ACCU Training Courses on Cultural Heritage Protection in the Asia-Pacific Region 2022

Cultural Heritage Protection Cooperation Office,
Asia-Pacific Cultural Centre for UNESCO (ACCU)

Agency for Cultural Affairs, Government of Japan

National Institutes for Cultural Heritage
Tokyo National Research Institute for Cultural Properties,
Nara National Research Institute for Cultural Properties,
Cultural Heritage Disaster Risk Management Center, Japan

International Centre for the Study of the Preservation
and Restoration of Cultural Property (ICCROM)

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Preface

Asia-Pacific Cultural Centre for UNESCO (ACCU) was founded in Tokyo in 1971, one year before the General Conference of UNESCO adopted the Convention concerning the Protection of the World Cultural and Natural Heritage in Paris. ACCU was established in collaboration with the Japanese government and the private sector, with the aim to contribute to the development of culture and education and to foster mutual understanding and friendship among countries in the Asia-Pacific region.

Subsequently, ACCU established the ACCU Nara Office in 1999 as a centre for activities promoting cultural heritage protection in the region. Since then, ACCU Nara has advanced international cooperation for the protection of cultural heritage through various training courses, international conferences, workshops, publication of international correspondents' reports, and so on. Since we launched the programmes, we have coordinated them in close cooperation with international organisations such as UNESCO and ICCROM, and research institutes and museums under Japan's National Institutes for Cultural Heritage. We have also received generous support from regional organisations throughout Japan to conduct ACCU programmes.

Due to the impact of COVID-19, all 23rd ACCU training programmes were held online in 2022. Regrettably, we were not able to meet the participants in Japan and the participants were not able to visit the restoration sites and preservation districts for in-person interaction and on-site learning.

Site visits and practical training have always been an important part of ACCU's programmes and going online brought new challenges of teaching heritage conservation remotely. Of course, it is a huge advantage that learning with video materials has almost no restrictions either in the number of participants or the time of participation. Participants can access the material and study at their convenient time. However, it is becoming challenging to keep the pace required at a training course and learn online, while at the same time being occupied with the everyday work. In face-to-face learning, one can easily concentrate on the lesson by being "on-site" and having hands-on experience. Acknowledging this, we are trying to improve the learning efficiency by implementing simultaneous, bi-directional communication platforms, and by encouraging a real-time interaction between the participants and the lecturers. Nevertheless, online sessions cannot fully replace practical training courses. It is therefore necessary to understand the positive and negative aspects of both, face-to-face and online learning, in order to create strategies for more efficient implementation of the training courses.

Outline of the training courses in 2022

Group Training Course (Online)

- Target participants: young professionals with 5-10 years' experience
- Training period: 1 September – 30 September (for 1 month)
- Theme: 'Conservation and Management of Wooden Built Heritage'

  *Usually we set the theme 'Archaeology' and 'Conservation of Wooden Structures' every other year.
- Number of participants: 15 from 13 different countries (Number of certificate recipients: 14 from 12 countries)
- Curriculum: video lectures, online discussions/Q&A sessions, Live-stream video, on-site lecture video

Thematic Training Course (Online)

- Target participants: mid-career professionals with 10-15 years' experience
- Training period: 10 November - 25 November (for 2 weeks)

- Theme: '3D Documentation Methods for Archaeological Sites'

*The theme is set based on the requests from the participants' country.

- Number of participants: 10 mid-career professionals from **Viet Nam** who belong to the Center for Archaeology, Southern Institute of Social Sciences (SISS) and other national organisations in charge of research and preservation of cultural properties of Viet Nam.
- Venue : online platform (Viet Nam – Nara, Japan)

*The course normally invites 5-6 participants from 1-3 countries to Japan.

- Curriculum: video lectures, online discussions/Q&A sessions, online demonstration lecture

Regional Workshop (Online)

- Target participants: young professionals (depending on the request of the host country)
- Training period: 17 October - 28 October

*The workshop normally takes place in the target country for about a week.

- Theme: 'Digital Tools for Preservation and Display of Museum Objects'

*The theme is set based on the needs of the host country.

- Number of participants: 15 from **Kazakhstan** who belong to the National Museum of the Republic of Kazakhstan, the Margulan Institute of Archaeology, Pavlodar Pedagogical University etc. (Number of certificate recipients: 12)
- Venue: online platform (Almaty, Astana, Pavlodar and Taraz – Nara, Japan)
- Curriculum: video lectures, online demonstration lecture, online discussions/Q&A sessions, Live-stream video

International Workshop (Online)

- Target participants: senior professionals/ decision-makers
- Training period: 14 December – 22 December
- Theme: "Disaster Risk Management for Cultural Heritage in the Asia-Pacific Region
  Current State and Issues (II): Post-Disaster Recovery and Resilience-Building Case Studies"
- Number of participants: 13 from 8 countries
- Venue: online platform
- Curriculum: presentations and panel discussion (online)

The international conference was streamed live and viewed by 212 observers from 32 countries.

This year, the programmes were conducted in a differently from usual, but I believe that the participants could acquire technical knowledge and practical skills as well as broaden their experience through our online courses.

Finally, I would like to express my profound appreciation to the distinguished lecturers who kindly shared their expertise and to the organisations that provided generous support. I also thank all participants for their active participation and interest in ACCU programmes. Lastly, I would like to thank all related personnel from the Agency for Cultural Affairs, ICCROM, and National Institutes for Cultural Heritage for continuing cooperation and support for cultural heritage protection in the Asia-Pacific countries.

MORIMOTO Susumu
Director
The Cultural Heritage Protection Cooperation Office,
Asia-Pacific Cultural Centre for UNESCO (ACCU)

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I. Group Training Course

1. General Information
2. Course Summary
3. Course Evaluation

1. General Information

Group Training Course for Young Professionals
on Cultural Heritage Protection in the Asia-Pacific Region 2022

'Conservation and Management of Wooden Built Heritage' (Online)

1. Background

From 1 to 30 September 2022 Cultural Heritage Protection Cooperation Office, Asia-Pacific Cultural Centre for UNESCO (ACCU Nara) held the annual group training course for young professionals involved in the cultural heritage preservation and conservation field in the Asia-Pacific region. Starting from 2000, in partnership with ICCROM, the Agency for Cultural Affairs, and the National Research Institutes of Cultural Properties (Tokyo and Nara), ACCU Nara has initiated and conducted numerous thematic capacity-building and outreach programmes to equip course participants with theoretical and practical knowledge essential for the research and analysis, conservation and management of cultural heritage in the region.

The 23rd ACCU group training course focused on the Conservation and Management of Wooden Built Heritage. The course was open to young professionals who have been working for some years within the field of conservation and management of wooden architecture and wish to expand their knowledge and skills, share experiences, and contribute to the sustainable conservation of wooden buildings, structures, monuments, or remains, which reflect the character and identity of the Asia-Pacific countries and are, therefore, important to preserve for future generations.

2. Dates and Method

Dates: 1 September (Thu) – 30 September (Fri) 2022

Method: online (self-learning by the educational resources offered by the lecturers of the training course and several online-discussions with the participants)

3. Organisers

- Agency for Cultural Affairs, Government of Japan: Financial support and professional assistance of the course (dispatch of 3 lecturers for Unit 2 and 5).
- Cultural Heritage Protection Cooperation Office, Asia-Pacific Cultural Centre for UNESCO (ACCU Nara): Overall course planning and administration
- International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM): Support in information-sharing, selection of the participants, and professional assistance during the course (dispatch of lecturers for Units 1 and 5).
- Tokyo National Research Institute for Cultural Properties: Professional assistance (coordinating the interactive sessions of Unit 2 and 5).
- Nara National Research Institute for Cultural Properties: Professional assistance

Support

- Japanese National Commission for UNESCO
- Japan Consortium for International Cooperation in Cultural Heritage (JCIC-Heritage)
- Japanese Association for Conservation of Architectural Monuments (JACAM)
- Nara Prefectural Government
- Nara City Government
- Tenri City Government

4. Objectives

Inscribed on the Representative List of the Intangible Cultural Heritage of Humanity in 2020, traditional skills, techniques and knowledge for the conservation and transmission of wooden architecture are vast and deeply rooted in Japan. Here, nearly all traditional buildings, whether secular or sacred, World Heritage or local landmark, are made of wood. Hot and humid climate, frequent natural or manmade disasters necessitated the continuous repair and restoration of these buildings, forming the foundation of solid principles, methods and skills for their preservation and continuity that are widely recognised and appreciated inside and outside the country.

Considering the above, the main objectives of this course were to provide participants with:

- Theoretical knowledge and skills-based techniques for the sustainable conservation and management of wooden built heritage in Asia-Pacific region based on Japanese know-how and experiences;
- Establish a platform where participants and lecturers can share their knowledge and practice, strengthen communication and build professional networks.

5. Course Curriculum

The course programme was designed so that participants can learn the protection systems, as well as the overall process of structural analysis and documentation, repair and restoration methods, and everyday management and utilisation of wooden architectural heritage based on Japanese approaches and examples. In addition to Japanese professionals, staffs from ICCROM delivered lectures and participated in discussions related to the international theories and practice for wooden architecture conservation and management.

Contents and schedule:

The course was carried out for four weeks and was structured into five interconnected Units. Each Unit involved two types of training:

1) Self-paced distance learning (self-study)

The course digital platform was set up to provide the participants access to relevant pre-recorded video lectures, textbooks, and other learning material to study before the live sessions. Participants were able to log on and access course resources at any time that fit their schedules, post to discussion boards, exchange files, and chat with their peers.

2) Live sessions

By the end of each Unit, real-time interaction sessions between the lecturers, participants, and organisers were held through Zoom. In addition to online lectures, live sessions included questions and answers (Q&A) related to the Unit topic, discussions, and case study presentations from each participant.

Units:

1. Global Perspectives and Challenges in Conservation of Wooden Heritage
2. Protection Systems for Wooden Built Heritage in Japan
3. Recording and Documentation
4. Repair Methods and Restoration
5. Management and Utilisation (I and II)

* For detailed programme see Curriculum

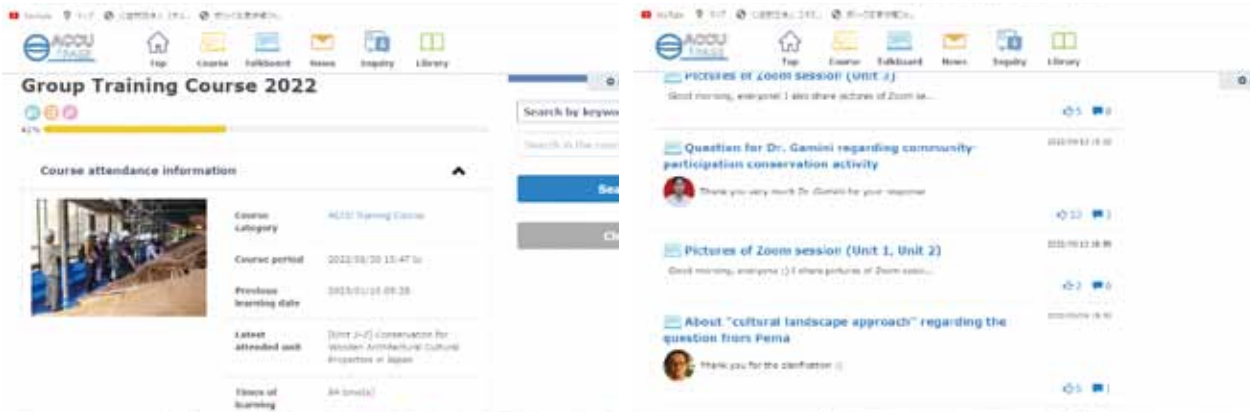
Online Platform

The course used two platforms ‘L-step’ and ‘SMARTSTREAM’, provided by NTT Smart Connect Company. ‘L-step’ is an e-learning system, named ‘ACCU iPAGE’, and ‘SMARTSTREAM’ is a site for watching video lectures. ACCU iPAGE has a chat function called ‘Talkboard’, assignment submission functions such as ‘Check-point Report’, a reference material download function ‘Library’, and a function that lets the organiser convey information such as ‘News’. In addition, there is a function to display the progress level on the home screen, allowing participants to check the tasks at a glance. This year, ‘Talkboard’ function was used for exchanging opinions among participants and for asking the questions to the lecturers. During the one-month training period, a total of 26 lecture videos, or 12.8 hours of content, were streamed through the online platform.

Curriculum

Group Training Course on Cultural Heritage Protection in the Asia-Pacific Region
-Conservation and Management of Wooden Built Heritage-
1 September - 30 September 2022 (online)

		8/ 22 Live session	**General Information Session (14:00~15:00 JST)**		
Week 1 (9/ 1-5)	**Video lectures upload day: 9/1**	**9/ 1 Live session**	**Opening Ceremony and Course Orientation (14:00~15:00 JST)**		
		Unit 1: Global Perspectives and Challenges in Conservation of Wooden Heritage *Coordinators: Gamini Wijesuriya and Inaba Nobuko*		**Training Method**	**Lecturer/ Instructor**
		1-1: International Principles and Approaches to Conservation of Wooden Built Heritage Introduction to ICCROM, Evolution of Conservation Concepts, Principles and Charters **1-2:** Wooden Heritage in the Asia-Pacific Region Characteristics, Approaches		Self-study using lecture videos distributed through course digital platform	Gamini Wijesuriya (ICCROM)
		1-3: Current State and Challenges of Cultural Heritage Protection in the Asia-Pacific Region Issues of Authenticity **1-4:** Protection of Cultural Properties in Japan Evolution and outline of the legal system; categories of cultural properties			INABA Nobuko (University of Tsukuba)
		9/ 5 Live session	- Unit 1 Discussion and Q/A Session (14:00 ~ 17:00 JST) - Participant Case Study Reports (1) *	Zoom Meeting	
Week 2 (9/ 5-12)		**Unit 2: Protection Systems for Wooden Built Heritage in Japan** *Coordinator: Kanai Ken (Tokyo National Research Institute for Cultural Properties (TOBUNKEN))*			
		2-1: History and Diversity of Japanese Architecture **2-2:** Conservation for Wooden Architectural Cultural Properties in Japan		Self-study using the materials uploaded on course digital platform;	INAGAKI Tomoya, KIYONAGA Yohei (Agency for Cultural Affairs)
		2-3: Preservation of traditional carpentry tools and materials (Activities of the Takenaga Carpentry Tools Museum)		Self-study using the materials uploaded on course digital platform;	NISHIYAMA Marcelo (Takenaka Carpentry Tools Museum)
		9/ 8 Live session	- Unit 2 Discussion and Q/A Session (14:00 ~ 17:15 JST) - Participant Case Study Reports (2)	Zoom Meeting	
	Video lectures upload day: 9/5	**Unit 3: Recording and Documentation** *Coordinators: Kondo Mitsuo, Ikawa Hirofumi and Ueno Kunikazu*			
		3-1: The Japanese Approach to the Conservation of Wooden Heritage Buildings in the International Context		Self-study using the m aterials uploaded on course digital platform	MARTINEZ Alejandro (Kyoto Institute of Technology)
		3-2: Survey and Recording Methods for Individual Wooden Structures in Japan			KONDO Mitsuo (Japanese Assosiation for Conservation of Architectural Monuments (JACAM))
		3-3: Survey and Research of Groups of Traditional Buildings in Historic Districts			UENO Kunikazu (Nara Women's University)
		9/ 12 Live session	- Unit 3 Discussion and Q/A Session (14:00~17:00 JST) - Participant Case Study Reports (3)	Zoom Meeting	
Week 3 (9/12-19)	**Video lectures upload day: 9/8**	**Unit 4: Repair Methods and Restoration** *Coordinators: Kondo Mitsuo, Ikawa Hirofumi (ICCROM)*			
		4-1: Basic Approaches to Repair of Wooden Structures in Japan and Formulation of Repair Policy **4-2:** Case Study: Seki Family Residence		Self-study using the materials uploaded on course digital platform	KONDO Mitsuo (Japanese Association for Conservation of Architectural Monuments (JACAM))
		4-3: Repair Process at Conservation Site: on-site lecture at Todaiji (Kaidan-do)		Zoom Meeting Live-stream video from Todaiji (Kaidan-do)	TANAKA Izumi (Todaiji)
		9/ 19 Live session	- Unit 4 Discussion and Q/A Session (14:00~17:00 JST) - Participant Case Study Reports (4)	Zoom Meeting	
Week 4 9/ 19-26	**Video lectures upload day: 9/12**	**Unit 5 (I and II): Management and Utilisation** *Coordinators: Inaba Nobuko, Kanai Ken, Rohit Jigyasu*			
		5-1: Townscape to Pass on to the Future		Self-study using the materials uploaded on course digital platform;	WATANABE Yasushi (Shiojiri Board of Education)
		5-2: Adaptive Reuse of Wooden Cultural Properties			SAIMOTO Kenji (Saimoto Sekkei Jimusho/ Tanba Sasayama)
		9/ 22 Live session	- Unit 5 (I) Discussion and Q/A Session (14:00~17:15 JST) - Participant Case Study Reports (5)	Zoom Meeting	
		5-3: Heritage Impact Assessments for World Heritage Sites		Self-study using the materials uploaded on course digital platform	NISHI Kazuhiko (Agency for Cultural Affairs)
		5-4: Disaster Risk Management for Wooden Built Heritage			Rohit Jigyasu (ICCROM)
		9/ 26 Live session	- Unit 5 (II) Discussion and Q/A Session (12:00~15:00 JST) - Participant Case Study Reports (6)	Zoom Meeting	
			15:00~15:30 Closing Ceremony		
		9/ 30	Final Report submission deadline	To be submitted by all participants	



Examples of pages from ACCU e-learning site 'iPAGE'

6. Participants

Announcement and Response

The training course was offered to participants from the following 42 signatory countries to the UNESCO World Heritage Convention from Asia and the Pacific:

Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, India, Indonesia, Iran, Kazakhstan, Kiribati, Kyrgyz Republic, Lao P.D.R., Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nepal, New Zealand, Niue, Pakistan, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Sri Lanka, Tajikistan, Thailand, Timor-Leste, Tonga, Turkmenistan, Uzbekistan, Vanuatu and Viet Nam.

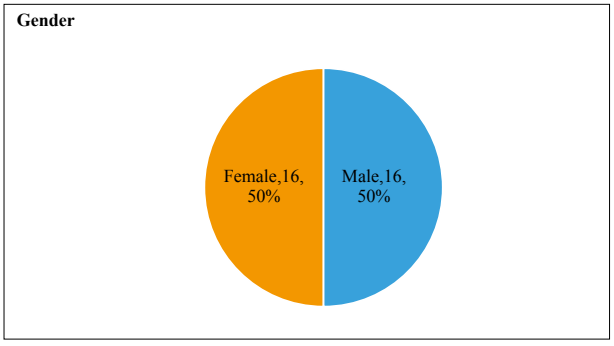
The course announcement was published on the ACCU Nara Office and ICCROM websites in April 2022. By the closing date for applications 19 June 2022, we received **32** applications from **19** different countries. Although, the number of applications dropped since Covid-19, the number of applications recieved in 2022 showed an increase compared to the last year.

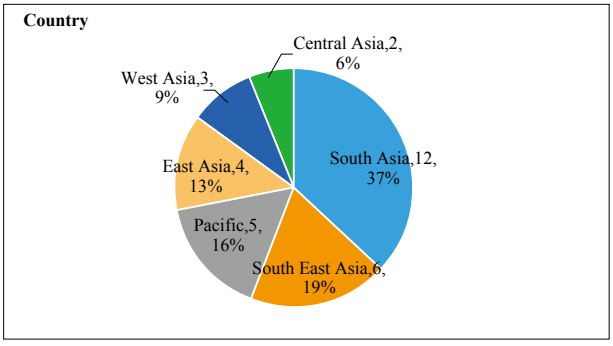
Selection of Participants

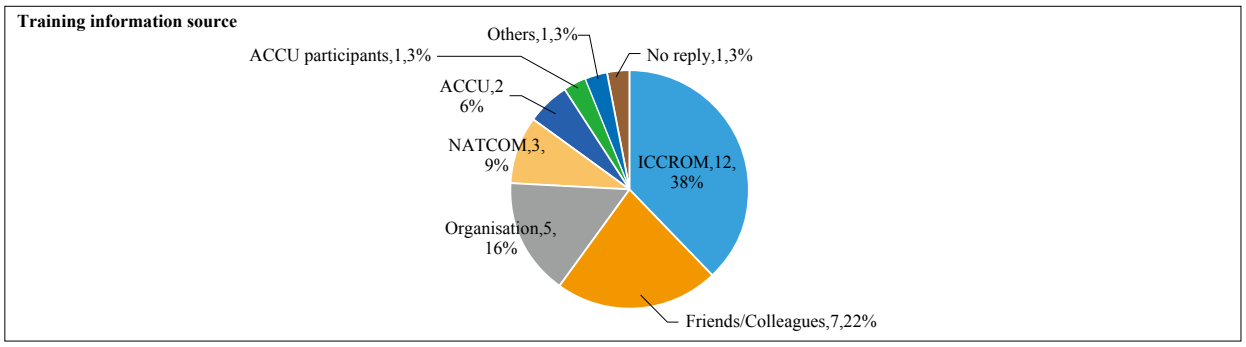
Training course is open to applicants who are:

(1) young heritage professionals with **at least 5 years of experience** working in the field of conservation and management of wooden structures, are currently involved in the conservation practice at heritage sites, and are motivated to make effective use of the outcome of the training course in their respective countries;
(2) those who have a good command of English and are able to converse and write in English fluently;
(3) able to participate in the entire training programme;
(4) able to submit all required documents listed below within the defined deadline;
(5) those who wish to continue to interact and exchange information with ACCU after the training course;
(6) those who have not participated in the ACCU group training course under the theme 'Preservation and Restoration of Wooden Structures' before;
(7) able to organise uninterrupted online learning environment during the course.

Applications (32 applicants from 19 countries)







*ACCU/ICCROM: Websites
NATCOM: National Commission for UNESCO

The documents necessary for application were as follows:

(1) Application Form
(2) Letter of Recommendation from the institution of the applicant
(3) Personal Statement (2 pages)
Personal Statement weighs heavily in the selection process. It should describe:
- Reason for application
- Brief summary of the applicant's work related to the conservation or management of wooden architectural heritage;
- Future plans to utilise and develop the outcome of the training course in the applicant's country.

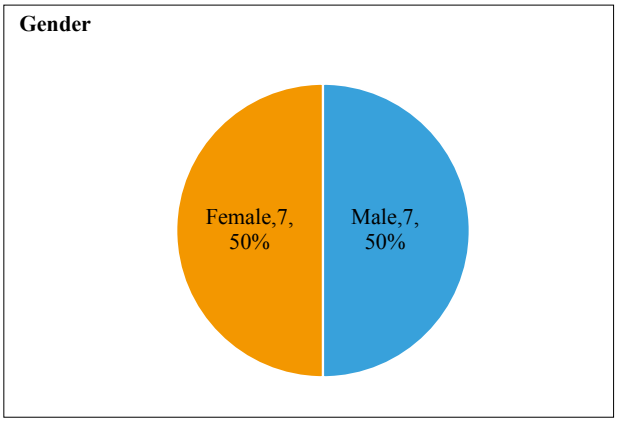
(4) Certificate of English proficiency

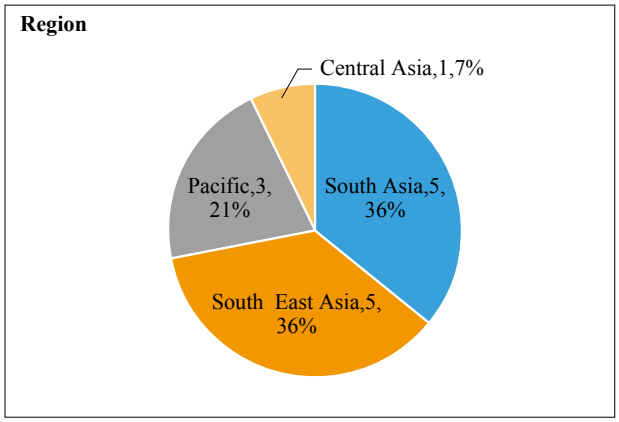
ACCU screened and made a preliminary selection and then consulted with ICCROM and Agency for Cultural Affairs (ACA) for the final decision. After ICCROM and ACA announced the information of evaluated applicants, ACCU and ICCROM selected 15 applicants from 13 countries and 3 applicants on the waiting list. Where deemed necessary, ACCU also confirmed the English proficiency of the applicants. In early July, ACCU notified the results to the successful candidates and respective NATCOMs. The number of certificate recipients were 14 from 12 countries.

