problem with the reconstructed houses was not only the bad quality of construction, but that several agencies and also a very big government agency were involved in the rebuilding and organ-

izing.

There are rumors about the corruption involved in the process, but I do not know how much of it is true. Certainly, what is clear is that there was a lot of mistrust among the local population towards these agencies. And although many people made a lot of money, and also individuals made money because they got jobs in construction, still the general complaint was that they had not been consulted. It means that certain local leaders and certain local administrators cooperated with these agencies, but the local population itself had not been consulted and that was one of the reasons why the houses did not work, why they were not designed the way people wanted, and why the outcome was actually very bad, although a lot of money had been put into it.

I would like to present another case of the house in Yogyakarta; It is one of the so-called core houses that appear in many types and shapes. This small core house is 6 by 3, which is 18 square meters in size. They were designed by students and lecturers from the University of Gadjah Mada in Yogyakarta, in collaboration with local authorities, and were provided to inhabitants of a small village in the affected area.

A very special and unique feature of these houses was that they could easily be expanded, which means that within a year's time, the majority of the people who got these houses had the possibility to make them bigger, to expand them to the front, to the back, or to the sides.

So, in the end, these people were very happy with these houses and they thought it was a good idea. This is just an example where much better results were achieved because the community was more integrated and was more consulted about what they needed and how they needed to have it



Fig.3: Houses in Yogyakarta after the earthquakes (left) traditional houses, (right) houses rebuilt

done.

In the end, I would like to say a few words about the role of the culture in this process. I have been talking about cultural heritage in terms of architecture and showed that traditional architecture was actually quite useful. But for various reasons, the traditional methods of construction are not used to such a large extent anymore; for example, unavailability of wood material, labor-intensity, and high costs. But also, because people today want to have more privacy than you have in traditional houses. And so, from that point of view, many people still choose modern buildings, which often are made of concrete or bricks.

Still, even in these circumstances, culture also matters. It can be seen in the ways of how people deal disasters and reconstruction. In Nias, religion is thought as the dominant feature of the region. Although it maybe did not play a big role at the time of disaster, still, from a social structure point of view, this area is outstanding. Nias is a hilly island with small villages. The villages were traditionally built on the hills and fortified. In southern Nias, the villages are surrounded with fences, and you have to climb up the stairs to get there. That means there is a strong sense of belonging within the village, but also a certain mistrust and suspicion towards everybody who comes from outside. As a result, cooperation beyond the village boundaries and beyond the kinship boundaries, or family and clan boundaries does not happen so often and, certainly, does not have a long tradition.

In Yogyakarta, or in many parts of Java, we had a peasant society engaged in wet rice farming for a long time, so with the need of close collaboration between the neighbors, there is a long tradition of cooperation in extended social groups, which has been embedded in the society. It also means that, in

times of disaster, it was much easier for the authorities in Yogyakarta to get people together for collaboration rebuilding their villages, and to help each other in house construction. On the other hand, in Nias, there was a lack of such a sort of tradition.

I do not want to say that this is the only explanation, but I think it is something we often tend to forget, because we have a certain model and we tend to apply it wherever we go, and it might work in one society, but it might not work in the other.

Coming back to the local leaders and administrators, it is also the question, who are the people who deal with the authorities, agencies, NGOs etcetera. Do they have the trust? Do they have the authority from the community to speak for them? Or are they, perhaps, self-nominated leaders, who are not really representative?

One of the village heads in Nias had problems supporting a project after the disaster. A well had to be built because there was a lack of clean water. And the well was built, and every household had to pay a very small amount per month just to keep it maintained. But the majority of the villagers were reluctant to pay as little as a few cents, which is not a lot even for Indonesian standards, because they said they did not know what was going to happen with this money, and they did not trust their village head to handle it. And so, up until now they stay without a clean source of fresh water. I think that this is something we need to be aware of during reconstruction.

Unfortunately, I do not really have solutions for these problems, but I believe that there is meaning in rising questions, so that we can discuss them and get suggestions on how we can overcome such problems in limited time with little resources, and how we find out what really needs to be done and how it can be done.

## Presentation (3-4)

### Coordination among Relevant Sectors for Emergency Response for Heritage

France Desmarais

Director of Programmes and Partnerships  
at International Council of Museums

The International Council of Museums (ICOM) was founded in 1946, on the occasion of the creation of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), to insure a Non-Governmental Organisation (NGO) would represent the work and interest of museums and museum professionals worldwide. As early on as its creation, the protection of cultural heritage was included in the founding mission statement of ICOM, an organization bringing together heritage professionals in the post-World War II world. Seven decades later, the protection of heritage in emergency situations and the fight against illicit traffic in cultural goods are central to the work of the organisation that can now count on 35,000 members present in 140 countries. This presentation will illustrate a part of ICOM's role as an important international player in the protection of cultural heritage. This is a much-needed role, in a period where the world is witnessing severe upsurge in attacks on cultural property through armed conflict.

#### **ICOM and the Protection of Cultural Heritage**

The International Council of Museums (ICOM) was created thanks to the will of a handful of men and women who, by coming together to represent the museum world and promote international cooperation through their professional networks, were placing the role and responsibilities of museum professionals and institutions at the heart of a new organization.

From the *ICOM Code of Ethics for Museums*, now referred to as the international base-standard code for museum professionals worldwide, to the well-known *Red Lists of Cultural Objects at Risk*—directly associated with helping law enforcement agencies recognize and seize cultural heritage items looted in many countries, including quantities of antiquities in recent years—the aim of many of ICOM's programmes has been to develop innovative practical tools designed to help protect cultural property.

ICOM's work on cultural property protection (CPP) has maintained a progressive momentum of development over many years: from setting stand-

ards and guidelines for the industry to editing practical tools used by law enforcement agencies around the world. More than an internal task for ICOM's members or member museums alone, ICOM's mission to protect cultural heritage has caused it to link up with other agencies in a global effort after ICOM was recognized by the Economic and Social Council of the United Nations (ECOSOC) as the NGO expert to support efforts against illicit traffic of cultural goods. The expert group now pursuing this responsibility connects ICOM with five international/inter-governmental organizations: UNESCO, UNIDROIT, and the United Nations Office on Drugs and Crime (UNODC), for their respective legal instruments on the subject, and INTERPOL and the World Customs Organization (WCO), representing international law-enforcement agencies. In this group, ICOM provides its resources as the scientific expert on movable cultural goods.

#### **Protecting Heritage in Emergencies or After Disasters**

Faced with the large number of museums destroyed in the wake of the 2004 Tsunami and the outpouring proposals for support from museum institutions worldwide, ICOM decided to create a Disaster Relief Task Force for Museums (DRTF). The DRTF is a technical committee of ICOM dedicated to emergency response for museums, gathering museum-related professionals from different parts of the world that stand ready to provide advice and assistance to international colleagues and their institutions upon request. With the help of the Programmes Department in the ICOM Secretariat, DRTF monitors emergency situations to assess damage to cultural heritage in order to quickly evaluate the most pressing needs of museums and other heritage sites and places of conservation. Since its creation in 2005, DRTF has monitored a large number of different types of emergencies. Keeping in mind that this body was created after a natural disaster, and that since 2011 it has been mainly monitoring armed conflicts, this implies a drastic change in the way the Task Force now needs to op-

erate, including conducting a review of ICOM’s monitoring protocols and follow-up methods.

The Disaster Relief Task Force for Museums also contributes to ICOM’s efforts as part of the Blue Shield. Following World War II, in 1954, UNESCO adopted the *Convention for the Protection of Cultural Property in the Event of Armed Conflict*, which created rules to protect cultural goods during armed conflicts. The Blue Shield is the symbol used to identify cultural sites protected by this Con-

vention. It is also the name of the International Committee of the Blue Shield (ICBS) that works under the principle of subsidiarity, to protect world cultural heritage threatened by natural and human-made disasters. Created in 1996, ICBS brings together the knowledge, experience and international networks of the following four major international non-governmental organizations dealing with cultural heritage: ICA (International Council on Archives), ICOM (International Council of Muse-

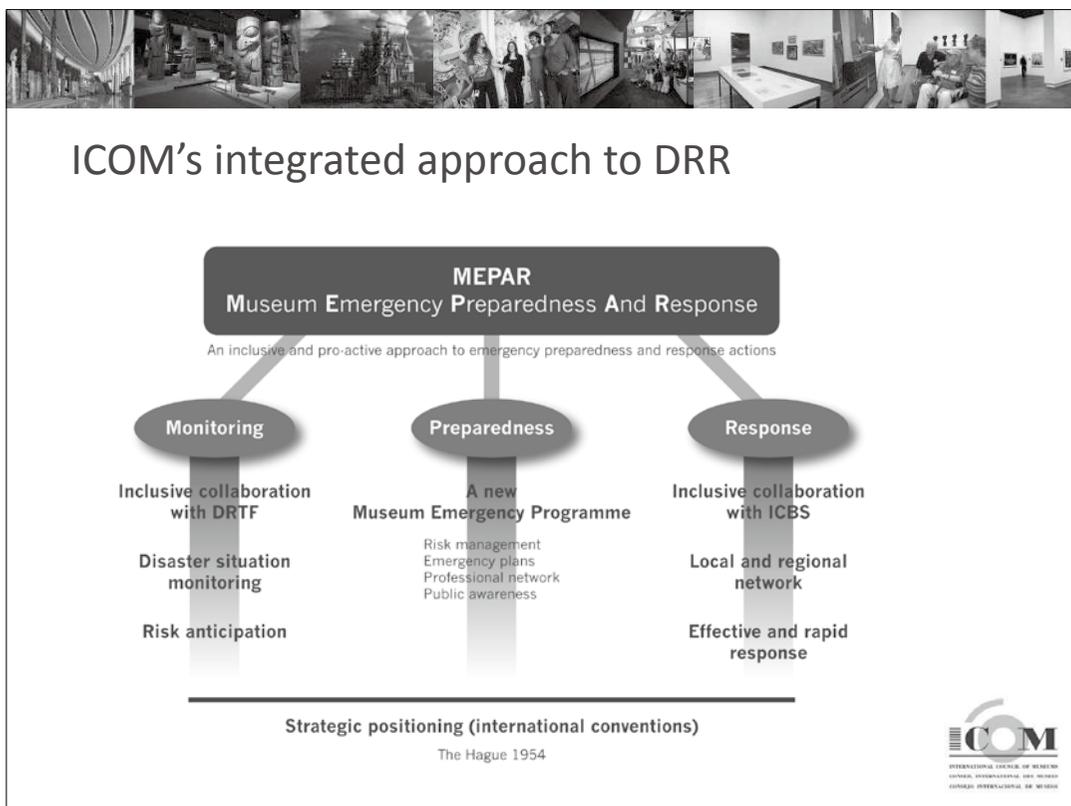


Fig.1: ICOM’S integrated approach to DRR

Fig.2: ICOM’S Disaster Relief Task Force

Fig.3: The International Committee of the Blue Shield

ums), IFLA (International Federation of Library Associations and Institutions), and ICOMOS (International Council on Monuments and Sites). Again here, close cooperation and effective coordination is key to successfully protecting cultural heritage at risk worldwide.

### **The Necessity of International Cooperation**

ICOM's concern with promoting and protecting the tangible and intangible heritage of the world has taken many shapes and forms over the years, but one thing has always been at the centre of its action: ethical behaviour and practice. This is because protecting our common history and memory is not only the right thing to do, it is the ethical thing to do. Placing ethical practice at the core of our work as museum professionals not only shines positively on the institutions we represent but also benefits the communities we work *with* and *for*. Museums have definitely improved the ethics of their practices in acquisitions, not limiting their action to the legal framework that prevails in their country, as recommended in the ICOM Code of Ethics for Museums.

Alongside its principal ethical concerns, it is striking to see, looking back, how ICOM's programmes towards the protection of movable and immovable, tangible and intangible, cultural and natural heritage have been developed with three other key objectives in mind: being *innovative*, *committed* and *efficient*.

While the world is suffering violent conflicts in regions that also happen to be cradles of civilization, and where a wealth of irreplaceable cultural riches and knowledge are at high risk of destruction and disappearance, the work of an organization

that came to life in the aftermath of the last major period of sustained international armed conflict, and whose mandate is to promote and protect cultural heritage, is today more than ever necessary.

It is important to pursue the fulfilment of ICOM's public service missions through the development of its programmes, ensuring that its work is complementary to that of civil society and international organisation everywhere. It is also a great responsibility towards the transmission of the world's heritage to future generations. ICOM's work and actions have come a long way over seven decades since its founding, and it remains an important duty to ensure that its manifold programmes and interlinked networks worldwide continue to travel a long distance for a very long time.

What are the challenges ahead? Doing more preventive work, of course. We are starting to do this. The 1954 convention has asked us to start working on the lists of crisis situations that are putting heritage at risk around the world, so that we can predict where the next hotspots will be. And then we could help in preparedness, just as we would do for natural disasters.

Let me conclude by emphasizing the importance of the lessons learned. Just last night I was going over papers written after Iraq in 2003. Soon after, here we are, back working on Iraq. What have we learned? Have we learned a lesson from what has happened? I'm afraid the recent outcomes of the intentional attacks on heritage will again force us to review our processes. Procedures that we have already been forced to review. But above all, good coordination will be very important to those revisions.

## Roundtable Discussion

[Facilitators]

Paula Holland, Kanefusa Masuda

### **Nagtsho Dorji (Ministry of Home and Cultural Affairs, Bhutan):**

I would like to briefly share the challenges of managing disaster risks for cultural heritage in Bhutan.

Bhutan is known for its unique living cultural heritage, and I stress the word 'living' because most of the sites are extensively used by people, and remain the same as they were built. These buildings are very much the nerve centers for housing and are triggering a lot of communal activities in Bhutan. A decade ago, our Department of Culture under the Ministry of Domestic and Cultural Affairs struggled to balance heritage site protection initiatives with sustaining the function of these sites. We had to sensitize our main custodians who were local communities and monks. And we had to sensitize them because of the fact that they wanted to reconstruct their cultural heritage. Now they are more exposed to modern techniques and modern materials, and they wanted to enhance their housing accordingly.

Therefore, to avoid such trends, efforts were made to sensitize local communities, to understand the values associated with traditional buildings, and to take initiatives to protect the sites while continuing to use them as part of their daily lives. And of course, as in any government initiatives, we needed to put in place policies and legislation that regulate the protection of cultural heritage of the country, and, to a large extent, we were also working towards recognizing the entire country as a cultural landscape.

In Bhutan, the farmhouses, temples and fortresses are all built with the use of similar building techniques. It is very important to understand this in view of what I will be talking about.

My experiences of disasters are connected to the earthquakes that happened in 2009 and 2011. In the aftermath of the earthquakes, the government was initiating recovery and reconstruction activities. And just before the 2009 earthquake, we had established the Department of Disaster Management under the same ministry that I work with. This agency was supposed to help coordinate disaster

risk management at the national level and at the local level, in coordination with the relevant agencies, including partner agencies across the border as well.

But what we realized in the process of this whole recovery and reconstruction was that we were largely geared towards rebuilding. We wanted to rebuild structures. And while we were rebuilding, we were propagating seismic resilient technologies very foreign to our local communities. And I mean rural communities, because the earthquakes had largely affected the rural areas. What happened in the process was that we ended up having very poor constructions. It happened because the government wanted to stimulate participation of the community and we trained them to use concrete. Even though now we know that it is not appropriate, that was the best solution that we had at the time.

And of course, what happened next is that people were starting to lose faith in the traditional way of building. They wanted to bring down and rebuild even good buildings, which were not affected by the earthquakes, not only their homes but also the temples where they worship, and the fortresses, which serve as administrative centers. They wanted to rebuild them in a very different way, using modern materials and techniques, because they were certain that it was a better way of recovery and disaster preparedness.

And now my question is – why do we introduce new techniques and materials as part of disaster recovery and reconstruction? And we realized that we do not have enough research in the field of structural performance of traditional construction techniques and materials in Bhutan. And I think this is one of the major drawbacks. I have heard what Randolph Langenbach mentioned earlier about how we tend to be more confident with newer structures, and this is what we teach and promote in our education system.

There is hardly a system that teaches you how to use your own materials and techniques and how these could be made more reliable. Secondly, Bhutan being a developing country, we look up to other

countries adopting their professional education system, so we end up teaching about reinforced concrete structures. And then, you come back home and you don't know how to deal with your own type of construction techniques and materials.

These were two major drawbacks in trying to recover back from a disaster: the lack of sensitivity and the lack of understanding of our own cultural heritage. The government was instilling community participation in rebuilding, but communities were happier to outsource this kind of work to outside workers and not be a part of it at all. At that time, being an architect, I did not see it as a disaster. But then, the 2009 and 2011 earthquakes made us rethink, particularly from the local community's perspective, how we approach the rebuilding.

Another experience that we had was the fire accident of 2012 at a heritage site of national significance. This highlighted the importance and the need to develop a risk management plan for cultural heritage properties in Bhutan. We were very aware that it needs to be sensitive and effective to cultural values associated with such living cultural sites and that it had to be done very soon.

Why we needed to hurry was because in this particular case after the fire, we as a government and as a nation were more focused on rebuilding, which comes very naturally to the Bhutanese. And we place very high priority to making sure that structures such as our fortresses are rebuilt. At that moment, our priorities were not on risk management but on how to maintain the authenticity of the important cultural heritage: to comply with the original design, original form and silhouette, construction techniques and the materials. While we worked very hard on these kinds of issues, we overlooked the important problem of disaster prevention for the future.

Similar to what was already mentioned by one of the earlier speakers, in addition to the task of rebuilding, there is the context of authenticity, and it means weighing the choices of whether to rebuild it back the way it was before, or whether to incorporate new techniques and materials. And the right way is not necessarily something we know, but maybe something we need to learn from books or the experience of other countries. This took time, and eventually resulted in the late implementation of risk management plan. We tend to forget what caused the fire. Without a proper disaster preparedness system, this particular heritage site cannot be protected.

So, I would like to conclude by saying that integrating disaster risk reduction measures for cultural heritage into post-earthquake reconstruction programs is very important. The system that is put in place should not be too foreign to the end-users. Because, if it is too foreign, people lose confidence in their cultural heritage and they slowly shy away from it. And when their participation is needed, they rely everything to the government, and, eventually, totally remove themselves from the conservation process. Thank you.

**Ryusuke Kodani (Tohoku History Museum, Japan):**

I am joining you today from Miyagi Prefecture in the Tohoku Region. Today marks the fourth year after the disaster. Thinking back about that day, it was a really cold day with snowflakes fluttering in the sky.

The topic of this session is governance. When the disaster occurred four years ago, I worked for the cultural heritage section of the Miyagi Prefectural Government. Back then, I was responsible for the movable, intangible and folk cultural properties. After the Great East Japan Earthquake, I ended up actively participating in the project called "Cultural Properties Rescue Operations." There are already some official reports about this project, but today I will talk about what happened prior to its initiation.

On March 11<sup>th</sup>, I worked in a mountainous inland area of Miyagi at a place called Naruko Onsen. Traveling by car, under normal conditions it would take about an hour to return from there to my office. However, on that day, all of the traffic lights along the route were knocked out. I finally managed to get back to my office following a drive that lasted about five hours and involved me driving in complete darkness.

On March 13<sup>th</sup>, we inspected the damage caused to cultural properties in Miyagi Prefecture and confirmed that some of them had been broken. There was almost no gasoline available and there was no electricity. We did not even know roughly how many people had been impacted by the tsunami, or what the situation was in the prefecture's inland areas. We started to work under these circumstances. Our first aim was to grasp the situation. Once we had some idea of what was happening, then we started to talk with the owners of cultural properties.

Here is a story about my encounter with one owner of an Important Cultural Property. The loca-

tion I visited was next to the area that had been damaged by the tsunami. A lot of people who were impacted by the events evacuated there. Under conditions of no electricity and not much else, local people promptly organized a soup kitchen to feed them. It was under such circumstances that we visited the Important Cultural Property. Although it had been seriously damaged, we were unable to act immediately at that time, but we could nevertheless grasp the situation, and also tell the owner that we will take care of the building, when the time comes to act. Some months later, the property owner offered the following comment:

*“Under the initial conditions that confronted us all, it was obvious that a priority was given to saving human lives. At the same time, however, I was conscious of possessing a cultural property of national importance. It was also damaged. Under the circumstances that I had no idea how I could keep the property in the future, it was very encouraging that some people came from the prefecture and talked to me. Because there was somebody else there who took an interest in the fate of the cultural property, such interest in itself became a form of protection.”*

This episode was not a lone example. In many cases, our job consisted of offering encouragement to local people, and thinking along with them about the best solutions in the wake of the disaster. For example, among the 150 houses in a community, only 20 remained, and the rest were swept up by the tsunami. The survivors decided to leave the place and they had concerns that they could not take place and take over their community festival any more, which was designated as intangible cultural property of prefectural significance. When we were asked by local people about the best way to proceed, we told them that just doing what they could at the moment was good enough. And then, somehow they continued their traditional events in the year following the disaster. I feel that conveying such sentiment to the owners and stakeholders of cultural heritage is a part of my job.

In this way, the job of people like my colleagues and myself at the local government organization mainly consisted in giving direct support to cultural heritage owners or custodians. On the other hand, I did not know what else we could do. What really encouraged us at the time was the news that the Agency for Cultural Affairs was going to initiate the “Cultural Properties Rescue Project.” I never heard about it before, so I hurriedly obtained some reports on the Great Hanshin-Awaji Earthquake in

order to study the scope of the previous project and made the necessary arrangements.

Our big advantage in response to disaster was that in Miyagi Prefecture we had developed the government network for the protection of cultural properties that also involved the Agency for Cultural Affairs. Through this network of specialists and the backup from the national government, the rescue of cultural properties could begin. The two types of relationships that we developed, with cultural property owners and with the government organizations, defined our success in the protection of nation’s cultural heritage during the Great East Japan Earthquake.

At the moment, I am working as a museum curator in Miyagi Prefecture, and I feel that the network of museums within the prefecture is very weak. It is not readily known which curators possessed certain knowledge, or in what activities they are engaging. Currently, it is difficult for me to have a clear idea how to mobilize required knowledge and skills when the next disaster occurs among museums in Miyagi Prefecture.

What I learned from my experience of the Great East Japan Earthquake, is that interpersonal networks between cultural property owners, local people, specialists, technicians and a wide range of actors related to cultural heritage, become an important factor when facing a disaster. The networks developed in advance save the day in times of disaster. I feel that over the past four years, we were able to establish such networks in the wake of the Great East Japan Earthquake, and develop them further by undertaking a range of cultural heritage rescue activities. That concludes an overview of my experiences. Thank you very much for your attention.

**Paula Holland:**

Thank you to all of the speakers for talking this afternoon. So we have exclamation marks on education, culture and disasters. That must be enough for people to be able to share their views and experiences. First question, please.

**Kumiko Shimotsuma:**

I am Kumiko Shimotsuma from the Japanese Agency of Cultural Affairs. I have a question to Erika Hedhammar and Diane Douglas.

In today’s morning session, it was pointed out that depending on the culture of organization and culture of people, there are different ways to under-

stand the risks. It was also pointed out that people tend to focus on their livelihoods and have difficulty to understand disasters as expected by disaster organizations. I wonder if the situation in each region or country should be approached differently, or the so-called international community should think of generic ways to treat common challenges. If you have any particular ideas on this, please share with us. This is my first question.

Secondly, I do not address this question to anyone in particular, but as Ryusuke Kodani earlier mentioned that the experience of the Hanshin-Awaji earthquake was useful and suggestive in the response to the Great East Japan Earthquake. This is absolutely true in Japan. Now, in your own countries, if you have some positive experiences or systematic ways of reviewing response or recovery activities of past disasters, could you please share them with us?

**Erika Hedhammar:**

From the regulatory point of view, there is a common set of rules on how to deal with disaster risk management in Sweden. But, of course, there are special approaches according to the different circumstances and different regions. In Sweden we don't have that many disasters, but some parts of Sweden are experiencing sea-level rises, and some do not because there is no coastline there instead, they have other specific problems. So, that's the difference.

**Diane Douglas:**

Thank you for your question. I think, in the United States, the Hurricane Katrina was a great lesson for many of the disaster recovery agencies in terms of going from the local to the national response. And, I think, it is still an issue in many areas in the United States, but because of Katrina we had local agencies trying to do one thing, and then there are certain protocols they had to go through to get states involved and to get the National Guard involved. And there was a great delay from the time of the disaster to the time that they had real response with the National Guard coming in and providing support and water.

One theme that has crosscut many of the papers this morning is having the cooperation, cross-sectorial cooperation of different local governments as well as agencies, particularly for the aid responses. In the United States, I feel that there are a lot of equivalent problems in the system of the disaster

preparedness. Apart from San Francisco with frequent earthquakes, local people are not really aware of the disasters. They expect the government to save them, but they do not take personal responsibility for their own safety. Although appropriate training mechanisms are in place now in many communities in the United States, most people don't take advantage of them. They are not aware of them, because they are not widely enough publicized, and so, it is still basically left to the government to come in and save people. This, of course, leads to great expenses, and then people being really frustrated when they are not being saved in time. That is all I have to say about it.

**Gabriele Weichart:**

I just want to expand on what Diane Douglas said, that there is a difference between western countries and the non-western countries. Whereas in Austria, where I come from, it is a bit similar to the United States that people are more and more reliant on government and insurance companies and do not think that they should also take some responsibilities themselves, in countries where governments have never really taken that responsibility for the people, they are much more aware that they have to look after themselves and their families.

But, I am not an expert on the situation in Austria. My experience comes more from Indonesia. As I mentioned in my presentation, I am really interested in how damage is being assessed there. For example, in the cases of the two earthquakes in Sumatra and Java, the local authorities were asked, and they collaborated in assessing the damage. The village heads were the ones who would say whose house has been damaged and to what extent. And they had three degrees of assessment: moderately damaged, strongly damaged, or totally damaged, and according to these three categories, owners got a certain amount of money; it was all very standardized. That means if you had good connections with the village head, he could get more money, or if your relationship was not so good, you got less. I think we also have to take that into account.

Therefore, working with local people on the grassroots level does not necessarily mean that resources are distributed evenly. Perhaps even less evenly because personal interests come into play. It can be perceived from a cultural point of view as a set of traditional obligations and benefits. But from an international point of view, and the way we are used to work, the resources should be objectively

distributed, which perhaps is not the view of many people in other parts of the world.

**France Desmarais:**

To comment and complement on what Diane Douglas said about people not being aware of threats, interestingly enough, one part of the Museum Emergency Program I mentioned is dedicated to a survey, where we ask museums about their threats. We ask them what immediate threats exist in their vicinity and how they identify them. When we did the survey in the Caribbean, and I'm sure, it is not only there, most of our respondents were totally unaware of the real threats their institutions were facing. They were not looking beyond the typical and obvious threats.

When we were looking at the answers to the survey, one of the answers puzzled us and we understood it only after an accident happened. A museum said that one of the immediate threats to the museum was the marketplace right beside it, and we could not understand how a marketplace was causing a threat. But one day, a fire erupted in the market and burned down the museum.

Coming back to the topic of cooperation. It is all about networking and learning from your neighboring institutions in your region or locally. As Diane Douglas was saying, knowing what your threats are is really important. It is the first thing you need to do before you build an emergency response program.

**Erika Hedhammar:**

I visited an area that had a big flooding in 1979. There were some people who wanted to build houses on that part of land, and the fire brigade had a hard time explaining to the people that the area was not good for building because of the flooding. Finally, they could find old photos of the flooding in 1979, which they could show to the people. I think that museums and archives can play an important role in disaster prevention by keeping records of what happened in the region in the past and showing it to people.

**Giovanni Boccardi:**

I once had a conversation with Margareta Wahlström, the head of UNISDR and we were talking about how the heritage sector can link with the DRR sector. And she made an interesting point; she said that because of the iconic symbolic sort of power of cultural heritage, it would have been a good

idea to use it to raise awareness about the disaster risks.

I am thinking about what Terry Cannon said that people do not think disasters are a problem, but perhaps we could make them become more aware if we raised awareness about these disaster risks through heritage. Now I remember in this respect, an interesting exhibition that was called London Future, a few years ago, showing Photoshop images of Westminster Abbey and a major flood. There was also Buckingham Palace surrounded by a shanty town. It was like a possible future, you know, where London would have been completely changed by climate change. And I think that one made a huge impression.

My question is, since each of you has worked in different environments in Indonesia, in America and in Sweden, do you think that something like this could work to change the misperception of disaster risks in communities? And if it was the case, we could make ourselves useful to the DRR sector with what we have to offer, which is heritage.

**Paula Holland:**

I'd like to put that question open to all six speakers, if possible.

**France Desmarais:**

I will have to say that I hate to discuss 'the use of heritage', because there is danger in such instrumentalizing. But I understand your point. It would be the contrary—most heritage people would say that the humanitarian relief that saves lives is usually priority, which we all understand. We know that they are complementary and they do not undermine each other, of course. But, I am not really comfortable with saying that we should use heritage to raise awareness on DRR. When iconic places and sites are destroyed, it does make the headlines. That is what we see now happening in Iraq and in Syria,

I heard somebody say last week that he wanted to tell the Syrians that unfortunately they were not made of brick and stone, because otherwise we would care for them. Some people are a bit disturbed that heritage is getting so much press, and not civilians. With such a controversy, I think it is a very dangerous game to play.

**Gabriele Weichart:**

Well, from the Indonesian case, it would be interesting to try it out, but with caution. I do not think most

people would perceive an earthquake or even a volcanic eruption as an immediate risk to their lives. Probably, it is so around the world, with the only exception of Japan.

Most people's worries are more about daily survival, getting enough money or getting children through school. Therefore, unless their daily lives, their economic or social conditions are improved, we cannot ask them to think about heritage and such things. The same goes about DRR. I would say in the Indonesian context, this would not make a great change. But I would assume that in Austria or Germany it could make a difference. Especially in decision-making on where to build a house, which is more often based on aesthetic properties of the landscape, but not on the grounds of safety, the considerations of possible avalanches or landslides, et cetera.

**Diane Douglas:**

Regarding the case of the United States, it is a very young country, so it does not have a deep cultural heritage. If compared to Europe or Asia, its history is quite shallow. So, I think that there is less awareness of the importance of cultural heritage, although certainly, there are enough people with full understanding and appreciation of it.

In order to raise awareness of the potential disasters, rather than using cultural heritage, it would be more liable to refer to such events in the past, for example to show how people recovered from the flooding of the Mississippi and so on. And you can go back far in history and show how people were living and using the landscape at the turn of the 18th and 19th century.

Nowadays, in the United States, the understanding of disasters or the climate change is very low, so using cultural heritage in this regard, in my opinion, would be a stretch.

**Erika Hedhammar:**

I think that cultural heritage institutions could definitely play a role in rising awareness in disasters. One point in the Hyogo Framework for Action is to raise awareness of the society. The museums could also take part in this. I think that is a good idea.

**Unidentified speaker:**

I think that we must be aware that there is a kind of cultural attitude in the perception of what is a disaster.

**Stefano De Caro:**

I am from the Pompeii area and I worked in Pompeii all my life. Imagine that you are living in Pompeii or Herculaneum right next to Vesuvius volcano. From the excavations in Herculaneum we know that all the population died suffering. They were burned by the volcanic gas. Nevertheless, contemporary people perceive it as something that only happened in the past. It can happen again, but maybe not to me, maybe to another generation. Not only common people think like this. Even Goethe once said that among the great human disasters, Pompeii is the happiest of all.

The biggest eruptions happen in a certain periodic manner, approximately once in 2000 years. If eruption occurs today, one million people will probably die. There was an eruption in 79 AD and in 2000 BC. Nevertheless, people are continuing to live there today.

There has been a risk management plan for Vesuvius. The regional government has advised people to evacuate from the red zone and move to the safer area, but people preferred to stay. And so, there should be a very strong power, because dealing with it democratically will cost too much for the whole community. If Italy has to pay evacuation costs in case of such an eruption, it will much worse than the Greek crisis. So, there must be a thorough long-term educational effort. It is very difficult to change this attitude of passiveness, this turning away from the future, even despite of the tangible testimonies of the terrible deaths people had suffered from the previous eruption.

**Ryusuke Kodani:**

Allow me to make a comment about the cultural properties being used as a tool for DRR, especially regarding resilience. I have some expertise in this area because of the earthquake experience.

One illustrative case is the revival of the traditional festival with the so-called lion dance (shishimai) in one of the affected areas. A lot of money was provided for the recovery of the traditional equipment necessary to perform the lion dance. This dance is performed by men, so the male population of the community was very happy. But when we listened to public opinion in the process, we realized that women also had their traditional ceremony to pray for the dead with rosaries called nembutsu, which also lost all of the equipment to the tsunami, but nobody paid attention to this. My friend bought those rosaries for 200-300 thousand yen and donat-

ed them to the community. Women were really happy, and they were able to organize the ceremony on schedule gathering especially for this purpose in the village surrounded by many kilometers of evacuated area. With tears in their eyes they prayed for all the lives lost in this disaster.

In the case of the recovery of the intangible properties, we tend to focus on something that is glamorous, but we have to also pay attention to something that is unglamorous, which is not easily seen.

Let me present one more issue. In Japan, the local municipalities often take inventory and gather cultural properties in one place not for displaying, but for storing. Then, one of these places with an enormous amount of materials was drifted away by tsunami and flown in. Simply put, these materials contained the forgotten cultural knowledge of the entire region. What was the value of it – even local people could not tell. And then, we had a rescue operation, restored these materials a little bit, and now we are able to display them to people.

My other friend, who is a curator, decided to display these materials. He had to do it in a tent, because in this area there was not one building left standing due to the disaster. But still, he wanted to show these cultural properties to people, because, while they may have been forgotten, they were unique to this region. Seeing this, people started to exchange memories, which is an important step on the way to recovery. Although, we may never be able to restore that pre-disaster community, through those cultural properties we are able to replant their memories. This exposition fulfills the task of attaching new meaning to the once forgotten materials. I think this is very important.

Let me go back to the question that is central to our discussion of how we can contribute to the resilience of communities through the DRR activities for cultural properties. I think that the small things that run through our culture and history are really important because they are symbolic of their lives. In relation to the example of Mississippi River and Pompeii, I wanted to show you that by reflecting the normal life, cultural properties could be the carriers of communities' memories.

#### **Nagtsho Dorji:**

With regard to the question by Giovanni Boccardi about using an iconic cultural heritage for raising awareness on DRR, I would like to present my experience with our most significant heritage, Wangdue-

Phodrang Dzong, that got burned down in 2002. We wanted to do the same scheme of raising awareness, but what we realized in the process was that because it was important, it received a lot of support and funding, and rather than raising awareness for DRR, our focus had shifted to trying to build something even more iconic, and trying to outdo what we already had.

So, what we realized in the process is that rather than using such iconic cultural heritage, it is more important to focus on the cultural heritage that is closer to people, especially in the rural context, where the communities thrive and work towards becoming more resilient to disasters.

#### **Randolph Langenbach:**

I would like to address a question to Nagtsho Dorji. I was very interested in your presentation on Bhutan and remembering my trip there. If I am not mistaken, for so many years with the king's instruction, the country was kept very closed to preserve the Tibetan Buddhist culture of the place including the building the structures.

In recent years, it opened up and all of a sudden there is this whole wave of concrete construction that had come in, and particularly in Thimphu, but in some other cities too. And there was the requirement by government that it maintain the kind of Bhutanese look with projected timber frontages. They were no longer pointed to the South. They were just stuck onto the buildings. I am not trying to demean the whole genesis of the original construction, but at least it preserved the traditional look. I mean, if you look out the windows here, those buildings could be anywhere in the world, but in Bhutan they really did look Bhutanese.

I'm curious if there was ever any research on the structural integrity of the traditional forms of construction in Bhutan. Can you tell if there was a research project, either mounted through UNESCO, or through a research organization, or a university, or elsewhere? With some international funding there could be a study of this plus earthen architecture in other countries as well. One of my colleagues does this in Peru very thoroughly and at a very high-level. Maybe there could be resurgence at the local level by people themselves to turn back to this form of construction? I would like you to address this dialectic between 'it has got to be modern' and the 'traditional is modern'. Thank you.

**Nagtsho Dorji:**

Thank you for your interesting question. As you said, if there was enough research done that really provided us insights that using traditional way of constructing is better, I think there would definitely be effect. Even at this moment also, I think we are ready to go back and see how it was before and try to improve. I do not say everything that we had was the best, I think it has its flaws, but we are ready to go back and rebuild it the way it traditionally should have been.

We are a very small country and I think we can still afford to work on it. Of recent, there is a new government initiative, and we have started to take off some research in collaboration with ACA and the National Research Institute for Cultural Properties, Tokyo. As you pointed out, the buildings constructed after 1960s, especially after we opened the door, they would continue to serve as an example of what is not to be done.

And these projected windows that you were talking about, I think they are disastrous when it comes to an earthquake. I think they would surely kill people in the process. And I think that is what we are trying to overcome with research.

I again urge for an education system, because when we talk with professionals in heritage, they do not necessarily come after high school, they are normally at much higher level, masters level. It is mainly after high school education what is most important, because that is when we have these young professionals come out to the market in search for work. When they are not knowledgeable, that is

when it leads to a lot of uninformed decisions that are made at the government level and have a large impact on the overall country.

**Joseph King:**

We have been talking about getting the heritage sector better connected to the DRR sector. But I would pose the question that I am not entirely sure that the heritage sector itself is united and is working together.

I am talking about the people dealing with movable heritage, people dealing with immovable heritage, people dealing with intangible heritage and I could give many examples of where these do not work together. At the international level, I would say, notwithstanding the existence of Blue Shield, I am not entirely sure how effective that is in terms of integration. I would even assume that the natural heritage is also like that, which is something that the World Heritage deals with.

**Kanefusa Masuda:**

We have discussed many deep issues, and it's very difficult to summarize them. I hope we can further develop our discussions in the group discussion from now on and in the tomorrow's session. Thank you.

**Paula Holland:**

This should bring us to the end of the session. Could I invite everybody to thank the speakers and discussants here today? Thank you very much.

## Session 4

### Preparedness for Response, Recovery and Reconstruction (Part I)

—How to Translate “Build Back Better” for Cultural Heritage—

[Facilitators] Aparna Tandon, Akatsuki Takahashi

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## Presentation (4-1)

### Documentation for Preparedness, Response, and Recovery

Scott Branting

Director for Geospatial Initiatives at ASOR;  
Project Director for Heritage Mapping and Data Integration  
with the Syrian Heritage Initiative

This topic grows out of a project that I co-direct at the American Schools of Oriental Research (ASOR). The project was developed within a collaborative framework with the United States Department of State to monitor the activity of groups within Syria and Iraq during the current conflict in order to track cultural heritage destruction in both of these areas. As part of this project, which has been underway for the past seven months, there was a critical need to find a system to integrate together the variety of different incident reports the project receives, the satellite imagery that is being analyzed, as well as other sources of information. The project has also sought a system that will enable sharing of all of this information amongst the larger cultural heritage community, as well as with people on the ground who might be in a position at some future point to do something. Hopefully, at a point after the conflict, this system will also play an important role in the critical reconstruction phase.

In trying to identify a system to do this, the project was pointed towards the Arches cultural heritage inventory system. Arches is an open source heritage inventory and management system that has been developed by the World Monuments Fund and the Getty Conservation Institute, together with Farallon Geographics in San Francisco. So far, the ASOR Syrian Heritage Initiative Project has found it to be fairly effective in terms of what it hopes to do. Version 3 of the software is in the process of being released, and so we will be looking a little bit at what Arches is and then look at two examples of how it can be used. The first example is a just-launched website using Arches version 3, [HistoricPlacesLA.org](http://HistoricPlacesLA.org), which has been created by the City of Los Angeles and the Getty Conservation Institute. The second example, which I will go into in a bit more depth, is the ASOR Syrian Heritage Initiative (ASOR SHI) Project, including how it is starting to incorporate Arches as a platform for sharing and analyzing data.

So, first let me introduce the Arches system, even though some of you may be aware of it from some of its earlier incarnations. It originally began

as the MEGA-Jordan Project that was instituted within Jordan to look at cultural heritage management on a countrywide scale. It continues to function in this capacity in Jordan. It then had a brief transition into MEGA-Iraq, and from there developed into the Arches heritage inventory and management system. Arches began with version 1 and is in the process of releasing version 3. Throughout this development trajectory a great number of improvements have made the software more accessible and globally applicable.

A key factor in the development of Arches is its emphasis on being standards-based. It incorporates the core data index to historical buildings and monuments of architectural heritage, the International Council of Museums (ICOM) International Committee for Documentation's (CIDOC) Core Data Standard for Archaeological Sites and Monuments, and the merger of these two for immovable heritage that is in the process of being finalized, the CIDOC International Core Data Standard for Archaeological and Architectural Heritage. It also incorporates the CIDOC Conceptual Reference Model, in order to allow the integration of a variety of different aspects of cultural heritage, and has an excellent graphical interface in version 3 that allows users to manipulate the graph node architecture to see how the linkages are constructed and to explore the impact of altering some of those linkages. It also incorporates Open Geospatial Consortium (OGC) standards as well. The use of these standards will allow enhanced portability of data from Arches, as well as the ability for the data to be shared within wider collaborations. It also will lengthen the longevity and sustainability of the software.

A second key factor in the development of Arches has been a commitment to accessibility. With its web accessibility, different ASOR SHI partners will be able to access it around the globe. It will be accessed on a variety of different servers that are currently being set up: one that will be publicly available, one that will see a restricted usage among the expert community, and then one that will serve the project itself. Working with cultural heritage in the

context of an active conflict situation, one must take into account aspects of modern warfare such as cyber warfare. The project is well aware that servers may be hacked and it is implementing measures to keep inventories from falling into the wrong hands and being used for the destruction of cultural heritage. These measures include physically isolating different servers and working to secure them.

A third factor in the development of Arches is its increasing customizability. Version 3 was constructed as a platform upon which a variety of different user groups could then build a variety of different applications. Discussions have been held with other groups that are working on cultural heritage in Syria and Iraq to try and build cross-platform tools that will allow the different projects to undertake controlled crowd-sourcing or other forms of collaborations with partners in other parts of the world.

A final factor driving the development of Arches is that it is freely available and open-source. One can download it from [archesproject.org](http://archesproject.org), install it, explore what it can do, and use it free of cost. This only enhances the accessibility of the software.

The first illustration of the use of version 3 of Arches that I would like to introduce to you is the recently launched [HistoricPlacesLA.org](http://HistoricPlacesLA.org). This project was done by the Getty Conservation Institute and the City of Los Angeles. I was not involved in this project, but was asked by the Getty Conservation Institute team to speak about this briefly. This project, in juxtaposition to the second illustration, was developed prior to a disaster situation. It shows what can be done when one can collect inventories ahead of time and prepare in case of a future disaster. When a disaster occurs, the City of Los Angeles will be in a better position to move forward with cultural heritage disaster recovery because of this project, both on the immediate emergency level as well as in the long-term.

[HistoricPlacesLA.org](http://HistoricPlacesLA.org) launched on February 24, 2015. It brings into Arches version 3 the cultural heritage information from the city of Los Angeles. It provides a platform for the general public to access this information, as they need to, as well as for the information to be managed by the City of Los Angeles moving forward. It has effective scaling that can aggregate cultural heritage sites together into a more understandable view and it also allows a user to do a variety of searches, including both textual and spatial queries.

It offers a suite of tools that allow one to create and use this data. One can bring in geospatial data,

as you can see here, through a variety of means. There is a geocoding tool for inputting an address to locate that address on the map or one could upload GPS coordinates. This can be overlain on georeferenced base maps so that one can then digitize into the database a footprint for that particular piece of cultural heritage. At the same time it integrates both a mapping component and a database component for the management of cultural heritage. One can drag and drop additional data, such as photographs or text based information, into the database. Reports can be created for different queried locations. In the event of a disaster, responders will know where things are and how their preservation could best be addressed. It is accessible to both the police and fire departments in Los Angeles and can be used to better understand the impact of choices that they may be forced to make within a small-scale or large-scale disaster event.

In addition to [HistoricPlacesLA.org](http://HistoricPlacesLA.org), I'll now speak briefly about the ASOR SHI Project that is also making use of Arches. This project has various goals including: documenting damage, pulling together inventories for the locations of cultural heritage sites in Syria and northern Iraq, monitoring these cultural heritage sites, assessing the impact of damage to these sites in the current conflict, promoting global awareness of this danger by sharing this information, and beginning to prepare for what can be done as we eventually move into the post-disaster and recovery phase.

There are a wide variety of different tasks that the project is undertaking in collaboration with the United States Department of State within this current twelve month period. Many of the tasks that I will be talking about are in the portion of the project with which I work most closely. These tasks include: the collection of inventories of cultural heritage sites, the analysis of satellite imagery to document damage, the verification of reported damage when possible, and linking that up with information from other project sources within the weekly reports available on the [www.asor-syrianheritage.org](http://www.asor-syrianheritage.org) website. I will focus a little more heavily, therefore, on the geospatial side of the project, but I do want everyone to be aware that many more team members are doing many more activities than what I will be able to talk about in the brief time that I have today.

To further these activities the project has been granted special access to satellite images through the collaboration with the United States Depart-

ment of State. As Director of the Center for Ancient Middle Eastern Landscapes at the Oriental Institute of the University of Chicago, I dreamt for many years of being able to access large quantities of up-to-date imagery to look for archaeological sites or to assess cultural heritage damage. This ability to access satellite imagery on a large-scale has really only come to fruition this year with the ASOR SHI Project.

The cultural heritage damage seen in these satellite images, taken of Syria and Iraq during the current conflict, is deplorable. Intentional cultural heritage damage is being used as a tool both to create terror and to move populations. As an archaeologist of the ancient Near East, I know that the use of terror and cultural heritage damage in conflict is nothing new. Comparable techniques were used, though without modern explosives, throughout the past. A good example of this, from what is now the very same areas of Syria and Iraq, would be campaigns by Neo-Assyrian kings. However, in the current conflict this is being paired with increasingly sophisticated online marketing, branding, and recruitment efforts. The Islamic State has been actively publicizing cultural heritage destruction events after expanding into and consolidating their power within new regions.

The satellite images that the project is using to verify this destruction have come from a range of different satellite platforms and different companies. Images, sometimes taken as little as twenty-four hours ago, can be compared with earlier images from days, weeks, or months ago to provide an overview of what is happening and to allow an assessment as to the extents of the damage. While this sounds simple, it requires the management of a large amount of digital imagery and effective communications between team members doing the analysis. The access that the project has to this imagery is limited to a few select people that have been vetted and permitted access. So a tool like Arches, which can allow the project to better coordinate and share geospatial information within a wider group of experts, is something that was identified early on as a necessity.

Here are a few examples of the sort of work the geospatial side of the project does on a daily basis. Satellite images can be compared of downtown Aleppo, around the Citadel of Aleppo, a World Heritage Site. Here is how it appeared from satellite on October 31<sup>st</sup> of 2013 (Fig. 1). This can be compared with a new satellite image taken on December 15<sup>th</sup>



Fig.1: Digital Globe satellite image of the Citadel of Aleppo and vicinity in Syria on October 31, 2013



Fig.2: Digital Globe satellite image of the Citadel of Aleppo and vicinity on December 15, 2014. Note the increase in damage to structures around the citadel.

of 2014, a little over a year later (Fig. 2). A massive increase can be seen in the amount of destruction across this portion of Aleppo, with much of the larger scale destruction being caused by tunnel bombs. The project can use series of satellite images of the same area to not only detail what has occurred, but to also try and anticipate where future cultural heritage destruction may occur. It can also pull this information together with other sources pertaining to the cultural heritage that has been impacted, to assess what exactly has been lost and what types of reconstruction work might be possible in the future.

Another example of the project's work is monitoring the looting of archaeological sites. Various groups in the conflict have participated in looting, either directly by members of the group or by individuals who pay the group a certain percentage of the money that make from the sale of antiquities. This satellite image is of the site of Mari on Septem-

ber 7<sup>th</sup> of 2012 (Fig. 3). Little looting is evident in this image. However, by this image taken in March 25<sup>th</sup> of 2014 (Fig. 4), some areas are displaying a lunar-like landscape, pockmarked by numerous looting holes, that is typical of large-scale looting. By this image, taken on November 11<sup>th</sup> of 2014 (Fig. 5), one can see an acceleration of this looting that seems to coincide with the movement of the Islamic



Fig.3: Digital Globe satellite image of the archaeological site of Mari in Syria on September 7, 2012. Little evidence for looting can be found in this image.



Fig.4: Digital Globe satellite image of Mari on March 25, 2014. Increased evidence for looting can be found in the highlighted boxes.



Fig.5: Digital Globe satellite image of Mari on November 11, 2014. Much larger areas of looting can be found in the highlighted boxes.

State into the area over the summer of 2014. The project is also looking at the infrastructure of cultural heritage destruction, features such as new roadways or structures that suddenly appear while looting is underway. One particular new structure near Mari looks suspiciously like a storage and processing facility for trucks to drive into and be loaded with antiquities on their way to market. Information such as this is crucial for providing a basic understanding of what is happening, where and when, within these criminal enterprises.

Drawing together incidents such as this on a daily basis, the ASOR SHI Project is able to gain a broad-scale perspective of what is happening across the entire region. Over a six month period, up to the end of 2014, the project had created an inventory of cultural heritage sites that numbered 3,766. This has been expanded in the months since to just over 4,000. This includes both built heritage within cities as well as in more isolated locations. This inventory enables the project to do damage assessments on each of these locations from satellite imagery, without having to expect people on the ground to put their lives in jeopardy in order to collect this information. The results can also be overlain on information about the ongoing conflict produced by other organizations. For instance, the assessments can be overlain on top of data derived from a maps published by the ACAPS SNAP-Syria Project to get a very rough idea of the relation of cultural heritage damage present within areas of different groups' control in the current conflict. Of course, one needs to exercise caution in drawing conclusions about hard boundaries of control in what is a very fluid conflict situation. Combining data in these ways allows for preliminary ideas about patterns in cultural heritage damage to be drawn, patterns that can be tracked over time as more information and satellite imagery becomes available.

The ASOR SHI Project already shares static maps, images, and reports on a weekly basis. But plans are in the works to use Arches to share this more dynamically, at least with certain groups of collaborators. Customized base maps can be uploaded and used for overlays, as can satellite images. This should provide a platform for comparing imagery from different time periods among the broader project participants.

Arches also has a range of different search capabilities built in for sorting through this data. Text-based and semantic search can be done using a text bar. Geographical queries and spatial searches can

be done by drawing on the base map, and buffering around given features can be added to the spatial query. In addition, there are temporal search tools, with slider bars that can be linked up to different fields. The project is looking forward to using this for both querying the date of cultural heritage destruction and the dating information pertaining to the construction of that cultural heritage. Users can access the search results from these diverse querying tools and can then pull up reports about the resultant cultural heritage sites with a simple click within the map interface.

Finally, Arches has several features that the ASOR SHI Project is particularly looking forward to using. Arches has incorporated a wizard based system for entering information about condition assessments for cultural heritage elements. The site assessments that are a major part of the ASOR SHI Project's workflows should benefit from this fea-

ture. Arches also keeps track of all the changes that are made to the database, allowing project to go back and view the changes that have been made and roll back changes if needed. With a team distributed around the world, this will greatly add in the management of the ASOR SHI Project's growing database. Assisting as well in this are security features including login-based privileges assigned at the entity level, allowing quite a lot of flexibility in assigning permissions among diverse participants. Hopefully, as the current conflict in Syria and Iraq eventually reaches an end, these and other tools in Arches will be at work behind the scenes enabling first response teams on the ground to securely and effectively coordinate their findings with the data that has been compiled by projects such as the ASOR SHI throughout this long and terrible conflict.

## Presentation (4-2)

### The ICORP Disaster Database and its Importance for the Risk Management of Cultural Heritage

Xavier Romão

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#### Introduction

Existing international frameworks and programs for disaster risk reduction (DRR) emphasize the need to develop and implement measures to reduce hazard exposure and vulnerability to disasters. Among other aspects, current DRR initiatives recognize the importance of cultural heritage and its irreplaceable value for society, thus underlining the need to assess the impact that potential hazards may have on the built cultural heritage. Developing adequate risk assessment and management processes are fundamental towards this end and it is known that systematically collected and robust disaster damage and loss data are essential for such processes. The development of systems, models and methodologies to collect and handle such data should, therefore, be a worldwide priority.

Existing disaster loss data recording initiatives such as the EM-DAT/CRED, SIGMA/SwissRe, NAT-CAT/MünchenRe or DesInventar/UNISDR databases are undoubtedly important sources of information in terms of the damages and losses that occurred over worldwide disasters. Recording such data is known to be useful for the purpose of loss accounting, forensic analysis of disasters and disaster risk modelling. For example, this data can provide an objective baseline for vulnerability/risk assessment as well as for mitigation priority setting and decision making. However, the data recorded by these databases does not include damages and losses to cultural heritage. Therefore, without this important component, current loss estimation procedures are not able to provide a sound and comprehensive quantification of disaster impacts.

One of the challenges for the disaster risk management sector is to broaden loss assessments to include losses to cultural heritage and the relation between them and society (e.g. economic losses in tourism as a result of damaged cultural heritage). Currently, there is no systematic collection of data about hazardous events and their impacts on cultural heritage properties. Existing data on damages and losses to cultural heritage is scattered among

various agencies (national and international) without any coherence and coordination. Furthermore, no standardized methods and tools have been developed for cultural heritage disaster data collection until now. Therefore, specific approaches and methods are required to address these issues.

#### The ICORP Disaster Database for cultural heritage

Given the previous discussion, the International Committee on Risk Preparedness of the International Council on Monuments and Sites (ICORP/ICOMOS) started to develop a loss database specifically devised for cultural heritage. The database aims to provide a standard for loss and damage recording in cultural heritage supported by international institutions such as UNESCO, ICOMOS, ICROM or ICOM, as well as other organizations dealing with cultural heritage.

The main purpose of the ICORP Disaster Database is to record the occurrence of damages and losses in worldwide immovable cultural heritage properties caused by hazardous events. The main objective of this initiative is to develop an efficient tool that will provide institutions managing and protecting cultural heritage with:

- a systematic and standardized recording of cultural heritage disaster-related data, from both natural and man-made hazards;
- a reliable accounting of cultural heritage losses;
- adequate data for the analysis of disaster trends and risk mitigation needs in cultural heritage.

The hazardous events recorded by the database range from small-scale events that only affect a single cultural heritage property to large and widespread ones that affect a larger number of heritage assets. The database records basic identification and information about the main hazardous event (and secondary events that may have been triggered by the main event) such as the type/subtype, GLIDE number, geographical information (country, continent, location, latitude and longitude), temporal information (start/end date, local time),

(Fig. 1). For each event, the database records information about the cultural heritage properties affected by the event. This includes basic descriptions about the cultural heritage properties before they have been damaged along with a description of the damages and losses they suffered. The damage description can be illustrated using additional media such as photos, videos or reports that can be uploaded into the database. Each cultural heritage property affected by an event is assigned with an identification type (single/multiple unit), a heritage category (UNESCO World Heritage, properties protected by the Hague Convention, listed national heritage, IUCN protected areas, properties of local significance), several property classes, a value (qualitative) and one or more construction materials (only for built properties).

The output module of the ICORP Disaster Database is currently under development and will provide adequate information for the analysis of disaster trends and risk mitigation needs in cultural

heritage. This module will enable the development of graphical and/or numerical outputs such as

- damage levels in cultural heritage by type of hazardous event (e.g. floods, earthquake, fire, war conflicts,...), by continent, by country, by year, by type of property;
- several cultural heritage loss indicators by type of hazardous event, by continent, by country, by year, by type of property;
- a cultural heritage post-event resilience index by type of hazardous event, by continent, by country, by year, by type of property.

### The ICORP Disaster Database and the cultural heritage risk management cycle

The development of the ICORP Disaster Database is particularly important given the possibility of using the data it collects in different steps of the cultural heritage risk management cycle (Fig. 2).

Performing a detailed risk assessment of cultural heritage properties is often a difficult task, given

The screenshot shows the ICORP Disaster Database interface. At the top, there is a navigation bar with the ICORP logo and the text 'international committee on risk preparedness'. Below the logo is a horizontal menu with items: 'ICORP Home', 'About ICORP', 'What we do', 'Disaster Database', and 'News'. The 'Disaster Database' item is highlighted. Below the menu is a section titled 'ICORP Disaster Database' with a 'New event' button. A tabbed interface is shown with seven tabs: 'A. Identification', 'B. Global Effects', 'C. Properties Affected', 'D. Properties Damage', 'E. Losses', 'F. Disaster Response', and 'G. Contributors'. The 'A. Identification' tab is selected, displaying the following form fields:

- Location**
  - Continent \* (dropdown menu)
  - Country \* (dropdown menu with text 'Please select a continent')
  - English \* (text input)
  - Native Language (text input)
  - State/Province (text input)
  - City/Town/Village \* (text input)
- Latitude** (text input) and **Longitude** (text input)
  - Example: 20°43'56"N 64°22'10"W
- Google Maps Link** (text input with 'http://maps.google.' prefix)

Fig.1: Main screen of the ICORP Disaster Database where the main hazardous event is identified.

the complexity and the multidimensional value of cultural heritage. In these situations, using additional damage and loss data from past events recorded by disaster databases can be particularly helpful. Furthermore, the data collected by the disaster databases is also relevant for the analysis and decision-making step, as well as for the risk mitigation and treatment step. Information on past experiences can provide valuable guidance for the definition of the approaches that are best suited to protect

a certain cultural heritage asset or to create awareness regarding the need to develop new risk mitigation measures.