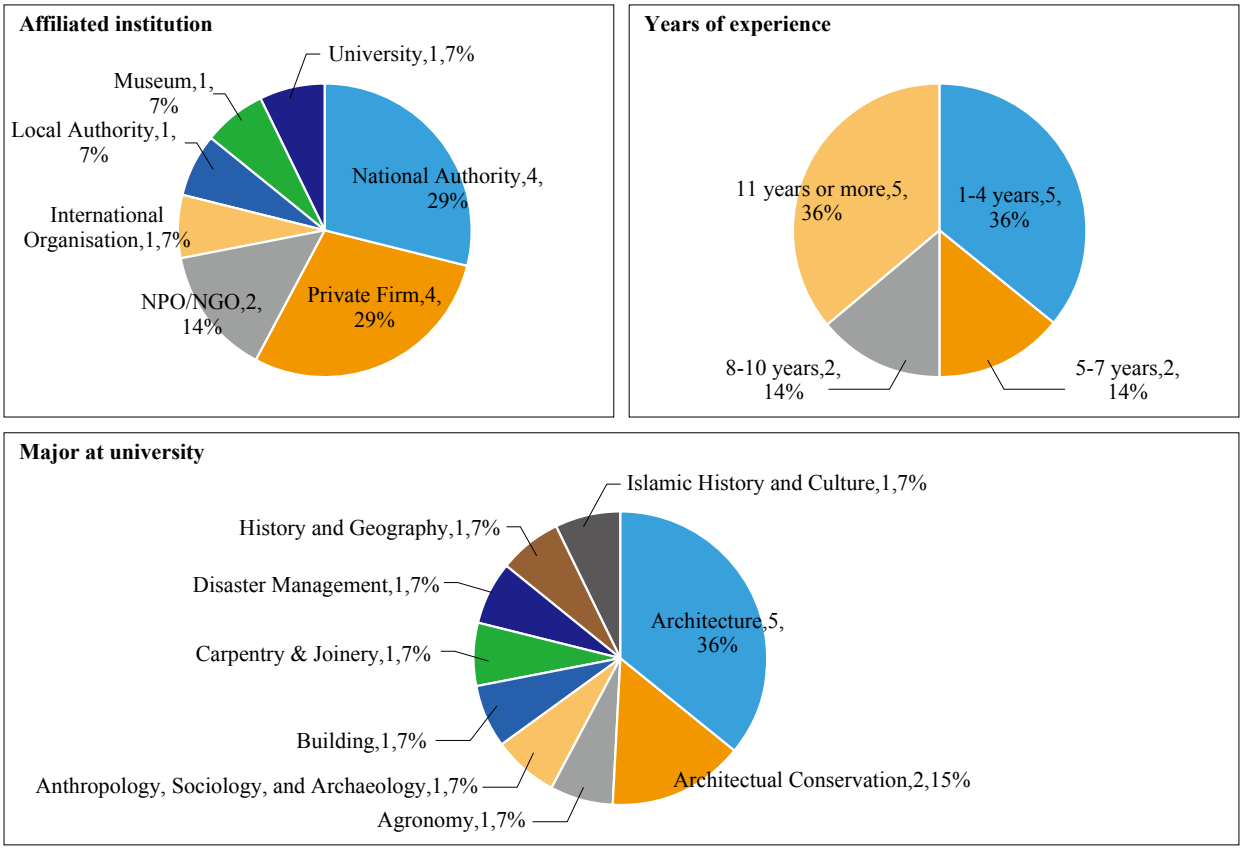
The final group of participants consisted of:

- 14 participants from 12 different countries: Southeast Asia 5, South Asia 5, Central Asia 1 and the Pacific 3 (refer to Appendix).
- 7 participants had backgrounds in architecture or architectural conservation and had worked on restoration sites. 1 participant was an archaeologist and 1 participant was a carpenter. Other's backgrounds include agronomy, building engineering, DRM, etc.
- 4 of the participants worked for national authority, 6 were from NGOs/NPOs and private firm. Others were from NATCOM, local authority, museum and university.
- The youngest participant was 27 years old, the oldest 44. The average age was 34.6.
- There were 7 male and 7 female participants.

Training Participants







Certificate of Completion

14 participants submitted a final report and evaluation form by the deadline (30 Sep.) and were awarded a certificate upon completion of the course. This year, one participant was unable to complete the course due to insufficient participation.

7. The role of the participants during the course

During the course period, each participant was required to attend all interactive sessions, present a case study report describing the current state and issues of wooden heritage conservation in their respective countries, watch all lecture videos, and write 14 check-point reports related to the content of the lectures, in addition to their understanding on how to utilise the outcomes and knowledge gained. Finally, they were asked to submit a final report and evaluation form by the scheduled deadline.

English is the working language of the course and participants also need a high level of English proficiency.

Check-point report

Check-point report submission answering the questions from each lecturer was necessary to let the participants deepen their understanding of the lectures after the watching the videos and Live sessions.

Final Report

The participants submit a report summarising the following two subjects:

1. Long-term and short-term action plans developed from the training outcomes.
   (What you have to do, what you want to do, what you can do)
2. Possible solutions for the challenges mentioned in the Case Study Report (other than lack of budget and human resources).

8. Secretariat

ACCU Nara Office

WAKIYA Kayoko, Vice Director of Programme Operation Department and Meladze Tamar, Director of International Cooperation Division were responsible for the overall course planning, arrangement and the moderating of the Live sessions. HIRAYAMA Naoto and YOSHIDA Machi, staff of International Cooperation Division were responsible for disseminating the course information and creating the training materials. AOKI Aya, project staff, was in charge of liaising among the participants and moderating the Live sessions. HATA Chiyako was Japanese and English interpreter during the Live discussions. The Planning Coordination Division aslo assisted the course.

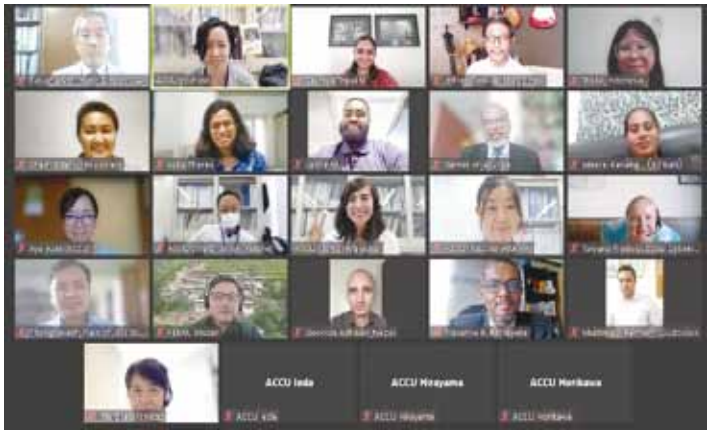
ICCROM

Valerie Magar, Unit Manager and IKAWA Hirofumi, Project Manager, Programmes Unit assisted ACCU with selection of participants and overall administration. Mr Ikawa also participated as a training coordinator of Unit 4 of the course. Additionally, Gamini Wijesuriya, ICCROM Special Advisor, gave opening message, contributed with lecture videos and joined an interactive session at the beginning of the course. Rohit Jigyasu, Project Manager, Urban Heritage, Climate Change & Disaster Risk Management, Programmes Unit, kindly attended the closing ceremony and also prepared lecture videos and participated in an interactive Q &A session on the final day of the course.

2. Course Summary

Due to the continued impact of COVID-19, this year as well, the course was taught entirely online combining self-study through pre-recorded videos and reference materials and interactive live sessions which allowed the participants to discuss the lecture contents and share knowledge. To convey the experience of site visits and practical training, ACCU also implemented a new method of real-time lectures from the conservation sites in Japan.
Also this year, in the first half of each interactive session, participants gave case study presentations reflecting on the current approaches and issues in the conservation of wooden heritage in their countries. An online platform (ACCU e-learning page) was used during the course for distributing the learning materials and exchanging information and opinions between the course participants, lecturers, and ACCU staff. Before the official opening of the course, an introductory video about ACCU Nara and its activities, as well as a welcome message from the ACCU staff was distributed to the participants. In addition, orientation and information session was held to know each other and let the participants familiarize themselves with ACCU's digital learning environment.
The programme greatly benefited from the lecturers and coordinators who assisted in building the training's content and delivered their knowledge and experience during each interactive session.

■1 September: Opening Ceremony
Group Training Course 2022 on Conservation and Management of Wooden Built Heritage opened with greetings from the organisers. ACCU director, Mr Morimoto Susumu; Mr Oku Takeo, Councillor for Cultural Properties, Agency for Cultural Affairs, Government of Japan; and Dr Gamini Wijesuriya, Special Advisor to the Director-General of ICCROM warmly welcomed the participants and talked about the benefits this course provides by building and extending knowledge and by creating the networks between the heritage practitioners in the Asia-Pacific countries.
Mr Prasanna B. Ratnayake, an additional Director General at the Department of Archaeology, Ministry of Buddhist, Religious and Cultural Affairs, in Sri Lanka and the participant in ACCU's very 1st Group Training Course, was invited as a guest speaker at the opening ceremony. Mr Ratnayake talked about his training experiences and opportunities that have opened up to him after completing the training course in Japan.
In the concluding part of the opening ceremony, each participant introduced themselves, highlighting the work they are currently involved in and their motivation as well as expectations from this training course.



MORIMOTO Susumu (ACCU Nara)

Gamini Wijesuriya (ICCROM)

OKU Takeo (Agency for Cultural Affairs, Government of Japan)

Opening ceremony and welcome address from the organisers

1-5 September

■UNIT 1: Global Perspectives and Challenges in Conservation of Wooden Heritage

Lecturers: **Gamini Wijesuriya** (ICCROM) **and INABA Nobuko** (University of Tsukuba)

Unit Summary

The first unit of the course included four lectures describing the evolution of international principles and current approaches in the conservation of wooden built heritage globally and in the Asia-Pacific region delivered by Dr Wijesuriya; and touched on the development of cultural properties protection system in correspondence to the population needs on the example of Japan, in the lectures of Prof. Inaba.

The lectures also looked at the concepts of authenticity and integrity and discussed the difficulties of comprehending these terms in different languages. The lectures of the first unit provided basic knowledge and understanding of the origin and evolution process of cultural heritage preservation policies and practice globally and in Japan, and encouraged the participants to re-assess their own approaches according to the needs and resources of their countries.

Excerpts from the lectures "Wooden Heritage Conservation in the Asia-Pacific Region" by Gamini Wijesuriya (left) and "Cultural Properties Protection System in Japan" by Inaba Nobuko (right)

During the interactive session of Unit 1 with lecturers: Prof. Inaba and Dr Wijesuriya

Key points raised during the discussion

Unit 1 was active by participants questioning and discussing the culture-nature linkages, cultural landscapes, forests, places of scenic beauty, animals, and the need for recognition and integration of their cultural values at the policy levels in each country. In this regard, another issue of ministerial demarcation was raised by professor Inaba. In addition, the evolution of the concepts of "authenticity" and "integrity" in parallel to the material-focused versus immaterial approaches to heritage values have been discussed.

The key points discussed are as follows:

- Nature-culture linkages in heritage conservation and the ways of connecting those two under the joint protection system; the benefits of working together for sustainable conservation drawing on the examples from Japan.
- Development and tourism pressure control on World Heritage Sites and how to stop the projects in buffer zones before those projects had been approved, under the existing regulations.
- Issues of protecting the forest reserves and securing timber resources. As highlighted both by the participants and lecturers, due to the scarcity of locally available material, many countries nowadays have to import the timber to respond to the architectural characteristics and demands of their timber structures (e.g., long and large diameter logs).

It was also highlighted, however, that importing timber from outside sources is not a sustainable practice, therefore efforts must be put into action to secure the resources inside each country.

- How to implement and answer the requirements of the concepts of "authenticity" and "integrity" in Asian reality, when both of these words are of European origin. It must be made clear that although "authenticity" is still a controversial word and yet to be defined, it is not a value itself but rather a tool to measure the quality of conservation work.
- Replacement of deteriorated members of the wooden structure with new material is approved method in many countries and cultures. If such techniques exist locally, the western understanding of the word "authenticity" should not hinder these practices.

5-8 September

■UNIT 2: Protection Systems for Wooden Built Heritage in Japan

Lecturers and Coordinator: **INAGAKI Tomoya** and **KIYONAGA Yohei** (Agency for Cultural Affairs, Government of Japan), **NISHIYAMA Marcelo** (Takenaka Carpentry Tools Museum), and **KANAI Ken** (Tokyo National Research Institute for Cultural Properties) as a Unit coordinator / **HATA Chiyako** (Interpreter)

Unit Summary

From the three lectures of Unit 2, the participants first learned about the history and architectural types of Japanese wooden structures, developed following the socio-environmental conditions of the country.

Then, the core of the conservation process, regular maintenance, as well as the issues of disaster risk management and seismic reinforcement of exclusively highest-level architectural monuments (national treasures and important cultural properties) were introduced. Lastly, on the example of the Takenaka Carpentry Museum and its concept, the course participants got an understanding of the ways private entities in Japan are also contributing to the preservation of traditional carpentry tools and materials and to the process of handing down the conservation skills.

In addition to the video lectures provided by the unit teachers, six extra videos from Takenaka Carpentry Museum exploring Japan's rich carpentry tradition from both its practical and philosophical perspectives have been distributed for viewing.

Key points raised for discussion

The interactive session was divided into two sections. The first part was coordinated by Mr Kanai, who proposed to address the issues raised in the case study presentations of the participants from India (Ms Asha Theres) and Papua New Guinea (Mr Benjamin Leme) by sharing and drawing parallels with Japanese examples.

- Traditional knowledge and techniques of conservation versus the modern repair methods of contractors

Participants pointed out that they have experienced this problem at some point in their careers. Participants from India and the Philippines emphasised that when conservation projects are conducted by private companies, they tend to prioritise profit and thus, make some compromises in conservation by doing shortcuts, using low-quality materials, etc. Conservation plans are drafted and prepared by qualified experts but once the project is transformed to the contractor for implementation, they are many flows in the process. The participants wanted to know how Japanese heritage experts have been dealing with such issues. Mr Kiyonaga talked about some initiatives implemented in Japan. He explained the custom of daily maintenance, which facilitates the continuation and passing down of the techniques, knowledge and awareness not only from expert to expert but also from the heritage owners; The same system allows for quality monitoring practice at the regional levels.

In addition, the techniques and craftsmanship that are indispensable for the conservation of cultural properties have been specially selected as Conservation Techniques for Cultural Properties and are currently protected by the law.

Prof. Inaba mentioned that although new construction projects are way more in numbers than the conservation works on heritage sites, keeping as much as possible the genuine traditional techniques and materials is the fundamental issue of preservation.

Mr Kanai added that central to the Japanese thinking of conservation is the evaluation of the change of the status quo of the building: tool to measure of heritage status which is similar to the western understanding of the authenticity and integrity. Therefore, any changes in the historic buildings are thoroughly documented and the conservation projects are monitored.

- Wood supply and forest protection

As one of the initiatives in Japan, Mr Kiyonaga introduced the project implemented by the Agency for Cultural Affairs called *Furusato Bunkazai no Mori* (Forests for our Cultural Properties) to secure the wood and other plant material used in restoration work (e.g., cypress bark, lash for tatami mats, *urushi* sap, thatch, etc), and to develop skilled workers to produce those resources. The initiative entails not only selecting the *Furusato Bunkazai no Mori* as forests for harvesting and/or

producing resource materials but also establishing them as a facility for holding training programs, conducting workshops and disseminating information.

- Encouraging the local community participation and getting support in heritage conservation

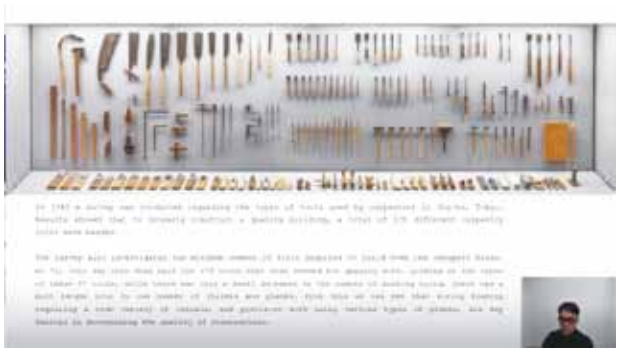
The question was raised by the participants of PNG and Indonesia. Prof. Inaba commented that one of the essential steps to creating ties between heritage experts and local communities is decentralisation and the creation of regional capacities. In Japan, municipal-level officers are dealing with the day-to-day monitoring and decision-making on the ground. Participants also learned about another initiative by the local governments in Japan: Comprehensive Cultural Properties Protection and Management Local Plan which has a legal basis at the municipal levels and facilitates community participation in cultural and natural resources mapping. Following this explanation from Prof. Inaba, Mr Pema (Bhutan) asked about the ways to expand the capacities outside the centre, in regions and municipalities. Professor Inaba said the best is to start from school and involve school kids and teachers in any kind of heritage-related mapping.
Some other questions to the lecturers in the first half of the session:

Q: *Is Disaster Management integrated part of the Conservation Report / Conservation Plan prepared?*
A: Not only the management plan but also the DRM facilities need to be put in place.

Q: *What is the difference between a conservation architect and a licensed architect for historic building?*
A: *Licenced architect* = also known as a "heritage manager," attends the 60-hour lecture course on cultural heritage administration, repair techniques, urban planning and conservation, and practical sessions.
Conservation architect = Licenced conservation architect undergoes a specific training and attends 600 hours of lectures in order to work exclusively on the Important Cultural Heritage Properties and National Treasures.

Video lecture by Mr Kiyonaga Yohei on conservation for wooden architectural cultural properties in Japan

Mr Inagaki Tomoya on History and Diversity of Japanese Architecture



Video lecture by Mr Nishiyama Marcelo "Preservation of Traditional Carpentry Tools and Materials"

Case study report by Asha Theres (India)

With the lecturers of Unit 2

In the second half of the session, Mr Nishiyama from Takenaka Carpentry Tools Museum joined in. Reflecting on the case study presentation from Mr Benjamin Leme on the preservation issues of the wooden canoe in the coastal region of Papua New Guinea, Mr Nishiyama shared some examples of how his museum is trying to keep alive the wonderful yet gradually disappearing traditions of wooden boatbuilding, and other craftsmanship. He emphasized that not only the exhibition but workshops involving the demonstration of using the tools and creating the product are essential for maintaining the status quality of traditional skill sets, passing on and further developing traditional craftsmanship.

Below are some of the issues pointed out by the participants related to the preservation of traditional craftmanship:

- With the development of modern technologies, the interest is fading in traditional things (Benjamin, PNG)
- People still holding the traditional skills are reluctant to pass down the knowledge to the next generation (Asha, India)
- People are reluctant to share the knowledge because traditional knowledge is kept within the tribes and communities, they are afraid that someone may use this knowledge for the profit (Leone, Fiji)
- Moreover, some of this knowledge is sacred and they need to be kept, not released (Benjamin, PNG).

These comments were addressed by Mr Nishiyama, Prof. Inaba and Mr Kanai. Mr Nishiyama's take was to stress the enjoyable part of the traditional techniques through workshops. Museums have the power to demonstrate that wood crafting is enjoyable, and safe for children. In addition, not only the heritage people but modern-day architects can implement some of these traditional approaches in their projects, and keep the techniques alive by making use of them. Japan had similar issues but it is getting better with the realisation that being reluctant to share knowledge will result in skill shortage and the loss of jobs. Another great way to inherit the techniques to the next generation is to make the museums attractive to children. We need to think about how to invite the children to our heritage sites. This is the key point for conservation as well.

Prof. Inaba added that to facilitate the integration of the traditional techniques into the modern constructions, the agencies for cultural heritage protection and the ones in charge of development and infrastructure need to collaborate and work together on bringing some of the traditional elements in modern constructions. Otherwise, the carpenters of ordinary construction projects cannot survive. They will not be able to secure enough work.

Another important point was then brought forward by Mr Nishiyama. He noted that the protection and use of traditional methods in repair, conservation and construction works are not only for sake of preserving certain buildings but also the environment. Reflecting on the SDGs and carbon neutrality, it is important to be cautious about the use of environmentally friendly materials and heritage buildings provide the keys to solving these issues.

Mr Kanai wrapped up the session by adding that indigenous knowledge and people who hold this knowledge can indeed provide the key source of information and insight to the social system in responding to the threat of climate change. This knowledge, encompassing most aspects and principles of the SDGs, is going to be more important than ever before not only with regard to heritage conservation but in all aspects of global sensitivity.

8-12 September

■UNIT 3: Recording and Documentation

Lecturers

KONDO Mitsuo (Japanese Association for Conservation of Architectural Monuments (JACAM)), **UENO Kunikazu** (Nara Women's University), **Alejandro Martinez** (Kyoto Institute of Technology) / **HATA Chiyako** (Interpreter)

Unit Summary

The objective of Unit 3 was to teach the recording and documentation principles and methods of wooden-built heritage as performed in Japan. Participants learned about different types of surveys from damage and specification surveys to trace investigations on concrete examples of individual heritage buildings (important cultural properties) in Japan. They also got to know how the documentation and survey are done for the groups of traditional buildings and historic towns and why the survey is considered an indispensable part of conservation planning.

Before getting into the particularities of the survey and documentation in Japan, participants also learned what is the position of Japanese methodology in the broader international context by describing the international principles, and providing examples of different wooden buildings and their repair methods in different parts of the world.

During the interactive session of Unit 3. Top from the left: Mr Kondo, Prof. Ueno, Mr Watanabe; Below: Prof. Martinez, Mr Ikawa

Key points raised for discussion

The online session opened with the case study presentations from the participants centring around the importance of survey and documentation of timber constructions in Bhutan, the challenges of conservation of cultural heritage in historic towns and cities of India and the problems and needs concerning the protection, preservation and management of Philippine Ancestral Houses in the District of Quiapo, Manila.

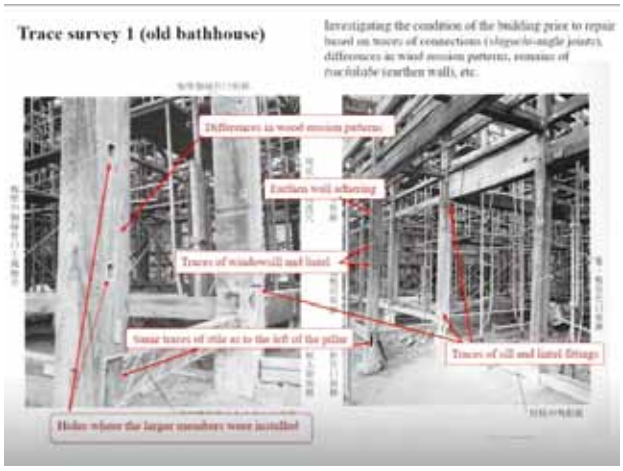
Topics raised during the discussion included the ones of technical character (correcting the deformations, identifying erosion by non-destructive methods, etc), as well as the ones related to the written guidelines and conservation principles. The latter was especially engaging and was brought up several times in the discussion. The participants learned that in Japan there are no written guidelines on conservation. As a means of quality control, the group of certified conservation architects go through the same training courses and annual meetings, and as a result, they develop a shared understanding of conservation principles. The fact of not having a written standard or guideline in conservation/repair but rather having a common understanding and policy among conservation architects throughout the country surprised the participants.