In sum, the ICORP Disaster Database will enable the widespread dissemination of important information about past events which, in turn, will help in the development and preparation of better heritage-focused disaster mitigation strategies for the future.

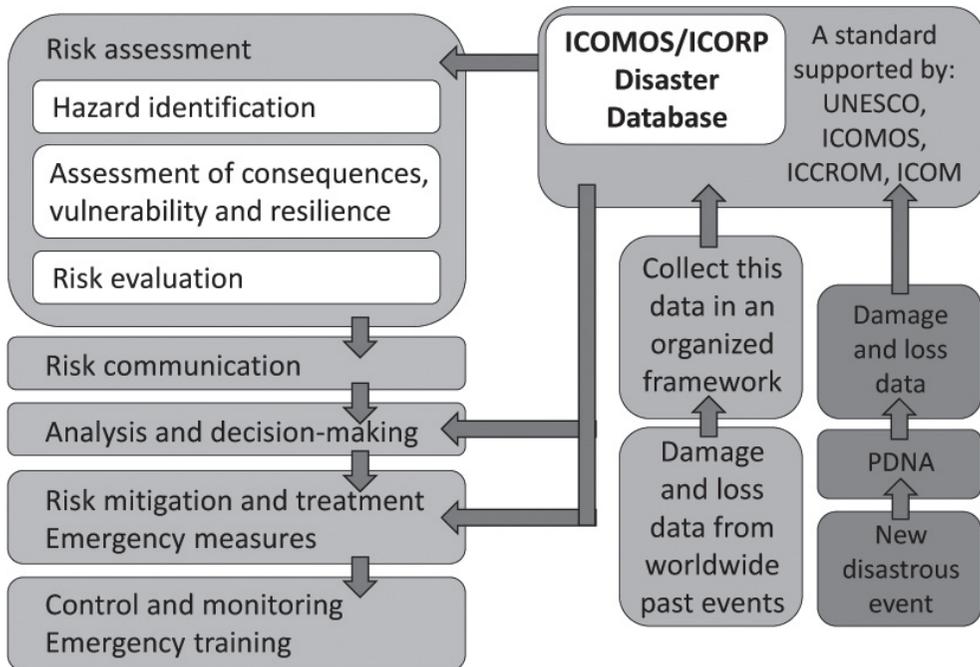


Fig.2: The ICORP Disaster Database within the risk management cycle for cultural heritage

## Presentation (4-3)

### Cooperation in Rescue and First Aid Activities

Corine Wegener

Cultural Heritage Preservation Officer,  
Smithsonian Institution

I am the Cultural Heritage Preservation Officer at the Smithsonian. I have only been at my job for a short time since 2012, but I have learned a lot about the Smithsonian's role as our national museum. It is partly supported by the federal government and partly privately supported. We'd like to thank our British colleagues for James Smithson, an 18th-century British citizen who died never having visited the United States, but left his fortune to the US government for the creation of an institute of learning.

Many people do not really know the scope and scale of the Smithsonian, and I confess I did not either until I actually came to work there. We have 19 museums, 9 research centers, and the National Zoo is part of our collection as well. Some of the most popular destinations are the National Air and Space Museum, the National Museum of Natural History, and the National Museum of American History. We also have far flung places like the Smithsonian Tropical Research Institute in Panama. We have an Astrophysical Observatory that we share and control with Harvard University, etcetera. So it's a little bit mind blowing, the scope of it. We have millions and millions of objects in our collections, a budget of \$1 billion, and yet we still struggle with the same problems I think that everybody else does, like disaster risk reduction and disaster response planning for our collections.

All that said, I would like to say a little bit about why I call this talk "Calling all Partners." It's essentially been my experience that partners are what enable you to do for the type of disaster response missions we are discussing. No matter how big your institution is, you always need partners. And I have learned that one of the most important things that one can do, and we may disparage it because it seems like meetings do not get a lot done sometimes, but there is power in calling meetings and I'll talk a little bit more about that.

Let me now talk about the Haiti earthquake took place on January 12, 2010. A 7.0 magnitude earthquake hit the island of Haiti, centered in the area of the town of Léogâne, which is about 20 miles from Port-au-Prince. But after that, there were more than

52 after-shocks over many, many days and weeks, and we estimate – I mean, we will never really know how many people died on that terrible day – but estimates range from around 130,000, 140,000, all the way up to 250,000, depending on whose statistics you read.

More than 1 million people were displaced by this earthquake. As the President of the US Committee of the Blue Shield, a fairly young organization mainly focused United States ratification of the 1954 Hague Convention, we were a little bit taken aback realizing that many Blue Shield organizations are charged with trying to provide some sort of natural disaster response as well. Knowing that the island of Haiti was just an hour's flight off of the coast of Florida, we realized that we should try to figure out what was going on with regard to Haiti's cultural heritage. Knowing that there was no way we could get into Haiti under the emergency circumstances, we waited, and we watched, and we had a meeting.

In February of that same year, the U.S. Committee of the Blue Shield called a meeting at the American Association of Museums headquarters in Washington, D.C. I and several other people from Blue Shield came, but we also called upon all government agencies that we thought might have something to do with Haiti. We also called upon lots of non-governmental organizations (NGOs) – professional organizations like the American Institute for Conservation, the American Library Association, etcetera – to try to get an idea of what people might be doing. We had representatives from US ICOMOS and from US COM. There were about 30 people in the room. Somebody suggested that I invite the Under Secretary for History, Art, and Culture from the Smithsonian Institution, and I thought, wow, that would be great if somebody that big and important would come. And he did.

We went around the room to see what plans every organization had to provide an emergency response to Haiti. ICOMOS had some plans to go to the island, I know, and Blue Shield had some plans, but so far nobody had managed to do it. None of the

US interagency organizations had any plans to deal with cultural heritage. I am especially sorry to throw my friends from USAID under the bus, but they were kind of shocked at the notion that we would even consider a plan, and this was a month after the earthquake.

What happened next was pretty exciting for me. The delegate from the Smithsonian was Richard Kurin, who is now my boss, and he told me, he was receiving calls from Haiti every day. He had worked with Haitian colleagues in 2004, during the Folklife Festival that the Smithsonian puts on every year and many were still serving in the Ministry of Culture in Haiti. They were calling Richard and asking if the Smithsonian could help them with the heritage recovery efforts.

We had a lot of salvage to do. We had a lot of damaged art. See here the Center of Haitian Art, which is just one example. I didn't have enough slides to show you all of the things I wanted to today, but this is basically the museum housing paintings from the Haitian Renaissance of the 1940s and 1950s, up to some of the very famous Haitian contemporary artists of today (Fig. 1).



Fig.1: Centre d'Art – Port-au-Prince ©Smithsonian Institution

Thousands of these paintings were buried in the rubble of the museum gingerbread-style wooden building. While this type of architecture is famous for its resiliency, it still did not withstand the shocks of the earthquake.

We had several projects like saving the murals of Holy Trinity Episcopal church and several private collections that we tried to help because they are very important to Haiti's cultural history. So basically, we were looking at some big problems. By late February, Smithsonian set up an assessment team to travel to Haiti. As soon as commercial air

flights were available, we went to meet with members of the Haitian Ministry of Culture and several other private organizations to see what we could do to help and to carry out a quick assessment. We worked in coordination with the US Department of State and with the US Embassy in Port-au-Prince, who provided support to us. We were able to meet with members of the US military who were in charge of humanitarian aid operations to see what kind of support they might be able to provide for us – tents, generators, a place to do triage for damaged cultural heritage, etcetera.

We made a lot of connections; then, we made another trip in March, where we were able to find a building to serve as our Cultural Recovery Center. The Center was located in a building in an undamaged compound that had formerly housed the UNDP.

We hired a Haitian staff – our center manager was Olsen Jean Julien, a former Minister of Culture. Olsen knew the landscape and was able to quickly assemble a staff. One of the first things we did was call on our partners at ICCROM because we knew that they could provide a really quick two or three week First Aid for Cultural Heritage course.

By the time we finished, we had a large team working at the center, and we had conservators coming in on a regular basis. Our first really big group of conservators came in June and we opened the center for business. It was a pretty exciting day. Now, that's not exactly emergency response – it took months – but this was the first time we had tried to do anything of that scale.

We were able to do it because we had a lot of support back home. The Smithsonian went to its partners and agencies of the U.S. government. While we do not have a Ministry of Culture in the United States, we do have governmental organizations with some of the same functions. We have the Institute of Museum and Library Services, the National Endowment for the Arts, the National Endowment for the Humanities, and the President's Committee on the Arts and the Humanities.

The great thing about the President's Committee is they have a board of private members that included the president of a group called the Broadway League who realized how important it was after 9/11 to get Broadway back up and running. They said that's what New Yorkers needed; they needed to know that they could go back to their town and see arts, see the theater, feel like they were trying to get back to the new normal. They felt strongly

that they could provide that kind of support for Haiti, and they made it so that every ticket purchased for the theater on Broadway for a time was donated to this cause, and that gave us our first \$250,000 to get started.

So those were all our partners. But the most critical partners were the Haitians themselves, of course. They needed to drive the process. They needed to stand there and do the triage – to decide what to save, what is the most important. Also, the Haitian Ministry of Culture really needed to work through all their sectors to be able to provide the support and the buy-in that we needed.

Our participants were the staff of the various institutions. They did that first response – they salvaged a lot of those paintings out of the rubble – and here they are stabilizing, now that they have equipment and a place to re-house them. They are doing the work. There were more than 3000 paintings under that rubble, and they were able to salvage quite a few of them. They were helped by a Japanese military engineer unit that was part of the UN Peacekeeping mission in Haiti.

A number of really exciting objects were recovered from the rubble of just that one institution on that day. You can see here, Stephanie Hornbeck who was our lead conservator on the project (Fig. 2). She basically lived off and on in Haiti for over 18 months. I think the Japanese soldiers were excited to be part of the salvage operation.



Fig.2: Salvage operation at Centre D'Art in Haiti with help from Japanese UN Peacekeepers

We had a number of projects running simultaneously - over the 18-month project we trained 150 Haitian colleagues in basic collections management, emergency planning, response and recovery, and basic conservation methods. We brought a lot

of equipment into Haiti; we brought generators, and we brought all types of conservation equipment. We even brought a vacuum table for paintings that was hard to ship. Over that period of time, we estimate we stabilized approximately 30,000 objects of Haitian history, art, or culture.

All the equipment was left behind and now Quisqueya University has become our new partner in Pétionville, a suburb of Port-au-Prince. They are building on to their university to start a conservation training center. All of our equipment is going there, and we are fortunate to have funding from the Ben Stiller Foundation to do that project.

USAID finally came through for us. The Smithsonian received a small percentage of the Congressional fund for Haitian humanitarian response earmarked just for cultural recovery, which is the first time that has ever happened in USAID to a disaster scenario. If you want to learn more about that project, we have a book you can download the PDF online. It is called *Saving Haiti's Heritage*, and it is at [haiti.si.edu](http://haiti.si.edu), if you're interested.

After the Haiti project the Smithsonian staff asked ourselves what we learned and how we could potentially respond better and faster next time? We now have a Smithsonian program to provide emergency response for cultural heritage in the US and abroad. I came to the Smithsonian in 2012, the day after Hurricane Sandy hit the East Coast. That is a story for another day, but needless to say I spent my first month pretty much consumed with domestic issues.

In the spring of 2013, though, we were all very much concerned, as many of us were, about the Civil War in Syria. I had been involved since basically the beginning of the Civil War in creating a heritage inventory of Syrian sites, working with lots of archaeological colleagues who were part of the Blue Shield in the United States. We had provided that information to our Defense Intelligence Agency in case the US should become involved in the conflict and do some potential bombing and targeting there.

Up to that point, that's basically all we had been able to accomplish. But in the spring of 2013 we held a meeting on Syria. So again, it's the importance of meetings. We invited anybody and everybody that we could think of in the US who might possibly be interested – in the government, in academia, in the archaeological community, the professional cultural heritage community – and we had a meeting at the Smithsonian. Participants

were from Department of Defense, State Department, USAID, and UNESCO (New York); academics from University of Pennsylvania and Princeton University, among others; and we also had the Syrian expat community living in the United States.

That was where I first met my colleagues working on the SHOSI Project, Safeguarding the Heritage of Syria and Iraq. We have three areas: emergency workshops, documentation and recording, and research. With funding from the Kaplan Fund, we were able to start working with these groups and make a plan for what we could actually do – some kind of small project on the ground to support our colleagues in Syria, who are working in opposition controlled areas. They are people, in many cases, who used to work for the Syrian Government, but had chosen the opposition side and were now trying to protect cultural heritage sites in Syria, at great risk to themselves (Fig. 3).



Fig3: SHOSI project for emergency training for Syrian colleagues who work in opposition territory.

We organized a workshop for these colleagues. They requested information about emergency packing and crating of collections that had been in damaged buildings and had been evacuated. People were keeping them in their homes and at various places, and they also wanted to learn more about how to protect immovable cultural heritage. So we brought my colleague, Robert Patterson from the National Museum of the American Indian, to teach. Dr. Salam al-Kuntar, an archaeologist from Syria now at the University of Pennsylvania, and Dr. Amr al-Azm, also from Syria, helped organize the training. We had about 14 Syrian participants. They were also able to teach us a lot about what they've been doing to protect cultural heritage and have an opportunity to talk with each other. Many of them

had not seen each other since the conflict began, and they were in this safe place where they could work together.

After the workshop, we purchased packing supplies, equipment, and tools, which the participants took back across the border into Syria to help them in their work. Since then we've had several re-equipping missions, culminating in our project to safeguard and stabilize the Ma'arra Museum. It may seem a little strange to advertise that we have worked to stabilize this museum, but our Syrian colleagues were very adamant that they wanted to have a good news story for a change – not just stories about how their heritage has been destroyed, but how Syrians care about their heritage and want to save it. They have sandbagged the fabulous Byzantine mosaics collections the museum is famous for (Fig. 4).



Fig.4: SHOSI project to stabilize and protect Ma'arra Mosaic Museum in Syria.

The research component of SHOSI is using satellite imagery to document damage to sites in Syria. But unlike some of the other projects, which are very much about figuring out what the damage is, this is more of a longitudinal research project. We have a National Science Foundation grant to plan scientific research into the root causes of intentional destruction of cultural heritage during armed conflict. Working with the American Association for the Advancement of Science and Penn Museum and the Smithsonian, a lot of GIS experts are doing the analysis. But we're also creating a research community, approaching academics around the world – political scientists, anthropologists, archaeologists, art historians – to see if we can discover ways that we can better protect cultural heritage in the future.

## Presentation (4-4)

### The Blue Shield as an Important Mechanism for Creating and Maintaining Networks of Heritage Professionals for Disaster Risk Reduction

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#### Introduction

It is usually taken as an inevitable consequence of armed conflict and environmental disaster that cultural property will be damaged and destroyed. While this is certainly true to some extent there are things that can be done to mitigate such damage. In relation to conflict, military theorists, from Sun Tzu (1998) writing in China some 2,000 years ago, to von Clausewitz (1997) writing in 19th century Europe, have consistently argued that accepting such destruction as an inevitable consequence of war is poor military, and political, thinking. Put simply, it not only makes occupation more difficult (as a population that has seen its cultural property destroyed will be a resentful population), but damage and destruction also provide a reason for the next conflict. In a similar way, the failure of authorities to protect cultural property from environmental damage and destruction may lead also not only to loss of a community's heritage but to public frustration and resentment.

Such loss of cultural property (the physical, tangible, evidence of the past - landscapes, sites, buildings, objects etc.) is not just relevant to those specialists who study the past. The loss is important to all of us for, as individuals and as a group, we study the past, to understand the present, to create the future. The relationship between an individual's or group's past, present, and future is a complex and heavily intertwined one. It is also heavily intertwined with an individual's or community's cultural *heritage* (the intangible remnants of the past as remembered in the present - stories, songs, customs, costumes etc.). Cultural property also frequently provides the focus and backdrop for the enactment of cultural heritage - it becomes the stage on which cultural heritage is performed. Without cultural property this complex relationship becomes increasingly difficult to sustain; when cultural property is lost, it is impossible to replace, and the loss undermines our understanding of, and relationship with, cultural heritage.

Just as an individual without a memory is a dysfunctional individual so a group, community, or society without a memory - can become dysfunctional. This is, of course, not to say that the memory encapsulated within cultural property/heritage is always a positive influence for good: the function, importance, interpretation, and uses of cultural property/heritage are frequently contested, and are not infrequently problematic. Nevertheless cultural property, and cultural heritage, can be key factors in political, social, and economic post-conflict and post-disaster stabilisation and reconciliation, with the potential to foster intercultural dialogue, and frequently providing a stable base for economic development through tourism. Its loss makes us individually and collectively, the poorer.

During the Second World War the protection of cultural property was seen as part of the responsibility of the combatants and the Allies, and some elements of Axis forces, took this responsibility seriously (See e.g. Woolley 1947; Edsel 2009; Edsel 2013). Fully supported by the Supreme Allied Commander Field Marshall Dwight Eisenhower, the 'Monuments, Fine Arts, and Archives' unit were a team of cultural property experts fully integrated into the Allied forces. These 'Monuments Men' made enormous efforts to protect cultural property in all theatres of the war. Unfortunately, little was done after the War to continue the work of these conscript soldiers and by 2003 few military forces retained anything other than a superficial expertise, or commitment to, the protection of cultural property as demonstrated depressingly by the almost utter failure, following the 2003 invasion, of coalition forces to protect cultural property in Iraq.

The failure in Iraq is all the more surprising given the international community had come together in 1996 to create an organisation, the International Committee of the Blue Shield (ICBS), to deal specifically with the protection of cultural property during armed conflict. The belief of those involved in the Blue Shield is that at least some of the destruction of cultural property can be mitigated and avoid-

ed if the heritage community take appropriate action at the correct time. This cannot only mean 'reactive' action immediately before, or after, a conflict begins (or environmental disaster strikes). If we are to have any viable chance to mitigate the impact of conflict or disaster on cultural property we have to plan for the worst - long before either are deemed imminent.

### **The Blue Shield**

Article 16.1 of the 1954 *Convention on the Protection of Cultural Property in the Event of Armed Conflict*<sup>1</sup> identifies a Blue Shield as the emblem of the Convention and the emblem to be used to identify property protected under the Convention. The 1999 2<sup>nd</sup> Protocol to the Convention established a 12 member Intergovernmental Committee to oversee its implementation and Article 27.3 of the 2<sup>nd</sup> Protocol, picking up the Emblem identified in the 1954 Convention itself, identifies the ICBS as an advisory body to the Intergovernmental Committee. The Blue Shield was founded in 1996, in anticipation of the 2<sup>nd</sup> Protocol, by the joint action of its four Founding Organisations: the International Council of Archives (ICA), the International Council of Museums (ICOM), the International Council on Monuments and Sites (ICOMOS), and the International Federation of Library Associations and Institutions (IFLA). As such, given the focus and remit of these organisations, it reflects the tangible, object-based approach enshrined within the Convention and the Blue Shield overtly focussed on cultural property and not cultural heritage. Since 1999 a number of national committees of the Blue Shield have been created with various degrees of activity and success. In 2008 these national committees joined together to form the Association of National Committees of the Blue Shield (ANCBS) and, given that the activities and actors were frequently identical to those involved in the protection of cultural property in conflict situations, the ANCBS broadened its focus to cover environmental disasters as well. Some of the earliest activities of the Blue Shield were actually linked to environmental disasters, for example following the collapse of the Cologne Archive building in 2009 (when the Blue Shield helped organise hundreds of volunteers to go and help with the rescue and immediate conservation of archives) and the 2010 earthquake in Haiti where the National Committees of the USA and France led on providing assistance<sup>2</sup>.

As noted above, the protection of cultural prop-

erty during armed conflict was brought back into sharp focus during the 2003 invasion of Iraq by the Coalition led by the USA and UK (see e.g. Bogdanos 2005; Stone & Farchakh Bajjaly 2008). The loss of globally important cultural property in Iraq was appalling. At the time neither the USA nor the UK had ratified the 1954 Convention. Partly as the result of extensive pressure from the newly (2006) created USA National Committee of the Blue Shield, the USA has since ratified the Convention in 2009, but neither of its Protocols. At the time of writing in January 2016 the UK has still failed to ratify the Convention.

The Blue Shield is referred to frequently as the 'cultural equivalent' of the Red Cross that "...works worldwide to provide humanitarian help for people affected by conflict and armed violence and to promote the laws that protect victims of war"<sup>3</sup>. Despite some suggestions to the contrary (see e.g. Hamilakis 2003 & 2009), colleagues working with Blue Shield completely, and without reservation, acknowledge and accept that the protection of cultural property must come a distant second to the Red Cross' remit to help people. However, once people are safe and sheltered it is the Blue Shield's contention that cultural property soon becomes a very important factor in preserving social cohesion and stability. It could be argued that the Red Cross looks after the cultural heritage, as held within individuals, while the Blue Shield looks after cultural property.

There is some justification in the suggestion of a similarity between the organisations: as the Red Cross/Red Crescent, the Blue Shield is comprised of international and national bodies (there are currently 17 national committees of the Blue Shield and another nine under development). There are, however, three key differences: First, the Red Cross has had some 150 years to establish a worldwide reputation; the Blue Shield has been in existence for less than 20 years and is virtually unknown outside those involved in its community and some armed forces. Second, the Red Cross has a multi-million pound budget; save for a time-limited, short-term, subvention for an office from the municipality of The Hague, the Blue Shield has no income at all except for limited travel funding for the author provide by Newcastle University. Third, the Red Cross has a paid staff of some 12,000 people in 80 countries; the Blue Shield has no paid staff. As it stands the Blue Shield is therefore essentially a network of willing volunteers.

Despite these obvious disadvantages the Blue Shield is slowly developing a capacity to act and is gradually carving out a niche for itself with respect to cultural property protection (CPP) during armed conflict and environmental disaster that complements, but does not overlap, the work of others in the field. As noted above, somewhat simplistically, cultural property provides the stage for, and tangible evidence of, the wider cultural heritage; without cultural property it becomes significantly more difficult to conserve cultural heritage. While undoubtedly the major causes globally of destruction of cultural property/heritage are urban expansion, increase in land under cultivation, the development of agricultural-related technologies, and environmental degradation and disaster, cultural property is damaged and destroyed specifically during conflict for six reasons: [a] protection of cultural property is not regarded as important enough to include in pre-conflict planning; [b] cultural property is regarded as legitimate ‘spoils of war’; [c] it becomes collateral damage; [d] through lack of military awareness; [e] through looting; and [f] as the result of specific targeting. While perhaps the Blue Shield can do little about the last of these at least, under the 2<sup>nd</sup> Protocol, intentional damage and destruction is now a criminal act. However, the first five could, and should, be mitigated through a closer relationship and understanding between cultural property/heritage professionals and those groups most involved in conflict (politicians, the military and other emergency agencies, organisations, and NGOs) and through a better understanding by communities of the multifaceted value of the cultural property all around them.

The Blue Shield has been reactive, but increasingly proactive, in trying to address these reasons through a variety of activities.

### Policy development

Over the last few years, in conjunction with colleagues in the UK Ministry of Defence (MoD), the USA Department of Defence (DoD), and NATO, efforts have been made to develop what has become known as the ‘4 Tier Approach’ that provides a policy outline and practical framework for the inclusion of CPP into military doctrine and long-term planning. Tier 1 requires the integration of CPP training within basic training for all military personnel at an appropriate level and can be introduced for junior ranks, for example, through posters, packs of playing cards, and short films. Tier 2 is introduced as



The looting of archaeological sites across Iraq following the 2003 invasion was facilitated by the coalition failing to understand the importance of cultural property protection. Here a young looter points to where he found artefacts he was trying to sell.

*Credit: Joanne Farchakh Bajjal*

soon as deployment becomes a possibility and the military needs an understanding of the specific cultural property they will encounter; this is the time to provide or review detailed information about cultural property to be protected in a particular theatre of operations. A number of countries have developed specific materials for this Tier including the packs of country focused playing cards produced by the US, Dutch, and Norwegian armed forces, the latter with the support of the Norwegian Blue Shield. Tier 3 is activity during conflict and Tier 4 post-conflict activity during what the military refers to as ‘stabilization’. The reproduction of the article dealing with the 4 Tier approach, first published in an archaeology journal (Stone 2013), in *the British Army Review* led to further discussions with the British Army and an agreed process towards the development of a CPP doctrine for the Army.

### Liaison with military and other emergency organisations

A number of national committees have close relations with their own military. For example, the US Blue Shield (USBS) sits on the Combatant Command Cultural Heritage Action Group (<http://cchag.org/index.php/about/>), the Austrian Blue Shield has close links with the Austrian Defence Academy, and the UK Blue Shield is in negotiations over the proposed integration of aspects of CPP into existing officer training and also the development of proposed specialised training, to be delivered through the UK Defence Academy, in cultural property protection (CPP).

### **Lists of cultural property**

Since 2008, mainly through the work of the USBS and cultural heritage colleagues in the UK, the Blue Shield has helped to provide lists of cultural property to be protected if at all possible during armed conflict, for Libya, Mali, and Syria. These lists have been deposited with the DoD in the USA and the MoD in the UK. The lists have also been passed on to NATO via a number of different routes. The intention is that the information will be added to the so-called 'No-strike' lists, produced by the military. These No-strike lists are comprised of, for example, lists of hospitals, religious buildings, and educational establishments to be avoided unless 'military necessity' dictates (usually only when the places are employed by the enemy for military purposes). All three military organisations above have asserted that these lists of cultural places have been added to their no-strike lists.

The co-operation between cultural property experts and the military over the formulation of the No-strike list for Libya was perceived as a great success by NATO. In particular, the protection of the Roman Fort at Ras Almageb, where forces loyal to the Gadhafi regime, presumably hoping that NATO would take damage to cultural property into consideration, had parked six vehicles next to the Roman fort, was seen as a significant success. The site was on the list of cultural sites submitted to NATO and appears to have been added to the No-strike list. As a result, NATO forces were able to plan the precise destruction of the military targets with very minimal shrapnel damage the fort. This led NATO to commission an internal Report on 'Cultural Property Protection in the Operations Planning Process' that was published in December 2012 (NATO 2012). The Report recommended that NATO should "...create a CPP policy featuring the commitment of the Alliance to protect cultural property..." Discussions over the development of this policy are still underway.

### **During/Post conflict assessment missions**

The Blue Shield has also been able to react more quickly than other organisations to deploy small teams of volunteers to conflict areas in order to assess, as early as possible, levels of damage and the needs of local heritage colleagues. To-date, missions have been to Egypt (2011<sup>4</sup>), Libya (twice in 2011<sup>5</sup>), and Mali (2014) undertaken by those with both heritage and military training. In Mali, for ex-

ample, the mission aims were to [a] document the current situation of heritage sites; [b] assess the impact of post-conflict problems such as illegal digging and illicit traffic; [c] provide international solidarity with and support for those in Mali who protected their heritage under extremely difficult conditions; and [d] encourage the Malian Armed Forces to further efforts to protect cultural property. As part of the mission the team gave short presentations on cultural property protection for more than 30 officers from different security services in Timbuktu<sup>6</sup>. Such work is crucial to give much needed international support to often beleaguered local colleagues.

### **Training programmes**

At present most NATO countries include some level of training with respect to CPP on their home training areas and some have extended this with pre-deployment scenario training – for example what a patrol should do if they are faced with a mob looting a museum (see e.g. Brown 2010; Rush 2011). In the USA the CPP awareness training carried out by archaeologist Laurie Rush at Fort Drum has won numerous awards and Rush has been a major contributor to the cultural property training resources produced by the DoD<sup>7</sup>. The USBS carries out a range of seminars and military cultural property emergency response training<sup>8</sup>. More widely, in collaboration with UNESCO, the Blue Shield carried out training for the Lebanese Armed Forces in May 2013 and as a result of this event, Blue Shield was invited by UNESCO's Standard Section to help develop a draft curriculum for a standardised course regarding CPP. The intention is that this basic course could be used anywhere in the world for a variety of audiences with minimal modification. Further work is currently underway on this initiative to produce a three day course for middle ranking officers with responsibility for CPP.

The Blue Shield has also carried out numerous other training programmes - for example in Cambodia and Mali and for African colleagues in Austria. In cooperation with UNESCO's Regional Office in Beirut, Blue Shield volunteers recently helped to train officers of the United Nations Interim force in Lebanon.

### **Publications/Raising profile**

A number of Blue Shield activists regularly publish academic articles and books and general media pieces to raise the awareness of CPP. Blue Shield

also works with other organisations to produce publications – most recently with the NATO accredited ‘CIMIC Centre of Excellence’ to produce Cultural Property Protection Makes Sense (<http://www.cimic-coe.org/products/conceptual-design/downloads/ccoe-publications/makes-sense-series/>).

### The future...

Much has been done, but far more needs doing. A campaign to raise awareness of the importance of CPP amongst politicians, nationally and internationally, must begin and those countries that have not yet ratified the Convention must be encouraged to do so. The process of developing awareness amongst the military needs to be continued, as does the creation of a CPP doctrine and development of fully integrated training programmes, leading to identifiable officers with a CPP function and remit within all armed forces. NATO needs to implement an organisational-wide CPP doctrine as recommended in its own 2012 internal report. More focus and attention needs to be put on combatting, and exposing the part played by the art world in, the trade in illicit antiquities. The desire of wealthy collectors across the world to own original antiquities is not only the greatest stimulus for looting during conflict but has also opened an additional, significant, source of income for the purchase of weapons and ammunition to prolong various conflicts. Better contact needs to be made with the International Criminal Court to raise the profile of crimes against culture; those perpetrating such crimes must know that, while they may get away with them during conflict, they will be brought to task after the conflict. All of this, and more, needs urgent attention. Perhaps the most pressing need, however, is to identify the funding to enable the above and more to be done before we are faced with another catastrophic loss of the world’s cultural property.

- 1 See [http://portal.unesco.org/en/ev.php-URL\\_ID=13637&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html) (accessed 1 June 2015)
- 2 See <http://uscbs.org/news/?s=haiti> (accessed 7 June 2014)
- 3 See <http://www.icrc.org/eng/who-we-are/index.jsp> (Accessed 1 June 2015)
- 4 See [http://www.blueshield.at/egypt\\_2011/mission\\_report\\_egypt\\_02\\_2011.pdf](http://www.blueshield.at/egypt_2011/mission_report_egypt_02_2011.pdf) (accessed 7 June 2014)
- 5 See [http://www.blueshield.at/libya\\_2011/09-2011/mission\\_report\\_libya\\_09-2011.pdf](http://www.blueshield.at/libya_2011/09-2011/mission_report_libya_09-2011.pdf) and [http://www.blueshield.at/libya\\_2011/11-2011/mission\\_report\\_libya\\_11-2011.pdf](http://www.blueshield.at/libya_2011/11-2011/mission_report_libya_11-2011.pdf) (accessed 7 June 2014)
- 6 See [http://www.ancbs.org/cms/images/mission\\_report\\_mali\\_1.pdf](http://www.ancbs.org/cms/images/mission_report_mali_1.pdf) (accessed 7 June 2014)
- 7 See <http://www.cemml.colostate.edu/cultural/cptraining.html> (accessed 4 June 2014)
- 8 See <http://www.uscbs.org/events.htm> (accessed 4 June 2014)

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## Roundtable Discussion

[Facilitators]

Aparna Tandon, Akatsuki Takahashi

**Naoko Kobayashi (National Diet Library, Japan):**

My name is Naoko Kobayashi. I am from National Diet library. As has been introduced, I am a director of IFLA PAC, Regional Centre for Asia. When I say PAC, the IFLA is holding this strategic program and we are now working on the preservation and the conservation of the library materials. Under the leadership of the PAC Focal Point within headquarters of IFLA, we have 13 regional centers, and the National Diet Library is serving as PAC Regional Centre for Asia. IFLA, the International Federation of Library Associations and Institutions, has been the member of Blue Shield, and the directors of PAC Focal Point have been involved with the Blue Shield International Committee.

Now, IFLA has set the preservation and disaster risk reduction of cultural heritage as one of its key initiatives after Haiti earthquake in 2010, when IFLA was not able to provide enough information on the library's cultural heritage in response to UNESCO's enquiry. Libraries and cultural institutions acquire books, magazines and various other materials. While there are many common publications in libraries, there are also old archival documents and local collections, which are unique to each library. We call such collections "the documentary heritage" and "cultural heritages in the library," as they are irreplaceable and important to both, the library and the community.

At the time of disaster, libraries would have to play a role, for example, to provide necessary information, practical information to the residents, and provide books for their spiritual comfort. If the library materials held at a disaster-affected library are damaged, other libraries can support its service by sending books. Materials of this kind are replaceable.

On the other hand, it is part of the libraries' role to identify and protect their irreplaceable cultural heritage collections from disasters. In this respect, disaster preparedness is an issue that libraries have in common with museums and archives.

Among the cultural heritage in libraries, there

are modern printed materials as well as the documents that are considered historically valuable. Local materials like the community's commemorative issues or picture albums are usually bound in simple ways, and do not look like precious treasures in times of peace. But for example, when a tsunami hits the area and destroys its original landscape, such materials are the only clues to recall what it looked like before the disaster. Local collections also tell stories of past disasters which happened in the area. One librarian in the Great East Japan Earthquake-affected area said; "even if a town is rebuilt and a new library is constructed, we cannot call it a 'real rehabilitation' without the local collection which shows us the history of our town."

IFLA started the Risk Register project and has been making efforts to build the database, which collects information on libraries' cultural heritage that is at risk, and to set up a website for librarians, which will give information on disaster preparedness and response. In the database, comprehensive information of each cultural heritage will be gathered. This includes not only the location of the heritage collection, but also the potential risks for cultural heritage and the library's capacity for disaster response, for example, the number of properly trained staff. So, this includes the information that shows the overall potential of the library.

IFLA aims to, in case of emergency, provide these data to key partners in the disaster response such as UNESCO and the Blue Shield and cooperate with them to support the libraries' recovery. This is still in the process of development, so I'm not able to communicate to you what it actually looks like. But this is the report of the IFLA activities in recent months. Thank you.

**Yohsei Kohdzuma (Nara National Research Institute for Cultural Properties, Japan):**

In 2011, there was a great earthquake in East Japan and I am in charge of recovering the water damaged paper objects, including old documents and letters of cultural value. East Japan Earthquake was a very big earthquake and, as a result, there was a

tsunami that came afterwards.

Because of the tsunami many cultural properties were damaged. What we were concerned the most about were the organic-based properties, such as papers that are made of wood. Once they are damaged by water, they rot very fast, so early rescue was very much needed. But unfortunately, it was not easy for us to make the necessary preparations for the rescue of paper-based properties. I think there were three points.

First, because it was decaying at fast speed, we needed to stop the rotting and molding, or at least temporarily halt the process. To achieve this, we had to use the refrigerated storage, just as we do in our everyday lives to slow down the spoiling of perishable goods. However, freezers, in 99% of the cases were meant to be for food. So, companies were not willing to cooperate with us, but in Nara prefecture, we found the Nara Refrigerating Company, Ltd., which kindly offered their help. In addition, there is a logistics system in place between the cold storage warehouses. So we were able to also get the transportation between the damaged area and the freezer, and also we were able to get the freezer. So that was a very good point in the start of rescue activities for the properties.

Second, in the case of big earthquake, and the tsunami, there are many cultural properties that are damaged. We needed to ensure the safety of the huge number of paper materials as soon as possible. By that I mean that we needed to make them dry as soon as possible. So, we considered some large drying facilities that also would not cause much damage to the properties, and a vacuum freeze-dryer could serve to this task. At Nara National Research Institute for Cultural Properties, one of the works is to store and conserve the archaeological objects and there we do have vacuum-freeze dryers for big items, so we were able to use them. Also, in prefectures and municipalities, 19 of the municipal archaeological centers have vacuum-freeze-drying facilities. Altogether, we were able to utilize 54 vacuum-freeze-drying facilities, which were meant for treating the archaeological subjects. However, because of the earthquake, we were able to procure them for our use. Some of the facilities were extending or offering help. Thanks to the cooperation of those facilities we were able to establish a system of emergency response using the vacuum-freeze-drying equipment that is normally used for the purposes of conservation and restoration of varied cultural properties.

The third point was, that once those cultural properties were stabilized, we had to clean them because they were soiled. In Nara Prefecture, there is a non-profit organization (NPO) called Association for the Study of Book History and Conservation. It's an amateur organization but there are some excellent specialists among them. So we asked this group of people of varied levels of technical skills to help us with the cleaning of the damaged materials. Of course, it was volunteer work, but we were able to conduct the cleaning with the help of this group of people, who possess specific knowledge and techniques.

Finally, we were able to combine these three points of refrigerated storing, using of the vacuum freeze-drying equipment and securing the cooperation with the NPO for cleaning. Within 3 years we were able to process vast amount of water-damaged cultural property. We now have this network. The East Japan Earthquake rescue activities are still ongoing, but we expect many more earthquakes and disasters to happen in Japan. There are and continue to be many papers that are damaged by flood every year. Because we have this sort of continuing threat, securing the rescuing system in place is quite important and that has to be done under the normal circumstances. We need to maintain this network, even if there is no damage occurring. This is our challenge, to maintain this well-established network in future.

#### **Yuji Kurihara (NICH):**

We established the Cultural Heritage Disaster Risk Mitigation Network on July, 2014. The trigger for this is what has been discussed in this conference, the Cultural Heritage Rescue Program activities.

I would like to briefly explain what is the Cultural Heritage Rescue Program. To put it simply, it serves for the rescue of cultural properties in affected areas, by bringing them to safe areas, temporarily storing there, and providing immediate treatments. Then, of course, a full-scale conservation has to be done but that might last from 10 to 30 years, - a much longer stage. Anyway, the Cultural Heritage Rescue Program is limited to the temporary initial response. But as Mr. Kozuma said, in Fukushima, this rescue program lasts for about 2 years, but as far as Fukushima is concerned, it was very difficult to get in the area near the nuclear power plant, so the rescue works still continue.

There is no time to go into details, but in few words, the Cultural Heritage Rescue Program is

functioning under the guidance of the Agency for Cultural Affairs. We are part of the network that also unites the National Museum of Art, the National Museum of Nature and Science, National Diet Library, National Archives of Japan, Japanese Association of Museums, Japanese Council of Art Museums, where both public and private sectors cooperate. Our task in this network is to go to the field and rescue cultural properties. Basically, this task cannot be easily done by the private sector, because first, the Agency for Cultural Affairs contacts the prefecture governments, then the prefecture governments make a request, and only after this the activities are conducted. Otherwise it is impossible to distinguish us from looters. Thus, we have to wait for the request for rescue from the local government, before we take an action.

Since these are all emergency activities, our organization does not have a regular budget, so we rely on donations and conduct fundraising to collect the financial resources for these activities. Our next challenge is to keep some money reserve for emergency purposes, because, as you know, donations cannot be collected soon enough.

There are some challenges of rescue works that I would like to mention. One of them you can call bureaucracy, or compartmentalization of the government. Normally, administration for the cultural properties protection are under the jurisdiction of the Agency for Cultural Affairs. Museums as facilities come under the jurisdiction of the Ministry of Education, but the responsibility over their contents are divided between the Agency of Cultural Affairs – for the arts and history museums, and the Ministry of Education – for the nature and science museums. Libraries are under the jurisdiction of the Ministry of Education and archives are responsibility of the National Archive agency of the Cabinet of Ministers. So, when we try to work together, we have difficulties because of this complex structure.

There is another issue; an issue of terminology. We have a cultural properties protection act in Japan, where the definition of cultural properties, is centered on the objects of traditional arts and crafts. Contemporary arts, objects of natural history, books and ancient documents can get excluded. So, in our organization, we always say cultural properties and other materials. This phrase has been added so that we are not only protecting cultural properties, but some other things too with accordance to the cultural properties protection act. In fact,

when we go to the field in the affected areas, we do not waste time trying to distinguish what are cultural properties and what are not cultural properties, but try to provide the rescue to the broad array of objects.

The Blue Shield organization acts for this purposes on the International arena. There are also such international organizations as ICOM, IFLA, ICA, ICOMOS and CCAAA, and if we arrange a good coordination with them through the related Japanese agencies, I think we can do a better job in cultural heritage rescue.

In the past, taking a lesson from the UK, we tried to establish the so-called MLA cooperation (Museums, Libraries and Archives), but because of the governmental bureaucracy such cooperation was hard to achieve. When the national organizations, try to collaborate with each other, it's not as simple, so what we do in Japan, is that we use the external pressure. We use the pressures of the international community, for instance, under the name of the Blue Shield there might be a step forward for the MLA cooperation. For now, this is just my personal idea, but since there is still no national committee of the Blue Shield in Asia, maybe we should establish national committee of Blue Shield in Japan. I have a hope that it would trigger the progress of MLA cooperation.

Towards this goal, we established the headquarters of the National Task Force for the Japan Cultural Heritage Disaster Risk Mitigation Network in the National Institute for Cultural Heritage. For now it is just a small internal organization, but our goal is to create the all-Japan national organization. Another goal is to proceed with the research and surveys because no one knows what kind of calamity will happen so we are trying to gather as much information as possible. Lastly, we would like to develop human resources for these tasks. Unfortunately, at the National Institutes of Cultural Heritage, we don't have disaster experts so want to nurture such people.

In order to organize a national network, we gathered people from the organizations that cooperated in the abovementioned rescue operations, such as libraries, archives and museums, and established the Cultural Heritage Disaster Prevention. In fact, just 2 days ago, we held an opening meeting. Also, in this kind of a meetings, sometimes people hesitate to speak their minds, so we invited some eminent people for the special private sessions where they could say whatever they wanted to say. We also

had those meetings 2 days ago and we got scolded in a way by the experts.

In addition, there are more than 20 archival networks in various parts of Japan. They are mostly private NPOs that have their administrative stations at universities, and they conduct their activities to protect cultural properties on a half-volunteering basis. Their national assembly took place in Kobe last month. There are two kinds of archival networks, the ones that do preventive activities and also the other group that has been created after some disasters took place. As a rule, such networks do not appear in big metropolises. If we could have such networks in all prefectures then, our cultural heritage disaster prevention network could cooperate with them and engage in more activities. We would like to cooperate with various stakeholders, national, public and private, in order to develop this network for the effective disaster prevention in the future. That is all I had to say. Thank you.

**Fredrik Rosen (Danish Institute for International Studies):**

I've been asked to speak a little bit about the capacity of international military organizations and how we could achieve the more efficient partnerships at this level of international cooperation for DRR.

The capacity in which I am invited today to speak here is a Director of NATO Science for Peace and Security project. The aim of this project, conducted in cooperation with various counterparts in NATO headquarters, is to develop suggestions for how NATO policies and doctrines on cultural property protection can be advanced as well as to assist the NATO's activities related to this topic.

This project, which was called the best practice for cultural property protection in NATO-led missions, is supported by all 28 member states, something which reflects the fact that military's concern for cultural property after all is growing.

Now, the NATO CPP capacity is not something that happens overnight. Since last August, together with my partners from the US military, the UK Department of Defense, and Sarajevo Operations Training Centre, we have spend most of our time talking to stakeholders in NATO and trying to explain what cultural property protection is all about, and how and where the '54 Convention applies to it. Not least, we have to explain how the CPP could benefit NATO operational goals and discuss with them where and how CPP could sit within established NATO branches.

Moreover, I find the same level of confusion in the UN peacekeeping systems, as well as on the member state level. The last couple of years, I've been also involved in systematic examination of the Danish implementation of the '54 regime. We ratified the Convention in 2003 and 10 years after we could not see any signs of implementation. The Ministry of Defense pointed at the Ministry of Culture because they were the custodians. The Ministry of Culture said it was about humanitarian law and that responsibility thus fell on the DoD and the Ministry of Justice. And the Ministry of Justice said that it was the Ministry of Culture that was responsible. Hence, culturaleal property protection always falls between the chairs.

The result is the lack of CPP capability in the international coordinating bodies for military affairs, and I'm talking here about the military branches of the UN, the African Union, the European Union, and, of course, NATO. Nor do we see any effective actions on a state-level. That said, despite of the apathy of the UN and NATO, we can see that the interest for the cultural heritage protection is growing on the level of individual organizations or citizens movements.

Regarding our discussion about the disaster risk reduction, the problem is that DRR really needs a strong military partner, because the military usually is able to provide rapid response mechanism for disasters. So what can we do in view of this confusion and lacking awareness of CPP? Based on my experiences with the NATO and the UN, I have the following recommendations. First of all, don't overestimate the '54 regime. While the Convention does appeal to states to build or plan a military capacity to handle CPP, it's the member states that decide when the criteria are met. So, you don't actually have to build capacity in order to fulfill international obligations and thus you may fulfill your international obligations without becoming an effective partner for DRR.

Also, note that the '54 regime only applies to situations legally defined as international armed conflict. It is not an option to expand the scope of application to disasters. So, the challenge is to obtain the military CPP capacity for DRR without changing the international law framework. What is needed for this is to find a state that would to champion cultural heritage protection as a DRR-related issue. If it happens, we will be able to tackle cultural heritage protection within the disaster prevention activities. Another important task is to establish the ca-

capacity in the relevant coordinating bodies for military affairs in international organizations. Such capacity does not come by itself.

If you look at the UN peacekeeping setup, they have the will and they see that there is relevance, and I know that because I am communicating with them on a regular basis, and we try to figure out what to do. But they have no funds and they have no manpower. Don't forget that UN peacekeeping only recently set up an organization for environment protection, but since the cholera breakout in Haiti, no personnel had been appointed there

So, how do we solve this issue? I think that one solution could be to find a state that is willing to second two professionals to the relevant branches of the four main international coordinating bodies for military affairs. They do not necessarily have to be CPP specialists. The most important thing is that they know how the organizations work and how the member states can work, and that they can communicate with military staff on senior levels. So, I'm not sure that the Blue Shield or UNESCO, for instance, would be the right organizations to take up these functions. It more depends on whether the right personnel can be found within those organizations, because the personnel can influence the organizations' orientations and goals.

Also, the reason for using secondments, to jumpstart CPP capacities, is that the secondments are more directly related to the operational, rather than political level, which is slow and always extremely difficult to handle. So, if the goal is to find a state that is willing to sponsor 8 secondments for 3-year periods and send them out to NATO, EU, AU, and the UN, we could start calculating the costs. To give you an estimate, and I'm sure that some people here in the room are more competent to provide the numbers, I think it would cost about \$200,000 per year per person to make such an arrangement. Two people and four organization would make US\$2.4 million for 3 years, and then you need to add operational costs on top of it on travels, meetings, etcetera, and funds for pilot projects. So, let's say that we are talking about US\$10 million for a 3-year period. This is a tremendous amount of money.

So, my suggestion would be that we make a roadmap, that aims at finding a state that is willing to actually champion and finance the jumpstart of CPP capacities across the UN, EU, AU, and NATO. You'll need a clear concept papers and provisional terms of references for the secondments, and a budget, of course. That is just a matter of going

from one state to another, to see if there would be any willingness to pursue such goal. You could also look at 4 states to share the cost, and why not start with Japan? I think that would make a lot of sense. Thank you very much.

**Aparna Tandon:**

Now it is time for some discussion. For the discussion to begin, we would like to first invite our keynote speakers to kindly come up to the desk and take their seats. We are going to change how we open this discussion a little bit. As the speakers come up, I am going to explain. We are going to ask one common question to all the speakers of this session, including the discussants, starting with the keynote speakers and then moving to the discussants who have concrete suggestions. The question is based on the presentations that you gave today. We would like you to give us one or two recommendations for improving preparedness, response, and recovery related to disaster risk management of cultural heritage, looking at both armed conflicts and natural disasters.

**Scott Branting:**

I can refer to two different areas in terms of the presentation I gave. One is in terms of the need for coordination. This issue was addressed in all the different talks, I think, it is important to find a way to coordinate, be that within our own organizations, with other organizations, with the military, with foreign bodies, or with the local communities and partners. Obviously, technology can help with some of these, but as Corine Wegener said, besides having meetings or other things like that long-term coordination is necessary.

**Xavier Romão:**

Well, just after reading the session brief that was distributed to you all this morning, I think the first point is actually one of the essential points, basically to establish inventories of information of data on cultural heritage. I would just add to that first point that if a specific cultural heritage asset sustained any losses and damages in the recent past due to hazardous events, that information should also be shared. As I showed in my presentation, this information can be very important for the future.

**Corine Wegener:**

In terms of my presentation, I think that one of the really important aspects is to create these networks

and maintain them. That is a critical thing. Just having meetings does not help if you do not keep the network alive before a disaster. It goes back to what we were saying yesterday about how you have to come to the level of what people care about and it is kind of hard to convince a museum director or some other cultural heritage institution why they should pay attention to this, when they are worried about so many other things. But we need to bring them together and explain to them the benefits of disaster risk reduction. There is a popular book out right now called 'The Resilience Dividend', according to which we need proper planning of a resilience dividend, a minimum of actual money.

The second thing I want to say at the risk of intervening on what Peter might say is that I think people often have to be reminded that the 1954 Hague Convention is not just about what the military does. If you are an adherent to the Hague Convention, you are required to plan the protection of your cultural heritage in times of peace, for cases of conflict. I think oftentimes, we, as cultural heritage professionals, forget that the first part of the Hague Convention is the responsibility of making plans for our own heritage.

**Peter Stone:**

I hate to sound like my former English Prime Minister, but I think the basic thing is, education, education, education, education, and education. Our education is related to our responsibility in the 1954 Convention, as Corine Wegener says. It is also about the opportunities that the Convention gives to the education of the military and other emergency armed forces and it is not an obstacle, it really is an opportunity for them. It is education at a school and a community level, and it is education for the general public, and I think all this education activity needs to happen as quickly as possible.

**Naoko Kobayashi:**

At libraries, as I said in my speech, identifying important things is a priority. Not only librarians, but also community members have to know what is important beforehand. What is most important is that when libraries are damaged, the entire community may lose its functions. If the media knows that the community has important cultural heritage, then the media could promote it and let people in other regions know. Other libraries, such as prefecture libraries or national libraries, may collaborate by sharing information in times of peace. I am afraid

that was not the case before the earthquake that we had 4 years ago in Japan. So, sharing information on important heritage before disasters seems important to me.

**Yohsei Kohdzuma:**

I also think education is necessary, and, as you said, that a network is extremely important. When we talk about cultural heritage rescue and risk management, I think protection through prevention has to be in the first place. When cultural properties encounter inevitable damage, we have to rescue them and make recovery efforts for them. These are the three phases, but instead of treating them independently, we need to treat them together in an integrated process. Creating a network and maintaining it, is quite important, but building and maintaining a network requires resources. How can we secure such resources? I think that efficient network maintenance is a challenge that we are facing today.

**Yuji Kurihara:**

In Japan, similar initiatives for cultural properties started right after the Great Hanshin Earthquake. Rescue activities were carried out, and even though there was a movement to permanently keep the networks that were organized in that occasion, after 10 years, the network disappeared. This time, after the Great East Japan Earthquake, we had to create it from scratch. So, instead of repeating the same mistakes over and over again, our biggest task once we have a network, is to keep it permanently active. So that's the lessons we have learned.

Regarding the cooperation with the armed forces of Japan, I am now talking about the self-defense forces, as our Constitution does not allow us to have an army itself. Before we had this conference, we went to see the Ministry of Defense, because the defense forces are the first actors to go into disaster affected areas before anyone else. I went in order to ask their views on cultural properties, knowing that saving people's lives is the priority. They said that they understood, but that I had to approach them through the proper channel, such as the Agency for Cultural Affairs, rather than a national museum. I then replied that they rarely had an opportunity to talk to the Agency for Cultural Affairs. Then, the Ministry of Defense said in the Central Disaster Prevention Council he had not heard anything about the topic at the council meetings. The Agency for Cultural Affairs is just a part of the Ministry of

Education, Culture, Sports, Science and Technology (MEXT), so it does not have its own representation. Because the MEXT is in charge of the education facilities -which includes schools-, it prioritizes schools and their safety, disregarding the cultural sector, which is the challenge facing us. We need to convince MEXT and the entire government of the importance the cultural heritage risk management, raising awareness of the issues by referring to examples of other countries. Thank you.

**Fredrik Rosen:**

The approach of institutionalizing cultural property protection in times of disaster can be multiplied by unifying the NGOs and all the entities we see all over the world who are doing a great job showing the importance of this field.

To have units and capacity at the level where the main resources and main funding of the international community can be pooled and allocated – I think that will actually be something that is of great importance to this field. Another very beneficial thing that I see could be is to have a much better coordination, as we have kept recalling since yesterday. There is a tendency that actors in this field try to be diplomats, grass root projects activators, and fundraisers, everything at once, and I think that is important to improve coordination, perhaps limiting goals and ambitions, focusing on certain aspects, and thinking very strategically in 5-year periods, for example.. Thank you very much.

**Akatsuki Takahashi:**

There is a cultural or linguistic issue. The Blue Shield may not be well-known compared to the Red Cross and the Red Crescent movement, and in Japan, we use terms “cultural rescue” and “doctor operations”. And I thought these were very good terms that the ordinary people could easily get familiar with. I felt that what is important is that, regardless of the terminology, the essential function of the Blue Shield, which is networking among cultural institutions and facilities, is carried out in a way that is easy to understand. I think there is now a momentum on this in Japan.

I recall there was a case study presented by a Swedish expert, explaining that the National Heritage Board is a member of the National Disaster Prevention Committee. When I asked if they did any particular lobbying, I was answered that they referred to the Hyogo Framework for Action document. So, I think we should wait for the adoption of

the outcome document of next week’s conference and its possible impact, which may help our efforts in integrating cultural heritage risk management in the National Disaster Management Plan.

**Aparna Tandon:**

Thank you. Before opening the floor for discussion, I want to sum up what our speakers have said. Overwhelmingly, I think everybody has said more networking, education, awareness raising, network maintenance, funding, and ultimately also how to streamline communication between various levels of government and various ministries.

A final recommendation and very useful suggestion from Fredrik, is to not to waste time trying to understand what level of information we need to exchange. First we need a basic level of information. Because the organizations are overstretched, there is no capacity within sectors, and preparedness and response capacity is very limited, and this needs to be emphasized.

So with these words, I would like to now open the floor for questions.

**Unidentified speaker:**

I think it was important summing up the issues on education, media and sharing heritage. But I think one thing which we have seemed to miss is that we are in a digital age and there is crowd-sourcing, there are social networks. I want to pick up on the first two presentations as to how crowd-sourcing can help put information in Arches, the basic data base. As for ICORP, which is about looking for heritage registrations, well, in fact, most of the documentation is a collection of photographs that everybody took with their iPhones. This is to say that we have to have a new approach to documentation and that means not to standardize but to harmonize. Standardization is a top-down attitude which is as Voltaire, I think, said, the greatest is the enemy of good. I think we should try to harmonize and understand that there is a way of moving from one country to another and extend our knowledge base to social and crowd-sourcing social network.

**Aparna Tandon:**

This is a question that I also wanted to ask the first two speakers of today, about using other open-source and crowd-sourcing tools like *Ushahidi* and Open Street Mapping, how do you think about incorporating that in your existing projects and database?

**Scott Branting:**

Open Street Maps and other things that are OGC compliant can be brought into Arches. There a platform already there for bringing that in. Having it linked to standards is critical for interoperability in terms of different digital systems.

Getting to your question on crowd-sourcing, I have two different ways to answer that. We have been looking very hard at crowd-sourcing within armed conflict situations and that would obviously be radically different than what you have in a non-conflict situation.

What we are facing in Syria is that, if people use their cell phones to take pictures, it could put them in danger. So, we need to find ways that people can do this in a safe manner for themselves and not having them do more than what they have to be doing. Obviously, a life is more important than getting information on the cultural heritage.

The second aspect of that is that there are active social media watchers in the Islamic state, and we fully anticipate that we will get a lot of disinformation that is meant to overly weight certain propagandistic tendencies that they want to bring across in terms of the data. So we need to be scrutinous and to a certain extent, we need to have this outside of a conflict situation that is highly polarized, to judge whether we confirm or deny the information.

We need to have a more intricate structure to prevent people from getting venomous ideas that may be forced in a dominant, monopolized way. Harmonization then what you would see in a non-conflict situation, but we need to be even more careful in terms of how to smooth that out within a conflict situation.

**Xavier Romão:**

Thank you for that very interesting question. That question keeps coming up, and the answer is not really easy. We have been thinking about that and, personally, I have mixed feeling about crowd-sourcing and other possible sources of information that can come up from social networks.

When I am asked this particular question, I have two points. First, having too much information is almost as useless as having no information at all. The second point is that, if everyone comes up with information—and I am not only saying about, but other types of information—how can we actually control the reliability of that information? If you want to be able to use this information for serious work like risk assessment, mitigation methods, and

such, we have to provide reliable information. If everyone in the world can actually contribute with information, then we would need to sort out what actually matters from a ton of data and that is not really productive, I think. So at the moment, we are not thinking of including crowd-sourcing and social networking as a source of information.

**Timothy Curtis:**

I have a question for Peter Stone and Corine Wengener about the Blue Shield. I may have misunderstood, but did I understand there is a movement to have an international list associated with the 1954 Convention?

It sounds like a good idea, but I would be very worried about the mechanisms of inclusion because the problem with lists, which are useful, is they not only include, but they exclude. When we have international list such as the World Heritage List, they have very specific criteria such as uniqueness and comparison. I am concerned because such a list would end up approving on an international level and could really miss out on very important national heritage, which we would be seen as not as important as it gets caught up in the internationalization process. There is the model of the 1970 Convention, where Interpol has databases of disappearing art and so on, so that national level inventories can be fed into military structures without going to the international listing mechanism, which I fear could also have quite negative consequences. For instance, attracting deliberate destruction or what we see in the World Heritage, which is attracting tourists when a site is not ready to receive them.