Another point brought up during the meeting was the use of 3D technologies in the documentation of heritage buildings. Participants were interested in knowing the efficiency, advantages and disadvantages of using digital scanning in comparison to traditional, hand measurement. As explained by Mr Kondo, 3D scanning can make a very accurate measurement of the current state of the building. But in the case of historical buildings, which have been damaged, deformed and gone through many transitions throughout the centuries, tracing these alterations is essential. Making drawings by hand requires observation of the building and its structural members on traces, damages, and various modifications. Therefore, manual documentation is not only about putting the measurement numbers on the drawing but also getting to know the building, its characteristics and its history. Such knowledge cannot be attained by digital scanning. However, it has also been noted that when there is a time limitation and in the case of extreme working environments, the advantages of using 3D scanning become apparent.

Lastly, questions were asked about the conservation reports. Participants wanted to know if the reports in Japan are usually written for experts (in an academic manner) or for the public (in casual language). Lecturers clarified that the reports for townscape preservation selection and important cultural property conservation are prepared in a different manner: while the conservation reports are made exclusively for experts and include detailed drawings, research results and argumentation of repair works, townscape preservation reports target the community and aim to explain the attractiveness of the town and the ways of its preservation.

Case Study presentation by Pema (Bhutan)

"The Japanese Approach to Conservation of Wooden Heritage Buildings in International Context", Lecture by Alejandro Martinez



"Survey and Recording Methods for Individual Wooden Structures in Japan" by Kondo Mitsuo

"Survey and Research of Groups of Traditional Buildings in Historic Districts" by Ueno Kunikazu

12-19 September
■UNIT 4: Repair and Restoration
Lecturers and Coordinators
KONDO Mitsuo (Japanese Association for Conservation of Architectural Monuments (JACAM)), **TANAKA Izumi** (Todaiji Temple World Heritage Site) and **IKAWA Hirofumi** (ICCROM) as a Unit coordinator
HATA Chiyako (Interpreter)

Unit Summary
Lectures on the repair and restoration of wooden heritage buildings are usually followed by intensive on-site practical training. Course participants learn how to make a comprehensive judgment on the values of the building and eventually develop a repair plan. This year, due to the online format of teaching the basic principles of repairing wooden structures in Japan and the formulation of repair policy were taught using case examples. One of the biggest appeals of this training is that the participants are given unique opportunities to study directly at the World Heritage Sites, and take part in conservation works while interacting with the head conservators in charge. This year, we decided to provide such an opportunity by setting up the internet connection, cameras, and interpretation system for the live broadcast from the conservation site. Participants were able to see an actual repair process at Kaidan-do and directly communicate with the supervisor of the conservation works.

Key points raised for discussion
15 September (On-site lecture through Zoom from Kaidan-do)
The reference material (handouts and introduction video) describing the architectural characteristics and current conservation works on the building was distributed to the participants in advance, so when we set up an online lecture from the conservation site, they had a basic understanding of the monument and ongoing works. Cameras were placed at two spots and the participants could observe the roof repair process from different angles. Mr Tanaka, the site supervisor gave a comprehensive explanation of the conservation process (seismic reinforcement requiring roof load reduction and other structural interventions), including the purpose and objectives of undertaken works. After the explanation from Mr Tanaka, participants had an opportunity to ask several questions:

Q: *Are the damaged tiles replaced and if yes, what kind of tiles do you use as replacements?*
A: We maintain the traditional technique of making the roof tiles, shapes, specifications and materials. So, even if the tiles need to be replaced, we have no concerns about this.

Q: *Do you ever use modern materials in conservation?*
A: Yes. If the condition of members is not too bad, we only repair the surface without extra interventions. But sometimes materials such as adhesives, metal fixations, and wires (for roof tile fixations against the strong wind) are used for serious damages. But all these interventions with new material should be discreet and have supplementary purposes and should not diminish the original shape or techniques.

Q: *Is this wooden structure made of only one (same) species of timber or are different materials also used?*
A: Different wood species are used for different purposes. Pillars are made of *keyaki* (Japanese zelkova), main structural members are *hinoki* (Japanese cypress) and pine trees, boards and other invisible parts are made of cedar. In ancient constructions, mostly *hinoki* was used. From the 17-18th centuries, more variations were added. In this conservation project, when we have to replace the members, we use the same wood species. Clearly, the builders had good knowledge of which timber would be most appropriate to use for each purpose.

Q: *Before the conservation works, did you do a foundation check and did you find any damages due to the earthquake?*
A: We carried out the foundation check by boring. Stability and good ground condition were confirmed. Before the survey, we thought that the damages were caused by the unstable ground condition, but we did not find any issues.

Q: *If the damaged members need to be replaced but the same timber species cannot be obtained, what would you do?*
A: In such a case, our primary objective is to keep the shape and techniques. Conservation architects get together and discuss which material to use, what implication it may have, etc. These discussions are documented in written form for future reference.

Q: *Regarding the termite attack, you change the affected members. What else do you do?*
A: In this case, all the termite damages were very serious we had no other choice but to replace the whole members. If the deterioration is not too extreme, partial treatment such as injecting synthetic resin into the deteriorated parts of the timber can also be applied.

Roof repair process at Kaidan-do and an explanatory lecture by Mr Tanaka Izumi

Participants attending the on-site lecture through Zoom

19 September (Unit 4 interactive session)

Interactive session of Unit 4 opened with the case study presentations from the participants (Uzbekistan, Fiji, Bangladesh), which triggered several points for discussion:

- Challenges of structural reinforcement of the monuments while maintaining the maximum possible amount of the original material

It was noted by the lecturers that it is always better to consider improvement or rehabilitation of the existing material by different modern methods (such as stainless steel, waterproof seals, reducing the weight of the roof by removing part of the soil, etc) rather than simply replacing the members. In the cases when the damage is too extreme, to use of the same material and following the original construction method is required. Even the parts that are not visible from the outside have cultural significance and should be part of what we conserve.

- Training for architectural conservators and the issue of skilled workers scarcity

This is a shared issue for many countries and it takes a good amount of time to set up a system that trains heritage professionals and ensures quality control. It has been pointed out that in the early 20th century in Japan, there were carpenters but they had no knowledge of cultural heritage repair and old construction methods. However, the system started to develop without creating written guidelines. Prof. Inaba explained that in Japan, conservation architects started to become skilled through a series of training, workshops, and discussions based on consultations with each other. Such a system also facilitates self-training and progress and creates a shared understanding among conservation architects. Written guidelines only exist for cultural property owners and these are written in a very easy-to-understand manner.

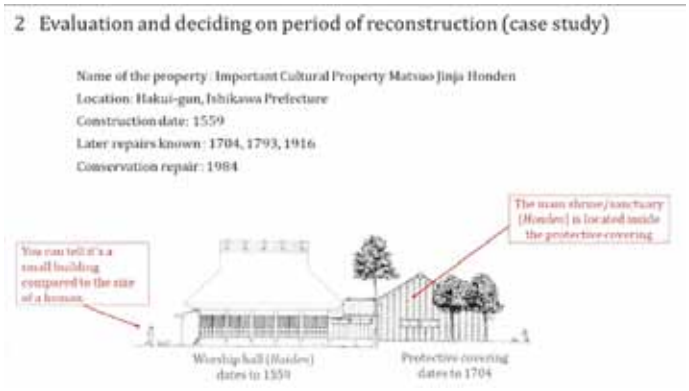
The second half of the session was dedicated to the questions based on the lectures of the Unit 4. Below are several topics brought into question:

Q: *How do ICOMOS and UNESCO react when the conservation process involves dismantlement and repair with completely new material, as well as removing some later additions when you select one particular period to which the building is restored?*

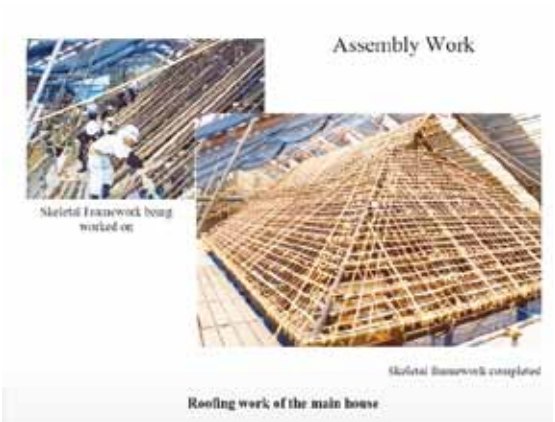
A: We do not always return the buildings to their original or certain period of time. We have to consider many other factors. For example, in Nagasaki, one particular building had damage in the roof truss from the atomic bomb explosion. We decided to retain this as part of the history of the building.
A: Dismantlement is not something we always perform. Even when it is done, the post and beam structure of Japanese wooden buildings allows such intervention and sometimes even require dismantlement for structural stability. This is why quality control of conservation is very important. For nationally protected buildings, we have careful considerations and discussions among professionals taken place. All decisions need final approval from the national committee. We have been explaining this process and each step undertaken to the World Heritage Committee since Japan ratified the WH convention in 1992, continuously. You have to do the same. International experts do not know local approaches and they make "pragmatic" decisions based only on the guidelines and charters.

Q: *How to approach the dismantlement of the living heritage, that is functioning on daily bases and its use will be terminated for a certain period of time?*
A: In the case of religious monuments in Japan, the shrine is the main body to initiate the repair in the first place, the representative (priest) of the shrine is the one who applies for the subsidy from the government. In the very initial stages, we also discuss whether or not to build the temporary hall, however, since the initiative of starting the works comes from the priest, there are no further arguments about the temporary closure of the facility etc.

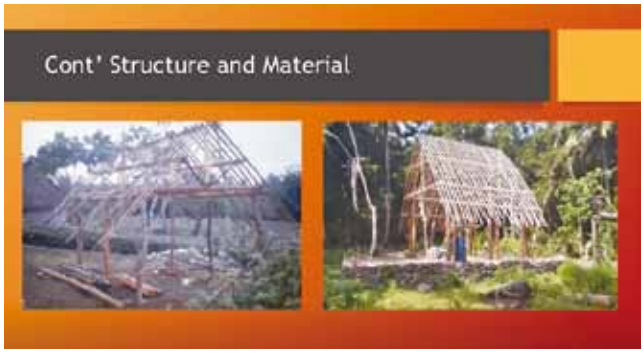
Q: *Regarding the subsidies for repairing the traditional houses which are the properties of the community, what kind of incentives does the Agency for Cultural Affairs (Japan) provide apart from technical support?*
A: In Japan, not only the nationally protected buildings but also the ones recognised at the municipal level are subsidised. Of course, not all countries have the budget for this. Perhaps your government can offer something else (for example, repair material) instead of cash. In Japan, the remote areas also depend on government help. But these subsidies do not come for individual buildings. The whole area is receiving development subsidies. Sustainable development plans shall include the budget for the repair of heritage buildings and traditional houses.



"Basic Approaches to Repair of Wooden Structures in Japan and Formulation of Repair Policy" Lecture by Kondo Mitsuo



"Case Study: Seki Family Residence" Kondo Mitsuo



Case Study report by Ratu Leone Matanitobua (Fiji)

Live session of Unit 4 was joined by Ikawa Hirofumi (ICCROM) and the lecturers of Unit 1,3, and 5

19-26 September

■UNIT 5: Management and Utilisation (I)

Lecturers and Coordinators

WATANABE Yasushi (Shiojiri Board of Education), **SAIMOTO Kenji** (Saimoto Architectural Design Office)
KANAI Ken and **INABA Nobuko** as Unit Coordinators / **HATA Chiyako** (Interpreter)

Unit Summary

The final and concluding unit of the course was divided into two parts and included two online meetings. The first part addressed the issues of townscape preservation and management of groups of traditional buildings and taught about the system of adaptive reuse of registered and non-registered cultural properties in Japan. To convey the atmosphere of the preservation districts in Japan, ACCU made an on-site lecture video where Watanabe Yasishi (Shiojiri Board of Education) and local residents and business owners gave a comprehensive explanation of the community-centred townscape preservation and management on the example of Narai post-town.

The second and concluding part of the unit was about understanding the Heritage Impact Assessment for the World Heritage Sites and the Disaster Risk Management for the wooden built heritage in the Asia-Pacific region.

Key points raised for discussion

The first meeting of participants with the lecturers and coordinators was held on September 22. After the case study presentations, the discussion centred around the issue of the change of materials from traditional to modern during the restoration or adaptive reuse. The participants learned from the lecturers that unless we are dealing with designated important cultural properties or the World Heritage Sites, which require strict compliance with the conventional conservation principles, alteration in the use of traditional materials (such as, for example, roofing material) can be accepted for the vernacular houses for sake of continuation of the use of the building and as long as overall appearance (design) of it can also be preserved.

Different strategies and ways of community involvement for the sustainable preservation of historical districts were actively brought to attention. Based on the examples of Narai and Tamba-Sasayama, the participants and lecturers discussed how to keep up and maintain the interest of the residents to support the preservation and revitalisation movement, highlighting the importance of commemorative events, festivals, school activities, and other incentives such as encouraging the young generations to move to the rural areas by providing governmental support. It was also stressed that without the full consent and will of the communities, which is assessed by the experts of the Agency for Cultural Affairs upon their visit to the place, Agency cannot go forward with the registration of the townscape and that community is the most important factor for townscape preservation.

With regards to the adaptive reuse of heritage buildings into hotels or other commercial sites, participants were most interested in how to keep the balance between historical preservation and the requirements of a modern and comfortable stay. The answers from Mr Saimoto encouraged the participants, as he went on to explain that the main attractive point of adaptively reused hotels is indeed their historical value and that the people who choose to stay in such places are not particularly expecting the high-end comfort but the experience of living in a traditional house. “Keeping original to the most possible extent is the key. Even if it is too cold inside the rooms, the guests will not complain. This is the experience they are looking for ” – pointed out Mr Saimoto.

By the end of the session, Mr Kanai and Prof. Inaba offered the concluding remarks of the session. Mr Kanai talked about the role of the architect in the preservation movement of the townscapes. He emphasised that “the role of an architect is to transform the required social-economic functions into the future heritage value. An architect with proper awareness can conceive and design the renovation and modification to meet socio-economic demands that are considered positive intervention that enhances the heritage value. […] Such diverse methods of renovation and modification that enhance heritage values will promote innovation in architectural conservation while also enhancing life quality and the sense of community.”

Excerpts from the on-site video lecture on Narai post-town preservation district

Examples of adaptive reuse of historical buildings in Tamba Sasayama, lecture by Saimoto Kenji

Case Study report by Panyaporn (Singapore)

■UNIT 5: Management and Utilisation (II)
Lecturers: **NISHI Kazuhiko** (Agency for Cultural Affairs), **Rohit Jigyasu** (ICCROM) / **HATA Chiyako** (Interpreter)

Unit Summary

The second part of Unit 5 introduced the participants to two powerful tools that aim at protecting cultural heritage and OUV of the World Heritage Sites from the impact of various forms of developments (Heritage Impact Assessment - HIA) and the natural and man-made hazards that create the risks for disaster (Disaster Risk Management - DRM). Mr Nishi Kazuhiko who is a key person involved in the development process of the Japanese HIA guidelines, and Dr Rohit Jigyasu risk management professional currently working at ICCROM as Project Manager on Urban Heritage were invited to discuss why such tools have been introduced on the first place and why they are needed, also looking at the challenges that come with the implementation process at the national level of each country.

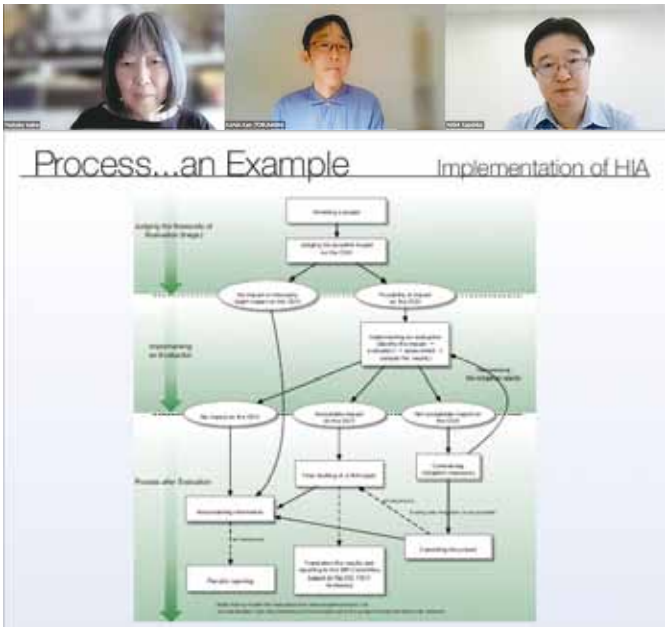
Key points raised for discussion

In the discussion with Mr Nishi, the philosophy and idea behind HIA, its implementation process, legal basis, and some basement issues have been brought up. The lecturer summarised the aspects of its implementation based on some Japanese examples, and highlighted two key points to keep in mind: 1) the challenges related to defining and writing down the values and attributes of the heritage sites based on which the HIA should be prepared and 2) legal issues which stem from the fact that not many countries have the legal bases and national policy frameworks for integrating impact assessment tools. While sharing the chart showing the whole process of HIA in Japan, Mr Nishi explained each stage of this process, including the analysis of whether or not HIA is necessary, the investigation of mitigation methods, gathering information on previous studies and analysis, translating the reports in English, etc. He also highlighted that although the HIA process is rather time and cost-consuming, it should be designed for each situation and case individually.
Some questions raised during the session are as follows:

Q: *Heritage impact assessment is always asked by the World Heritage Centre. But in Uzbekistan we don't have individual buildings listed in WHL; all our sites are living cities. In such case, how should we determine the values and prepare HIA?*
A: This is also connected with the difficulty of how to write down the values in HIA. When we have a stack of layers and values it is difficult to write down as a simple text and therefore, difficult to understand the impact of the development project as well. At this moment I have no clear answer to this question, but perhaps writing down the clear attributes of the values will be helpful to understand the impact. Also, training for implementing HIA is quite important. Still, we are in the initial phase of accumulating experience but ICCROM, ICOMOS,WHITRAP have some good knowledge. Several video lectures should also be available. But HIA is a case-by-case basis initiative we cannot just read it and then implement. We have to design the process to each site/country individually.

Q: *What exactly are the challenges of identifying the attributes?*
A: The point here is that if it is the case of the recent nomination, the attributes of the heritage in question are quite precisely described. However, in old dossiers the attributes' description is not detailed enough. When the attributes are not clearly described in the nomination dossier, we have to retrospectively identify the attributes and then connect the values and the substantial items of the heritage. Another challenge is that we have to analyse the previous, old nomination documents written by someone else and determine the attributes through the analysis of the existing text.

Q: *Japan just recently issued the guidelines for HIA. Can you give us an idea how the national government was able to integrate its national policy to conduct the HIAs?*
A: It was issued about 3 years ago. Still, it is not a definite guideline, but rather a referencing one. There are two aspects shown in Japanese HIA guidelines: procedural matters and technical matters. These explain how to evaluate the impact. I think this guideline became possible because we already had experience in other fields, such as environmental impact assessment and landscape. So, we used the same technique and procedures for the heritage. An important point here is also to let the people know that government cares about the HIA and its existence.



Discussions on HIA process on Japanese example, Prof. Inaba, Mr Kanai, Mr Nishi

Further, the debates went on how to integrate HIA in national policies when it is usually authorities who make decisions on a big development project and most of the time, they do not consider heritage as a resource. Mr Nishi pointed out that this happens also because HIA still has no clear position in the tree of legal frameworks. Adjusting regulations is a difficult process and HIA also has a long way to go.

A supplementary comment about the implementation of HIA in Japan was provided by Prof. Inaba. She explained that in recent nominations from Japan, the responsibility of top management of the World Heritage sites is assumed by the governors. In Japan, regional governors have the power to halt the development projects which they consider as harmful to the heritage sites. Therefore, if development projects cause any problems, the governors should take responsibility to deal as well. If the local government wishes to nominate sites to be inscribed in WHL, it should also be responsible for management.

Lecture of Dr Rohit Jigyasu on DRM

After the short break, participants gathered again to discuss the lecture contents on Disaster Risk Management. Dr Jigyasu introduced DRM for cultural heritage which is an important part of the heritage conservation practice and summarised the key points of his lecture. On the examples from many different countries and natural hazards, participants learned about the key principles of risk management for cultural heritage to keep in mind, such as understanding the vulnerabilities of different heritage sites; reducing the risks to all the attributes of cultural heritage; taking into account multiple events that may happen in parallel; interaction of climate change, disasters and conflicts; how to balance the human safety while making minimal impact on heritage values; integration of cultural heritage needs into disaster risk management policies at national level, etc.

Related to the topic of DRM, two participants - Jeffrey Cobilla (Philippines) and Govinda Adhikari (Nepal) presented their case studies. Jeffrey introduced the work he has been involved recently to develop practical guide that can enable owners and custodians implement a preventive maintenance program specific to wood materials and building components in Philippines. He further stressed that by equipping owners and custodians with knowledge about the proper and active care of wood components and materials through preventive maintenance, vulnerabilities of the structure can be minimized and risks can be reduced. Dr Jigyasu and other participants highly evaluated the work performed, emphasizing that the guidelines and plans which are born as an outcome of the process are crucial and have less chance of simply ending up on the shelves.

Then the participants shared their experiences in the DRM field one by one. Pema noted that in Bhutan which has very special geographical features and many challenges to consider, there already exists principles on DRM, and currently they are trying to implement cultural heritage in its framework. Cultural Heritage professionals are part of the response team of overall disaster management, also working on preventing measures.

As also pointed out by Dr Jigyasu, every disaster is opportunity to prepare for another disaster. This statement was proved by the presentation by Govinda from Nepal. He introduced risk mitigation measures for the built heritage developed

mostly after the 2015 earthquake in Nepal. The mitigation includes not only earthquake preparedness but also measures against multiple other types of hazards. Dr Jigyasu praised the work done and added that when we design the mitigation measures it is important to consider not only one-time solution but also their maintenance, monitoring, as well as their impact on the safety of people and the values of cultural heritage. On this matter Prof. Inaba brought an example of Japan, where after 2011 devastating earthquake and following tsunami, as one of the ways of prevention, national government proposed to build concrete walls between sea and residential areas, also requiring the fishermen to move in the upper areas. Building a wall may cause destruction of the connection between the fishermen and sea, as well as the landscape. But on the other hand, how to prevent the impact of future tsunami is still an issue the solution of which still needs to be found.
By the end of the interactive session, Charmenne (Philippines) shared another example of DRM initiated and implemented by the local religious sector with the help of heritage professionals, which has had very positive effects. Such cases prove that small communities can be very capable in mobilizing resources and action before, during and after the disaster.

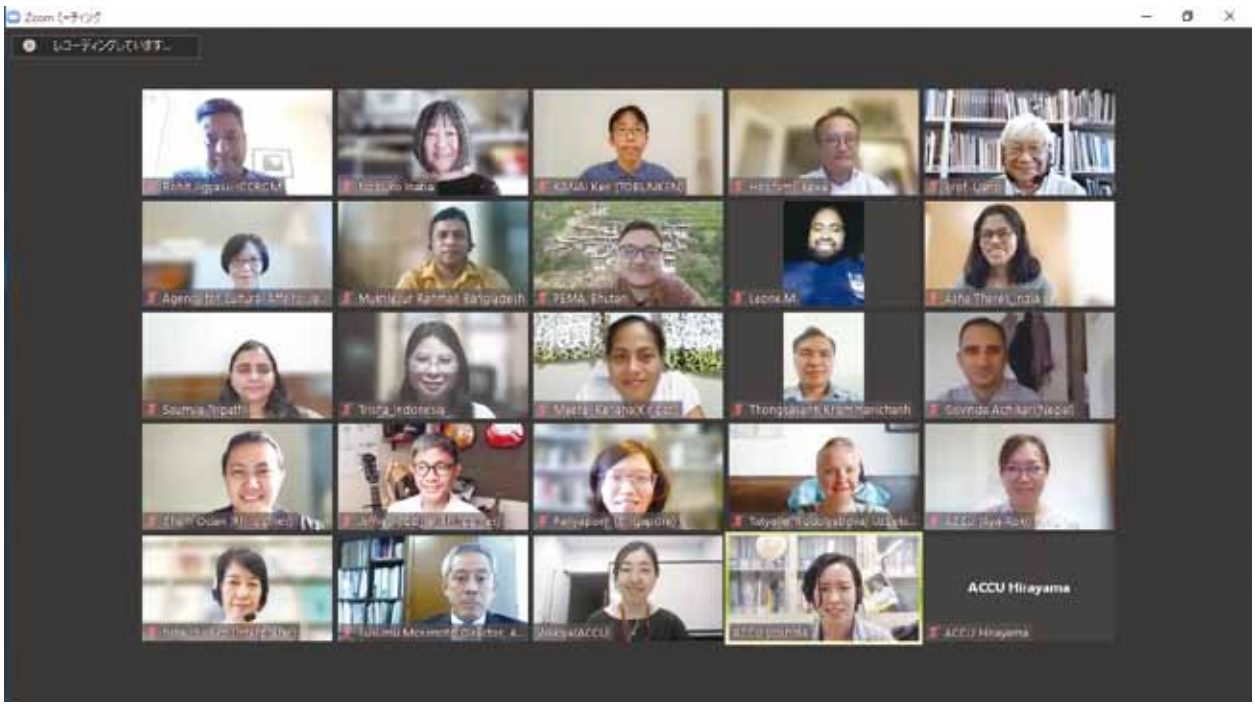
Closing Ceremony

Closing addresses were given by the course organisers and two representatives from the participants. First, Mr Morimoto of ACCU Nara thanked the participants for their hard work during one-month, lively exchanges between the lecturers and participants, and expressed his hopes to continue to maintain and make meaningful use of this relationship between lecturers, ACCU staff and the network of fellow participants. He also extended his gratitude to all the resource persons and institutions that cooperated and supported the course.
Ms Saito Rika, from the Agency for Cultural Affairs, Government of Japan also congratulated the participants for the successful completion of the training and extended her gratitude towards ACCU, ICCROM and all lecturers for their efforts. She also expressed hope that participants took the most of the online teaching advantages and concluded her address with the wish for further progress in international cooperation.
In his closing message, Dr Rohit Jigyasu conveyed ICCROM's appreciation and congratulations. He further stated that ICCROM is proud to be the partner of ACCU Nara for many years, pointing out some of the important joint initiatives. He also made a comment on the challenges of online teaching, while also stressing that we have successfully handled this challenge, although there shall be no replacement for face-to-face interactions and relationship-building. He then also conveyed greetings and congratulations on behalf of other members of the ICCROM family.
Finally, two participants - Tatyana (Uzbekistan) and Pema (Bhutan) offered their closing speeches. In her address, Tatyana conveyed her appreciation to the organisers and all the resource persons of the course and stressed that although all participants are different and have various backgrounds, we all have common challenges and concerns about the protection of cultural heritage. She noted that the course curriculum touched almost all aspects and there was something new to learn for everybody. After conveying his gratitude towards the lecturers, Pema also addressed his fellow participants expressing his wish to continue international cooperation outside the virtual world. Pema closed his speech by encouraging participants to go beyond the country borders and think globally for the good of the shared heritage of mankind.

Address by Ms SAITO Rika, Agency for Cultural Affairs

Dr Rohit Jigyasu, ICCROM

Closing addresses by Pema and Tatyana

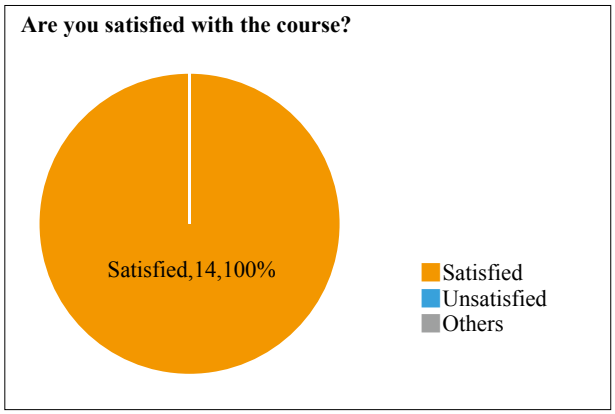


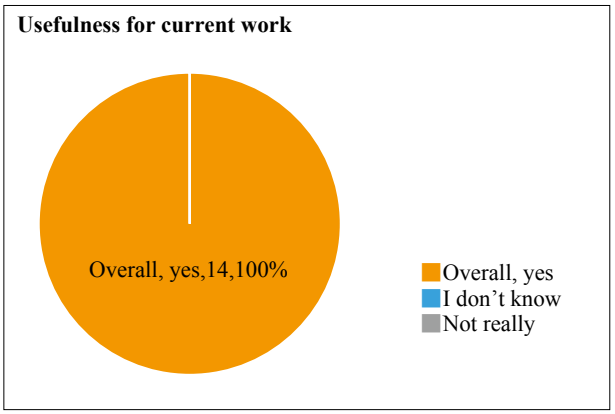
Group Photo at the Closing Ceremony

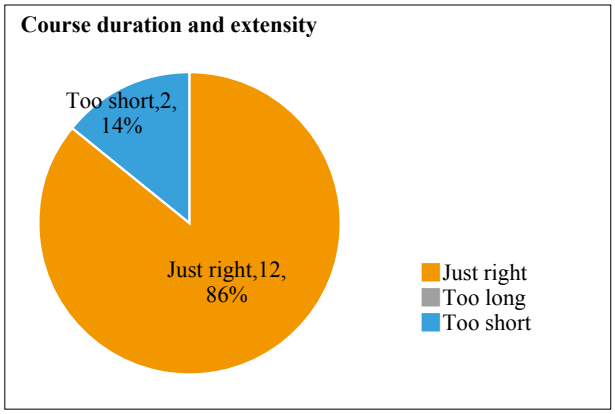
3. Course Evaluation

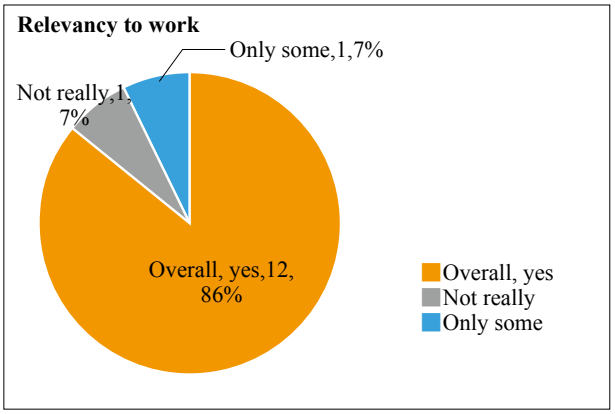
Fourteen participants completed the training course and submitted the course evaluation. This year, it was the first online training on the theme of wood conservation. The participants observed that they need practical trainings for some lectures to better understand the contents and also supplementary learning materials: a set of a videos and a handouts (pdf text) for each lecture. ACCU will try to improve the points highlighted by the participants.

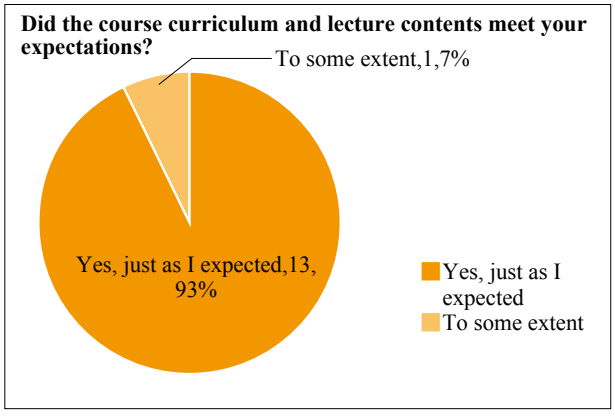
1. Overall

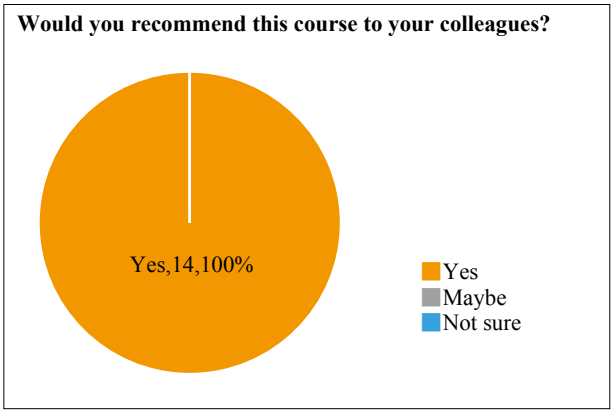




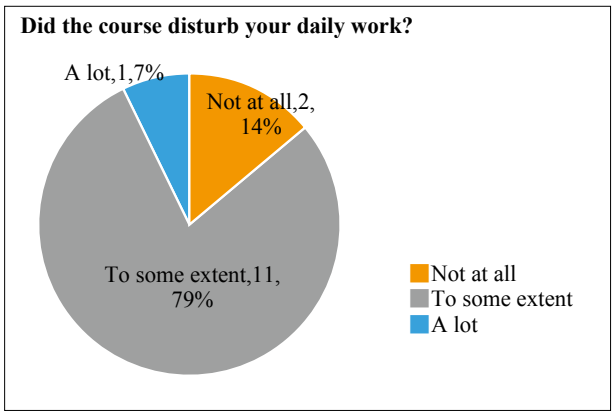








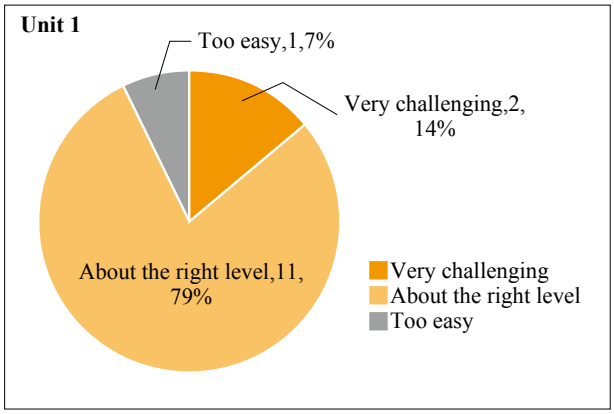
1) Did the course (including the hours required for studying and attending the live sessions) disturb your everyday work?

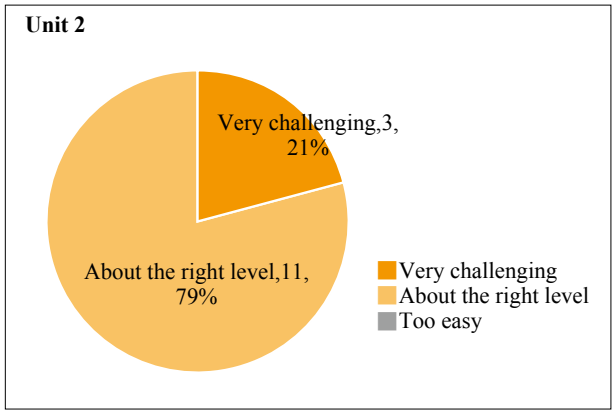


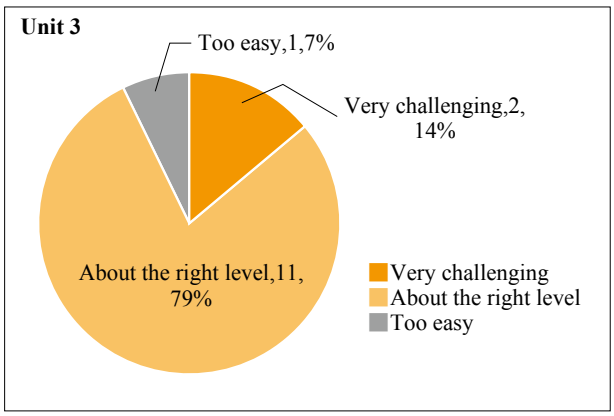
- The course hours were not disturbing.
- I needed time to absorb and understand the lecture materials and write the checkpoint reports. So often, I did it during my work hours when my concentration was in good condition.
- The live sessions did clash with my afternoon work hours on Mondays and Thursdays. I found that the studying could be realistically completed outside of work hours.
- I attended the Zoom sessions during working hours. However, I received approval from the Head Office to pass this course (2 participants).
- I live some miles away and work elsewhere. I had to wait to participate because if I am traveling, I may run out of time and may miss the training. That was a bit challenging I guess. But I enjoyed it though.
- As I had to attend the office and continue my responsibilities including site visits for the preparation of detail drawings and cost estimates during this training course, it was very difficult to catch up with the training course.
- Sometimes I needed to travel for other work during the training hours. It would have to be face -to-face training to avert this issue.

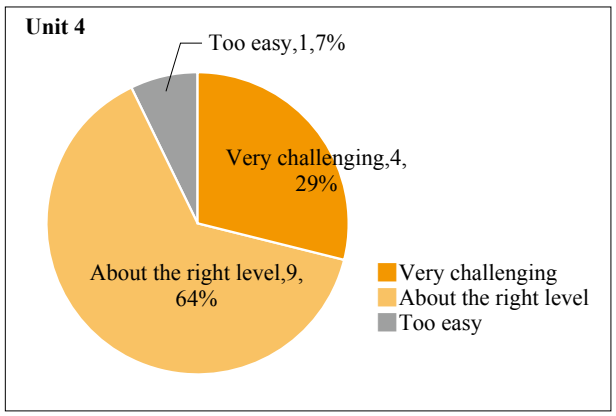
2. Curriculum and Video Lectures

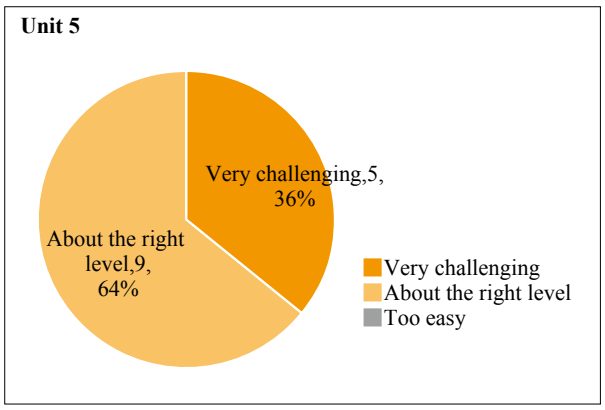
1) How challenging did you find each unit?



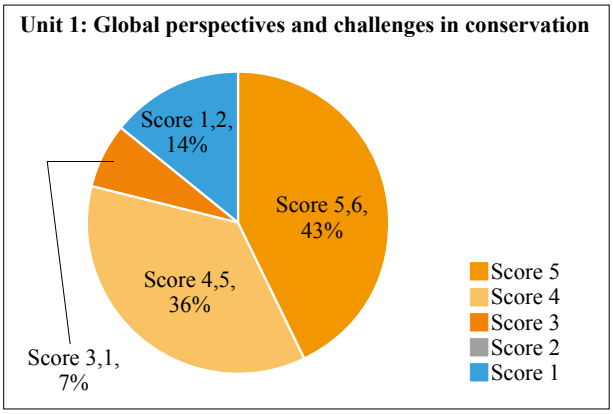


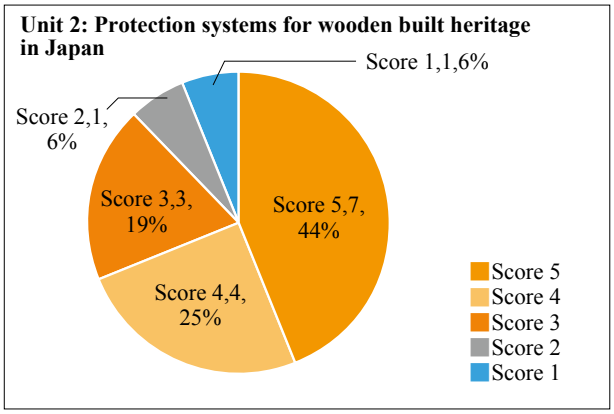


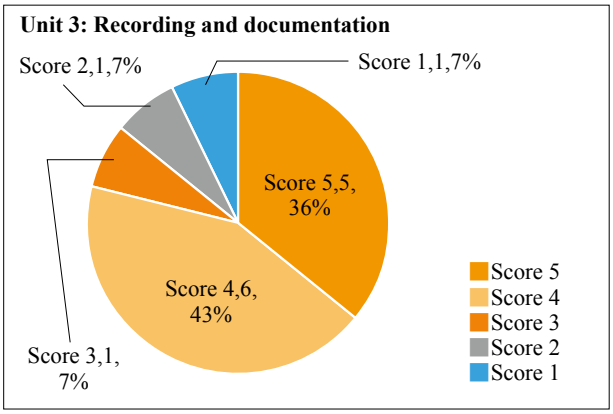


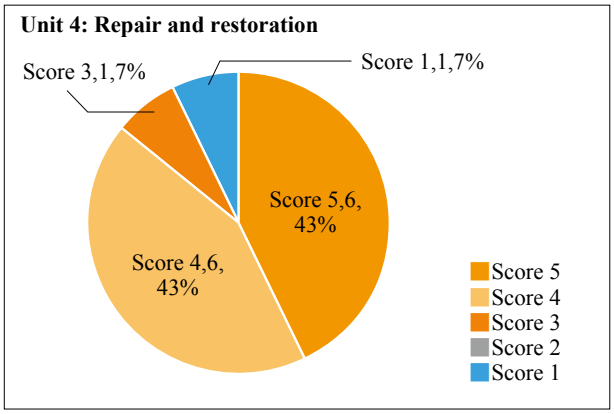


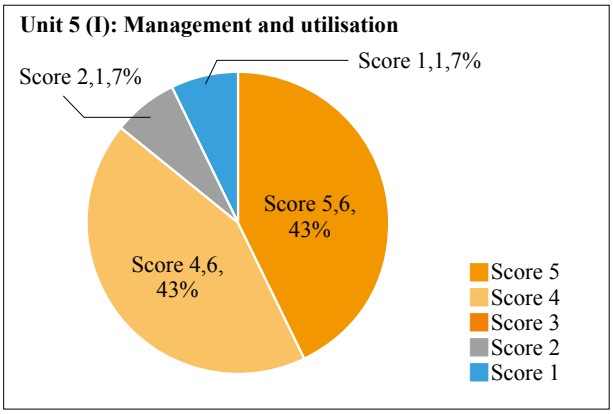
2) Which unit(s) and lecture(s) did you find most useful and why? *(Score 5: highest, Score 1: lowest)*

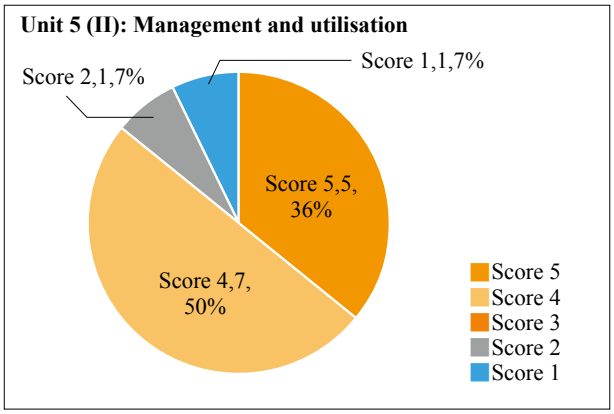












- Although all the units were insightful, I found Unit 4 very useful as it focused on the repair and restoration process.
- Unit 4 and Unit 5 were very useful. It was relevant to the contemporary work that I am pursuing these days.
- Units 3 and 5, especially the Japan documentation report and Dr Rohit's DRM lecture. For unit 5, this is the first time for me to be introduced to DRM, and I'm looking forward to integrating a smaller scale of DRM into my work.
- ALL UNITS because although there were some areas, not related to my job, I can exchangeably did it with my

colleagues, covering all the areas in this division, Culture and Museum. Even though, only a few of them covered my own areas, all units covered other areas in this office which I can do now because I built my capacity from these group training units.

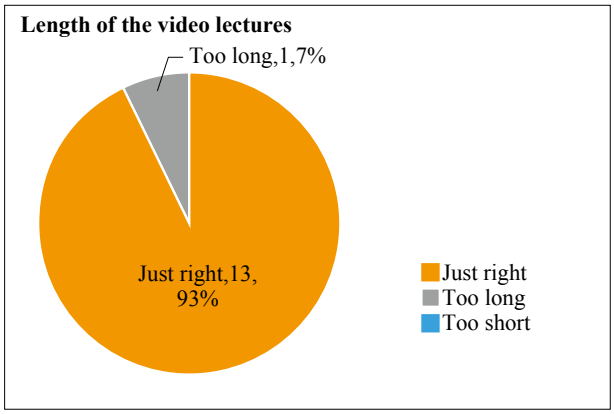
- Unit 2 was definitely the most interesting because it is relatable to me as a trade person, especially the tools in Takenaka Tools Museum and how they were displayed, and I was really interested to follow the path of Exhibition.
- I found that all of the lectures were relevant and useful in one way or another and the sharing regarding the Japanese experience was really eye-opening. My personal focus & interest would be the topics covered in Units 2 - 5 part 1.
- Documentation, conservation approaches, international norms and Japanese norms were very useful, because there is limited knowledge in these areas in my country.
- I was interested in and fascinated with the lecture on Narai. I still think of this lecture.
- For me Unit 3: Recording and Documentation and Unit 4: Repair and Restoration were most useful because the content of these units directly reflected my daily responsibilities in my organisation.

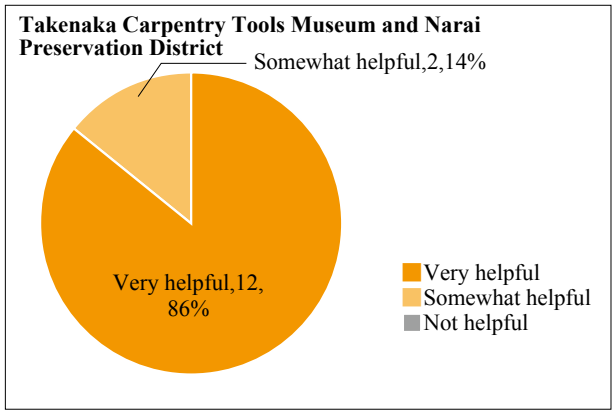
3) Please specify if you had any issues comprehending the English used during the course (e.g. simultaneous translation, video lectures, textbooks, communicating with lecturers, course participants and organisers, etc.)

- If only the video lectures had English narration and two or more on-site learning experiences.
- Overall, I appreciate the effort by ACCU Nara in providing comprehensive translation/ interpretation throughout the whole course.
- The comprehensive translation was a little distracting.