**Peter Stone:**

I think I can put your mind at rest. There is no, certainly in my mind, no intention of creating an international list. There would be relevant state lists or national lists that would relate and would be generated by the individual states and it would be on their criteria.

**Aparna Tandon:**

Well, just for clarification, I am sure people already know that there is a list mechanism for enhanced protection and let us not get into that quagmire of what is effective and what not, although it is definitely one of the issues which we have to think about.

**Yasmeen Lari:**

I think for a person coming from Pakistan, where so little is happening in terms of protection, it is just amazing to see this. Thank you very much for sharing all the good work that is going on.

Going onto the speakers, of course, a lot of things do resonate with us. Pakistan is a country which is definitely targeted by extremists and we are losing a lot of heritage in this, although maybe it is not highlighted as much as what is happening in Syria and elsewhere, but the danger is lurking all the time. That happened especially with some of the monuments that belong to the Buddhist period or even the British period, only a couple of years ago.

So I think the whole thing about making inventories and knowing what is where is important, and then also flagging what is happening, and that is why I am really pleased to hear the first speakers who talked about documentation and about danger to heritage. I just would like to know how countries like Pakistan we plug this into the whole system? Because, for instance, we have just recently prepared a list in an electronic databank of something like 1200 sites in Sindh alone, that are endangered in many ways. It would be a good thing for us to know how we could plug in. Also how can we, again, talk about what is endangered and what has happened and how things have been blowing up, bringing it to the table, so to speak. So it is really enlightening for me to hear about what can be done with the military. Right now, we have drones attacking all kinds of areas and we have also our own military going into the northern areas and bombing places and militants. So there is a lot of conflict damage that is being inflicted without us even knowing what has happened. I bring it to the table just to be able to say that it would be a good idea if Pakistan can plug into it in some way. Thank you very much.

**Giovanni Boccardi:**

I have two issues that I would like to raise. One is about networking maintenance. I do not about you but I receive hundreds of emails everyday by so many people and it is really hard to do anything on your desk when you have to read and respond. To maintain a network, there has to be an underlying process, clear distribution of roles and tasks, an institutionalization so that I know that if something happens, then I call this person and then he does this, and so we have to design a process where everyone knows what their roles and responsibilities are, supported by an agreement.

So, I want to come back to what Fredrik Rosen was saying about getting together the peacekeeping institutions and trying to conceive a way of working with them. You have suggested that we could start by seconding people to these organizations to begin operationalizing. But as for UNESCO, my first idea was to convene a meeting, like Corine Wegener was saying. Meetings are useful sometimes, and they put these people around the table, as well as other institutions from our sector, and try to design this scheme and then decide what needs to be done by whom.

The same actually I would like to do for the humanitarian organizations because there are other issues in addition to the military ones. For example, in Syria and Iraq, in neighboring countries we have now millions of refugees that come to some places, completely disconnected from the cultural heritage. This is also a human rights issue. So I wanted to ask Fredrik Rosen, but also others, if you felt that an initiative like this from UNESCO could be useful, could be welcome?

Also, another issue I have with Scott Branting and Xavier Romão is about inventorying. I think this Arches has a huge potential and I understand it can be customized. At the moment, as I understand, it has been designed for inventorying, in general, but in the specific context of disaster risk reduction, conflict, or risk reduction, it would be interesting, I think to develop a specific version of Arches that includes all the questions that we want to address when an emergency arises, and then to pilot it in some countries that are either experiencing these situations or are likely to, for example, Libya, Yemen, could be in the next lines

**Scott Branting:**

Just very specifically on the last point, that is exactly what we are trying to do with Getty and colleagues in Lebanon for an inventory in Lebanon. We chose it because at the moment it is safe and secure. It is relatively small, it has therefore got a relatively small number of sites, so a project can be done relatively easily, quickly and cheaply. That is exactly what we are trying to do, to show “this is the level of detail that we need, if it is going to be successfully used in disaster situations at some point in the future”. So we are trying to do that, definitely.

The other project we are doing in Lebanon at the moment is with Syrian children who are there as refugees, and there is a funding through UNICEF. We're working with a Lebanese NGO to try and

teach about cultural heritage and CPP to those kids. There is a target of dealing with, in the first instance, 8500 children, which is a very easy target, given the number of Syrian families and children in Lebanon at the moment. So those are two activities that actually now got funding.

**Fredrik Rosen:**

I think the question of, how to get a process kick-started in the UN headquarters, is very much a member state game in New York. So I think that what needs to be done is simply to get one member state on-board and ask this member state to invite the relevant people from the relevant branches in the UN, including X number of interested member states. I mean, you send out an invitation either on an ambassador level or a deputy ambassador level, decide what level you want to have this meeting on. Do you want to have it with the Secretary General there? That would be ambitious to start out with.

I did that last June. We had the people from UNESCO who work in Mali. We flew them into New York to have them around the table to share best practices, experiences, and also to just to take the temperature in among the members showing up, as well as our partners in the DPO. It is interesting, taking this topic forward in the context of UN peacekeeping. Apart from one person, everybody agrees that this was a no-brainer, but the question was funds and right now there is a quite comprehensive review of UN's peacekeeping role and it might not be the best time, even if cultural property is very much under pressure this moment. There is a lot of media attention. There is a lot of discussion about it. So in that way, there is a kind of political

interest around the world.

These reviews of UN peacekeeping is such a buzz. There is so much going on and it might be worth to wait after that has calmed down a little bit and then try to introduce the topic. But I think it is very easy to make these meetings and I think there is great interest and we could easily compile a large number of member states, as well as relevant people from DPO.

**Aparna Tandon:**

I think we would like to bring this discussion to a close, but the suggestions that Giovanni Boccardi made about internal coordination within the cultural sector and with agencies outside is something that we will consider at the end of the day today and we invite others who had questions, but didn't have the opportunity to discuss them to join us, while we engage together to make the recommendations.

There is also an important point which we did not discuss enough. We did discuss the 1954 Hague Convention but there is a gap. We do not have a DRM-specific convention, an international convention, or we do not have DRM-specific domestic legislation that can enhance capacities. There should be also some punitive measures associated with this kind of legislation. So we can discuss all that and more at the end of the day and with that I would like to thank all the speakers and thank you for giving us a very interesting session.

**Akatsuki Takahashi:**

Aparna Tandon and myself are very pleased and thank all the participants for their active contribution and the lively discussion. Thank you.



# **Session 5**

## **Preparedness for Response, Recovery and Reconstruction (Part II)**

### **–Methodologies of Assessing Post Disaster Needs for Recovery and Future Preparedness–**

**[Facilitators] Timothy Curtis, Akiko Umezu**

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## Presentation (5-1)

### Integration of Cultural Heritage into Post-Disaster Needs Assessment (PDNA)

Giovanni Boccardi

Chief,

Emergency Preparedness and Response,

Culture Sector, UNESCO

PDNA is a methodology that has been developed jointly, following an agreement by the UN, the European Union, and the World Bank in 2008. Everything really started from the experience of the tsunami of 2005 when the countries affected by this disaster were overwhelmed by the fragmentation, the lack of coordination of so many agencies that were trying to help them. It was felt that there was a need for a common process following a single methodology that the governments could cope with to conduct this very important process of identifying, assessing impacts, and planning for recovery. So these three organizations came together. They signed an agreement, and they started developing the PDNA.

This PDNA is the last reincarnation of many previous approaches and methodologies. There was a first attempt by the World Bank in the Latin American context to develop a methodology to assess the socioeconomic impacts of disasters. Then the World Bank refined this and created something called DALA, which stands for damage and losses assessment. Then the UN came in and the consideration for the human development aspect of a disaster was brought into the picture. All of these combined then resulted in the PDNA.

What is new in the PDNA with respect to the previous versions? Well, initially, the emphasis was mainly on the economic impact. Everyone wanted to know how much money was needed to fix what was broken. Now, on the other hand, we are trying to look at the broader impacts of disasters on human development.

Also interestingly, and that's why I'm here, UNESCO was able to include a chapter on culture as part of this methodology and I'm going to speak to you about what this chapter looks like and what could be the implications for our sector, also, in light of what we have heard this morning and yesterday.

These are key steps to the PDNA. I'm not going to go through all of this. By the way you have in front of you a printout of the culture chapter of this PDNA, which is part of a publication that is availa-

ble online, which is called Volume B of the PDNA. However, there is also a Volume A which is the general methodology. This is also easily available from the Internet. As you can see, these are the typical steps of any sort of impact assessment process from having baseline information, inventories all the way down to writing the recovery strategy at the end of the process.

A PDNA is something that happens typically a few weeks after a major disaster and it's meant to produce a comprehensive report, multi-sectorial, which includes not only an assessment about what has happened, but also a recovery strategy based on the needs identified. It's the most important document that is used in fundraising activities. When the UN calls for a consolidated appeal, when World Bank and European Union put hundreds of millions of dollars after tsunami and earthquake, this is typically based on the findings and proposals of a PDNA. So that's why it's important that we are part of it.

There are four dimensions that PDNA considers in its assessment of the effects of a disaster. First, there is the physical impact on assets and infrastructure of the disaster on the affected area. Then, there is the effect of the disaster on the delivery of services, access to goods and services by the affected population, which is a different issue. Thirdly, there is the effect on the governance, decision-making processes of the local and national authorities. Fourthly, the new risks and vulnerabilities that have been created by the disaster, which were not there before the event, but are now there because of the disaster.

There is an economic valuation of the disaster effects, which is articulated in damage and losses. According to this terminology, damage means total or partial destruction of physical assets and infrastructure. Losses, on the other hand, refer to additional costs or diminished revenues caused by the disaster. To use a metaphor from the economic sector, damage could be assimilated to impact on *stocks*, whereas losses concern effects on *flows*. If possible, data related to damage and losses should

be put together, disaggregated between public and private and by districts.

In addition to economic evaluation of the effects of a disaster, there are also the larger macroeconomic and human development impacts which need to be considered. In economic terms, the macroeconomic impact of a disaster will be reflected on the GDP, the balance of payments, meaning sort of impact on the need by a country to draw on hard-currency from other countries, as well as through the fiscal position of the State. So how much it is impacted in terms of state budget, fiscal revenues, and also overall employment income, by the population affected.

The human development impacts will refer to indicators agreed within human development indexes. There is also a recovery strategy that is developed, which is based on the sort of bullet points, vision, recovery needs are identified, a plan is drawn, implementation arrangements are clarified. This includes crosscutting considerations and incorporates build-back better and disaster risk reduction provisions, so that when what has been damaged is reconstructed, it is more resilient in the face of the next disaster event.

Now, the second part of my presentation is about the culture PDNA. In our guidance that we have developed, we have assumed that as far as the culture sector is concerned, we were looking at these five things, the built heritage, cultural and natural sites; the movable properties and collections; intangible cultural heritage; repositories of heritage, including cultural centers, museums, archives, libraries, but also theaters; and then cultural and creative industries.

The main challenge here, of course, is obtaining reliable baseline data. Almost everywhere we go after a disaster, we don't have information concerning where are the things, what is there, how many etcetera.

Now, you remember the four dimensions of assessing disaster impact. We had, of course, impact on the physical aspects, total or partial destruction of monuments, sites, cultural repositories, equipment, infrastructure of the agencies in charge, but in terms of service delivery, we have lack of access to cultural heritage, for example people can no longer pray in their church - as we have seen yesterday for the case of the Philippines. Disruption in the production of cultural goods, people can no longer produce crafts or music or videos because it's not just about heritage, it is also creativity, new things.

Inability to continue to educate your children in arts and music or your own mother language, everything which is related to the possibility of people to benefit from culture.

Then you have the third aspect, effects on the ability of agencies in charge of the cultural sector to respond, to operate. Finally, new risks resulting from the disaster, for example, monument, which is at a risk of collapse, is destabilized by earthquake. Or the risk of looting following the disruption in governance caused by a disaster.

Here the culture sector has a specific challenge. In some cases, some places are not easily reconstructable because, of course, they are historic buildings, so it's hard to say, okay, we lost say the Taj Mahal, how much does it cost to rebuild it? It cannot be easily rebuilt. It will never be the same. So here, there is a consideration about what sort of alternative solutions could be envisaged to address the needs that have been created by the disaster.

The manual elaborates on this. And then losses, for example, diminished revenues and/or additional costs from temporary closure of cultural resources, cancellation of cultural events, costs for emergency measures to prevent further damage. For example, to prop up a building, which is about to collapse is one economic loss, but to reconstruct it, it's damage. There is a distinction that economists make in accounting for the financial dimension of a disaster, which to us heritage people may not be so important, but for them it is capital and fundamental. To mix the two is capital sin in economy, I was explained.

The cost to ensure continuity of cultural services is also essential. The temporary church in the Philippines had to pay for it to reduce new risks.

What I'm going to say in the next 2 minutes is that it's very challenging to identify the impacts associated to the cultural sectors to human development, because the UN doesn't have an index of human development indicators that include us. So we have to come up with some ideas which are here and more in detail in the guidance and I need your help in coming up with good suggestions.

The recovery strategy is also presented in the manual. In terms of implementation, clearly we need teams to be able to do this, which include the cultural economists, and anthropologists, architects, museum experts, etcetera. We need to train them. We need to have consultation processes on site, to have synergies with other teams that are undertaking PDNA for other sectors. The good thing

with PDNA is that people who do this are often all into the same room in the UN premises, typically in the capital and so you are doing your PDNA culture and the expert for housing or infrastructure is right next to you. So he is planning, for example, for the reconstruction of the airport and you can talk to him and say sorry, don't put your airport on my archaeological site, put it somewhere else. This was not possible until PDNA included culture.

What does this mean for us? the PDNA offers a great opportunity for us to bring together, strengthen the integration of our sector with the DRR. We also have an opportunity through PDNA to finally bring together the different strands of the culture sector, the movable, immovable, tangible, and also

the heritage and creativity.

We need to build our own capacity to assist member states in doing this. We need teams in different continents, speaking different languages. We need to draw on the ICOMOS–ICORP and ICOM committees to build our own institutional capacity to do this. We need to refine progressively our approach, building on experiences. The Samoa case has lessons that can be learnt. We recently did it in Albania and Serbia. Finally, we have to do the same for another process called post-conflict needs assessment that has a similar machinery and where we are not there yet. I look forward to working with all of you to be able to put this in practice. Thank you so much.

## Presentation (5-2)

### PDNA Needs in the Pacific Region

Paula Holland

Manager, Natural Resources, Governance,  
Secretariat of the Pacific Community

The Pacific has a substantial regional architecture with around 10 intergovernmental (regional) organizations that assist Pacific small island developing states to tackle a number of development issues. The Pacific Community (SPC) is the oldest of these, comprising 22 Pacific small island states and 4 metropolitan countries. Targeting development, SPC has the regional mandate (among other issues) to support capacity building in disaster risk management (DRM) in the Pacific region. That includes running the regional platform on DRM as well as reporting on that, coordinating DRM capacity building and keeping people talking. SPC also has the regional mandate to support culture and heritage, its development and protection. This includes the hosting of the 4 yearly Pacific heritage or cultural festival and also the promotion of cultural industries for development.

In terms of disasters, the Pacific region experiences a wide gamut of natural hazards and related disasters. Located in both the middle of the Ring of Fire and the cyclone belt, the area experiences both seismic and hydrometeorological disasters yearly. On average, the region experiences over 21 nationally declared disasters a year.

A big issue in the Pacific at the moment is climate change and sea level rise. A lot of our countries are very low-lying. That means sea level rise can increase the risk of inundation from the sea and impacts on communities.

Conventional disaster assessment in the Pacific has focused on damage assessment and there has been limited attention given to assessing the losses arising from that damage. However, if we don't know where the losses are and what they mean, we cannot plan effectively for recovery. (As an indication of the importance of this, of the three PDNAs conducted in the Pacific to date, losses were estimated to equal 50 to 100 per cent of damage costs.) There has also traditionally been a lack of systematic inclusion by governments of the impacts of disasters on communities.

So, SPC is interested in using PDNA as a way of bringing together both damage and loss assess-

ment and linking it to the impacts on communities. This allows us, with our mandate, to look at people-centered development in the Pacific.

Getting back to culture: there has generally been little assessment in the Pacific of the impacts of disasters on culture, such that cultural impacts have traditionally been underestimated. There has also been limited focus on intangible impacts; yet these impacts are important. As an example, the tsunami of 2009 killed two of the three people employed at the American Samoan national museum to train people how to weave and keep this skill going. The death of these individuals reflects the loss of access to traditional skills and history. There is also an impact on biodiversity and incomes. Such impacts are not conventionally considered in Pacific disaster assessments.

The Pacific culture community is interested in PDNA to ensure that the impact of disasters on culture is part of the story of assessment and planning. They are interested in the impacts on the culture sector in terms of assets and skills, the impacts on producers, and also as a means informedly to plan ahead. But we should not lose sight of the importance also of value as a means to draw the attention of Finance Ministries and Treasuries to what is going on.

To date, three PDNAs have been conducted in the region, two of which explicitly recognized culture and heritage by, for example, including a description of physical impacts, and related changes in tourism- and commercial-related earnings. This is an important step in the Pacific because the PDNA is handled by Finance Ministries. The PDNAs therefore provided the opportunity to begin to mainstream culture to disaster assessments and recovery planning.

It's not just about itemizing the issues, although that in itself is a significant achievement. It's also about describing them and explaining why they're important. This becomes part of the awareness raising with government ministries not dealing with culture, not least because PDNAs in the Pacific are run through Ministries of Finance. A discussion oc-

curred yesterday about whether or not there should be a valuation of intangible costs in the cultural sector from disasters. As I said then, it is not just about the numbers that come out at the end; it's also the process that is important. If a Ministry of Finance runs a post disaster needs assessment and people working in that office continually hear about the role that a cultural asset had in generating economic and social well-being, this raises their awareness

and contributes to a business case for supporting recovery in the culture sector. PDNAs provide an entry point for planning and investment for the culture sector.

SPC is presently working with the World Bank to finalize a proposal to establish a pool of experts in key sectors in PDNA. This includes tailoring existing training materials to the Pacific context, training the individuals and supporting them in the field

Damage versus loss\*

Samoa 2009 tsunami PDNA

	Cost (SAT millions)	Cost (USD millions)	% of total
Damage	212	84.8	68
Loss	98.16	39.26	32
Total	310.11	124.04	100

Samoa 2013 TC Evan PDNA

	Cost (SAT millions)	Cost (USD millions)	% of total
Damage	237.7	103.3	51
Loss	229.4	100.6	49
Total	465	203.9	100

Fiji 2013 TC Evan PDNA

	Cost (FJD millions)	Cost (USD millions)	% of total
Damage	121.5		62
Loss	73.4		38
Total	194.9	108.4	100

\* Numbers may vary due to rounding

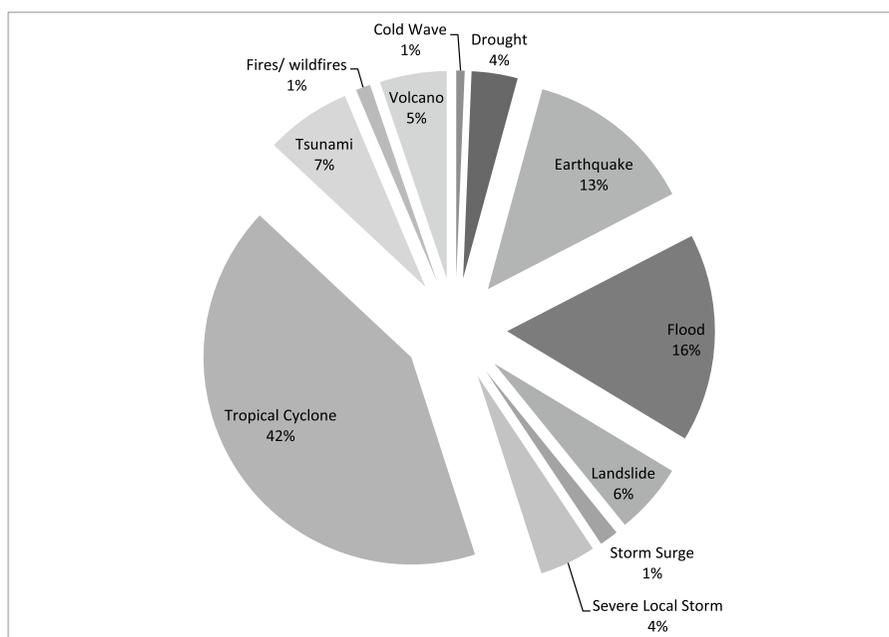


Fig.1: Total natural hazard-related disasters in the Pacific 1983-2012 by type

to apply their skills in real life situations. The idea is that, over time, Pacific dependence on outside experts can fall so that we can have islanders in control of the assessments.

We want to share lessons and we want to generate locally relevant materials. We want to have case studies so that we can understand how assessments can inform recovery and plan ahead. Ultimately we want to institutionalize the principles of PDNA to DRM. This is the beginning. One of the three PDNAs conducted in the Pacific was done in Fiji. At the time, the government was not convinced of the value of conducting a PDNA but agreed to give it a try nevertheless. The results so impressed them that the Minister responsible for disasters stated that the PDNA would be the way disasters assessments would be conducted from hereon in.

Nevertheless, there are challenges for the Pacific region in pursuing PDNAs, especially for the culture sector. First, Pacific culture and heritage departments are generally small with limited staff and resources to cover assessments. Mainstreaming culture and heritage to disaster assessments and financing decisions requires more people on the ground. (This is probably a challenge for a lot of sectors.) Second is the question of intangibles and how we deal with this. At the moment, just getting the impacts on disasters on the culture and heritage sector described in a PDNA is a significant change for disaster assessments. Yet the issue remains of accounting for items whose values are not immediately apparent, such as the activities that keep communities cohesive or the chiefly systems that limit crime. How do we deal with this? Economic valuation methodologies exist but the Pacific only has a limited number of practitioners. Representatives of the culture sector have expressed a desire for training in this area so that they can come to grips with the issues.

Also, some representatives of the culture sector feel that they are bypassed when it comes to disasters; that they are not invited to the table or considered when there's a disaster assessment going on. This means that we need to do something about this.

In terms of a way ahead, there is then a need to influence decision makers. We need to share experiences globally of cultural and heritage assessments that are done through PDNA, show how it was done, and show an effective range. We need one or two really effective case studies that we can take back to Pacific small island developing states that resonate with them, and which demonstrate to those sectors not dealing in cultural heritage the merit of including cultural impacts. There needs to be better access for the culture and heritage community in post-disaster assessments.

The culture and heritage community in the Pacific have specifically requested training in economic assessment, especially with traditional knowledge and skills. This is something that we are going to look at but, because PDNA is a new thing in the Pacific, this requires a long term program of activities over time. We can start with encouraging listing and descriptions and then we can move in that direction.

The Pacific needs to learn from other countries. That means that data and experiences need to be accessible. We need to know who's got that information, how we can share and how we can learn. We need a lot of dialog.

We are starting with PDNA and are trying to take account of culture and heritage at the beginning of the story, to set the way ahead. It is really going to be a long journey and any help that we can get from the outside is gratefully received. Thank you.

## Presentation (5-3)

### Integration of Disaster Risk Analysis into Heritage Research Methodologies

Mikio Koshihara

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Institute of Industrial Science,

University of Tokyo

My topic will be somewhat different from what has been discussed thus far. Moreover, I should point out that I am a structural engineer by training. As such, what I shall discuss might be a little difficult to appreciate, however, if you stick with me to the end, I believe you shall be able to understand the intent that I hope to convey. As an academic, my research deals with the sort of wooden buildings that are found here in Japan, and I have a particular interest in the nature of the aseismic capacity traits they exhibit. To express my academic interest in terms of today's theme, you could say that I have an interest in disasters within the context of the many great wooden buildings that are found here in Japan. As to such buildings, and indeed with respect to all structures, today I would like to offer some thoughts as to the structural properties that they possess.

Japan is subject to a great variety of events including fires and earthquakes. We are also impacted by typhoons, heavy snowfalls, and flooding. Among such phenomena, however, the earthquakes stand alone. With the other disasters just mentioned, we now have the means at our disposal to either predict them outright or to predict the possibility of their occurrence with some degree of accuracy. For example, we know when a typhoon will arrive. We also know when either a heavy snowfall or a flooding event are likely to occur. Of course with fires, it is true to say that we cannot predict when they will break out. However, even when they do, it still takes time for a blaze to increase in size and ferocity. By contrast, earthquakes are different; we just don't know when they will occur. Additionally, there is no way of knowing just how big they will be when they do finally strike. In light of such realities, we have to give some consideration to the issue of aseismic capacity. I would suggest that earthquakes as a form of disaster present us with a rather unique set of circumstances. If that argument is accepted, then what about when the engineering issues that earthquakes entail are actually considered? To what extent do we understand the

concept of aseismic capacity? In responding to such questions, I would like to refer to the case of the building damaged as a result of the Noto Peninsula Earthquake that struck in Japan back in 2007. Using a computer simulation allows us to appreciate what actually happened when the earthquake struck. Up until now, it has been very difficult to analyze what happens to wooden buildings under such circumstances. Using the computer simulation, it becomes possible to recreate the circumstances that resulted in the building ending up with a tilt like this. In other words, as an analysis technology, little-by-little the simulation process allows for an evaluation of what will happen under a given set of circumstances. Thus, with such an earthquake and such a building as is used in this simulation, we may evaluate that a structure may end up looking something like this. However, much in the same way as was alluded to earlier in that there exists a great variety of different buildings, there also exists a great variety of different earthquakes. Thus, we are unable to build structures whose construction is able to match (or counter) all types of earthquakes. If such a premise is indeed accepted, then a major issue becomes the process by which we go about accommodating such issues of risk management.

I suppose the next question then becomes how we are able to know the sort of aseismic performance that was just shown. Well, the answer to that is a process called "aseismic diagnosis." Concerning a building, there are the structural elements from which it is comprised, and data is clearly recorded as to the nature and status of such factors. What you see here is an example of such information which up until now has been prepared by structural engineers. However, I don't believe that doing such work should be the sole preserve of the structural engineer, rather it is a task that both historical researchers and building owners should also be doing. The reason I believe this, is because the question needs to be asked as to what or who actually decides the aseismic capacity of a building like this.

I believe it is not just the structural engineer, but rather all of the people who have any form of involvement with the building. Thus, I feel such data is something that should be shared by everybody. If it happens, then everybody will know what is important for aseismic capacity, and what factors or structural elements do not have a great impact. The data highlights the position of the pillars and the walls, and the condition of the joints that connect together the pillars and the beams, etc. It is simply a case of looking to check if there are any areas of deterioration. If this can be achieved, then structural testing can be conducted in accordance with the facts presented by the data. Furthermore, if steps are taken to model variables such as the distinctive properties possessed by the joints of a building, its partitioning walls and its earthen walls, then it shall be possible to simulate what will happen to such a building in the event of an earthquake.

Such tasks are not something to be completed by structural engineers alone, rather they need to be shared with all of the people who have any form of involvement with the building in question. However, in that it should be realized that structural elements like those I have discussed are actually infinite in number, it is important that there be some form of organization in their management. Moreover, because of the differences that exist between countries and regions with respect to the construction methods that they choose to employ, it is important that an attempt be made to share databases that deal with structural elements. If we achieve this, we could advance the measures that Japan is currently applying in understanding aseismic performance and in the attempts of seismically-strengthen the buildings. At this point, however, I should perhaps describe what I mean by seismic-strengthening within this context. What I am describing are those measures that see the insertion of steel frames, the inclusion of low-visibility walls (which nevertheless work to reinforce structures), and the strengthening of joints via the application of metal bracings. If the practice of such seismic-strengthening is to be applied to individual buildings, it equates to the addition of some new form of material in each case. Furthermore, since modern materials are more easily understood by stakeholders, what is being promoted here in Japan is the insertion of steel products. If such measures are applied to each and every building, the problems like those will arise. However, if a policy of seismic-strengthening is conducted, concerning the towns and the buildings, it shall be possible to appreciate the manner in which the buildings will shake dur-

ing an earthquake. It is within such a context that the effectiveness of the sort of analysis I have discussed is being verified.

As to the idea of considering the aseismic capacity of each and every building in this way, it is one possible approach, but if considered in terms of the traditional townscape that is encountered in Japan, it is definitely not the case that each and every building has been built entirely independent of one another. While individual buildings sited separately might nevertheless shake randomly from one another where there are roads to intersect between them, in those locations where they are lined up, they tend to move in unison together. If that is indeed the case, from the structural perspective, in this instance shown here there are not three separate buildings, but rather only one. In other words, rather than the characteristics of an individual building, what leads to changes in aseismic performance under such circumstances are the factors of geographic location and placement considerations. Furthermore, if it is determined that aseismic performance can be changed, it then also becomes possible to change the policies employed in seismic-strengthening.

I would like to refer to the footage that shows a number of houses built side-by-side in Sawara City, Chiba Prefecture. Obviously, there has been some earthquake damage, however, among the five or so buildings lined up in a row, some of them were damaged while others were not. For instance, tiled roofs of some buildings had collapsed. It can be seen that the buildings in one vicinity are shaking much more violently than the others. In other words, although there are five buildings lined up together side-by-side, the manner in which each is shaking tends to differ from its neighbors. Those buildings that are structurally weak appear to be shaking more violently while the others can be seen as not really shaking much at all.

Concerning the example shown in the footage, when actually trying to recreate it and analyze it using a computer simulation, what happens is that the weak buildings in this area are seen to shake violently while the ones around them don't really exhibit much movement. Thus, even if built on the same site, the aseismic performance of buildings can vary based on their specifications. As such, even if one of the buildings had tried to collapse under the stresses exerted by the earthquake, there remained the possibility that the buildings around it would support it. In light of this, there also seems to be an alternative solution that runs along the following lines. Namely, while thinking about the aseis-

mic performance of each and every building, it is also necessary to thoroughly consider the conditions under which they are built. One of the buildings was greatly damaged. However, while the roofing collapsed, the underlying structure was not greatly impacted. With consideration to the landscape on which the building was sited, repair proved possible without the necessity of having to raise the aseismic performance of the building itself. Truthfully speaking, however, something should have been done to raise its aseismic performance. While one possible solution might have been to raise the aseismic performance of an individual building, in the case of a number of buildings lined up together, by surrounding the weak buildings with strong ones, it is possible for the weaker ones to lean on the strong. On the other hand, to the stand-alone buildings, probably, not much can be done to add to their aseismic performance. Especially strong buildings are commonly used as disaster-preparedness hubs and public facilities. Meanwhile, sometimes the homes of private individuals, even without much intervention, retain a certain cultural value and also possess the aseismic performance.

Along these lines, government agencies or researchers create similar databases and then engage in analysis. Next, they secure subsidies so that they could engage in activities which encouraged the populace to both undertake seismic diagnoses of buildings and carry out seismic strengthening measures. Meanwhile, people living in such buildings should proactively sought to have both seismic diagnoses and seismic strengthening done. However, it is important to remember that there is no single answer when responding to such issues. As I have stated earlier, the specific properties that are possessed by buildings vary for each individual building, and such properties can also change depending on considerations such as the geographic location of a building. In other words, there are lots of possible choices and variables to consider. Thus, the issue arises which of the methods to choose. If somebody decides that they want to raise the aseismic performance of their building, the clear presentation of the wide variety of methods to choose from becomes an issue. Indeed, if the building in question is similar to the kind of structures that I described, the whole argumentation would be rather difficult to understand. Then again, if building owners and users cannot understand such difficult arguments, then the efforts that are being made to promote these measures shall stall. In the beginning of my speech I noted that it may be difficult to

comprehend, because I will talk about structural engineering. If specialists like myself resort to describing the topic in such terms, imagine how building owners must be feeling about it.

As to the building that made an appearance at the outset of my speech, I should point out that its design was one that might have been expected to fail in light of the type of earthquake that hit it. Luckily, however, immediately next door to it was a very strong structure which meant that, even with broken pillars, it did not end up collapsing. Well, if that is what occurred, could the building I discussed be described as having a strong aseismic performance? Would there be no problem in people continuing to live in it? Unfortunately, that is probably not the case. We should question what would happen if a slightly stronger earthquake occurred? If the same building was relocated about 500 meters away and experienced the seismic shock waves of a similar force, it would be most unfortunately collapsed. Consequently, what can be argued is as follows: within the context of the present earthquake, it might well be that the building I discussed remained standing due to its location. Moreover, there is no way of knowing how long it might remain standing. Indeed, that is something that I don't know myself. Although through analysis I have come to understand some of the properties that a building possesses, speaking more broadly, we still do not know what type of earthquakes will come to this area. Therefore, it is important that we start to talk to people by thoroughly conveying what we do know, and also by reaching a consensus on what we don't know and being up front with them about the matters. To achieve this, rather than talking to professionals, it is important to think of how such information can be conveyed to those people who live in such buildings. Thus, as I mentioned earlier, it is important to share information by conducting aseismic diagnosis and aseismic strengthening activities together, and by explaining to people the structural properties that buildings possess. Furthermore, unless we share information with owners about the historical values and the aseismic properties of historically significant buildings, the owners are prone to decide that total rebuilding and new structures are a much safer option.

In closing, I wanted to stress the importance of being able to convey such ideas to building owners. Thank you very much.

## Presentation (5-4)

### Building and Strengthening Partnerships: With Whom and How

Shen-Wen Chien

Professor,

Central Police University, Taiwan

It is my great honor to have the opportunity to present this topic, “Building and Strengthening Partnerships: With Whom and How,” based on the Taiwan experience.

Cultural heritage and historic buildings in Taiwan are exposed to natural disasters and challenges, including typhoons, earthquakes and fires. Natural disasters pose significant threats to historic buildings as they may lead to destruction of these types of property. However, in the past, we have always only focused on life safety and post-disaster recovery when disasters have struck. As a result, heritage preservation in natural disaster situations has often been neglected.

After our participation in the UNESCO Chair Training Course at Ritsumeikan University in 2008, our domestic departments gradually started to pay attention to heritage protection and risk identification. Today, Taiwan is still progressing and striving to increase heritage preservation, awareness, and to amend related regulations.

This slide illustrates our participation in the UNESCO Chair Training Course on Disaster Risk Management of Cultural Heritage. Based on the instructions from Ritsumeikan University professors and UNESCO experts, we started to build up the international partnerships.

This slide was proposed by one of my classmates when I attended the UNESCO International Training Course. He drew out many disaster risk factors, such as earthquakes, landslides, tornados, and fires, with special emphasis on arson, and emphasized our interdependence in heritage preservation.

Recent regulation changes in Taiwan now require heritage site managers to propose fire safety and building safety response measures, according to preservation goals, and disaster risk analysis in order to get permission for their reuse or rehabilitation from a joint reviewing committee. We established a strike angle like an initiative to promote and enhance preservation for heritage, and created partnerships among public and the private sectors.

It is important not only to build partnerships

among the Central Police University, National Science and Technology Center for Disaster Reduction, and Society of Fire Protection Engineers, but also to connect with and influence the Ministry of Culture and other government departments, such as the National Fire Agency and Ministry of Science and Technology. Meanwhile, we are fortunate to have many chances to be invited to educate site managers, citizens and volunteers. We also established a training course for architects and fire engineers. These opportunities help to bring forward issues and help to influence legislative guidelines for disaster risk assessment and emergency response plans for cultural heritage and historic buildings.

The guidelines for fire prevention and fire rescue for cultural heritage and historic buildings, published by National Fire Agency in 2009, have established formal partnerships among the fire prevention organizations and the cultural preservation organizations. It is a breakaway from taking a passive stance on operations outside one’s own regulatory authority.

We have many challenges to attend to in the review process for assessing the reuse and renovation plans for historic buildings. There are three highly important and beautiful historic buildings in Taiwan. The first is the Wufeng Lin Family Mansion, a Qing dynasty wooden structure. The second is the National Taiwan Museum, originally constructed in memory of two great Japanese who made great contributions to Taiwan’s modernization. The third is the Lukang Longshan Temple, very elegant. You are welcome to visit them. We can guide you to take a wonderful tour.

Taiwan always focuses on strengthening the performance of disaster prevention and mitigation strategies. That is why we added the arson scenario as part of the emergency response plan in order to increase the focus on fire protection, performance design, and its harmonization with heritage preservation.

In 2013, our research team visited the Qionglin Settlement located in Kinmen, an island very close



Fig.1: Fire safety education, training and drills for stakeholders

to mainland China, and organized a risk identification training for the stakeholders. This training course is designed based on UNESCO's concept and operations and modified according to Taiwan's human and social factors. In this course, the stakeholders have learned how to identify disaster risks through understanding disaster scenarios and developing the ability to help themselves.

We can see that this gentleman can easily operate the fire hydrant by himself, although he is over 75 years old. We also educate and train senior citizens to protect their ancient family structures by using fire extinguishers and a set of garden hose and nozzle. We recommend changing the emergency response plan for fire exercises. We established small wooden structures and educated citizens to use carbon dioxide fire extinguishers and water mist equipment to control Class A fires.

Through attending trainings and seminars, Taiwan has been able to learn current international guide-lines and trends in heritage preservation. We have hosted three international exchange meetings. In 2010, during the exchange meeting for SFPE Asia-Oceania Chapters, we focused on fire risk analysis and response plans regarding heritage and historic buildings. In 2011, based on Akiko Umezu and Ai Sekizawa's kind arrangement, we attended trainings for disaster protection of cultural

heritage in Japan. In 2013, during a seminar on integration strategies of fire protection for cultural heritage, we arranged a very special visiting tour for the most important historic buildings, such as the President's Office and the Guesthouse.

Participation in these types of events also allowed Taiwan to connect and exchange experiences with international scholars and experts.

We have already finished a study on disaster risk assessment and a mitigation plan for cultural heritage. Actually, it is an integrated research with four sub-projects. The first deals with assets assessment to identify targets to be protected and to enhance public sector systems of laws and standards. The second deals with disaster risk assessment techniques and education for the private sector to complete response plans for the reuse of heritage. The third deals with community-based disaster protection systems and enhancing cooperative assistance among public and private partnership. The last one is a study on disaster emergency response and local rescue skills.

Now we are working on identifying risk factors for historic buildings and on conducting research for scenario-based solutions using a fire spreading model. We selected a Qing dynasty wooden structure, Jiying Temple in Taipei. We use Fire Dynamic Simulator software to construct a 3-D simulation

and to evaluate the safe distance needed to prevent fire spread from nearby neighborhoods to the temple. This Jiying Temple is located very close to a very traditional night market, and the streets in this area are very narrow and difficult to evacuate and perform fire rescue operations. There are many food vendors and there is a high fire risk because of the many gas cylinders. So, we created regulations according to the defined fire size and fire source location, and the fire growth rate, and the late night timing.

Let's move on to the conclusions and suggestions. Although the protection systems inside historic buildings are in compliance with code requirements, fire risks still exist. The purpose of

the fire risk identification is to find solutions to enhance the building's overall fire safety level, not just to install one kind of a fire protection system.

The risk factors and the suggestions identified by an inspector can be filled out in the remarks column of a checklist, not only based on points. Finally, we strongly recommend a simple and visible operation for the users, especially for senior citizens, based on the fire risk identification procedures and scenarios. This is a key point.

Taiwan will continue to make efforts by taking actions in accordance with the objectives and actions for risk reduction for heritage adopted by UNESCO. Thank you very much.

## Roundtable Discussion

[Facilitators]

Timothy Curtis, Akiko Umezu

### **Rujaya Abhakorn (SEAMEO-SPAFA)**

First, let me briefly introduce you to what SEMEO-SPAFA does. Then, I will talk about our small meeting on cultural heritage and disaster risk reduction that we held in 2013 with support from Japan Foundation.

SEAMEO is the Southeast Asian Ministers of Education Organization, and SPAFA means Regional Centre for Archaeology and Fine Arts. SEAMEO is a consortium founded 50 years ago, before the establishment of ASEAN, for the purpose of promoting cooperation in the field of education. Therefore, the operational mechanism of our organization runs through the consortium centers all over the Southeast Asia. Currently, we have 18 centers related to science, culture and education. The center that I am acting as the Director of is classified into culture.

Our center was founded over 30 years ago. In the beginning, we were dealing with the two academic subjects of archaeology and fine arts, which are not subjects, but rather groups of subjects. Our task has been to promote capacity building, interaction, awareness raising for cultural matters and arts, and most importantly, fostering connectivity between Southeast Asian countries. We have been concentrating on academic subjects until recently. Since I became the Director of SPAFA, we had a good cooperation with ICCROM on the CollAsia 2010 program. As it came to the end, I thought that we might move more into conservation activities, taking into account the context of living in the tropics. There are similar issues and problems that we all face in Southeast Asia, so we set up joint conservation topics. Among them, there were two fundamental projects related to the 2011 flooding in Bangkok. One of the projects was the compilation, conservation, and digitization of palm leaf manuscripts.

Heritage in Thailand is mainly concentrated in temples. There are 20,000 temples all over the country and various works of arts—especially the knowledge inscribed on palm leaf manuscripts—are stored in them. Different Thai-speaking communities, as well as Mon and Myanmar, use palm

leaf manuscripts in religious occasions and teaching. While palm leaves are very durable, they are always in a threatened state because termites like eating them. It is not a sudden disaster, but a routine, everyday disaster. Therefore, we concentrate more on preventive methods, than on disaster problem solving.

We conducted activities to bring these problems into attention. There was a temple that was flooded and, with the support from Prince Claus Fund, efforts were made to restore it in cooperation with government and universities. Our budget was limited to less than US\$1 million, so there was not much we could do. But one important task within our capacity was to create a positive impact on local communities.

In the conclusions of our conference on disaster risk reduction, we had a clause saying that local communities should educate government agencies in regard to cultural heritage and traditional knowledge. Other conclusions and recommendations are already published. Roughly, we would like to continue managing the recordkeeping, so that traditional knowledge can be collected and appropriately used. We are not very good at recordkeeping in Southeast Asia because of the climate. We have been rather careless about it. But for disaster risk assessment, we should do more, and we should have better cooperation and coordination between national and local levels, between communities and the government.

Lastly, I think it is important that we are involved in education on this matter; and gaining strength from there, we will be able to do more in that area. At the conference, we suggested that there should be a multidisciplinary action. There should be knowledge from the community, learning and information banks, such as data on the various disasters that occur, and we should provide more education. It will not be easy to coordinate in the 11 countries of Southeast Asia, that is millions of people. Education on disaster preparedness will not be easy to provide, but I think it could be incorporated somewhere into the school curriculum, for example, in a

regional history course, to raise awareness among young people and teach them how to behave in this kind of situation.

I apologize that I cannot provide you with more information, but what I envision now, as a director at the moment, we are about to work into a 5-year plan in which we will work on transmitting knowledge and training people. As you know, it is easier to train people in Bangkok than to send them to Rome or other places, because maybe one trainee at ICOM will cost the same as about five Indonesians trained in Bangkok.

On this occasion, I would like to ask your support. We would be grateful for your suggestions and recommendations regarding our goals, and we are also looking for cooperation in the field. Our center has a website. We are also present on YouTube, Facebook and other social networks.

There are multiple ways of bringing benefits to the region, and mechanisms for this are in place. We have all the ministries of education and all the ministries of culture, which are supposed to handle these things, but they don't do so well. In a same way, I don't have the authority to say what should be done in Japan or in Taiwan. My role is small and I cannot do much, but I am open to any advice and to opportunities to work it out together. Thank you very much.

**Robyn Riddett (ICOMOS-ICORP):**

I would like to say thank you to the organizers for the invitation and the opportunity to be able to help mainstream cultural heritage in DRR at this very significant and important event. Following a major, and sometimes a minor disaster, an often so-called PDNA is undertaken. They often comprise separate analyses and assessments, carried out by separate agencies, focusing on their sector and with little crossover or consideration of other sectors, even where there may be a common interest.

This process typically reflects the organizational structures of aid agencies, and the overall disaster response and recovery plan, which may be in place. In these circumstances, humanitarian needs, infrastructure, and public safety are the priorities and the almost exclusive focus of emergency responders who are not aware of the value of cultural heritage and the potential of its recovery. Cultural heritage may have survived the initial disaster with minor or repairable damage, but by being unattended, it often suffers further.

Culture Can't Wait. Cultural heritage needs to be

brought up the priority scale and to be embedded into the wider response and recovery plans. We are very good at understanding and managing cultural heritage, but we are not good at selling the message to others. We need to rebrand and repackage our message to get it into the mainstream consciousness and priorities and re-level the play field.

After the 2010 earthquake in Christchurch, New Zealand, ICOMOS New Zealand formally promoted the idea to the effect that "Protection of heritage fabric at the highest level may also be seen as promoting the protection of human life." They revised the *ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value, 2010* and included an article which now states:

"Places of cultural heritage value may be vulnerable to natural disasters such as floods, storms, or earthquakes. In order to safeguard cultural heritage value, planning for risk mitigation and emergency management is necessary. Potential risks to any place of cultural heritage value should be assessed. Where appropriate, a risk mitigation plan, an emergency plan, and/or a protection plan should be prepared, and implemented as far as possible, with reference to a conservation plan."

The important point of this is that the risk analysis has been embedded into the heritage protection process.

The post disaster environment can be challenging and dramatic, where the most urgent task is to focus on the obvious humanitarian needs. However, at this stage it is also essential to focus on the future and strategies for recovery and longer-term resilience. Therefore, it is vital to develop a comprehensive recovery plan, which considers damage and losses caused by the disaster and recognizes all facets of societal culture and needs, so that the recovery is long-term, viable and sustainable.

I would now like to offer some thoughts as to what a good PDNA should do. It should:

- Be fit for the purpose at all levels.
- Cover all aspects including humanitarian, economic, agriculture, governance structures, development, insurance, infrastructure etc. in a single overarching assessment, and cover both short- and long-term needs.
- Involve the affected community in the data collection, analysis and planning phases, so as to engender ownership of the future recovery strategy.
- Seek meaningful commitment and sup-

port from all levels of government, and community groups, and hierarchies (religious, professional [doctors, farmers, heritage specialists], ethnic, tribal etc.) and the fullest possible engagement of local authorities and community-based organizations in the planning and execution of the initial recovery, while building specific capacities and the advanced skills base where needed.

- Be expressed in writing and clearly communicated in a manner that is understandable to all stakeholders.
- Be cognizant and respectful of local cultural practices and structured in a manner acceptable, and therefore implementable, by relevant authorities and communities.
- Be free from political interference and corruption, which was certainly not the case in the episode of the Christchurch earthquake.
- Identify the needs for short-, medium-, and long-term, which will lead to a sustainable recovery, greater awareness and future resilience in communities.
- Realistically assess the integrated bottom up and top down available resources, and the logistics for mobilization at the appropriate level, which might be multi-tiered, national, regional, provincial, state or local.
- Include strategies which require communication, co-operation, and coordination of all stakeholders at all stages of the process and at all levels that is “multiple stakeholders with a single focus, moving forward together, sustainably over the longer term.”

What that means is adopting the conference theme written in the ICOMOS-ICORP brochures provided. In other words, it is getting to know each other, it is the first step to future cooperation and cultural heritage DRR. I commend you to read the words of wisdom in these ICOMOS-ICORP brochures. The PDNA should also:

- Adhere to the principle of *Primum non nocere*—“first, do no harm”—ensuring that the process does not have a detrimental effect on life-saving relief to the affected population, the area or its culture.
- Be sensitive to short-term trauma and dysfunction, but lead stakeholders towards

longer term stability and sustainable practices.

- Find opportunities for the practical involvement of local citizens and utilize traditional knowledge and vernacular techniques while embracing the new.
- Eventually put in place a better approach, which encourages authorities and communities to not repeat the mistakes of the past; that is, settlement patterns change landscape, seascape, ecology, which played a part in the current disaster. While there may be common methodologies underlying the approach to developing PDNA, it is not simply “one-size-fits-all.”
- Finally, it should be tailored for the specific need, and specific community, and the specific circumstances.

Further guidance can be found in the Giovanni Boccardi’s document that he referred to earlier. Thank you.

#### **Ai Sekizawa (Tokyo University of Science):**

I am participating in this meeting as an expert in fire prevention. Along the lines of the conference theme “Cultural Heritage and Disaster Resilient Communities,” I would like to make a brief presentation on earthquake-related fires, which is an important DRR issue in Japan, and on cultural heritage DRR against earthquake-related fires.

Japan is an earthquake country. Following the latest big earthquake, big tsunamis hit Japan. Conventionally, however, fires—particularly fires in urban areas—resulting from earthquakes have been considered the biggest issue. For example, the big earthquake that occurred at Kobe around twenty years ago caused multiple fires. Not just one fire burned in one place, but series of fires occurred at different places simultaneously in small districts. In one district, as many as 13 outbreaks of fires were reported. However, there were only 5 fire engines in the district. How can we put out fires at 13 places with only 5 fire engines? I always ask this question to the audience whenever I present this topic. The answer is quite simple. It is impossible. In fact, out of these 13, 11 of them spread and turned into massive fires. Only fires at 2 places could be extinguished by 5 brigades. This is the reality.

In the 1923 Great Kantō earthquake, because of strong winds, about two thirds of Tokyo was burned to ashes. Just as in Kobe Earthquake, the concrete buildings were intact, but all the wooden structures

were burned down. What I would like to show you here is an effective condition to control fires. It is said that it would be possible for professional fire-fighting teams to control fires when the number of fire engines are equal to the number of fires occurring. However, when the number of fires is increased above that, the situations become worse and get out of control.

In order to recover an appropriate balance, we need to add volunteer actions. The number of fire engines is limited. Therefore, community members need to tackle fires on their own, using fire hydrant equipment or portable pumps. This is a power of disaster resilient communities. In Japan, even in Tokyo, citizens are well aware that they cannot and should not fully rely on public firefighting services in the event of a severe earthquake. Therefore, local communities are voluntarily involved in disaster prevention activities. I would like to introduce some examples.

In historic districts with traditional wooden houses, fire hydrant equipment covered by wooden boxes is installed at regular intervals or in places easily accessible to each house. In each box, nozzle hoses are connected to a fire hydrant standpipe, so that people can use it alone and quickly when the occasion demands.

Not only in the historic districts but also in general residential areas of wooden dwellings, local populations regularly conduct fire drills. In one small town, residents gather in a small park to have a fire drill every month. Male groups usually use slightly big portable water pumps. What is amazing is their age. They are in average over 65 years old. Nowadays, the population of Japan is ageing, and during daytime, very few young people stay at home or even in the community area. However, nothing will happen if they just complain that young people do not participate. There are active elderly residents who step forward and participate in such trainings every time. There are also female groups, and their mean age is above 65 as well.

Such initiatives do not happen in every city, but still I can say that a large number of communities have already started this kind of training to prepare for earthquake-caused fires. Particularly in the Preservation Districts for Groups of Traditional Buildings, which are officially specified conservation areas with cultural significance, local communities in each of the district are engaged in disaster mitigation activities, in cooperation with the Agency for Cultural Affairs, prefectural and municipal local

governments and fire risk experts such as us, so that they can tackle the fires in their early stages or prevent fire spread even in case of emergencies in which official fire-fighting teams cannot help them.

PDNA is very important. But, I consider that the pre-disaster risk assessment is even more important. Emphasizing the importance of such a preventive viewpoint, I would like to close my presentation. Thank you.

**Timothy Curtis:**

I think we had a very interesting range of presentations. I'd like to invite all the keynote speakers and discussants to come back to the front. Would any of you like to start with a question?

**Paula Holland:**

I would like to ask Robyn Riddett as an agent of change in the Pacific, and someone who is trying to work with national disaster management organizations and ministries of finance to promote PDNAs and better plan for disasters. I am interested in your remark about corruption and the scope for it in the system. I wonder if you would be able to, without dobbling anybody in, give us some guidance on the kind of risks that exists and how we might minimize them?

**Robyn Riddett:**

Well, I will not dob anybody in, but I think a lot of aid money, depending on where you are, never actually meets the target. I think it becomes wasted and disappears. I think it is very important that you establish a process where transparency is ensured, so that people can see clearly where everything is going and that it is not going to some officials' pocket or something.

When people believe that the money that they are giving or the money they are receiving is not going into the right spot, then they are less keen to give money and less keen to participate. Whereas, if there is a sense that everyone is working together, helping each other, and being honest about it, I think that is a very important thing to change people's attitudes, to make them more cooperative, to make them more want to work together and to get to know each other.

**Timothy Curtis:**

I would like to ask a follow-up question to Giovanni Boccardi, because this issue of either wastage, corruption or misuse of funds in general development

and humanitarian aid is an ongoing one. It seems that with a disaster situation, you do have a large influx of money that comes in a short amount of time and, therefore, it may be more exposed to this kind of system. So I wonder whether the PDNA processes, the joint UN PDNA with the World Bank, EU and other partners, have particular mechanisms, or is it just the assessment.

**Giovanni Boccardi:**

PDNA itself does not involve any large transaction of money. It is just teams of people working with local governments to assess and plan. Then, when the real money comes, the system will have to be set up to ensure transparency. This is a matter of standard.

**Timothy Curtis:**

We faced a situation in Thailand, and I'm not necessarily calling it corruption, where too much money was allocated for rehabilitation of historic sites following a flood. However, the money had to be spent within a year after the flood, and things had to move forward very quickly. Eventually, the conservation work was done too heavy-handed. In order to avoid these problems, I think appropriate post-disaster assessments need to come up.

**Paula Holland:**

A part of the issue with transparency is who should run the process and who should control it. So when we did PDNA in Fiji, it was very much controlled by Ministry of Strategic Planning and Finance. At the end of the assessment process, when the findings were shared with all the stakeholders, it was made public. The press was there, it was televised. It was followed immediately literally minutes after, by a stakeholder meeting to talk about available funds and where that might be used, and then that was monitored. It depends really on who is running the show and how it is performed. The government had a vested interest in seeing that the money was used as well as possible, because there were only scarce funds. In that case it worked, but then it was also very problematic.

**Robyn Riddett:**

I think it is also difficult when aid money comes from overseas countries where corruption perhaps does not exist or exists at a very low level to another place where corruption is part of its system and where everybody gets their cut along the way.

There it becomes a cultural divide between the local people to whom that is just part of their system and us from the outside, saying it is something that we would not support or indulge in ourselves. I am not sure what the answer to that problem is, but it is something that needs to be addressed by way of looking for a solution.

**Timothy Curtis:**

Let us come back to the cultural heritage. These are broad issues that are important but transcend cultural heritage.

**Kenzo Toki:**

I have a question to Giovanni Boccardi about "Building Back Better." In Japan, every year for 20 years after the World War II ended in 1945, severe floods occurred, dykes collapsed, and many people died. The national government introduced a concept of "*kairyo fukkyu*" in which it enhanced the safety performance of dykes instead of keeping the same level of safety. This idea of reinforcement, which is probably recognized as a Japanese practice of "Building Back Better," is extremely important. Since around 1968, the number of severe floods has decreased. Through our experiences, we understand that building back safer and stronger than before is very effective. In this context, I would like to ask for your comments on how we can apply an idea of "enhancing safety and security" to cultural heritage.

**Giovanni Boccardi:**

Thank you for raising an important ethical issue in heritage conservation. You are often not allowed to strengthen historic buildings by replacing existing specifications with new technology. However, I consider that there are ways of making historic buildings more resilient and more resistant to different kinds of hazards, including the use of foundation tie bars, documentation and establishment of a continuous maintenance process supervised by experts.

In Italy, where there was an earthquake recently, we conducted an assessment. Its result shows that almost every building that had been maintained and restored in the past 10 years was not severely affected. On the other hand, all the others, which were already in a poor state of conservation, had been affected by the earthquake. There was a very obvious correlation.

When PDNA talks about "Building Back Better," it is not only related to the structural aspects but

also involves new policies, new measures and a more efficient organization. When you plan for recovery, all the sort of systems around the cultural sector can be reinforced or improved.

**Xavier Romão:**

I would like to make comments on the presentation made by Giovanni Boccardi and about distinction and difference in concepts and how different areas see the same concepts.

He was speaking about damage and loss and how damage and loss is interpreted in our case of the ICORP database or in the case of PDNA. They are, in fact, different, because the general output of a PDNA is in economic terms, so basically everything follows the economic concept. So damage and loss are really two economic concepts.

We are dealing with the same information. Everything that the ICORP database needs is in fact a result or an output of the PDNA. Even if it is not the ultimate output in economic terms, physical damage needs to be assessed, so we can actually assess the cost to repair or the cost to reconstruct. Basically the same information is available from the PDNA and can be linked to the ICORP database. That would be, as I said, one of the objectives.

**Terry Cannon:**

Two comments. One is for Ai Sekizawa. I found it astonishing that there were only five fire engines. Can we have some more explanation of that? And as a follow-up from that, two points: The first one is whether you can rely on fire engines after an earthquake, when there may be a lot of damage and debris in the roads. The second one is what kind of lessons came from the fires in Kobe. Because as I understand it, many of them were caused by inflammable chemicals being kept in workshops in the areas.

My second comment goes back to Giovanni Boccardi on the complication of dealing with damage and loss, the terminology that is used in economics. I usually find it much easier to talk about stocks and flows. Stocks are the things that are damaged, and flows are the interrupted flows of income and finances. We can also see this in the context of developing countries, especially in Bangladesh where I do a bit of work. As damage to assets which are needed for livelihoods occurs, then the flow of income that goes to these livelihoods is also damaged. These are different ways of using the same concepts, stocks and flows or assets and livelihoods.

In the recovery process after many disasters, very little attention is given to the restoration of flows, in other words, to livelihoods. The majority of recovery process is to replace stocks, or buildings and structures. Hardly any effort is going into restoring livelihoods. This is one of the primary humanitarian problems that we have.

For example, you have in Bangladesh tens or hundreds of thousands of people after a cyclone, whose livelihoods are destroyed by the saltwater and who cannot get back into them. An additional cost to recovery is welfare, which has to be distributed to pay for people for months, if not years.