4) Did you observe any issues in the pre-recorded video guides that should be improved or done differently?

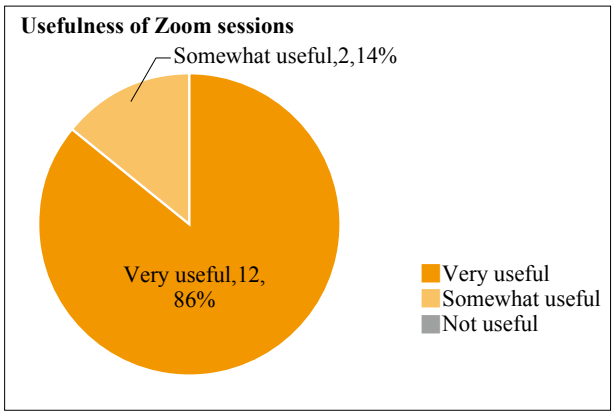
- No, all pre-recorded guides were clear, safe and sound.
- Have more videos like this since it is an on-line course, or links to it if it were on any social media platform.
- At first, the video lectures had difficulty playing on the Microsoft Edge browser but I was able to sort it out.
- The interviews of Narai Town residents were very helpful since I could see a different perspective of the general user that utilises heritage properties.

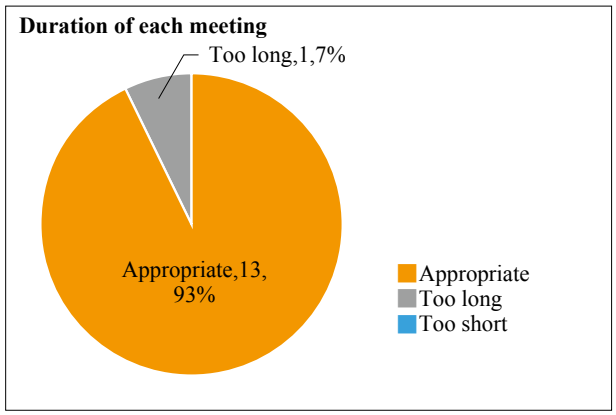


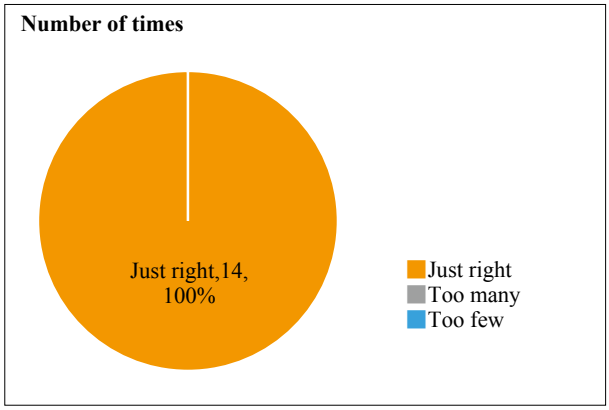


3. Zoom Meetings

1) How did you find the duration of each meeting?

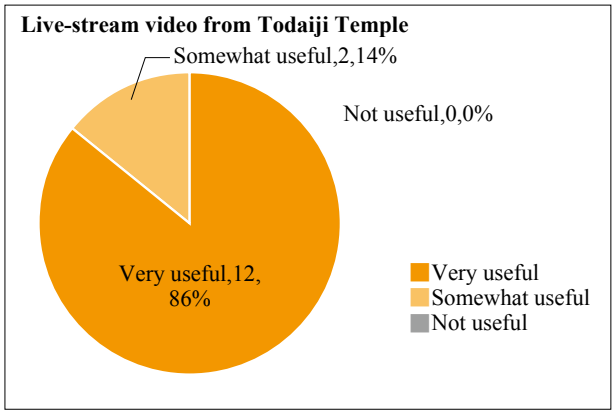






- It was an appropriate duration because we always finished right on schedule. I also liked to use the talkboard function in ACCU iPAGE for follow-up questions.
- Perhaps more appropriate to be broken up into 2 sessions per topic, maybe 1-2 hours each if logistics and schedules allow

2) Were there any issues during the live stream video that should be improved or done differently?

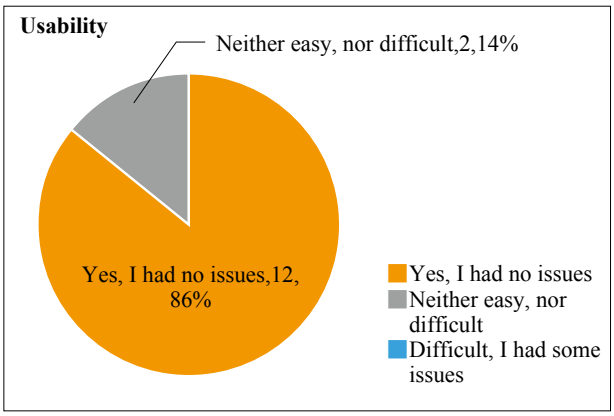


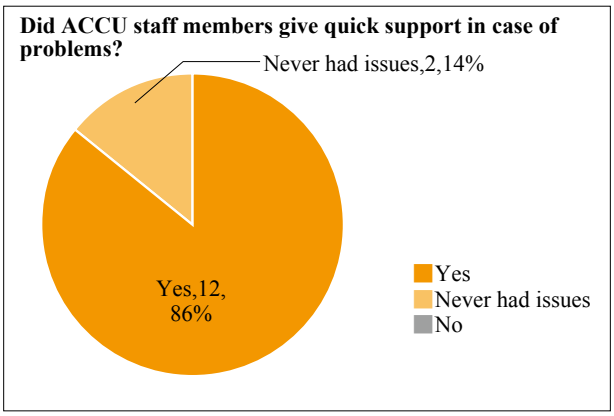
- No, the live stream video was clear, safe and sound (5 participants).
- I would appreciate it if it were possible to view some more video coverage of activities (ongoing or completed) from the site.
- Close up of some architectural details and building technology
- No issues, but a suggestion would be to share the printed pages which Sensei was holding as another screen during the ppt presentation, like a shared screen just for slides.
- The background noise from the surrounding activities was a bit distracting but I guess it added the vibe of actually experiencing the site being conserved.
- It's not exactly an issue. I often paid attention more to the roofing repair screen. Thus, I caught up late with what Tanaka-sensei said during his live lecture. It was a good thing that I could still ask questions after the session and watch it again.
- Barring technical limitations, it would have been great to see different parts of the building aside from the roof (2).
- It was helpful. However, it would be more helpful if we could watch the video later, perhaps make it accessible to download.

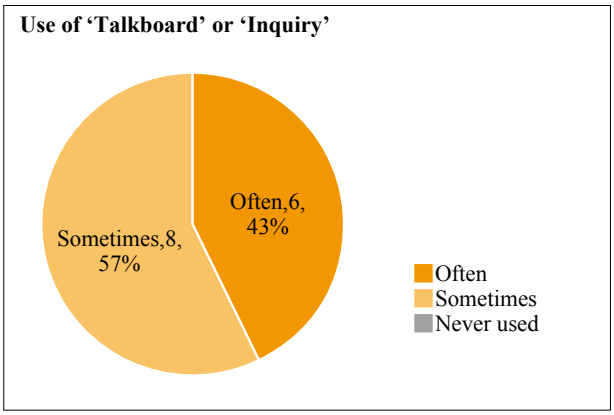
4. Online Platform

1) Was the online platform (ACCU iPAGE) easy to use? (e.g. logging in, webpage layout and user navigation, access to learning materials, connecting to Zoom, etc).

- If only I had more experience using a PC, it would have been beneficial since I am only used to using smart phones
- For instance, in my case, I had submitted my evaluation report through my phone. but it did not appear in ACCU system.
- Vocabulary should be added for all the terms used in the training notes.







2) Which feature(s) of iPAGE did you find most useful?

- All features are very useful. Easy to access (3 participants).
- Course tab, the library (2), Course content, Talkboard (4 participants), and Check point report are very useful.
- The notes and handouts shared with the lecture video were quite useful. Besides that, the talkboard gave an opportunity to interact with the lecturers and co-participants, which made it more engaging.
- I liked the talkboard function. But it's too bad that the first post doesn't show the writer's name. Of course, we can manually write our name, but some forget to do this, so we have to guess it.

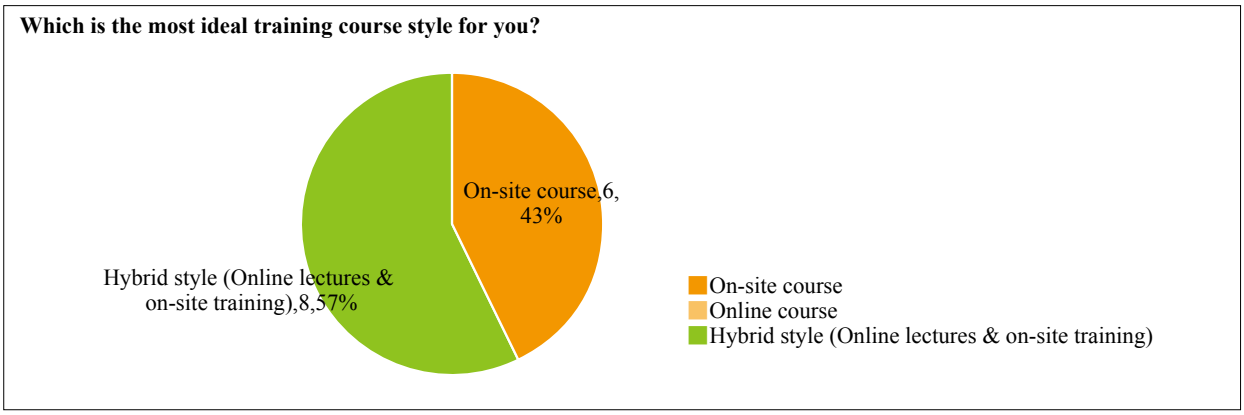
5. Overall suggestions for the Training Course in Conservation and Management of Wooden Built Heritage

1) Is there any topic you would add to the existing curriculum?

- It would be useful to add some technical details/briefs adopted in Japan/internationally for the investigations, methods and treatment of the deteriorated wood.
- I suggest there should be more lectures in Unit 3 and Unit 4. I was expecting more detailed and wider expressions in these units. Else, the course content has wide and interlinked sessions.
- Mitigation of wood rot, termite control
- Preservation of intangible heritage associated with heritage towns, since in the Asian context, festivals and other traditions play an important role in their sustenance.
- Perhaps a backgrounder on the science and engineering aspect of wood.
- A topic about current issues in Japan and the international conservation scene
- Curatorial area for built heritage
- Maybe more practical parts. For example, how to conserve a site. It could be part of a wall or a small structure, but showing the whole process starting from documentation and ending with conservation works. It could also be a practical example for participants, to choose some site and complete the entire process. In this way, more questions will appear and we will know how to do conservation works for all phases that were covered during the course.
- Chemical conservation of wooden elements

2) Were there any issues in the overall organisation of the course you wish to be improved?

- The course was very well organised (7 participants).
- For better understanding, an on-site course is always preferrable.
- I would add more practical parts.
- I think the timing. I wish, instead of online videos, that you make videos available so that they are easy to watch anytime.


Which is the most ideal training course style for you?
On-site course,6, 43%
Hybrid style (Online lectures & on-site training),8,57%
On-site course
Online course
Hybrid style (Online lectures & on-site training)

II. Thematic Training Course

1. General Information
2. Course Summary
3. Course Evaluation

1. General Information

Thematic Training Course for Mid-Career Professionals
on Cultural Heritage Protection in the Asia-Pacific Region 2022 (Viet Nam)
'3D Documentation Methods for Archaeological Sites'

1. Organisers
This course was jointly organised by the Agency for Cultural Affairs, Goverment of Japan (Bunkacho); Cultural Heritage Protection Cooperation Office, Asia-Pacific Cultural Centre for UNESCO (ACCU Nara); and the National Institutes for Cultural Heritage, Nara National Research Institute for Cultural Properties.

2. Background
Every year since 2000, ACCU Nara holds Thematic Training Course for the mid-career cultural heritage professionals coming from the Asia-Pacific countries. Training courses are designed to answer the particular needs and issues of each country, empower the course participants with practical skills and theoretical knowledge to address these issues, and foster the international cooperation in cultural heritage field.
This year, ACCU Nara partnered with the Center for Archaeology, Southern Institute of Social Sciences (SISS) in Ho Chi Minh City, Viet Nam, which leads a range of research programmes, and has specialists actively engaged in excavation works as well as further analysis of archaeological data. Following the request from the SISS, Center for Archaeology, to introduce new and emerging methodologies in archaeological research and expand the knowledge base of the heritage practitioners, ACCU organised the course '3D Documentation Methods for Archaeological Sites.'
While the digital methods used in the documentation of archaeological artefacts are not alien for the mid-career professionals in various archaeological institutions across Viet Nam, the methods of 3D recording and modelling of sites and structural remains are yet to be developed. Moreover, digital documentation activities are often thought to require expensive equipment, software and specific technical knowledge, all of which significantly limits their systematic use.
This training course, therefore, aimed at disseminating theoretical and practical knowledge about 3D documentation methods of archaeological sites and structural remains by introducing optimal modern techniques which do not involve expensive instruments, although were effective and precise and can be immediately implemented by the course participants.
Given the course format (online), the course lecturers focused on equipping the participants with solid theoretical knowledge of the use and limitations of digital methods. In addition, practical training sessions and group discussions enabled the participants to apply the learned skills to their work.

3. Dates and Format
November 10 (Thursday) – November 25 (Friday), 2022
The training course took place online and included self-study through ACCU's digital platform as well as 4 live sessions including the opening ceremony delivered from ACCU Nara Office and Nara National Research Institute for Cultural Properties.

4. Participants
10 mid-career archaeologists and cultural heritage specialists working at the Center for Archaeology, Southern Institute of Social Sciences (SISS) and other national organisations in charge of research and preservation of cultural properties of Viet Nam (see Appendix).

5. Theme
'3D Documentation Methods for Archaeological Sites'

6. Programme
The course programme was designed based on the requests of the Vietnamese counterparts and therefore taught the 3D documentation methods of the archaeological sites. The aim of the course was to assist the participants in documenting archaeological sites in a way that later allows for the creation of 3D models, on their own. Theoretical and technical support (video lectures) was available on ACCU online platform. The practical part of the course focused on the

discussions related to the use and limitations of digital tools in archaeological research, photography, and 3D recording. Full programme is shown below:

Thematic Training Course for Mid-Career Professionals
on Cultural Heritage Protection in the Asia-Pacific Region 2022
'3D Documentation Methods for Archaeological Sites'
10 – 25 November

Unit No.	Programme	Lecturer	Date of upload
–	【**Orientation**】Welcome Adresses and the Course Orientation	ACCU	Nov-10 11:00~12:00 (JST)
	【**Orientation Materials**】 Course schedule and guidelines, list of participants, list of lecturers	–	
	【**Introduction video 1**】 World heritage site in Nara (Historic Monument in Ancient Nara)	–	
	【**Introduction video 2**】 World heritage site in Nara (Buddhist Monuments in the Horyu-ji Area)	–	
Unit 1	【Lecture video】 ***Introduction to Digital Technologies in Archaeological Research: use and limitations based on case studies***	Yamafuji Masatoshi (Nara National Research Institute for Cultural Properties)	Nov-10
	【Online Meeting】 Discussion, Q&A ***Introduction to Digital Technologies in Archaeological Research: use and limitations based on case studies***	Yamafuji Masatoshi (Nara National Research Institute for Cultural Properties)	Nov-16 11:00~14:00 (JST)
Unit 2	【Lecture video 2】 ***Overview of digital recording methods used in archaeological prospection (UAVs/drones, GPR and laser scanning, satellite imagery and LiDAR)***	Yamaguchi Hiroshi (Nara National Research Institute for Cultural Properties) Nakamura Akiko (Independent Researcher)	Nov-10
	【Lecture video 3】 ***Image-based 3D modelling of archaeological sites (photography basics and 3D recording using SfM-MVS)***		
	【**Online Meeting**】 Practical Training/assignment guidance, Q&A	Yamaguchi Hiroshi (Nara National Research Institute for Cultural Properties) Nakamura Akiko (Independent Researcher)	Nov-21 11:00~14:00 (JST)
	【**Assignment submission**】 Practical training assignment (photographs for 3D modeling) submission		Nov-23
	【**Online Meeting**】 Practical Training, Q&A		Nov-25 11:00~14:00 (JST)
	【**Submission deadline**】 Final Report and the Course Evaluation		Nov-30

7. Coordinators and Lecturers

(Coordinators)

UENO Kunikazu

International Goodwill Professor, Center for Research of Ancient Culture, Nara Women's University

YAMAGATA Mariko

Specially Appointed Professor, Graduate School of Arts, Rikkyo University

(Lecturers)

YAMAGUCHI Hiroshi

Researcher

Archaeological Research Methodology Section, Department of Archaeological Operations, Nara National Research Institute for Cultural Properties

YAMAFUJI Masatoshi

Senior Researcher

Archaeology Section 2, Department of Imperial Palace Sites Investigations, Nara National Research Institute for Cultural Properties

NAKAMURA Akiko

Independent Researcher

8. Others (Reference: number of past participants)
The Thematic Training Course (former Individual Training Course) was held in 2000 for the first time and has accepted 126 participants from 25 countries since then.

9. Certificate
A certificate of completion was awarded to 10 participants who satisfactorily completed the course programme and submitted a final report.

10. Working Language
The course was conducted in Vietnamese (consecutive translation from Japanese).

11. Interpreters
Nguyen Anh Phong, *Freelance Interpreter*
TASAKI Hirono, *Freelance Interpreter*

12. Requirements
Participants were expected to arrange:
1. Uninterrupted internet connection during the live sessions
2. 1 personal computer for practical training
3. 1 device (PC or tablet) to attend the live sessions
4. 1 digital camera

13. Secretariat
(ACCU Nara)
WAKIYA Kayoko, *Vice Director*, Programme Operation Department
MELADZE Tamar, *Director*, International Cooperation Division
YOSHIDA Machi, *staff*, International Cooperation Division
HIRAYAMA Naoto, *staff*, International Cooperation Division

2. Course Summany

The training course was held from 10 to 25 November 2022 using the ACCU e-learning website iPAGE. The theme was "3D documentation methods for archaeological sites." All five lecture videos uploaded to the website were in Vietnamese. Three online lectures (10 hours in total) were held during the training period.
Professor Ueno Kunikazu of Nara Women's University and Professor Yamagata Mariko of Rikkyo University, experts on Vietnamese cultural heritage, offered advice about the theme of the training course. The prior consultation meeting was held online with Vietnamese counterpart Dr Nguyen Khanh Trung Kien of the Centre for Archaeology, Southern Institute of Social Sciences (SISS), and the content of the training course was worked out. One of the challenges of archaeological research for the department concerned and southern Viet Nam is the insufficient experience in using new technologies despite the need for quick and accurate documentation of remains due to an increase in the number of excavation works. Upon consultation with the Nara National Research Institute for Cultural Properties (co-organiser), it was decided to dispatch the experts who specialise in Japanese research technologies and assist in solving this issue. The following three lectures on digital documentation were selected:

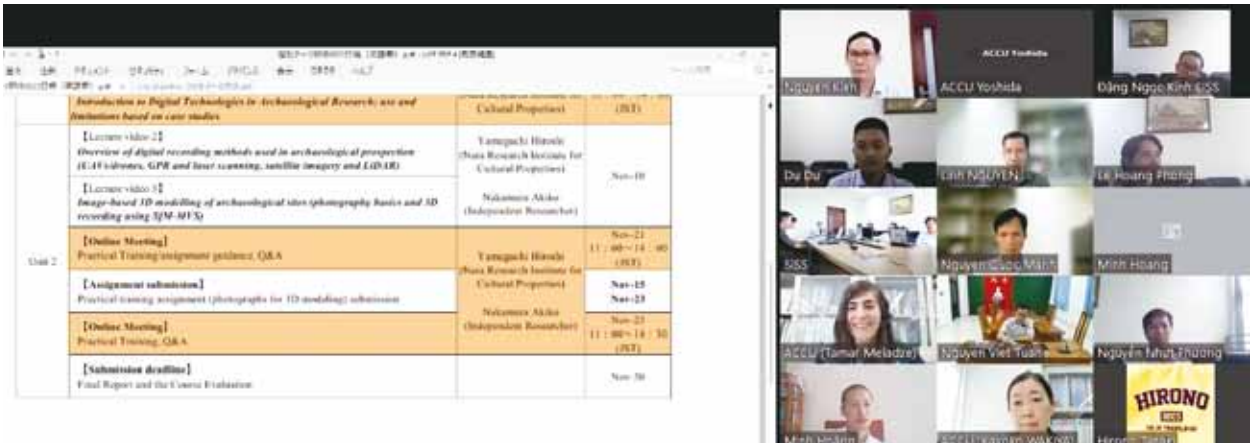
1. Introduction to Digital Technologies in Archaeological Research: use and limitations based on case studies
2. Overview of digital recording methods used in archaeological prospection (UAVs/drones, GPR and laser scanning, satellite imagery, and LiDAR)
3. Image-based 3D modelling of archaeological sites (photography basics and 3D recording using SfM-MVS)

Lecture videos were uploaded and watched before each of the three online (Live) meetings. The sessions consisted of Q&A, demonstrations, and practical training. On the last day of the course, participants attended an online practical training session where they created 3D images using data from photographs they had taken in advance. All participants completed the training course.

10 November
■Opening Ceremony and Orientation
First, Director Morimoto Susumu of ACCU Nara (organiser) and Vice Director Nguyen Khanh Trung Kien of the Southern Institute of Social Sciences (co-organiser) gave speeches on the purpose of this course, and International Goodwill Professor Ueno Kunikazu and Specially Appointed Professor Yamagata Mariko, the coordinators of this training course, offered their welcome speeches.

On the same day, the lecture videos were published on the ACCU e-learning website iPAGE. Participants watched the videos in between their usual tasks and prepared questions for the Live sessions. They also began preparing for the practical training session, such as completing the assignment of taking photographs of cultural heritage sites that they would eventually turn into 3D models.

At the opening ceremony



Orientation meeting after the ceremony

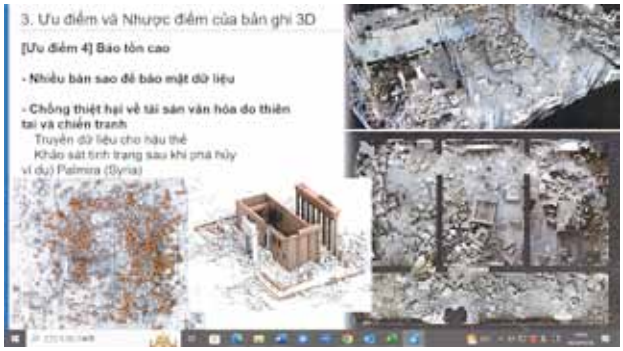
■UNIT 1: Introduction to Digital Technologies in Archaeological Research: use and limitations based on case studies

***Lecturer*: YAMAFUJI Masatoshi** (Nara National Research Institute for Cultural Properties (NNRICP))

The lecture in Unit 1 introduced 3D measurement technology, which has been rapidly implemented in the cultural heritage field in recent years. The lecturer touched upon the issues and benefits of such digital tools. The lecture consisted of the following three major topics:

1. Examples of 3D measurements of archaeological artefacts in Japan
2. Advantages and disadvantages of documenting archaeological artefacts in 3D
3. Implementation of 3D measurement and its application (case study: mapping and listing)

The lecturer talked about how 3D measurement is becoming widespread and an essential item in the field of cultural heritage. He also mentioned that there are advantages and disadvantages and that those who use it need a proper understanding of the technology. He emphasised that 3D measurement technology is only to be used by cultural heritage specialists, and useful documentation cannot be created unless it is based on expert knowledge. Participants took note of considerations for conducting 3D measurements and proceeded to undergo practical training in the next lecture in Unit 2, where they were required to create 3D documentation.



The lecture video by Dr Yamafuji (Video 1)

16 November (11:00–14:00 JST)

■Live session 1

***Lecturer*: YAMAFUJI Masatoshi, *Coordinators*: UENO Kunikazu, YAMAGATA Mariko, *Interpreters*: Nguyen Anh Phong, TASAKI Hirono**

A Q&A session for Unit 1 was held for three hours. The participants who had already used the technology were especially interested in knowing the details. The Q&A session was a good opportunity not only for the trainees but also for the Japanese lecturers, who learned about the kind of challenges Vietnamese archaeologists face and what kind of themes they are interested in. The key questions from the participants of the training course and the answers from the lecturers are described below:

Q1: Which extension will be most versatile for 3D data in the future?

A: I recommend using -obj and -stl. These extensions can be used on free software, such as CloudCompare and MeshLab. File formats for 3D printing depend on the 3D printer used. For colour printing, .obj, .ply, and .fbx are often used, and .stl is used for monochrome printing.

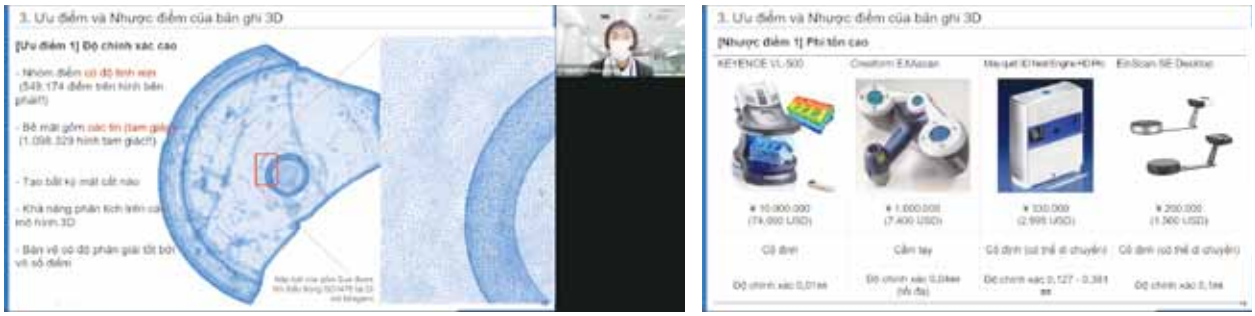
Q2: Please tell us about the level of precision of 3D printers. For example, can they reproduce objects in their actual size?

A: It depends on the type of scanner used, but I believe 3D printers have high precision and reproducibility. One of the indicators of precision and reproducibility is the print pitch (layer pitch), the smaller the pitch, the higher the resolution. In addition to 3D printers, there is also the option of computer numerical control (CNC) lathes.

Q3: What is the difference between SfM and 3D scanners?

A: Characteristics of SfM and 3D scanner:

	SfM-MVS	3D scanner
Cost	Low initial cost	Relatively high initial cost
Colour	High reproducibility	Low reproducibility
Texture	Can be reproduced	Cannot be reproduced or exported by some scanners
Size of target	Capable of capturing extremely small objects and the entire site	Measurable size depends on the scanner
Precision	Depends on quality of the photograph (proper photographs ensure high precision)	Relatively high
Items that cannot be measured	Parts that cannot be photographed (e.g., inner surface of a vase with a narrow neck)	Glossy items, black items
Creation of drawing	Possible	Possible
Information on size	Needs to be configured manually	Can be obtained automatically



Explanation by Dr Yamafuji in Q&A session

Dr Yamafuji streaming at the Nara National Research Institute for Cultural Properties

Q4: Are there any artefacts that cannot be reproduced by 3D scanners? How good is the reproducibility of colours for metal artefacts?

A: The reproducibility of colours is low. It is hard to capture artefacts that are white and glossy or black.

Q5: Is it possible to find the order of approximation of cast artefacts (whether they are made by the same mould)?

A: The technology is used for research on tiles made from the same mould and mirrors.

Q6: There are artefacts that are as large as two metres. Can they be captured by 3D scanners? What is the largest-sized artefact that can be captured by the biggest scanner?

A: You can use a handheld 3D scanner, or you can use SfM to make 3D models of large artefacts.

Q7: 3D data are large and hard to store. What is the best way to store it in terms of the storage period and cost effectiveness? (It is difficult to store large amounts of data because it is costly).

A: Store hot data (data in use) in the cloud, such as OneDrive and iCloud. In the future, most data will likely be stored on cloud servers. Using optical disks for cold data (permanent storage) is effective, but its high cost is an issue. Japan faces the same cost-related issue. It is important to use different storage methods for different purposes and have two or three methods ready. For example, I recommend storing the same data on both the cloud and physical storage media.

Q8: Is it possible to create 3D documentation of wooden buildings and their repair process?

A: Fixed 3D laser scanners are excellent for accurate documentation of building shapes. If you would like to create approximate documentation of a wide area, you can use LiDAR, which allows you to take measurements while moving. Use SfM if texture (e.g., colours) is a priority. Use UAVs (drones) to capture areas that are not visible from the ground (e.g., roofs).

Q9: How long does it take to collect 3D data? In Viet Nam, we need to sort out many artefacts in a limited time. How much time can we save with 3D documentation?

A: It takes about 30 to 40 minutes to create a 3D model and drawing for one clay pot. But we can go through the process for multiple items simultaneously, so the time required is not just simply multiplied. Also, the time required varies depending on the shape of the object, its texture, and purpose of the documentation. (It takes longer to document an artefact with a complex shape.) It also depends on the amount of the initial investment; measurements can be made in as short as a few minutes if multiple sensors (3D scanners or cameras) are used.

Q10:Many Chinese ceramics are being excavated. Is it possible to scan them with a 3D scanner? Can the scanner accurately reproduce the blue and white patterns?

A: 3D scanners cannot capture the shape of the white areas but SfM can. Cross-polarised photogrammetry is suitable for glossy artefacts.

Q11:What is the lifetime of May Quet 3D Next Engine HD Pro, the relatively cheap scanner that you (Dr Yamafuji) introduced?

A: The equipment I introduced was able to capture over 10,000 documents when an American university used it in a desert region. It can scan clay pots in 3D. The lifetime of the scanner depends on the operating time and environment. The same applies to cameras. For example, recent-model digital cameras are said to have a lifetime of 200,000 shutter actuations.

Q12:Is it possible to perform 3D documentation of a large site with artefacts scattered across it?

A: The best option would be to create a 3D model by SfM using photographs taken by drones. A UAV (drone) is an option. If you would like to document an artefact that is smaller than the size of your fist and is in the structural remains, you would need to take images with relatively high resolution by mounting a digital camera on a monopod (if you want to document even the small artefacts).

Q13:I was unsure of the difference between SfM and 3D scanners, but this lecture helped me to understand it.

A: If the artefacts are similar in shape and size and are not glossy, it is possible to establish a pattern for measurements using 3D scanners, which standardises the quality and time required.

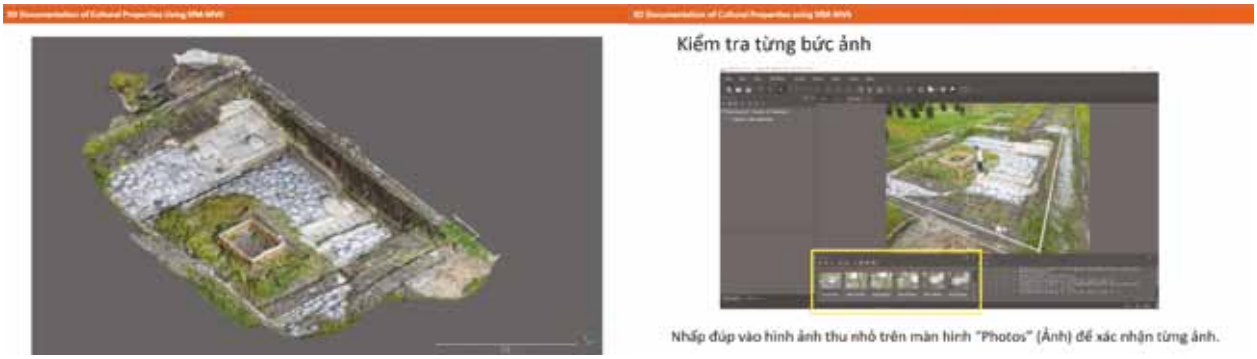
■UNIT 2: Overview of digital recording methods used in archaeological prospection (UAVs/drones, GPR and laser scanning, satellite imagery and LiDAR) / Image-based 3D modelling of archaeological sites (photography basics and 3D recording using SfM-MVS)

***Lecturers*: YAMAGUCHI Hiroshi** (Nara National Research Institute for Cultural Properties)
NAKAMURA Akiko (Independent Researcher)

In Unit 2, participants first watched two videos. The first video introduced various types of digital equipment that can be used at archaeological sites. It provided explanations about each piece of equipment, their advantages and disadvantages and what kind of sites each of them is most suitable for. The video also provided an explanation on SfM-MVS, which enables 3D documentation at low cost. This method does not involve any special equipment and only requires a camera and PC. The second video introduced the procedure for 3D documentation by SfM-MVS. Participants followed the procedure and received practical training in the following steps:

1. Participants took photographs of an excavation site or cultural heritage site for which they wanted to create 3D documentation and submitted the data to ACCU.
2. 21 November: The lecturers analysed the submitted photographic data and during the second Live session made comments on where the data were insufficient. After this, participants retook the photographs.
3. 23 November: Participants resubmitted the photographic data.
4. 25 November: Practical training was held (third Live session), and participants created 3D data online with the lecturers.

The lecture on various types of digital equipment (Video 2)



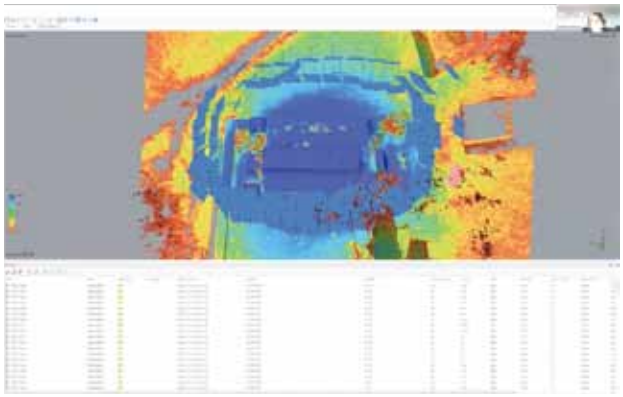
Video lecture on the procedure for 3D documentation by SfM-MVS (Video 4)

21 November (11:00–14:00 JST)
■Live session 2
***Lecturers*: YAMAGUCHI Hiroshi, NAKAMURA Akiko**
***Coordinators*: UENO Kunikazu, YAMAGATA Mariko, *Interpreters*: Nguyen Anh Phong, TASAKI Hirono**
Ms Nakamura, first commented on the submitted photographic data. She created 3D documentation using some of the photographs, explaining where the data was insufficient and points to note or improve while sharing the analysed images with the participants. For example, some of the data did not include enough photographs to create complete 3D image. In another example, although the camera setting had to be consistent when taking the photos, the aperture was changed and created an inaccurate image. Next, Dr Yamaguchi launched an SfM software programme and shared his screen with the participants to demonstrate how to import the photographs taken and create 3D documentation. He also answered questions.

Streaming from the Nara National Research Institute for Cultural Properties

Dr Yamaguchi explains the laser scanner

Ms Nakamura analysing photo data

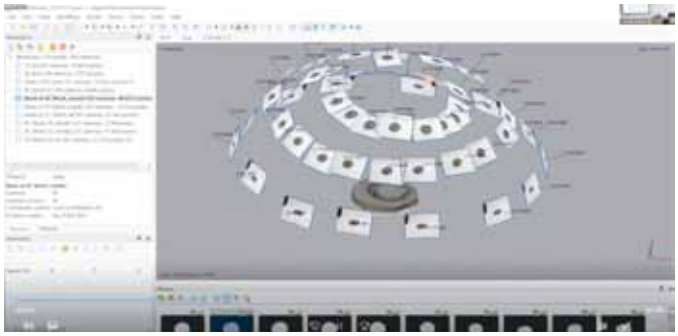


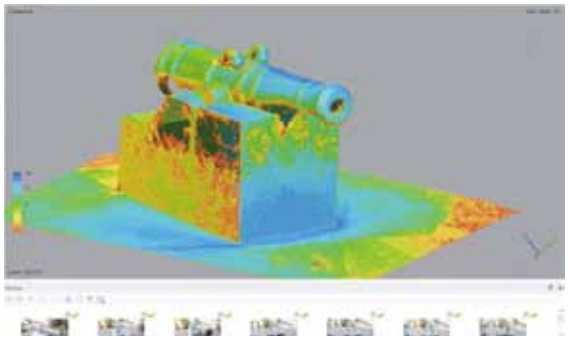
Analysed photo data taken by participants

23 November
Photographs for 3D modelling submission

25 November (11:00–14:00JST)
■Live session 3
***Lecturers*: YAMAGUCHI Hiroshi, NAKAMURA Akiko**
***Coordinators*: UENO Kunikazu, YAMAGATA Mariko, *Interpreters*: Nguyen Anh Phong, TASAKI Hirono**

In the third Live session, practical training on creating 3D documentation was conducted using photographs that were improved according to the comments made by Ms Nakamura in the previous session. First, Dr Yamaguchi gave an additional lecture about the points to note when taking photographs. When creating documentation by SfM, the finished product will not be sharp if the photographic data are inaccurate. So, he provided an additional explanation on the basics of photography. Lastly, he chose the photographic data of one of the participants to share with everyone and had participants follow his demonstration to create 3D documentation. Eventually, almost all participants were able to create 3D models.





3D images created from participants' photographed data

After the third Live session was complete, a closing ceremony was held, although the course is officially concluded only when the participants submit their final reports. In the closing ceremony, remarks were given by ACCU Director Mr Morimoto Susumu, followed by speeches by Dr Shoda Shinya (Head of the International Cooperation Section of Nara National Research Institute for Cultural Properties) and Vietnamese counterpart Dr Nguyen Khanh Trung Kien (SISS). Then the training course was concluded with hopes for further collaboration between Viet Nam and Japan in the future.

Closing message from Dr Kien

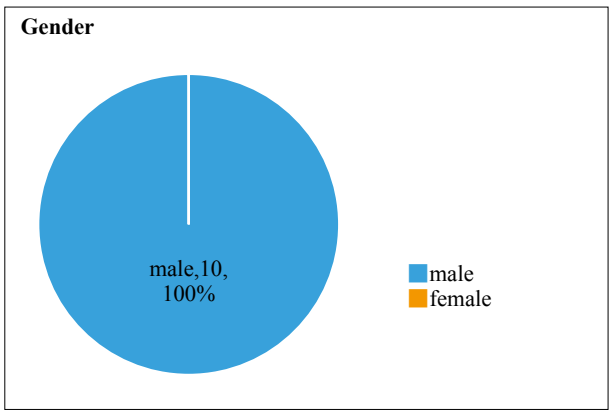
Dr Shoda giving closing remarks

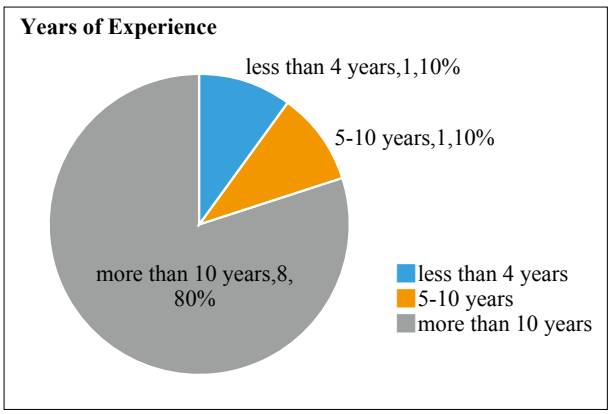
All participants at the closing ceremony

3. Course Evaluation

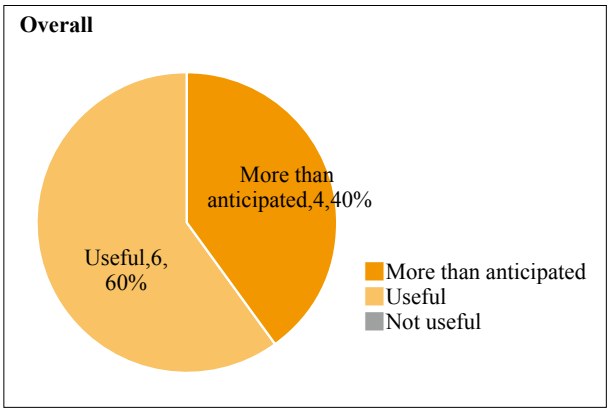
The thematic training course period was two weeks and 10 mid-career participants took part. There were many practical trainings in the curriculum, so we increased the time of the live sessions compared to last year, and received responses that the questions and answers time was sufficient. Additionally, there were many requests for an on-site practical training in Japan or Vietnam to fully understand the content of the lectures and utilise it for the future work.

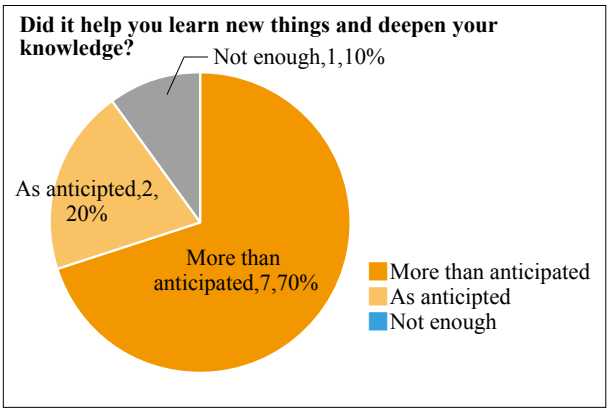
1. Participants

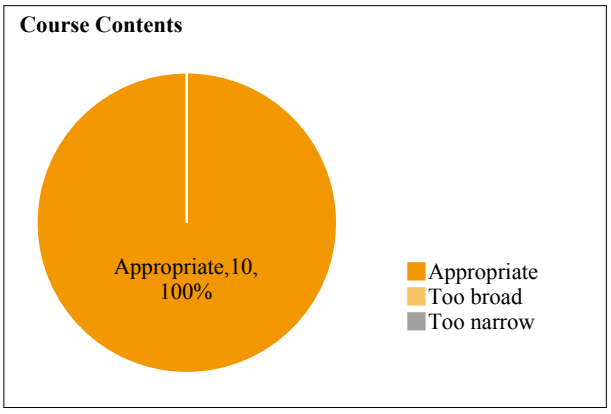


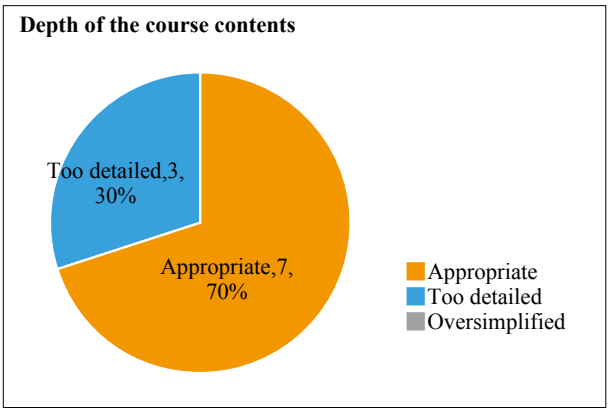


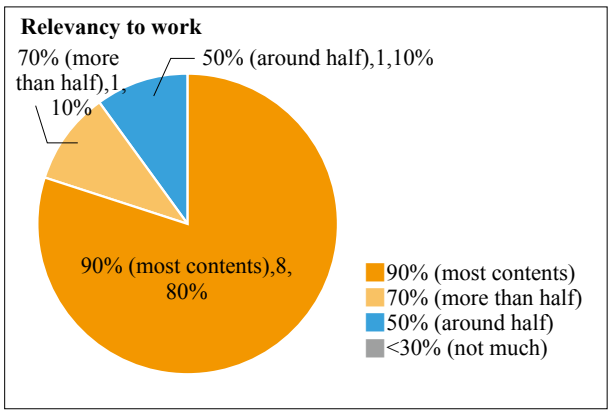
2. Overall

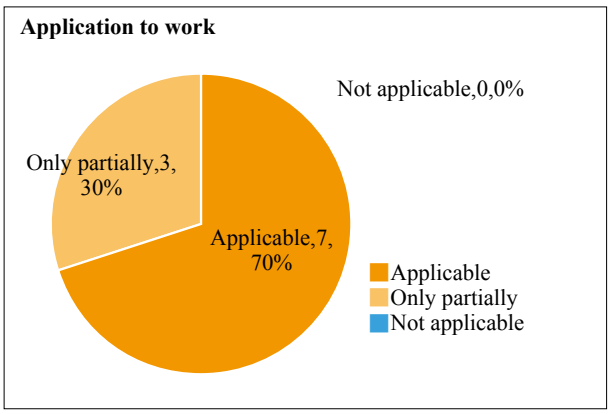


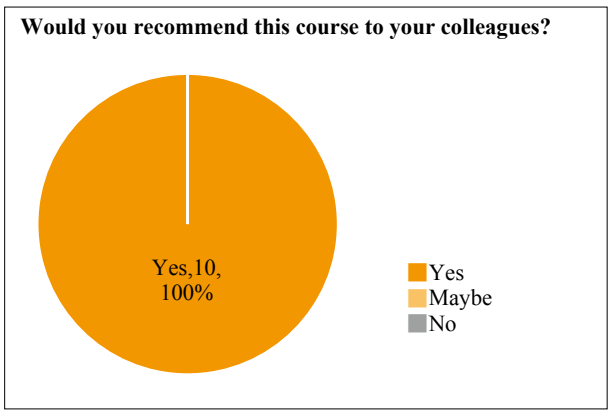




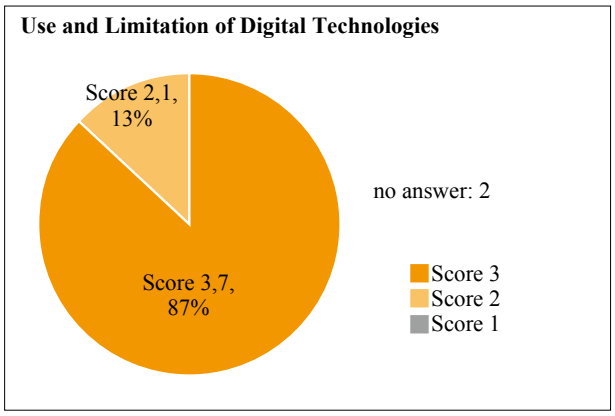


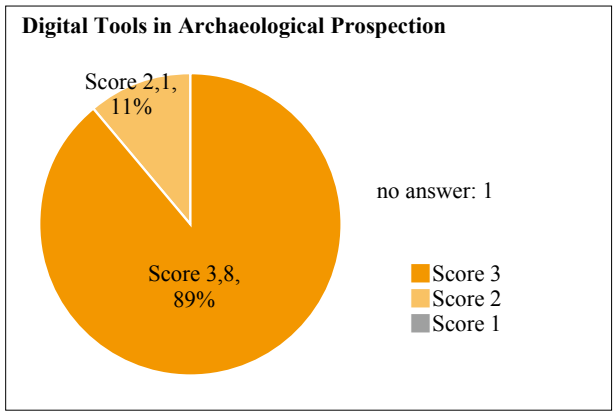


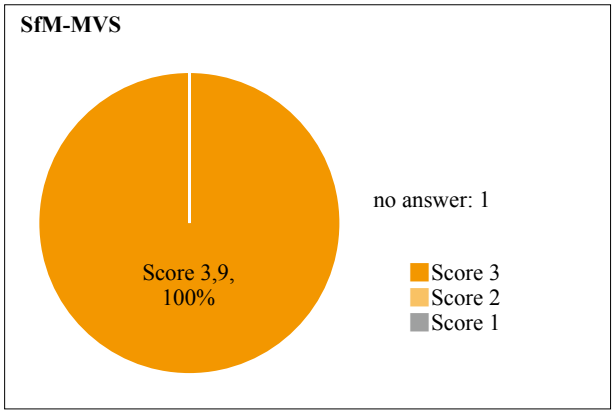




1) Which lecture were most relevant and useful for you? (Please rate each lecture with scores from lowest 1 to highest 3)