In Kobe, a similar thing happened with the cranes that were operating for the port. Many of the cranes were destroyed, so the port could not operate for more than 6 months. All of the trade had to be diverted away from Kobe, so any production in the Kobe area could not be restored, and there was a major disruption of thousands of livelihoods. This is very difficult to put into the cost of damage.

**Ai Sekizawa:**

Thank you for your question. The area that was shown in my photo is “Nagata Ward” in Kobe City. Anywhere in the world, including Japan, fire departments act as a core of firefighting activities. As a head of the local firefighting authority, the fire chief of each fire department is empowered to control its jurisdiction.

Under normal circumstances, an operation-control-center receives a call for emergency service and has a comprehensive grasp of when and where fire occurs in a broader area. However, in case of a large-scale earthquake, sometimes the center of the affected place cannot maintain this function. This condition brings each fire department difficulties in accurately understanding where fires occur and whether it can expect backups from other fire stations.

When the earthquake occurred in 1995 in Kobe, the Nagata Ward Fire Department was completely isolated and alone had to deal with the 13 cases of fire with its 5 fire engines. It is true that there were a lot of shoes factories in Nagata Ward, and that more fires occurred there than other wards in Kobe. But, it is also true that there were fires in each other wards as well, and no fire engines could come to Nagata Ward for backup in the initial 2-3 hours after the earthquake happened.

**Giovanni Boccardi:**

There were two comments, one from Xavier Romão and one from Terry Cannon. If I understood correctly, I need to show that my idea on PDNA is different from what Xavier Romão said. PDNA is not only about the economic aspect. As I tried to explain in my presentation, it includes consideration of a human development dimension and all the things that Terry Cannon referred to.

With regard to Terry Cannon's comment on stocks and flows, the terminology is used in our guidance. I thought that it was terminology that was even more remote to the heritage sector than damage and losses, but it is exactly the same. Precisely you raised the point that we were making, and I think which was also mentioned by Paula, that the losses are often neglected. We focus on the damage, on the cost of reconstructing assets and so there is a need to distinguish and emphasize this clearly.

I have the impression that within the heritage sector, what the typical expert that is sent by UNESCO or ICOMOS to assess the impact of a disaster will focus typically on, for example in the Philippines, will be on the church that has been destructed; but he or she will not write down in his or her report all the consequences as a result of this for the people who need to travel 3 kilometers to go to the nearest village where the church is still standing, or all the larger implications which the culture sector locally will have to face any way.

**Timothy Curtis:**

I think that is an important point. It was perhaps mentioned earlier in the other areas of the cultural sector, the cultural industries or in terms of intangible cultural heritage. There the concerns are much more about losses usually than damage, because the damage is not the issue.

**Michael Turner:**

I think that being here in Japan we really should be linking the Nara Document of Authenticity to the debate we are having here. We seem to be focusing very much on the physical fabric especially when we build back better. Better is not necessarily the physical aspect, and I think this is an important point.

We should also think about what we are preserving. We cannot preserve everything, so we should also think about what we are willing to give up. I think it is a different way of looking at the same

coin, but it will allow us to be a little bit more interactive to the people who are dealing with activities in the field, because otherwise we come to a block. Everybody is willing to preserve St Paul's Cathedral, but then work happens in that gray area and we have to then approach it in two directions, which means that the PDNA perhaps should be really called the pre-disaster knowledge analysis.

So I think what that really means is to actually understand the needs. We have to have a set of scenarios, and these are the things which have to happen beforehand so we have, "what if..." and therefore low probability, high impact scenarios. I mean, what happens if a plane crashes in an urban area? Very, very low probability, but if that happens, you just want to know about it.

I think that these are important parts, and I think that I was just reflecting something that William Becker wrote in the *Washington Post* after the Great Flood of 1993: "The river dwellers of the Midwest will feel compelled to return to the floodplain, cleaning away the muck and rebuilding their homes and businesses. They will be drawn back by tradition by the magnetism of the rivers and by the conviction that they have no choice. The nation will emphasize their losses and admire their grit, but is rebuilding the floodplain an act of endurance or folly?" So we can say that we would like to "Build Back Better," but we are going to have the situation we spoke about in a previous session, that people are going to go back there, not necessarily because they have no other option, but there might be other aspects involved.

The debate on the Christchurch Cathedral was really interesting—and also yesterday we heard about the Bhutan zone—to understand, of course, that each one has got a different approach about what will happen, what "better" really means. The question really is, to the first two speakers, the idea then of data collection. I think that we have to use Pareto, maximum effect for the minimum effort, to decide how much data you are willing to do, a little on a lot or a lot on a little, or how are you going to merge these two ideas.

**Giovanni Boccardi:**

You ask about what should be in an inventory. I was not trying to be very sophisticated. I mean, we went to many countries after a disaster and there was absolutely nothing available, not even a list of the most important sites and monuments with their names and locations. There was no data on collections

within museums. What I am suggesting is just that we have an inventory, which would be necessary anyway for the daily management of the cultural sector.

But complemented by other data, related to the socioeconomic dimension, the number of people affected, the number of jobs associated to a cultural industry, etcetera, the PDNA is a very fast and quick exercise. You cannot do a comprehensive desk review. It has to be done within 1 week, maybe 10 days, if you are lucky. So it will have to be synthetic, many conclusions would be drawn on approximation assumptions, but I suppose with experience, we will be able to understand better. I think we should not worry about having too much at the moment because we usually have nothing.

**Aparna Tandon:**

Building on the comments that were made earlier, I want to focus a little bit more on the example of Philippines. I think our brief was very clear when we went to Philippines, that we had to concentrate on churches, and so that brings me to the other aspect of PDNA, which is vulnerability assessment.

We need to typify the kind of losses or damages that people have to look for, because, in the conventional sense, you will not be able to identify them in the listed heritage. The way heritage is listed and the way PDNA is driven by in-country teams will have some bearing on how people will look at flows and stocks or losses and damage. That is one aspect.

The second aspect is the real implementation aspect. Until and unless you have done your first aid, until and unless you have done your clearance operations, you will not know whether it is loss or damage, or whatever. Clear costs will not emerge and that is not a week-long process.

This is what Corine Wegener said, what I saw in Philippines, and what I have seen in other disaster situations. In our current situation within our current capacity, it takes 6 months for international response to even get the boots on the ground, so to speak. So I think this is irrelevant that it could happen. I mean, we will have to take it in small bites.

**Giovanni Boccardi:**

It is a question of assumptions. You have to approximate. All the other sectors do it in this way. This is how they raise the \$1 billion after the tsunami of 2005, which supported all the recovery initiatives. If we are not able to provide an approximate figure,

then we are just out of the picture.

**Takeyuki Okubo:**

We had a very intense discussion. In line with PDNA, we could raise topics about communities and community empowerment. When we consider who is responsible for the communities' disaster response, we need to stress the importance of creating an environment in which community members can get interest in their own culture and heritage and take emergency actions on their own.

In the presentation by Ai Sekizawa, we could see an example of fire drills among community members which include elders. In this connection, I would like to ask Shen-Wen Chien to let us know some recent efforts in promoting community involvement in Taiwan, as I understand that you are developing a good framework to enhance collaborative communication. Community activities are a part of culture. They should include activities for DRR and therefore may reflect diversity of the country or region.

**Shen-Wen Chien:**

In Taiwan, most of the fire commissioners in the higher positions graduated from the police university. This helps create a good human network. We establish a good connection with the local fire brigade, and the local fire brigade has a good relationship with the citizens. This is the first key point.

Then, the faculty makes efforts to investigate and survey the local area, the community and the local society. This leads to more human connections.

For example, people who own cultural heritage may be connected with graduate students who studied history for over a year. Through university research, graduate student research, officers and volunteers, we establish connections. Also we can make connections with people related to temples and the temple owners. We can talk to these people and share data related to disaster research, not just based on the building codes or the fire codes or any published documents from the government as such, but because we conduct our own investigations to know, for example, about the local cultural harmonization with the commercial activity, the ancient family preservation structures and so on.

**Stefano De Caro:**

I share completely the working hypothesis of Giovanni Boccardi. PDNA must be done very quickly

and be short in the first stage, but there should be a second phase which, because of the economics of the after-disaster rescue, is based on the economics of cultural heritage. That is something new and it is something not easy to understand. Of course, you have the most evident, selling book publications, and so this is very easy, but in the intellectual activities linked with or depending on cultural heritage, this can be more complicated.

In my experience, after an earthquake like the one in Campania–Basilicata, just in the following months it was possible to understand that the rescue after the earthquake was an occasion to maximize the effect of the restorations or the reconstructions, because in many cases there were buildings that were neglected, which were affected by the earthquakes. There was cultural heritage in storerooms, and it was an occasion to restore the buildings and to use them, because one of the needs

is to give an effective use to the monuments you are restoring.

Imagine so many churches that we have in Italy and that are not any more useful as such. They need to be reused in some way, and to be used in a cultural way, combining with other things such as cultural industries and so on, maximizing the rescue funds as an investment, not only as a rescue of the loss. But as for the future, after the earthquake of Campania–Basilicata, we have opened in one region more than 40 museums, and this is now yet under the standard of the northern regions of Italy, so it was a moment of gain for the future.

**Timothy Curtis:**

I hope everybody agrees that we could give one round of applause for all our panelists who have done a wonderful job. Session 5 is closed now.



# Tokyo Strategy Meeting

## Session 6

### Investing in Disaster Risk Reduction for Sustainable Development

[Facilitators] Joseph King, Akiko Umezu

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## Presentation (6-1)

### Training for Strengthening Policy, Planning, Technical, and Institutional Capacity for Heritage Disaster Risk Management (1)

Rohit Jigyasu

UNESCO Chair Holder Professor,  
Institute of Disaster Mitigation for Urban Cultural Heritage,  
Ritsumeikan University, Kyoto, Japan

What I am going to speak about is the importance of training for strengthening policy, planning, technical and institutional capacity for heritage disaster risk management.

We have been talking about disasters and their impact on heritage. We have been looking at plenty of examples from around the world, just illustrating how heritage is at risk to various disasters. But reducing risk to cultural heritage is not merely about technical interventions for protecting it against catastrophic hazards like earthquakes, floods or fire. It is about addressing underlying causes that create vulnerability of cultural heritage to disasters. If we do not look into these underlying causes, just merely responding to floods, fires and earthquakes, it is not going to help in the long run.

We are talking about vulnerability and how to address this vulnerability to cultural heritage. In this context, I would like to ask a question if it is merely physical. If it is only physical, then it is just easy for us to do such and such interventions that are going to make your heritage safe enough. However, it is much more than physical as my presentation will illustrate.

Let us consider the challenges that we are facing, which we must address to reduce the vulnerability to heritage in a more proactive sense. First challenge is, of course, urbanization which is clearly increasing at an alarming rate that puts heritage at much greater risk than ever before. We have much more people living in urban areas than in rural areas. This means that heritage is under intense pressure from what is happening around it. It is not only the buildings themselves but also the entire context which is changing so drastically and rapidly that heritage is at much greater risk than ever before.

These urban transformations are causing increasing vulnerability to hazards. Therefore, the challenge is not just in protecting cultural heritage but is about managing the entire human habitat. We should not just limit ourselves to working with her-

itage professionals, dealing only with the brick and mortar of heritage but be ready to work with diverse stakeholders.

We are also facing another challenge of increasing weather-related events such as floods, which have been really affecting our cultural heritage around the world. It is very clear that the frequency of floods has increased so drastically. Rather than limiting it to isolated events, we need to take into consideration the larger phenomenon of climate change.

Another major challenge is that of coordination among various stakeholders. The heritage conservation professionals or organizations, disaster management organizations and the development sector are somehow working in their own soils with very little coordination between them. If we have to reduce risks to heritage, we have to address this challenge.

Another point I want to make is that nature of disasters these days is increasingly complex and not merely limited to individual hazards such as earthquakes, floods or fires, but it is very complex. For example, Zanzibar is exposed to multiple hazards such as weather-related events like storms, vandalism and fire. There are issues that are connected to multiple hazards and vulnerabilities, and the impacts are also more than just the physical damage and include the displacement of communities, which also has adverse effect on the heritage. Therefore, we need to understand this complexity to reduce risks to heritage.

There are two main issues we need to consider for reducing disaster risks to cultural heritage. One is absence of disaster risk management plans for heritage sites. We all know that our heritage sites, including museums, monuments, complex buildings or urban areas do not have disaster risk management plans in most cases. On the other hand, there is this lack of heritage in disaster risk management plan for a city. Heritage is not mainstreamed into the disaster risk management poli-

cies or plans for the country or for the region in which the heritage site is located. So we are basically dealing with two sides of the coin.

Which essentially means that if we have to reduce risk, we have to adopt an integrated framework for disaster risk assessment and management for cultural heritage which takes into consideration multiple hazards and vulnerabilities; not just physical, but social, economic, institutional, and most importantly attitudinal as well. The latter is an important dimension of vulnerability, because people sometimes perceive heritage as old and outdated buildings which are not worthy enough to save and fail to recognize the potential of heritage to contribute in a positive way towards building the resilience of communities.

The degree of exposure of cultural heritage because of their location and climate change put them at risk, with potential negative impacts on tangible, intangible, movable and immovable attributes and the associated values, besides people's safety, economy and livelihoods, and of course, on the social structure. Therefore, an integrated framework helps in making effective change on the ground.

We should focus on creating strategies for reducing disaster risk to cultural heritage that are integrated with planning and development process. We need to look at enhanced preparedness instead of only focusing on response and recovery. Unfortunately, even now, we are focusing too much on response and recovery but how to shift to preparedness is a challenge. Better communication is needed between different disciplines and departments and, of course, innovative technical knowledge that seeks to balance values with safety and should be economically and socially viable. So these should be our primary objectives for building the capacity for reducing risks to cultural heritage.

Who should be our target audience for building capacity? These could be decision-makers, responsible for formulating and implementing policies. I think decision-makers are very important because professionals cannot really do anything if decision-makers are not sensitized to the need of disaster risk management of cultural heritage. So building their capacity at a higher level is also very important, both at the national and local level as well as at the level of the municipalities.

Potential target audience also include professionals from cultural heritage, disaster management, planning and development fields, academic and research institutions, NGOs and civic society

organizations and not to forget local communities. So we are actually dealing with multiple target groups and need to address their specific needs. Besides, we have to address the capacity according to the social cultural context of cultural heritage.

So, how should we build the capacity? I think there are few ways in which we can build the capacity. In my view, the most important are the field-based training courses for professionals from public institutions, universities, as well as private practitioners. Secondly, internal capacity of organizations from heritage and other relevant fields such as planning and disaster management needs to be built. Of course, classroom and web-based teaching is also important now. ICOMOS in cooperation with ICCROM has tried in Syria one of our distance learning courses on first aid to cultural heritage, and we have realized a lot of potential in that. Besides it is important to initiate the dialog with decision-makers, which as I said is very important, training for volunteers and, of course, awareness raising for local communities and civic societies. If we have to build capacity, we have to explore different ways of doing it as there is no one-size-fit-for-all solution.

I'm going to have a small video presentation on one of the pioneering courses on disaster risk management of cultural heritage that we have been organizing for the last 10 years at Ritsumeikan University in Kyoto.

*The video can be viewed publicly online;  
<<http://www.rits-dmuch.jp/en/project/itc.html>>.*

I just want to say one last word. Not many participants can attend this course. However, we really see this course as a foundation for people to go back and develop follow-up courses in their own countries and their own regions. That is why training guide based on this course has been developed and is now available online, so that people can access it and use it freely, and organize courses in their own countries and regions. Thank you.

## Presentation (6-2)

### Training for Strengthening Policy, Planning, Technical, and Institutional Capacity for Heritage Disaster Risk Management (2)

Aparna Tandon  
Project Specialist,  
Collection Unit, ICCROM

As pointed out by the previous speakers, owing to human induced climate change and unplanned development, disaster losses have increased manifold. These losses also include widespread damage to cultural heritage. Moreover, it has been observed that pre-existing conditions of poverty, weak governance and/or violent conflict increase a country's vulnerability to natural hazard events leading to complex emergencies.

Such complex emergencies, which typically involve the interaction of the primary and secondary hazards with the underlying vulnerabilities, are on the rise. Protecting cultural heritage during a complex emergency is therefore, extremely challenging and requires collaboration of disaster risk management and humanitarian relief agencies.

*First Aid to Cultural Heritage in Times of Crisis*, is a unique capacity building programme of ICCROM that specifically focuses on the protection of cultural heritage during complex and large-scale emergencies with an aim to promote recovery and prevent the creation of new risk.

Between 2010 and 2015, ICCROM has organized 4 international courses and has trained around 100 professionals from over 60 risk prone countries. The trainees have mixed backgrounds, and are drawn from the fields of cultural heritage, disaster risk management, and humanitarian relief.

The training itself focuses on the planning and implementing responses to protect cultural heritage while humanitarian relief and peacekeeping operations are underway. Inter-agency cooperation and coordination between diverse actors is therefore a key component of the training. To this end, the course programme includes emergency simulations that are organized in collaboration with the military, the Red Cross and other such disaster response agencies.

The main course topics include: situation analysis, post disaster needs assessment, teambuilding, emergency documentation, evacuation, salvage, and the stabilization of movable and immovable heritage, and post disaster recovery of cultural herit-

age. The training is mainly hands-on and it emphasizes an integrated approach for the emergency response and risk reduction of movable, immovable and intangible cultural heritage.

The other important aspect of the *First Aid* courses is to identify areas of joint programming between humanitarian aid and culture sectors. To this end, we invite professionals from the humanitarian assistance field to jointly analyze existing national and international aid distribution systems. The aim is to identify relief and recovery programmes that can benefit culture sector. For example 'cash for work' initiatives that typically provide temporary employment for public programmes could include clearance and sorting of debris at cultural heritage sites.

The multi-dimensional training builds skills for mediation and negotiation in order to enhance the participants' ability to navigate local power structures and increase the participation of the marginalized communities in the recovery of their cultural heritage.

Since the inception of the *First Aid* training in 2010, a number of national and international organizations have collaborated with ICCROM to organize national and international courses. Key among them are: The Italian Ministry of Culture, The Italian Red Cross, the Netherlands National Commission of UNESCO, The Dutch Ministry of Culture and Education, and the Smithsonian Institution.

For the past five years, the Netherlands based Prince Claus Fund has been supporting the follow-up of the *First Aid* training ensuring that once the training is over the participants have an opportunity to replicate the training or undertake emergency response. The Cultural Emergency Response (CER) programme of the Fund has systematically provided post-training seed grants to the *First Aid* trainees resulting in 37 national capacity building workshops in 17 risk prone countries. Based on the curricula of the international training, these national workshops were aimed at preparing national teams of cultural first aiders.

For example, national workshops in Egypt helped to prepare the Egyptian Heritage Rescue Team (EHRT). This team was successful in salvaging the damaged collection of the Islamic museum at Cairo in the aftermath of a bomb attack at the nearby police station. EHRT is now collaborating with ICCROM and UNESCO to protect endangered cultural heritage in Syria, Libya and Yemen.

To conclude, I urge the participants of this meeting to support and to multiply such training initiatives in order to protect cultural heritage from disasters in the risk prone areas of the world and build resilient communities.

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Note) See the following references for more detailed information about the ICCROM First Aid to Cultural Heritage in Times of Crisis Programme.

Tandon, A., B. Rouhani, A. Dal Maso, A.H. Salah. 2014. Culture cannot wait: International and national courses on first aid for cultural heritage in times of conflict. In *ICOM-CC 17th Triennial Conference Preprints, Melbourne, 15–19 September 2014*, ed. J. Bridgland, art. 0309, 8 pp. Paris: International Council of Museums.

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## Presentation (6-3)

### Financial and Technical Assistance for Emergency Conservation and Long-term Recovery

Henry Tzu Ng  
Executive Vice President,  
World Monuments Fund(WMF)

From its early days as an organization, World Monuments Fund (WMF) has worked to preserve heritage sites threatened by disaster; our mission has been developed out of the efforts undertaken following the catastrophic floods that hit Venice in the 1960s. In Japan specifically, WMF has worked with various organizations to restore historic buildings and cityscapes that were damaged in the Great East Japan Earthquake of 2011. We have partnered with both the Agency for Cultural Affairs and the Foundation for Cultural Heritage and Art Research at the sites of Sawara in Chiba, Kesenuma, and Ten-yu-ji Kannon-do Hall, which is a part of a temple complex in Miyagi prefecture.

It should be noted that the perspective of WMF at this conference seems, perhaps, unusual, as we are not an organization that specializes in intergovernmental policies. Our stage, so to speak, is much more modest; our primary experience as a private NGO has been in the lessons we learn on the ground. I do, however, hope that some of the points I raise here are of interest and will contribute to an understanding of heritage preservation as a form of disaster relief, both for NGOs seeking to work in international disaster relief and for governments seeking to work with international groups supporting disaster relief efforts.

The points I will raise here are lessons we at WMF have learned from our experiences supporting heritage preservation in the face of disaster. I believe that all of us here have our own forms of guidelines and principles that guide us in our work; the following—which I will expand on with examples—are just six that have informed our organizational efforts and projects. They are: the prevention of needless further destruction and losses; the coordination of responses from within the heritage sector; the adoption of long-term solutions; the incorporation of a comprehensive approach to heritage preservation; the combination of restoration with plans for continued viability; and patience.

First, I would like to say something about the need for financial and technical assistance for disas-

ter relief. The first funds for disaster relief should go towards human emergency needs: saving lives, property, and emergency services for food, shelter, and healthcare. This is how it should be. Funds for cultural heritage, including funds for rebuilding damaged communities, are in the secondary level of support. They are needed both in poor countries as well as developed countries like the U.S. and Japan. No government is rich these days and support from the private sector can make all the difference at the local level. Private funds can sometimes be more responsive, immediate, and flexible than public funds for disasters.

The first point I would like to discuss is the prevention of needless further destruction and losses following a disaster. Immediately after a natural disaster, the first instinct can be to demolish and clean up a site. This is often done by construction companies, not heritage experts, and can lead to unnecessary destruction of surviving historic sites that could be saved. A safety zone—both a physical zone around damaged areas and in terms of a specific time period—should be set before any demolition work proceeds. This gives heritage workers, ideally armed with an updated inventory of historic sites, a window in which to identify sites that should be examined carefully and spared in any mass demolition or clean-up work.

In the aftermath of both Hurricane Katrina in New Orleans and the 2010 earthquake that struck Haiti, relief agencies were quick to demolish entire communities. WMF worked with local preservation groups to help identify and mark buildings that should be saved. We also set up “command centers” to coordinate these preservation rescue efforts. Sometimes this included just pasting large signs on buildings that said: “This Building Should be Saved.” Although efforts like this may not always be possible because of public safety issues, they should be encouraged.

The second lesson is the coordination of responses from within the heritage sector. Previously, Joseph King spoke about the disasters and conflict.

Although different in origin, the aftermath of natural disasters and conflict can be the same when it comes to heritage, as they result in immediate and massive destruction and loss. Support for heritage relief following a disaster or conflict can be better organized and more efficient if all forces working for heritage would first coordinate their priorities and efforts. This is more efficient and economical because it can eliminate the duplicated, sometimes even conflicting, efforts.

After the attacks of September 11, 2001, in New York, WMF convened essentially all of the preservation groups from the local, state, and national levels. We formed a working group to establish one set of heritage priorities and to represent cultural heritage as a unified voice. Collectively, the groups involved felt that we had a better chance of being heard if we acted together and agreed on one set of priorities.

In terms of the priorities that guided us following September 11, note the highlighted areas. Although these areas contained many historic buildings, the initial rebuilding plans included massive demolition here, with the goal of building sweeping boulevards with views of the Statue of Liberty. The voice presented by the heritage groups said that the buildings that survived that attack should not be destroyed and that it did not make sense to take down buildings that were, in fact, viable.

Here, you can see specific heritage sites. On the right is the Corbin Building, which was going to be demolished for a transportation center. After research indicated that this was one of the first skyscrapers built in New York, we succeeded in saving the building; it survives now, and the glass-domed transportation center was constructed next to, rather than in place of, it.

Coordinating responses and speaking with one voice is not always an easy task, yet this is one example of how it can work with commitment.

The third lesson is the adoption of a long-term view in two ways, the first in terms of understanding that it can take years if not decades to recover from disasters; the second in the creation of emergency solutions that can also have long-term benefits.

WMF did not disband after Venice was out of peril following the floods in the 1960s. We recognized that there will always be historic sites in peril globally and that there would be an on-going need for an institution like WMF that could gather private and public support to help the endangered cul-

tural sites. WMF built many new partnerships with funders; local chapters of the Save Venice organization were created in a number of cities throughout the United States to raise funds to send to WMF projects in Venice.

The example of Venice, where our involvement has included 25 different projects, illustrates that a long-term view of heritage preservation takes time and commitment, from organizations and funders.

A similar lesson was learned in Iraq. After the major fighting was over, the Iraqi government asked WMF to help develop a way to make a quick assessment of its historic sites, particularly those archeological sites that were damaged by the war and looting. Our efforts eventually led to what became the foundation for Arches, which you heard about from the presentation by Scott Branting. This is another example of how, following an immediate crisis, we tried to develop some long-term lesson or solution for the future.

The fourth point I present, which I know we all believe in, is the importance of a comprehensive approach to heritage, or the understanding that cultural heritage involves more than just buildings. Although everyone here understands this point well, in the private sector, particularly with funders, we may see what is sometimes quite a strong divide between views of immovable and movable heritage, and tangible and intangible heritage. Sometimes, donors are interested in funding only one type of heritage.

What is required is an effort by heritage organizations to educate donors, and sometimes even our boards, that heritage preservation, particularly following a disaster, entails a broader approach to supporting projects. As this young man on my right, a priest at a shrine, said so eloquently, a shrine is, at its most simple, a building; it is not a shrine without people to worship there, and it is not a shrine unless traditional dances take place there, unless it is a place of worship for a community. Recently, we revised our mission statement at WMF to reflect this idea—that heritage preservation includes not only the world's great architectural spaces and buildings but also the living heritage component and the arts that are contained there.

For my fifth and sixth points, I will combine them and discuss them briefly in terms of the work WMF has done in Japan in the aftermath of the Great East Japan Earthquake of 2011. The sites I will discuss are those that we worked on. I believe that our work at these sites reflects the principles

presented so far. These sites are Sawara and Tenyū-ji.

Sawara, badly damaged in the earthquake, is a beautiful machiya town along a river, the location of many types of historic properties. Roughly one-third or more of the historic machiya in Sawara were damaged in the earthquake (Fig.1, 2); the Agency for Cultural Affairs repaired 100 of them. With their advice, WMF focused on seven of the machiya that had received a higher prefecture-level designation because of their historic interiors as well as exteriors. For many private organizations like WMF, contributions to private restoration efforts of private property are not possible. However, by working through an NGO, which was created to preserve the historic quality of the city, we were able to provide the funding that restored these machiya back to livelihood.

All of the restored properties were owned by the same families for many generations. Although the government provides a significant amount of money for support, even in cases like this, the owner is responsible for approximately 10% or 15% of the cost. Unfortunately, if you have lost your livelihood and your house, even if you own this damaged property, a sum of 10% or 15% can sound unattainable.

In these examples, WMF covered the owners' costs to finish the restoration projects. Part of the lesson learned in this experience was that local groups, if they will accept international private funds from an organization such as WMF, may have to create a local NGO and support moves toward public access and public education.

Kesennuma has been widely discussed here, in part because it is an important port town, but also because it was one of the most badly damaged by the earthquake and tsunami, with pictures of its destruction broadcasted worldwide.



Fig.1: Former Abusō store building damaged (Sawara Area)

The seven sites that we have adopted, which are nationally registered cultural sites, are the ones that survived. (See the Case Report by Hiroharu Hatano in the Tokyo Symposium.)

As was the case in Sawara, these buildings have been owned for many years by the same families. However, the recovery period will likely be longer when we consider the issues, which include the rebuilding of infrastructure, embankments, and protection.

Something that added to the pressure felt in Kesennuma was the issuance of a government policy, which said that, for a certain amount of time after the tsunami, the government would demolish and clear any damaged building at its own expense. As you might guess, it would be very tempting for an owner to accept that kind of offer; if the offer was not accepted by the stated deadline, the owner would be responsible for the safety of the damaged buildings, as well as for the costs of restoration or demolition.

This example goes back to the first principle I mentioned earlier—efforts to prevent further damage following a disaster. However, in this case, a policy that encourages clearing damaged sites should be examined in terms of whether it puts additional stress on heritage preservation.

Thank you.