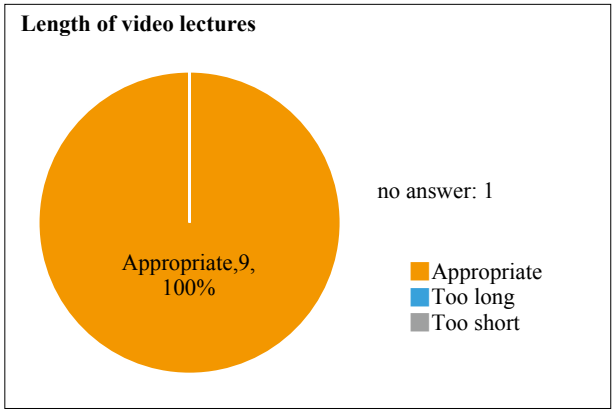


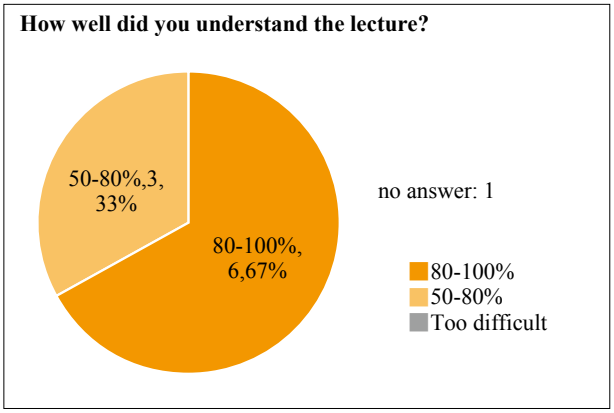


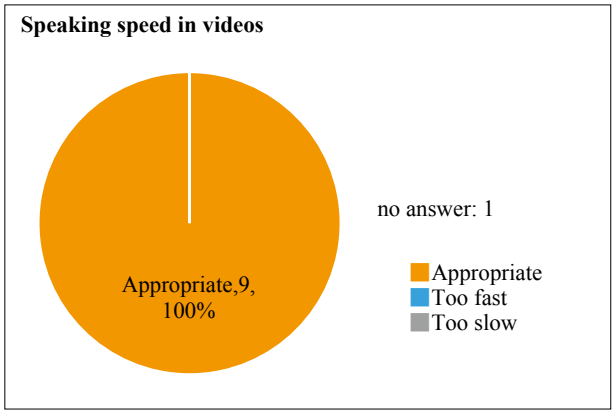


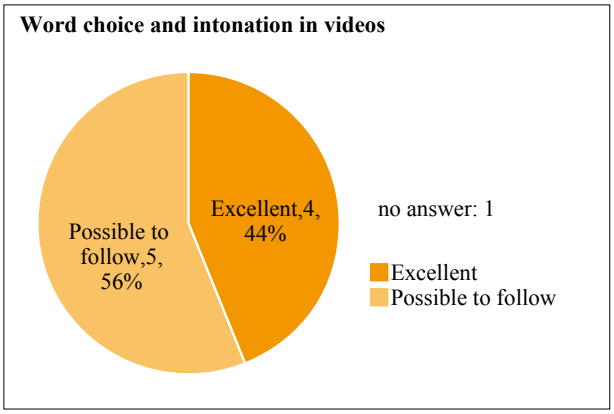
- The course brought knowledge that can be applied to archaeology. If possible, please increase the teaching and training time for the participants.
- The lectures are practical to apply in my real work, I would like to learn more about 3D model for architectural ruins.
- The course provided not only how to use 3D scans on archaeological relics and sites, but also many applications for documenting technical drawings of archaeological relics and sites. A lot of information is also provided on how to manage, classify, and optimize storage methods for data. In addition, I acquired the skills to collect image materials in a standard way, so I think that the contents of the lecture can be applied to the standardization of archaeological image materials.
- Although I have been exposed to and used 3D records of historical remains, architecture or relics and artifacts, I have not had the opportunity to study directly. This course has equipped me with the most basic knowledge, helping me initially understand 3D recording methods using different equipment. Understanding the advantages and disadvantages of each set of equipment allows us to choose the most optimal method for current and future work.

3. Learning materials (lecture videos)



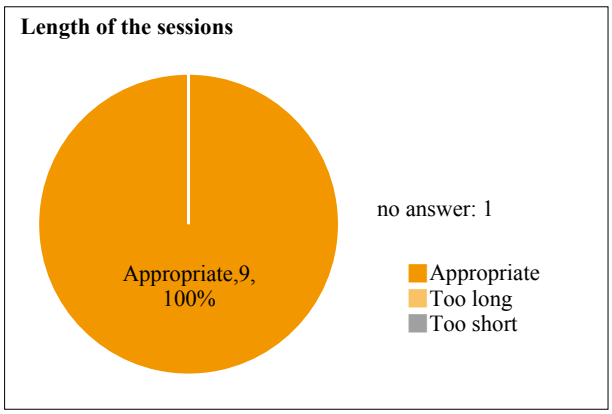


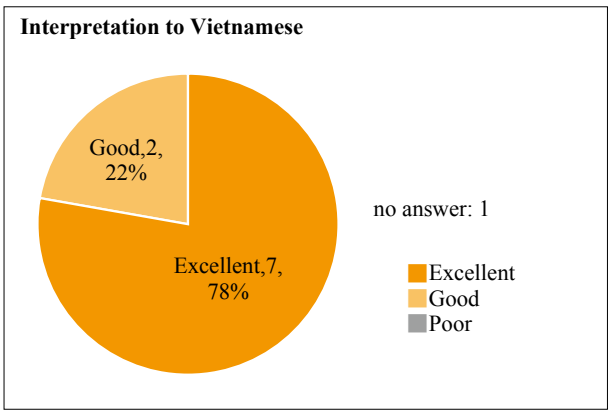


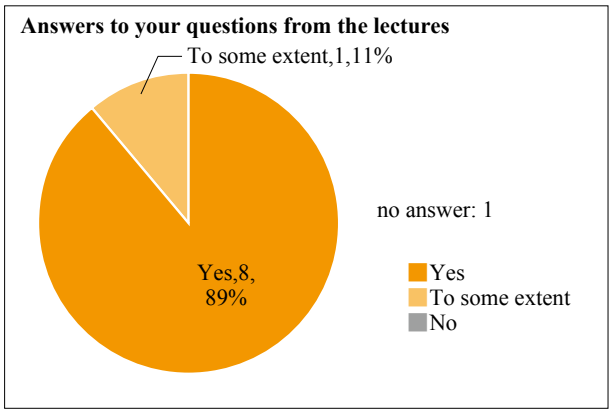


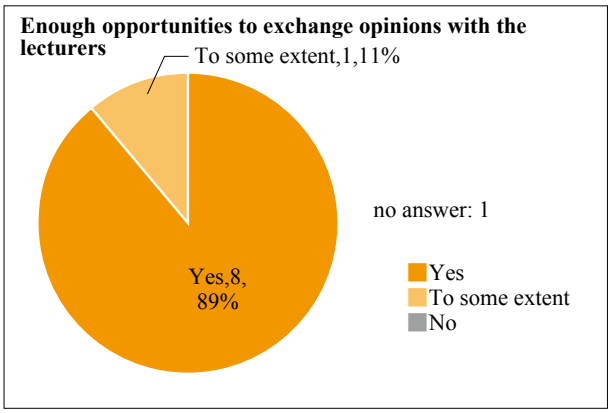
- Wide variety of learning materials. The video sections were very practical.
- Learning materials with visualizations and specific illustrations for each unit are easy to approach and understand (2 participants).
- Additional reference materials for learners through videos could have been provided.
- The lecture presentation and illustration content must have been carefully selected so they were simple yet so effective.

4. Zoom Sessions



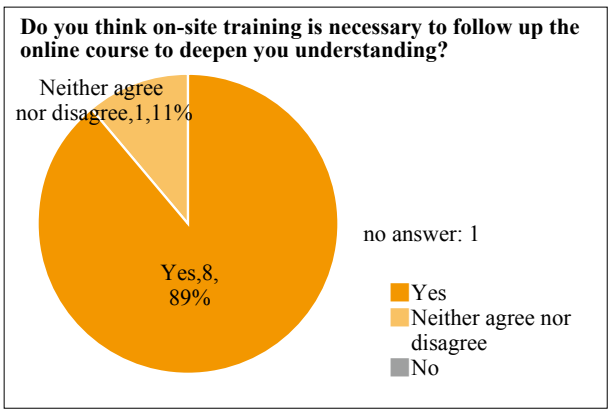


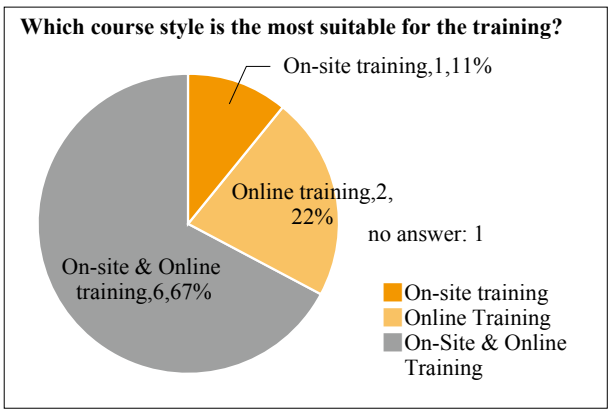




- Future training courses can be conducted by this method because it is very convenient and easy to connect even for learners who are far away.
- The discussion on Zoom allowed plenty of time to talk, exchange ideas, and submit discussion questions. The interaction between instructors and learners was excellent, varied, and thoughtful.
- The content of the lecture, the instructors' visualized presentation, and the learners' request to prepare created a professional and effective environment.
- Even though I only attended 2 classes, the discussed issues were presented within a suitable timeframe, all questions were answered in detail by either the lecturers or other various methods.

5. Future training course





- Topographic Survey by LiDAR and Archaeological Site Exploration by Ground-penetrating Radar GPR
- We are interested in the SfM-MVS method and the application of 3D laser scanners (to provide the experience to generate 3D models).
- Application of digital measurements
- In-depth analysis of recorded data by 3D method such as comparison of the similarity in artifact manufacturing

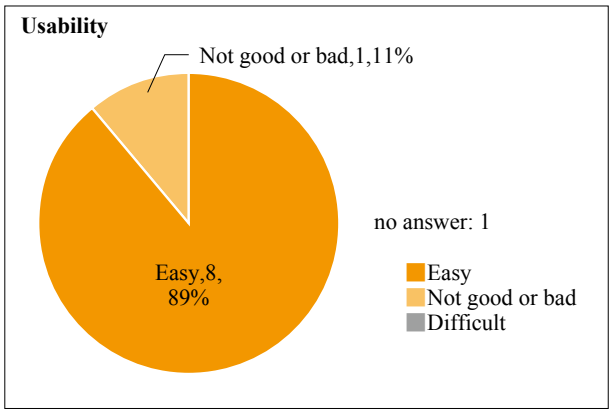
techniques.

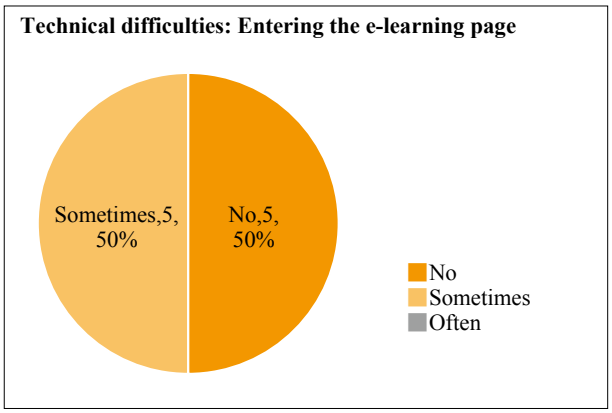
- I hope to learn directly with Japanese experts in the field of archaeology and relic restoration, preservation, and risk prevention for monuments.
- I want to learn how to use a portable 3D scanner on museum artifacts or archaeological remains.
- In the future, if possible, I hope to receive face-to-face training combined with online training depending on the particular stage, and combining theory with practice to improve the quality of the final product.

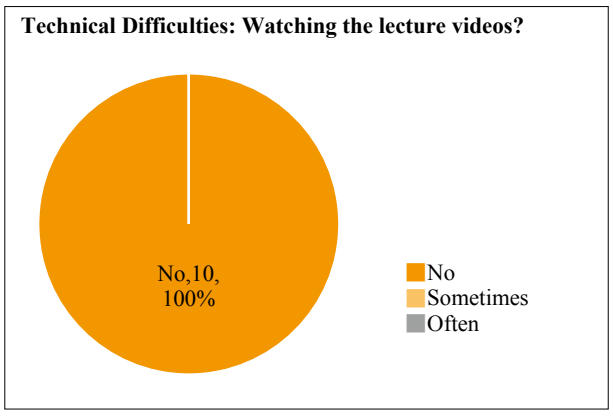
What kind of training/capacity-building project would you wish to be implemented in Vietnam?

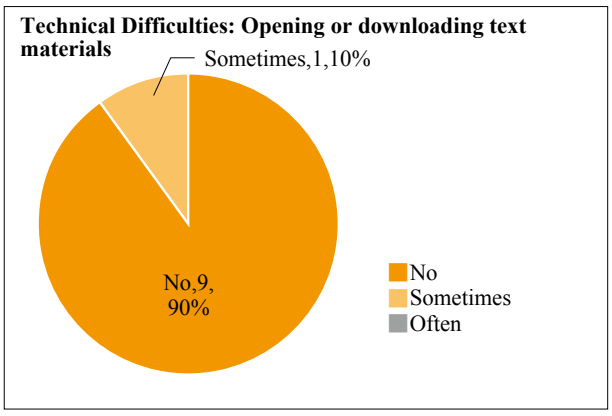
- Excavation and archaeological data collection methods
- Methods of preserving wood and metal artifacts for museum staff in South Vietnam
- 3D technology in archaeology
- 3D data logging techniques for monuments and relics
- Archaeology and restoration of monuments
- To study appropriate preservation solutions for archaeological sites in the South (Vietnam) so that they can be effectively applied to research and preservation of cultural heritage.
- The training about combination of devices such as fixed 3D recording devices and movable ones
- Improving photography skills and using drones to make 3D recordings of large areas, massive architectural structures, and in different types of terrain and geology

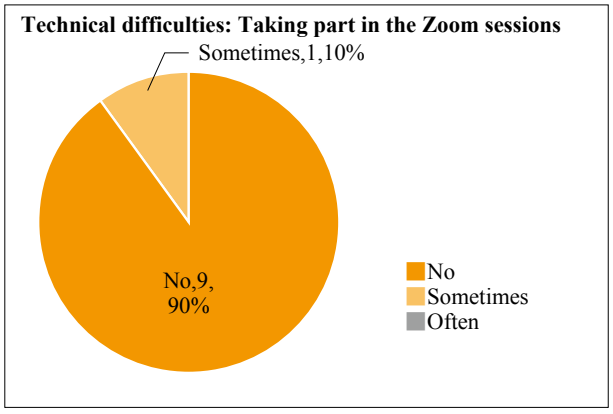
6. Technical issues

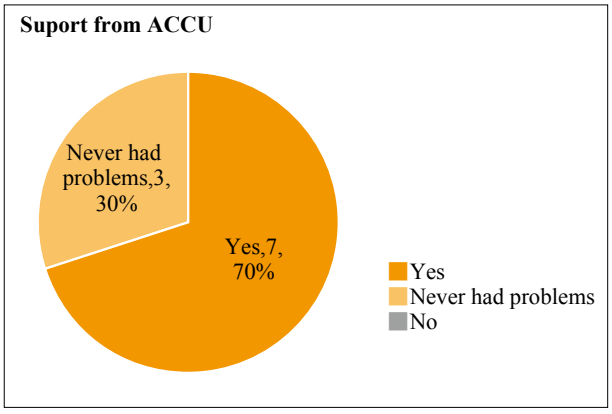












What is the useful function(s) of the e-learning page?
Please suggest any additional functions to make the online course more effective or useful.

- The designed features on e-learning system are very good and effective (5 participants).
- E-learning makes it accessible to learners from any place.
- It is necessary to add more reference materials so that students can study on their own.
- All lessons were screen-recorded so learners who want to consolidate their knowledge can review the lessons many times.
- More features needed: some 3D products that have been successfully processed for students' reference.
- Images (for practice) should be compressed so that they can be downloaded at once and avoid being missed, as the process is time-consuming due to the necessity of opening each image.
- Learners can follow and practice the exercises easily under the guidance of teachers using technical equipment.
- To make online courses more effective. You can add grading and comments about learners' interactions to encourage participation.
- Create document exchange boxes, so that learners can exchange materials and add them to the reference database, thereby contributing to the E-learning lectures.

III. Regional Workshop

1. General Information
2. Course Summary
3. Course Evaluation

1. General Information

Workshop for Cultural Heritage Protection in
the Republic of Kazakhstan:
'Digital Tools for Preservation and Display of Museum Objects'
(Online)

1. Organisers
This course was jointly organised by the Agency for Cultural Affairs, Government of Japan (Bunkacho); Cultural Heritage Protection Cooperation Office, Asia-Pacific Cultural Centre for UNESCO (ACCU Nara); Nara National Research Institute for Cultural Properties; and the Margulan Institute of Archaeology.

2. Background
ACCU Nara began holding international training courses on cultural heritage protection in 2000, with participants coming from various countries in the Asia-Pacific region. To date, there have been a total of nine participants in this programme from the Republic of Kazakhstan.
In Kazakhstan, a great number and variety of examples survive of heritage attesting to cultural exchanges between East and West, such as the Silk Road. It is very important for the country itself, as well as for its immediate neighbours, to research and preserve such cultural heritage for the purpose of transmitting the region's history and culture.
In Japan, the UNESCO/Japanese Funds-in-Trust Project, Support for Documentation Standards and Procedures of the Silk Roads World Heritage Serial and Transnational Nomination in Central Asia (Phase I), was conducted from 2011 to 2014. Also, until last year the Nara National Research Institute for Cultural Properties has been transferring its archaeological research technology for three consecutive years as part of the Networking Core Centers for International Cooperation on Conservation of Cultural Heritage Project, and has been providing continuous assistance to the researchers in Kazakhstan.
These contributions have been well recognised by our counterparts in Kazakhstan and they have expressed interest in receiving further training in the areas of archaeology. During the information-sharing and consultations among officials of the National Museum of the Republic of Kazakhstan, the Margulan Institute of Archaeology, Japanese experts of the Nara National Research Institute for Cultural Properties, and ACCU Nara, more advanced training related to the use of digital tools for preservation and display of museum objects was requested by the Institute.
In response, as part of the programme of support provided to Kazakhstan, we have decided to co-organise this cultural heritage workshop on the theme of 'Digital Tools for Preservation and Display of Museum Objects', together with the Margulan Institute of Archaeology and the Nara National Research Institute for Cultural Properties.

3. Dates
17 (Mon)–28 (Fri) October 2022
- Online streaming of lecture materials during the period
- Real time lectures on Zoom (four times) during the period

4. Participants
15 individuals working at museums, research institutes and relevant organisations in Kazakhstan, and involved in the research, conservation, or utilisation of archaeological objects in their collections (see Appendix).

5. Theme
Digital Tools for Preservation and Display of Museum Objects

6. Curriculum
(1) Online materials
- Digital Technologies in Museums: use and limitations based on case studies
- Utilisation of 3D data in the Conservation Science Field
- Image-based 3D modelling of archaeological objects

(2) Interactive online demonstration
- Latest technologies for effective visualisation of archaeological information
(Example of Gunma Prefectural Museum of History)

(3) Interactive online sessions on Zoom
- Lectures through demonstrations
- Q&A

(4) Submission of the final report

Workshop 2022 (Republic of Kazakhstan)
Digital Tools for Preservation and Display of Museum Objects and Artefacts
(Online)
17 (Mon) ~ 28 (Fri) October 2022

Distribution of Video Lectures	Theme I : Digital Technology and Museums			
10/17	**10/17 Live session I**	Opening Ceremony and Orientation (13:00 ~ 14:00 JST)	ACCU	Live session
	10/10 ~ Learning through videos	(Lecture) Digital Technologies in Museums: use and limitations based on case studies	YAMAFUJI Masatoshi (NNRICP)	Lecture videos PDF material
		(Lecture) Utilisation of 3D data in the Conservation Science Field	WAKIYA Soichiro & YANAGIDA Akinobu (NNRICP)	
		(Lecture) Latest technologies for effective visualisation of archaeological information at the museum	FUKASAWA Atsuhito (Gunma Prefectural Museum of History)	
	10/21 Live session II	Theme I summary and Q&A (13:00-15:00)	YAMAFUJI Masatoshi WAKIYA Soichiro YANAGIDA Akinobu	Live session
	10/25 Live session III	(Live-stream) Latest technologies for effective visualisation of archaeological information on the example of Gunma Prefectural Museum of History (18:00-19:00)	FUKASAWA Atsuhito (Gunma Prefectural Museum of History)	Live session
	Theme II : 3D Recording of Museum Objects			
	10/17 ~ Learning through videos	(Lecture/Practical training) 3D recording of museum objects (using the method of SfM-MVS)	YAMAGUCHI Hiroshi (NNRICP)	Lecture videos PDF material
	10/23	Deadline for submitting the photographs to be used for 3D modeling		Upload on Google Drive
	10/28 Live session IV	Theme II practical guidance, discussion, Q&A (13:00-15:00)	YAMAGUCHI Hiroshi (NNRICP) NAKAMURA Akiko (Independent Researcher)	Live session
	11/10	Deadline for submitting Course Evaluation and Final Report		Upload on course online platform

7. Working Language
Text materials: Russian
Lecture and demonstration videos: Russian subtitles
Interactive session: consecutive interpretation between Japanese and Russian

8. Instructors
Nara National Research Institute for Cultural Properties (NNRICP)
- YAMAFUJI Masatoshi
  Senior Researcher
  Archaeology Section 2, Department of Imperial Palace Sites Investigations
- WAKIYA Soichiro
  Head
  Conservation Science Section, Center for Archaeological Operations
- YANAGIDA Akinobu
  Researcher
  Conservation Science Section, Center for Archaeological Operations
- YAMAGUCHI Hiroshi
  Researcher
  Archaeological Research Methodology Section, Center for Archaeological Operations

Gunma Prefectural Museum of History
FUKASAWA Atsuhito
Chief Curator

NAKAMURA Akiko
Independent Rresearcher

9. Interpreters
Kobijaeva Mariya, *Freelance Interpreter*
Rustemova Aktolkyn, *Freelance Interpreter*

10. Secretariat
(ACCU Nara)
WAKIYA Kayoko, *Vice Director*, Programme Operation Department
MELADZE Tamar, *Director*, International Cooperation Division, Programme Operation Department
YOSHIDA Machi, *staff*, International Cooperation Division
HIRAYAMA Naoto, *staff*, International Cooperation Division

2. Course Summary

The training course was held from 17 to 28 October 2022 using the ACCU e-learning website iPAGE. The theme was "Digital Tools for Preservation and Display of Museum Objects." All six videos uploaded to the website were in Russian. Three online meetings (five hours in total) were held during the period (See the schedule for details).