Fig.2: Shobundō book store building damaged (Sawara Area)

## Presentation (6-4)

### Disaster Resilient World Heritage Cities

Michael Turner

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The diverse perceptions of disasters are understood through cultural norms changing through time. Only the demons in Japanese lore wander between the living and the dead, sometimes doing good deeds in the world, sometimes wrecking havoc. Ceremonies to drive away the evil spirits were a regular annual feature in village life while later transformations of the *Oni* to a more protective function reflect the changes in the evolving society. In the flood plains of Mesopotamia the narratives of Noah and Gilgamesh are enacted, and the first documentation of risk preparedness, with Noah building an ark, the details of which provide us with important knowledge for understanding about preparedness in different geo-cultural traditions. The ancients in explaining the disasters developed narratives of which the elements of fire and water were essential; the floods of Noah and Gilgamesh and the fire and brimstone of Lot were just the tip of the iceberg.

What are the post-disaster cultural norms in our cities? With growth and change being part of the urban processes over time we recognize the options of new lives to old cities. Again we need to appreciate the geo-cultural differences with the Judeo-Christian approach in Europe of resurrection being different from the Hindu approach of reincarnation and even the Shinto ideas of regeneration.

Each community of peoples has a different perception for their future ideas and ideals resurrecting the past or reincarnating a new future. Examples abound in literature and the arts; the vision of the valley of the dry bones breathes life while Brahmā, the Hindu deva of creation, emerges from a lotus risen from the navel of Vishnu.

We must recognize that there is a wider human debate, not the buildings themselves but also the soul of the city. This soul is the ethereal spirit evoked by local communities and is reflected in the World Heritage Nara documents on authenticity and the intangible heritage conventions including the theatre, the arts, literature, tradition and memories. All these are a part of our understanding of the future of our cities in their transformations.

The architecture of our cities is evidence of our

past, and in the words of Francis Bacon, these become monuments that he coins as “shipwrecks of time”. We also have ‘scars of histories’, areas and buildings that are retained for future generations, and yet more we have ‘sites of conscience’ as Robben Island, South Africa and the Island of Goree, Senegal. Basically, when we contemplate the present, we are actually looking into the past making decisions for shaping the future.

In the reporting the conservation state of World Heritage sites, World Heritage Centre has identified 14 primary threats from which disasters are only one step away. They are in five groups as follows: 1, development and infrastructure, 2, human activities, 3, management and legal issues, 4, natural events and disasters and 5, other issues.

Over a quarter of the World Heritage properties are urban, while the largest single threat is management and institutional factors. However, when we look at the other threats, the natural events and disasters are the lowest in number, but the highest in impact. The domino effect in the occurrence of natural disasters demands an understanding of the other threats being faced and their management.

The multiple threats to Istanbul are emblematic of many World Heritage properties. The continued degradation of the vernacular architecture in the timber houses, the quality of repairs, impact of new development, lack of coordination and the absence of a management plan are all issues that come together in Istanbul. The disasters in low elevation coastal zones and the floodplains around the world can be seen in the well documented examples of Jakarta, Venice and Bangkok.

Threats often create new problems with large-scale mitigation plans as the various barrier projects often leading to non-sustainable solutions. Perhaps efforts towards adaptation, as buying higher Wellington boots, might be more cost effective. Other issues identified include tourist torrents, managing enormous numbers of visitors which in turn are creating new patterns and demands on our culture and environment.

A long-term strategy and vision is needed; this is not something created in an instant, but is the out-

come and reflections on the past enabling conclusions for a measured approach and generating a programme for resilience in city management. This integrative approach presents us the challenges of the culture of resilience and the resilience of culture. It should be emphasized that the human factor and cultural norms are critical in understanding how people deal with disasters and the relationships of people to, and the resilience of, their culture.

There have been proposals for a fourth pillar, of culture, to the current three of sustainable development. Rather than a fourth pillar, I see culture as a brace linking the three existing pillars of sustainability, thereby integrating economic, social and environmental components. For those with an engineering background, it is obvious that a triangle of three pillars is a very strong structure. We believe that culture is inherent in all parts of our lives, and by being a brace strengthens the other elements.

Consequently, culture capable of achieving resilience involves a continuous process of self-adaptation and incremental change. For the record, I had a disaster at home; the sewage overflowed and was threatening to engulf us. For the immediate family, this was a major disaster – it did not make the world news! Disasters occur within our own daily lives and we all learn how to cope.

There are many system analyses on cycles for coping, preparations and reactions during and after disasters. The adaptive cycle shows temporal changes within a panarchy rationalizing the interplay between change and persistence, between the predictable and unpredictable, (Holling et al. 2002). Through the phases of destruction and reorganization a system's structure is often reorganized by the creation of a risk management process.

Culture always seems to follow nature. The environmental impact assessment, which is accepted worldwide is now being appended with heritage impact and risk assessments. Ecological resilience relates to the different assessments in as much as it is the amount of change needed to transform a mutually reinforcing process. Resilience needs diversity, natural redundancy, ambiguity, the dynamics of creative experimentation and improvisation.

Let us look at some of the influencing factors. If history never repeats itself, why are we obsessed for learning from history? It is not the repetition of events, but the study of the whole field of human resilience through improvisation and experimentation. Redundancy hypothesis, assumes that more than one species performs a given role within an ecosystem, (Walker, 1992) - redundancy enhances

ecosystem resilience. Applying this to the language of World Heritage is in meeting the conditions of integrity including “all the elements necessary to express the Outstanding Universal Value”, and being of “adequate size to ensure the complete representation of features and processes which convey the property's significance”. Resilience means that we provide capacities over and above the minimum needs or sizes to provide the necessary support to face disasters. It is balanced by providing the minimum necessary and the maximum possible.

We have spoken about comprehensive ideas and the importance of an integrative approach. The 2011 UNESCO Recommendation on the Historic Urban Landscape is at the edge of the debate as a platform to incorporate many of the important tools addressing resilience and sustainability in the management of the city at all levels. This Recommendation, fairly and squarely, places the notions of cultural heritage within the urban context and it can guide us in the options to making our cities “safe, inclusive, resilient and sustainable” aligning with the new UN 2030 Sustainable Development Goals.

Evaluating the disaster of 64 AD of Nero, it has been suggested that there were three important principles (William Ramroth 2007). 1; serious action is only taken after a disaster, 2; improvements can transcend the disaster component, and 3; disasters play a significant role in shaping history.

Disasters, fires and earthquakes can be seen as great opportunities. The Great Fire of London in 1666 was seen as a blessing in disguise cleansing the streets of London from the plague. The subsequent dramas of the debate for change which took place, including the styles for the rebuilding of St Paul's Cathedral left an indelible mark on London till the disasters of the Second World War. The 1693 earthquake in Sicily, an area then governed by Spain divided the populace. Ragusa destroyed and with 5,000 deaths became two communities. One group preferred to return to the original site and with emphasis on rebuilding the vernacular. The other group seized the opportunity by developing a new site in the most up-to-date styles – the Baroque. Well, the bottom line is that, as part of the Val di Noto, they are both inscribed on the World Heritage List.

Conversely, the Sicilian earthquake of 1968 in Gibellina left the city in ruins. The post-disaster solution by the landscape architect Alberto Burri is worthwhile to consider because this is a denial of renewal where you can walk through the streets of the village, redesigned as a memory in the land-

scape. The luck or lack of economic capacity at the time of disaster is critical for resilience; most cities show resilience and bounce back while some cities die - Ragusa and Ghibellina, Rome and Pompeii, Damascus and Scythopolis.

But we also need to address the disasters of conflict for which the best preparation is, in one word, in the language of UNESCO, 'peace'. If we were to spend our efforts, on peace building and dialogue, integrated with risk preparedness, rather than post-conflict reconstructions, we might be more effective in bringing peoples together.

I grew up in London going to school through blitzed areas and I always wonder how in 1945, in the embers of the Second World War that a group of people should come together under the baton of Julian Huxley to write a constitution which calls on people to "collaborate in the work of advancing the mutual knowledge and understanding of peoples..." and where "peace must .. be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.." We have to bring these values of UNESCO into the debate, as it is this solidarity that is the cultural essence for resilience.

Conflicts leave people and places devastated and the cultural reactions to the new life in old cities are evident in the differences between London and Warsaw, Berlin and Mostar. In its evaluation for the World Heritage status of Warsaw ICOMOS wrote, there was a question as to whether its historic center so meets the general rule of authenticity and is accordingly believed that further expert opinion is required on this matter. It was finally inscribed also under criterion (vi) "The Historic Centre of Warsaw is an exceptional example of the comprehensive reconstruction of a city that had been deliberately and totally destroyed. The foundation of the material reconstruction was the *inner strength and determination of the nation, which brought about the reconstruction of the heritage on a unique scale* (my italics) in the history of the world."

Furthermore, it was recognised that the Historic Centre of Warsaw ... was the initiation of comprehensive conservation activities at the scale of an entire historic city which was a unique European experience and contributed to the verification of conservation doctrines of practices. The value as written in the statement is in fact in its reconstruction, not in the authenticity of the original.

The more extreme examples of Auschwitz and Hiroshima confront us with value decisions that are both universal and geo-cultural. How would Hiroshima have looked if they had taken a decision like

Warsaw to rebuild the city? What would have been the effect on our understanding of the past and the message for the future? The cultural decision at that time has now become part of our history.

Finally, we might even consider that disaster in itself is a value. Reviewing the criteria of World Heritage, could Pompeii be associated with the eruption of Mount Vesuvius as a "superlative natural phenomenon", criterion (vii)? Does the site become "an exceptional testimony to a cultural tradition or civilization, which has disappeared"(iii) or "an outstanding example of traditional human settlement, vulnerable under the impact of irreversible change" (v)? It could certainly be "directly or tangibly associated with events of outstanding universal significance", criterion (vi).

Our conclusion must be that resilience requires multiple solutions. In our considerations to 'Build Back Better' we need to rethink our definitions of the word "better". Better is not necessarily the physical engineering, but the well-being and spirit of the place. There are three challenges now on the agenda for culture and sustainable development, 1, social inclusion and the importance of youth, linking to 2, the digital age, including smart cities, social media and crowd-sourcing and 3, providing resilience through management and sustainability.

The culture of resilience and the resilience of culture provides a 2022 vision for World Heritage Cities that it can be applied globally. This resilience must be seen as an integrated process with social, environmental, and economic components meeting the challenges of social inclusion, the digital revolution and sustainable development. Putting resilience as an everyday occurrence in the city will harness the intangible heritage of all colours of the community while encompassing many relevant UNESCO conventions and programmes.

To achieve these objectives we will need more cross-cutting inter-disciplinary actions and tools. We should start by linking the World Heritage Five C's, including credibility, conservation, capacity building, communication and communities to the Ten Essentials of the UNISDR Resilient Cities Campaign. The Organization of World Heritage Cities holds its 2015 conference on this very topic and the Hangzhou meeting on Culture for Sustainable Development will highlight these issues for the UN-Habitat III debate. These tools can assist in providing urban resilience and deem that the city is, indeed, a veritable phoenix.

## Roundtable Discussion

[Facilitators]

Joseph King, Akiko Umezu

### **Julio Vargas-Neumann (Catholic University of Peru):**

My presentation starts with discussions on how to improve the ICOMOS Charters, and how to preserve vulnerable architectural heritage located in earthquake-, rain-, or storm-hazard areas. This idea is to think how it is better to conserve heritage. Is it better to wait for the earthquake to come and destroy the heritage, or is it better to reinforce the cultural buildings with minimal interventions, before the next earthquake, to avoid the destruction?

Actually, the same conservation approach was applied to the Chartres Church and Lima San Francisco Cathedral in France. The problems of vulnerable constructions in disaster areas are:

- The weakness of earthen and stone constructions.
- The brittle materials and their tendency to unexpected cracking and collapse.
- The cumulative damage of frequent earthquakes and disasters overtime that bring about the destruction and short durability of the built heritage.

Earthquakes lead to collapse and irreparable loss of earthen heritage. Consider, for example, the Pisco Church before 2007 Pisco earthquake. It was the oldest church in the Pisco area. This church disappeared in 2 minutes during the earthquake. From the images prior to disaster, we could say that the resilience of the building or its state of conservation looked good in general. Nevertheless, the church had collapsed in this earthquake. Indeed, our eyes are very bad sensors to evaluate or assess how well a building can resist a new earthquake; our eyes do not see the existing structural micro cracks, because the church is painted once a year. We have lost this oldest church forever.

It is possible to make a post factum comparison of the design criteria. There are three complementary criteria of structural design: based on strength, stability, and dynamic behavior or performance. The last one means the use of reinforcement.

When we use strength-based or stability-based criteria, we will obtain better structural behavior

during regular earthquakes, but a major earthquake can totally destroy such repaired building. On the other hand, when performance-based criteria are used, by carrying on the reinforcements, it is possible to control structural damage. Continuous structural reinforcement based on the evaluation of seismic performance is the only way to protect the building forever. Of course this has to be done before the new earthquake.

Our university has more than 40 years of research experience on the seismic resistance of earthen and masonry buildings. Through this research, we obtained some results. The “Principles for the Conservation of Earthen Heritage located in Seismic Areas” that we developed were adopted by the ICOMOS Peru National Committee.

From a financial viewpoint, the cost of repair before an earthquake is much lower than the cost for post-disaster recovery. Japanese and Peruvian professionals organized the “Disaster Management of Cultural Heritage International Symposium 2010,” whose result document entitled “The Lima Declaration for Disaster Risk Management of Cultural Heritage (2010)” is currently one of the ICOMOS doctrinal texts. The declaration is available on the ICOMOS website. One of its main statements reads as: “The world is divided in seismic and non-seismic areas.” It is an effective idea to establish different ways in repairing and treating historical monuments to avoid damage by earthquake.

The conservation principles in disaster areas have 7 pillars. 6 of them are more or less common, but the last one is the most important for the change to happen. It is the understanding of the building structure. This is needed to make a good assessment of cultural and structural values before the intervention, and to guarantee the safety of the workers. It is also very important to increase the durability of historical buildings, to maintain materials and traditional techniques, to minimize intervention, to respect authenticity assessment of the cultural and structural values, to use compatible preventive reinforcement, to preserve original materials, to ensure the reversibility and retrievability

of interventions, and to permit the future conservation works and access to documentation. Thank you.

**Xiaofan Du (Fudan University):**

China is a large country with a large population. It is also a disaster-prone country. Taking this opportunity, I'd like to briefly explain to you the situation in China.

On May 12 of 2008, in Wenchuan, Sichuan province, there was a big earthquake. Before this earthquake, even though there were disasters, the protection of cultural properties or heritage was not broadly discussed in Chinese society. There were only limited activities. The Wenchuan earthquake caused a major change to China's disaster response policy because shortly after this China started receiving overseas assistance, and also people started to pay more attention to the protection of cultural heritage.

The designated cultural and natural heritage was preserved, but also physical results of geographical and geological phenomena affected by the earthquake and the damaged architecture have been preserved and displayed in a museum dedicated to the great earthquake. This kind of debris is now preserved as ruins.

Regarding the cultural heritage and disasters, massive amount of papers and data have been announced. So, if you just Google the great Wenchuan earthquake and cultural heritage preservation, you can access maybe millions of pieces of information. It was not possible to do that prior to the disaster, but now you can get access to a lot of information.

After that, at the national level, many activities have been pursued relating to disaster prevention for cultural heritage. China's disaster response activities are quite similar to those of Japan. Volunteers, local governments, the central government, and international cooperation are at the core of disaster prevention. However, in China, the national government has very strong power, so in times of disaster, not only the central government, but also the local governments provide assistance.

After the Wenchuan earthquake, the affected cities responded with a lot of relief efforts. For example, the Shanghai City Government provided assistance to Dujiangyan City. Not only did it provide funds and material assistance, but they also helped execute a 5-year recovery plan. Because of this, Dujiangyan was able to achieve economic recovery 10 years ahead of schedule. In addition, the residents

of the affected areas were able to enjoy even more stable livelihoods than before, and there has been a major improvement in transportation and residences compared to the pre-disaster days.

So, overall, good results have been achieved. But for us, the conservators of cultural heritage, not all of the results were good because, depending on the city or the municipality, in some areas, especially where religion is weak, the character of the place, its traditions and cultural properties have been lost. We can see one example in Hunan province.

I would like to present you an example of a Jiuzhai Village. It is a small village, located in the northwestern part of Sichuan province. On April 20th of 2013, there was a big earthquake that caused lot of damage. Of 178 housing units in the village, 126 houses were destroyed fully and 52 houses experienced partial loss or damage. After that, Shanghai Tongji University came up with a recovery plan to be carried out at this village.

After the great Wenchuan disaster, a lot of recovery activities and international support took place, but among the most effective activities were some adjustments made to the reconstruction plan. An important point was that reconstruction plan was evaluated and adjusted by the villagers, and about half a year was spent listening to the villagers' opinions and requests.

The recovery plan was put together in a way that would ensure the maximum preservation of the pre-disaster landscape, and during the last year, this plan was implemented. Reconstruction activities did not affect the farmland, and the wooden architecture and culture landscape of Jiuzhai Village was preserved. In the coming period, our next task is to stimulate economic and social development and assert to what extend the livelihoods of the residents can be improved. The villagers are not just living to safeguard cultural heritage. That concludes my presentation. Thank you for listening.

**Yoshiteru Murosaki (Kwansei Gakuin University):**

Today I would like to talk about what is needed to conserve cultural heritage and how such support has to be done.

I think there are four things that we need. I would say, E for encouragement, W for wisdom, S for skill and N for network. In other words, cultural heritage has to be looked holistically from all four points of the compass, east, west, south and north. I consider that these four points are significant.

With regard to “skill,” I think it have been already discussed today from various aspects, so I am not going to talk about skills at this point. Another one is “network,” which is quite important. I would like to expect continuous further discussion in future. Networks are various, including networks of people, networks of different disciplines. We need to create networks so that cultural heritage can be supported and conserved by society as a whole. Therefore, it is essential to continue considering how to develop networks from every possible angle.

However, today, I would like to focus on “wisdom” and “encouragement” in more detail, because the other two were already discussed, but these two were not.

First of all, wisdom, which is also knowledge. In this regard, I particularly learned a lot during the East Japan Great Earthquake, so I would like to base my discussion on this experience when I talk about wisdom. I think that, in order to know how we can protect cultural heritage, we need to know how cultural heritage is being damaged. In the case of East Japan Great Earthquake, cultural heritage was destroyed in many different ways. First, because of the big tsunami and big seismic vibration, heritage properties were broken and destroyed, which was already mentioned by many participants. But another thing I would like to mention is that not only is the destructive power of disaster affecting cultural heritage, but the processes of recovery and reconstruction can destroy cultural heritage as well.

Usually, restoration and recovery activities aim to preserve cultural heritage; however, in reality, a lot of cultural properties are being destroyed in the reconstruction process. The case presented by Xi-aofan Du is very similar. The Sichuan Province saw a great urban development, but whether it let to the protection of cultural heritage or not, is a big question.

I think, there are several points to the problem of cultural heritage destruction in the course of reconstruction. First problem, I think, is unique to the Japanese political tradition, which has a principle of separation of religion and government. Because religion is a very personal thing, we have taken the position not to support it on the political or governmental level. Of course, National Treasures or Important Cultural Properties are protected as common heritage for Japanese people, but when local temples or shrines get destroyed, there is no finan-

cial support coming from the national and local government. Even though private houses may receive funding for the recovery, the shrines will not. As a result, restructuring and recovering for the shrines is very difficult.

On the other hand, for the affected people, when they see that their shrines or temples are back, they feel that their villages are truly restored. Therefore, they need to be supported as very important spiritual symbols of the communities. But because of the separation between religion and the politics, the government cannot give any subsidies for the restoration. This is a problem.

Next is the destruction of cultural heritage by the disaster prevention. During the Great Hanshin earthquake, the houses broke down because of the heavy roof tiles. Traditional roof tiles are very important element of Japanese culture, created with the use of local resources. However, because they were regarded to be heavy, they were replaced during the restoration works, and along with them, the old architectural knowledge of the traditional Japanese wisdom was all thrown away. Now, in Tōhoku area, people are trying to relocate to higher elevation areas, and by doing so, they are breaking ties with the beautiful nature and the land where they used to live. Separation from land is closely related to the loss of culture. So, my second point is that excess emphasis on disaster prevention is destroying cultural heritage.

The other thing is that in the aftermath of the disaster, there is a need to build houses at lower costs and higher speed, so that traditional building techniques are being rejected. In the case of Kobe, we were told that we have created a town that looks like Spain. Now, in Tōhoku area, we will be probably told that we created a townscape of the US, because of the two-by-four buildings we are building there. When the new technologies are actively introduced, the traditional technologies are being rejected.

We have to think about the cultural preservation, knowing about the dangers of the recovery process. We have to respond to such a situation with very clear view, otherwise we will be destroying cultures one after another.

In conclusion, just a few words about Encouragement. In a nutshell, culture is not supposed to be destroyed, but should be used as a vehicle for restructuring or restoring the society. Culture will give the courage and braveness to live through the difficulties. I think we have to celebrate culture

from this point of view. Thank you.

**Osamu Goto (Kogakuin University):**

Firstly, I would like to introduce JFABEA's recent efforts. JFABEA is the Japan Foundation of Architects and Building Engineers Associations. After the Great East Japan Earthquake (2011), we developed a manual for investigation and restoration of heritage buildings damaged by earthquakes. It is divided into three parts. The first part is dedicated to the emergency and covers the period of around one month immediately after the disaster, explaining how the research and studies should be done. The second part is dedicated to the early post-disaster activities and covers the 6-month period after disaster. In this stage, first aid and simple repairs are the most essential, so the manual explains the proper methods of surveying and restoration. The third part is dedicated to the period after 6 months, when the full-fledged recovery is conducted, and explains the proper methods of surveying and restoration at this stage. What is important is the third stage full-scale recovery and rehabilitation stage. The methods described here are suited not only for the post-disaster situation, but also for the preventive measures before a disaster occurs.

We would like to propagate such information to society, so at JFABEA, we have developed an educational program in historical preservation for professional architects and building engineers. We call these people "Heritage Managers." Through our heritage programs, the experts are trained in 33 prefectures out of the 47 prefectures in Japan. Already more than 2000 people have attended the course. That means that 60 hours of lectures and trainings were performed in a year. Moreover, a network of professional architects and engineers who finished this course has been established in order to prepare for the future possible disasters. I act as a chair of this nationwide network.

I would also like to take this opportunity to explain about fire prevention activities in Japan, some part of which Ai Sekizawa has already mentioned. In Japan, the general public is very conscious of disasters and actively participates in local fire drills. I have looked at the current situation in various countries, and I think this feature sets Japan apart from the rest of the world. On the other hand, the national government of Japan uses sophisticated technology to protect cultural heritage. Very often, however, they just throw in expensive equipment without insuring proper risk management. This is

not an ideal situation. When automatic equipment is installed, the residents tend to think that the fires will be automatically extinguished. So, in many cases, I have observed that this expensive equipment is not utilized effectively.

Rather than enhancing the equipment, it is important to think about measures that would use the unique characteristics of the Japanese public to actively participate in disaster trainings. Therefore, together with Ai Sekizawa, we have established a Japan Association for Fire Science and Engineering, and we are currently creating the guidelines of fire prevention measures for cultural heritage.

As one of the university projects at my lab, we are rebuilding a house affected by the disaster in Ishinomaki City along the Kitakami River in Miyagi Prefecture, which was struck by the tsunami. This house was repaired by the university with the donations from private sector companies. The locally produced natural slate is used in this building as traditional building material; actually, some of it was imported from Spain, but anyway, the construction was made with attention to local craftsmen and local products, including slate and timber.

Also, by reconstructing the vacated former clinic, we created housing for two families, and the victims of disaster are living here now. Temporary housing is much talked about in Japan these days, but utilizing the assets that already exist, I think, can lead to the faster recovery and reconstruction of livelihoods. Although not as well-known, this is also one project we are engaged in. We have been able to do all this because, as a university lab, we had often visited the localities and built connections with local civil engineers and craftsmen. It was not a sudden idea of a project just because of the disaster. This project owes its success to the long-standing communication with local people that we had previously created.

Lastly, with a lot of assistance from many people, we are restoring the Ogata Family historical residential house in Kesenuma City, which was damaged by the tsunami. Again, our university lab had conducted fieldwork in this area prior to the disaster. After the disaster, our students, together with local craftsmen, dismantled the building and transferred all of the materials to a different place for safekeeping. In order to show that we can reconstruct the building in the future, we are performing temporary assembling in front of many people. Currently, local urban planning is now being formulated, so the location for the building has not yet been

decided upon, but the university is making sure that it can be rebuilt in the future. This reconstruction is supported by funds from various private sector foundations. So that was my brief presentation. Thank you.

**Joseph King:**

Thank you very much. In the last several presentations there was a reference to investments. Investments can be not only in project activities, but also in human and institutional resources. So, I think that is a very important point. We have no time left, but I am going to open the floor just for a few question.

**Rohit Jigyasu:**

This is in response to the last two presentations: when we think about culture and its role in the recovery process, we sometimes forget that culture is not something that you just keep as a product. It is the communities who have to have the ability. If you give them the ability, they will be able to bring back the culture because they carry it with them. The problem is that many times we do not rely on communities as inherent carrier of culture. This is one thing which I wanted to mention because in many of these recovery processes, culture is looked at as a very static product, which is really a problem.

Also a second point I want to make is that I think we only look at it in a very short duration, but we forget and move to the next disaster, which is more sensational. Actually, the process of bringing back culture and getting back to resilient normalcy happens in a very long time frame. It does not happen immediately. So I think it has to really be given a long time, and all the NGOs, all the organizations just jump in and do whatever they can and then they move to the next disaster. When we come back to those communities who are left, then we realize actually that there is no support mechanism. So, culture is really helped in that time when there is nobody else to really help them from outside. So time is a very important part in the recovery process.

**Akatsuki Takahashi:**

I would like to thank Michel Turner for mentioning about periodic reporting. Periodic reporting is reporting on threats, as I am sure you are very aware because you were the Vice President of the World Heritage Committee. The World Heritage Committee, and also the committee for the Second Protocol of the Hague Convention had been discussing how

to effectively strengthen the synergy between the two conventions, the World Heritage Convention and the Second Protocol. One way of doing so is to use reporting systems, periodic reporting and also the state of conservation reporting, and I agree that this would be very effective, to systematically collect data and also mainstream DRR of cultural heritage as far as the World Heritage Sites and also built heritage. This is one comment.

The second part is a question to Osamu Goto. You mentioned the training course for Heritage Managers, the Heritage Manager course program. I would like to know what kind of program is required to get this qualification? Is that qualification accredited by the government? How can they contribute to DRR of the cultural heritage? Thank you.

**Osamu Goto:**

This accreditation is conducted by the Japan Federation of Architects and Building Engineers Association (JFABEA), which is an NPO. JFABEA federates all the 47 prefectural associations. The curriculum is given to each association. There is much flexibility given to each association because their conditions are different, so each association is able to conduct the courses with their own content. Some of the lectures or the courses are only for licensed architects, some include site managers. They differ according to the region.

In general, the content is divided into general conservation issues and technical restoration issues. Site managers are only required to master these two. Then, in the terms of specialized technical issues, such as building regulations, seismic measures or structural calculations, only professionals, namely licensed architects, are required to proceed.

We allow freedom to the 47 prefectures, and determining national uniform judgments is easy. All in all, the fundamentals are decided by the central body of JFABEA. We can safely say that they are the NPOs, so that national or local governments have nothing to do with the contents. However, MLIT and ACA subsidize their activities and support JFABEA.

Regarding disaster preparedness, each association has built a mailing list system for disasters. Members of the associations are registered in the system, and at the time of a disaster outbreak, the central body will be the headquarters for information. The central body collects the reports from the associations affected by the disaster, and asks non-

affected or less-affected associations for help. JFABEA now works to establish the network in cooperation with the Architectural Institute of Japan, with which they have built a database of cultural properties.

One thing we always bear in mind is that the 47 prefectures are independent. In the event of a disaster, affected places may be far from the center of the prefectural government and closer to the border with adjoining prefectures. In this situation, the central body of JFABEA might be able to ask neighboring associations for rescue operations. In Kyushu (the most southwesterly of Japan's four main islands), the associations are carrying out training programs for cases of disaster.

**Michael Turner:**

I am sorry that Sue Cole is not here to answer, but seeing that I have reviewed the proposal, I think I can answer. The problem between the Second Protocol and the World Heritage Convention is a problem of definitions, the whole issue of what is OUV, Outstanding Universal Value, and what is being managed within the Second Protocol. I did participate in one of the meetings in Geneva, and it just

highlights the importance, not the standardization of harmonization, so I do not think that it is possible to change each of these conventions. But a way that we can then manage to understand what one convention is doing with the other one to try and make a full coordination is something which I think is "mission impossible" and would be self-defeating, so that is the first point.

The second one is that of interpretation. I think that we speak about values, but values are only meaningful when we understand the interpretation. In the Islamic world, everybody would agree about Allah, but the interpretation of the Sunni and Shiites might be different. So I think that this is another issue which is going to have to be brought to the table.

**Joseph King:**

I think that was very interesting session. I am going to give the floor to Giovanni Boccardi, who is going to make a comment.

**Giovanni Boccardi:**

Thank you all very much and good luck and enjoy your group discussions.