The theme was chosen upon consultation with Dr Akhan Onggaruly of the Margulan Institute of Archaeology. The course was intended as a follow-up to the Networking Core Centers Project carried out by the co-organiser, the Nara National Research Institute for Cultural Properties. The Kazakhstan institute requested that digital archaeology (digitisation, documentation, database) be included in the course as a large framework. The request included the following training themes:

1. 3D documentation of the state of excavation and museum artefacts
2. Technology for mapping archaeological remains using GIS
3. Preparation of digital archives for archaeological survey reports

Upon consultation with the Nara National Research Institute for Cultural Properties (co-organiser), a theme was selected from the topics above, and a request was made for dispatch of relevant experts.
The curriculum had two themes, and the following four lectures, interactive training, and demonstrations were conducted.

Theme 1: Digital Technology and Museums

1. Digital Technologies in Museums: use and limitations based on case studies
2. Utilisation of 3D data in the conservation science field
3. Latest technologies for effective visualisation of archaeological information at the museum (Gunma Prefectural Museum of History)

Theme 2: 3D Recording of Museum Objects

4. Lecture and practical training: 3D recording of museum objects (using the method of SfM-MVS)

Lecture videos were uploaded, and participants watched them before each of the three online meetings. In session 3, after the lecture videos were uploaded, the lecturer did a live stream from the museum's exhibition room and gave a study tour where he answered questions while showing the exhibition. Session 4 consisted of Q&A and demonstration. On the final day, the participants watched the lecturer's demonstration and learned about the process of creating 3D images using photographs of artefacts. Out of the 15 participants, 12 people successfully completed the training course. Some of the participants attended the course from the excavation site and had difficulties receiving training online while conducting their usual tasks in Kazakhstan.

17 October

■Opening Ceremony / Orientation

First, welcome speeches were given by Director Morimoto Susumu of ACCU Nara (organiser), Dr Shoda Shinya of the International Cooperation Section of Nara National Research Institute for Cultural Properties (head of section and co-organiser), and Dr Akhan Onggaruly of the Margulan Institute of Archaeology. The lecturers, Dr Yamafuji Masatoshi of the Nara National Research Institute for Cultural Properties and Ms Nakamura Akiko, also attended the opening ceremony and introduced the content of the lectures. Participants from different regions of Kazakhstan (Almaty, Astana, Pavlodar, and Taraz) attended this training course. The participants met online, and the two-week training course began.

At the opening ceremony (Dr Shoda Sinya (left), Dr Akhan Onggaruly (middle) and Ms Aktolkyn, an interpreter)

Director Morimoto of ACCU Nara

Opening message from lectures (Dr Yamafuji and Ms Nakamura)

All participants at the opening ceremony

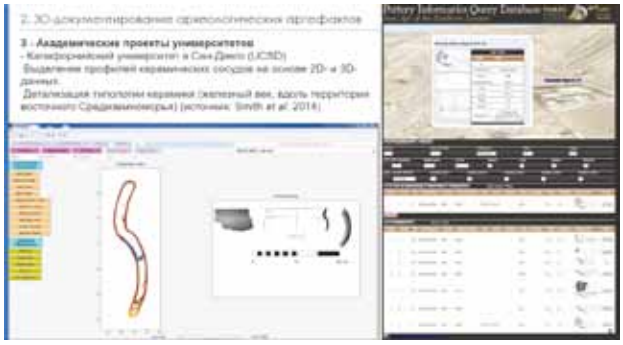
Theme 1: Digital Technology and Museums

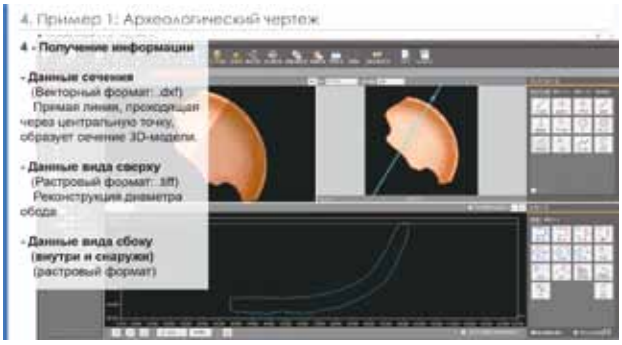
■Lecture1: Digital Technologies in Museums: use and limitations based on case studies

***Lecturer*: YAMAFUJI Masatoshi** (Nara National Research Institute for Cultural Properties (NNRICP))

The lecture introduced 3D measurement technology that is being adopted in the cultural heritage field, also touching on its potential application and issues. The lecturer focused on usage examples of digital technology in museum-related work.

The lecturer talked about how 3D measurement is becoming an essential item in the work conducted at museums. He also mentioned that there are advantages and disadvantages and that those who use it need a proper understanding of the technology. He emphasised that regardless of how advanced the technology may be, and useful documentation cannot be created unless data is used based on expert observation.





■Lecture 2: Utilisation of 3D data in the Conservation Science Field

***Lecturer*: WAKIYA Soichiro and YANAGIDA Akinobu** (Nara National Research Institute for Cultural Properties (NNRICP))

Exhibition/storage conditions or conservation treatment may promote the deterioration of archaeological artefacts. Therefore, it is important to: 1) create an appropriate environment (e.g., temperature, humidity) and 2) constantly monitor artefacts for any signs of deterioration. Deterioration of archaeological artefacts can be identified mostly by the change of colour and shape. Documenting the artefacts in 3D is extremely effective in identifying minute changes that cannot be observed by the naked eye. Technology such as SfM is extremely useful in preserving archaeological artefacts as it is a simple documentation method and the output contains image information of the surface and information of the shape. The lecture introduced usage examples of digital technology, such as 3D measurement and X-ray CT, conducted in Japan for monitoring archaeological artefacts for preservation purposes.

21 October (13:00–15:00JST)

■Zoom session 1

***Lecturers*: YAMAFUJI Masatoshi, WAKIYA Soichiro and YANAGIDA Akinobu**

***Interpreters*: Kobijaeva Mariya, Rustemova Aktolkyn**

Dr Yamafuji first summarised the lecture and then proceeded to the Q&A session. In the lecture, Dr Yamafuji mainly introduced the method of creating a drawing using laser scanners. The questions raised in the Q&A session are as follows.

Q: How would you make a 3D model if the inner surface of an intact clay pot (clay pot that is not broken) cannot be scanned?

A: Generally, you would get data for the exterior and parts of the interior that can be scanned. But if artefacts such as vases are still intact, it is difficult to document the inner surface with a laser scanner. In such case, you can document the inside using an X-ray CT scanner.

Q: When creating 3D data of a clay pot that has been restored by joining the broken pieces, how can the missing pieces be shown? Can the missing parts be reconstructed in the 3D data?

A: The artefacts will be captured as is in 3D, so the missing pieces will be shown as missing. By using Texture later on, it is possible to distinguish the missing parts from the remaining pieces by adding colours. (Response by Ms Nakamura Akiko.)

Q: Is it possible to capture 3D data of small artefacts?

A. Yes. When documenting small items, I recommend using the high precision mode. Laser scanners can create 3D models of artefacts that are at least 1 cm large and can fit inside the scanner. Large areas such as an entire city can be documented in 3D by photogrammetry.

Other questions were about considerations for storing data and methods for reproducing colour in 3D models, overcoming challenges, and recording patterns on the surface of clay pots. The lecturers answered the questions.

Questions by the participants

Explanation on 3D recording of artefacts in NNRICP by Dr Yamafuji

Next, the session moved on to the lecture by Dr Wakiya and Dr Yanagida. A Q&A session was held after the lectures were summarised.

In Kazakhstan, changes in the artefacts before and after conservation treatment are mainly managed by photographic documentation. The lecturers noted that 3D documentation is effective as it allows us to observe changes in the artefacts objectively by numbers. They also added that it is important that the person in charge understands the mechanism of deterioration when capturing metal artefacts, which are often excavated in Kazakhstan, in 3D or by X-ray CT scanning for monitoring. Participants commented that they understood the effectiveness of 3D documentation, as it quantifies the state of the artefacts and allows objective monitoring of changes in the artefacts. The following questions were also asked.

- Method for documenting prints of artefacts remaining in the soil of the archaeological site: If the soil is firm, silicone can be used to take a cast of the print. If the soil is fragile, the soil with the print can be removed. Documenting the print on the surface by SfM is also an effective method.
- Confirmation of the type of X-ray CT equipment introduced in the lecture: High-energy (950 keV, 0.1 mm resolution) equipment is used. The method of use was introduced while showing images of the CT equipment at the Nara National Research Institute for Cultural Properties.
- Method of conservation treatment using sugar alcohol (trehalose): Conservation treatment using trehalose is primarily for wooden objects. For artefacts that combine wood and metal, a conservation method for wood is preferentially used. But, since water corrodes metal, a method for treating wood that does not use water is used. The method introduced is also one of the conservation methods that does not use water.

The participants asked for additional materials on the conservation method that uses trehalose.

Zoom session at the NNRICP (from left, Dr Wakiya, Dr Yamafuji and Dr Yanagida)

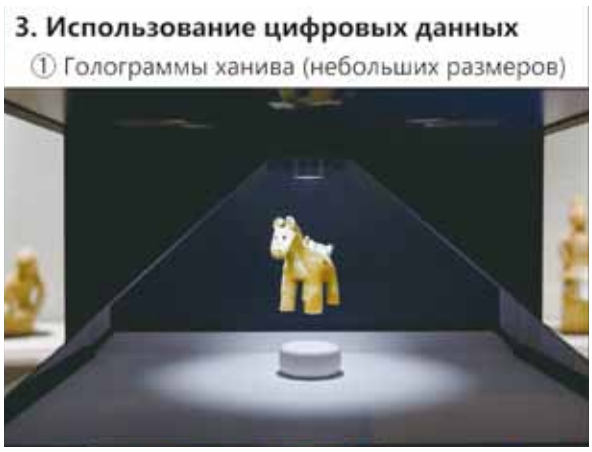
Explanation of X-ray CT equipment

3D recording in Kazakhstan introduced by the participant

■Lecture 3: Latest technologies for effective visualisation of archaeological information at the museum

***Lecturer*: FUKASAWA Atsuhito** (Gunma Prefectural Museum of History)

Many clay figures designated as National Treasures are displayed at the Gunma Prefectural Museum of History. Digital data is created for these items and used for management and effective use of the figures. The lecture explained the necessity of digitisation, method of digitisation, and utilisation of digital data. In the section about necessity, the lecturer mentioned that even if artefacts go through changes such as aging deterioration, storing accurate and high-definition 3D data will allow us to reproduce them to the state before the change. He also explained that the data can be used for various content, such as digital archives, without moving the actual artefact. The lecture also touched on the balance between volume of data and price as a challenge and a point to note regarding digitisation. He talked about how he created two types of data for different purposes, which were data for documentation and storage (high cost) and data for use (low cost), at the museum. He added that it is important to think about the purpose of the use of data before introducing digitisation to a museum. Lastly, the lecturer introduced the digital exhibition room and shared information that connects with the live lecture on the 25th.



Left: The digital exhibition room (3D exhibition is performed in the colored part)

Right: 3D hologram image of artefacts in the digital exhibition room

25 October (18:00–19:00JST)

■Zoom session 2 Live-stream: Latest Technologies for Effective Visualisation of Archaeological Information on The Example of Gunma Prefectural Museum of History

***Lecturer*: FUKASAWA Atsuhito**

***Interpreters*: Kobijaeva Mariya, Rustemova Aktolkyn**

An hour-long expository tour was given after the museum was closed. Dr Fukasawa guided the participants to the digital exhibition room and explained the method of utilising data. The following exhibitions were introduced:

1. Clay figure hologram exhibition: digital content using 3D data where clay figures look as though they are floating and keep appearing and disappearing
2. Clay figure scope section: digital content using 3D data where visitors can rotate 3D models of clay figures in any direction and can view them from various angles
3. AR clay figure photo spot: digital content using 3D data where visitors can take a photo with the AR clay figure
4. Hands-on clay figure section: section where several 3D-printed clay figure replicas are displayed for visitors to touch

and hold.

Lastly, there was a Q&A session. The key questions from the trainees are as follows:

- Material used to 3D print the touchable clay figure replicas and its durability: The replicas are made of resin and have a durability of at least 20 years.
- Reactions of children when AR clay figures were brought to schools: They were incredibly surprised. They were able to see the actual size of the figures, so they were surprised at the size. This made them want to see the actual figures, leading to visits to the museum.
- Creators of 3D data: The creation of 3D data was outsourced to a professional private contractor. The technology used was of the contractor, but the curator gave specialised and detailed instructions for creating the data.
- I am thinking of what the museum can do for visually impaired visitors. Is there something digital technology can do? A: At our museum, guests can touch 3D-printed clay figure replicas. This allows the visitors to feel the size and shape of the exhibit.

Other questions were asked, such as the effects of introducing digital exhibition and visitor reactions to the exhibition, and the hour-long session was concluded.

Entrance of the digital exhibition room

Clay figure hologram exhibition

Left: Clay figure scope section, Middle: AR clay figure photo spot, Right: 3D-printed clay figure replica

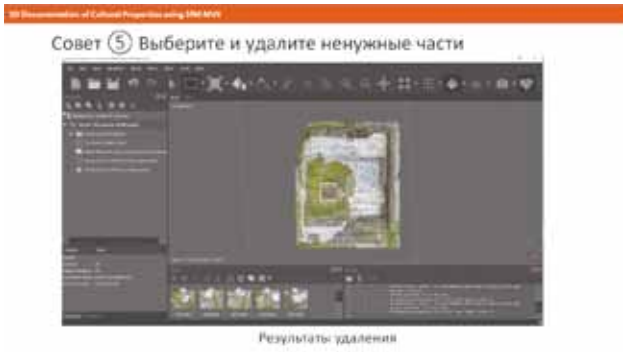
Theme 2: 3D Recording of Museum Objects

■Lecture 4: 3D recording of museum objects (using the method of SfM-MVS)

***Lecturers*: YAMAGUCHI Hiroshi** (Nara National Research Institute for Cultural Properties)**, NAKAMURA Akiko** (Independent Researcher)

This lecture introduced the procedure for 3D documentation by SfM-MVS. Participants watched the procedure and received practical training in the following steps:

1. Participants took photographs of museum objects for which they wanted to create 3D documentation and submitted the data to ACCU.
2. The lecturers analysed the submitted photographic data. They made comments on where the data is insufficient and shared the points to note.
3. 28 October: The lecturers gave a demonstration online on how to create 3D data (third Zoom session). In the demonstration, the lecturers made 3D images using photographs of artefacts that the trainees took and outlined the key points in creating 3D data using the photographic data that the lecturers prepared.



28 October (13:00–15:00JST)
■Zoom session 3
***Lecturers*: YAMAGUCHI Hiroshi, NAKAMURA Akiko**
***Interpreters*: Kobijaeva Mariya, Rustemova Aktolkyn**
The contents of the Zoom session were as follows: 1) additional lecture, 2) comments on submitted photographs, 3) demonstration of creation of 3D images, and 4) introduction of analysis results of participants' data.

1. Additional lecture
Dr Yamaguchi gave a PowerPoint presentation on photo shooting of archaeological artefacts for creation of 3D models by SfM. He went over the key points as the accuracy of the 3D data depends on the resolution of the photographic data. The lecture covered the basics of photography, such as the appropriate camera setting (aperture: f-number between 16 and 20), how the camera needs to move when taking photos of the artefact from all angles (360 degrees), need for a white background during photo shoots when the artefacts need to be moved, necessity of overlap when taking photographs, and how the brightness needs to be consistent when taking photographs outside.
He also explained the method of taking photos of artefacts indoors, method of photographing patterns on the surface of clay pots, and method of creating 3D images of small artefacts like coins and impressions of huller at the bottom of clay pots.
2. Comments on the photographs
The lecturer explained the points to note, such as not using the backdrop in the photos taken, insufficient overlap, and artefacts out of focus (photograph is blurry), while looking at the features of the submitted photographs.
3. The lecturer shared the computer screen to demonstrate how to create a 3D image using data of photographs of a clay pot that he took. Since the bottom of the clay pot cannot be photographed from the front, he took photographs and created 3D models of the top and bottom separately. He introduced how to combine the 3D images and created a single 3D image of the clay pot.
4. Analysis results of participants' photographic data
Ms Nakamura used photographic data of three participants and created 3D images. She gave advice on how the 3D images could be improved by obtaining data of the parts that were insufficient and improving the granularity of the photographs.

Left: Additional lecture by Dr Yamaguchi
Right: Dr Yamaguchi demonstrated how to combine the 3D images and created a single 3D image of the clay pot from the separate images.

Analysis results of participants' photographic data by Dr Nakamura

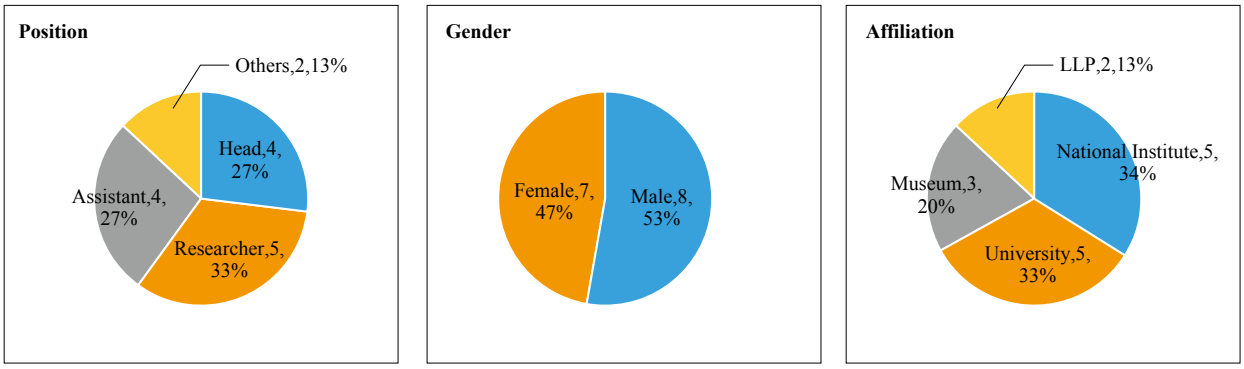
After the Zoom session was complete, a closing ceremony was held. Closing remarks were given by Mr Morimoto Susumu (Director of ACCU), followed by a speech by Dr Shoda Shinya (co-organiser who dispatched the lecturers; head of the International Cooperation Section of Nara National Research Institute for Cultural Properties). Then, Ms Dana Dossayeva of the National Museum shared her thoughts on the training course on behalf of the participants. The training course was concluded with hopes for further collaboration between Kazakhstan and Japan in the future.

All participants at the cloging ceremony

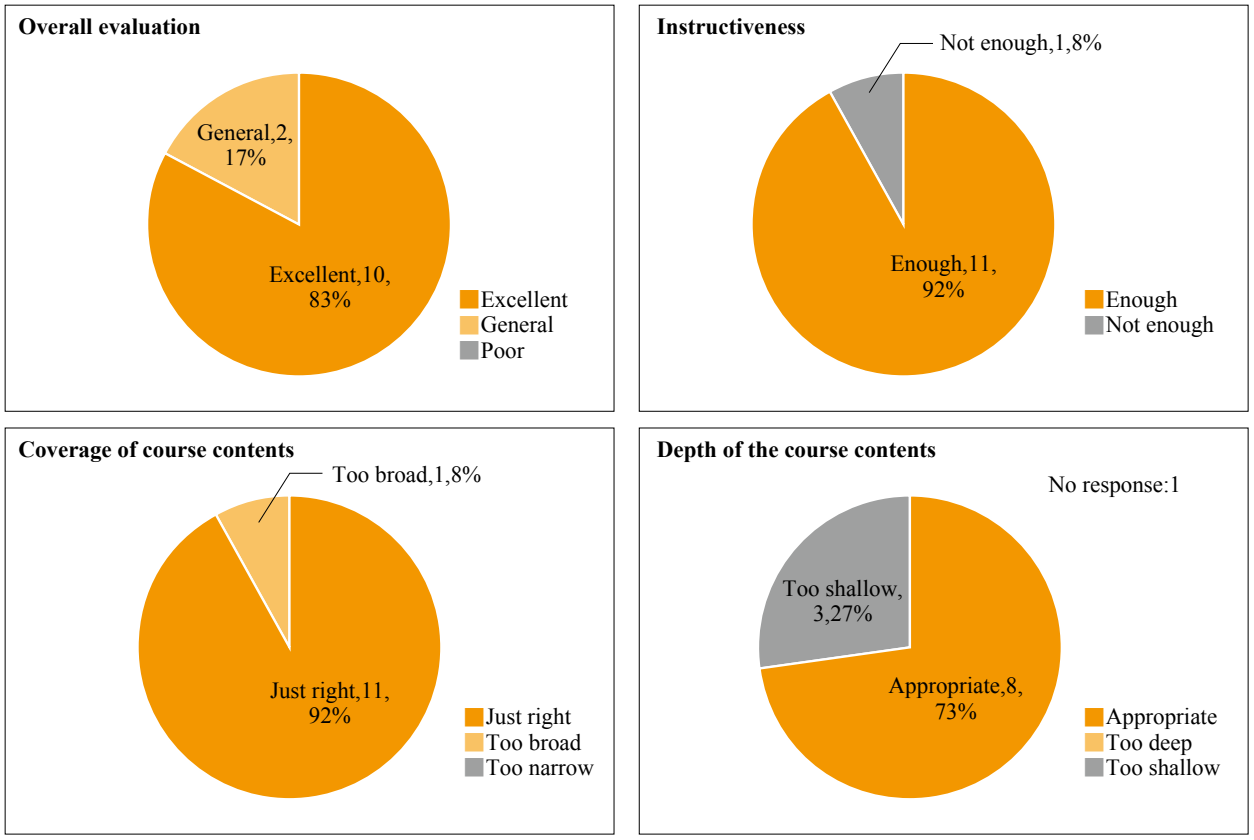
3. Course Evaluation

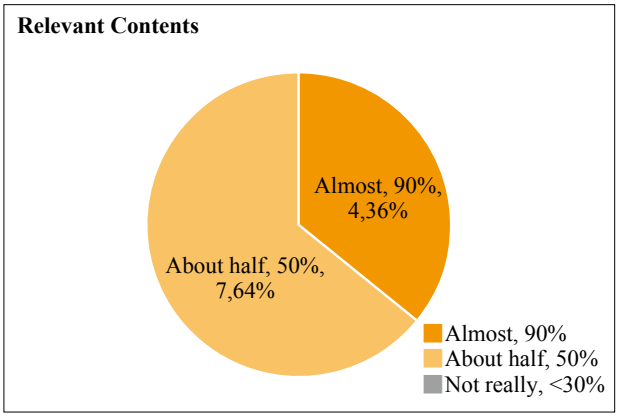
Out of fifteen participants, twelve responded to the questionnaire. There was an opinion that last year's WS did not have enough time for Q&A, so we increased the time. In addition, we held an online live tour (on-site lecture) at the museum for the first time, which was highly evaluated. However, many participants feel that online practical training is not enough to fully understand the contents. This has been a consistent opinion throughout the three years of online training.

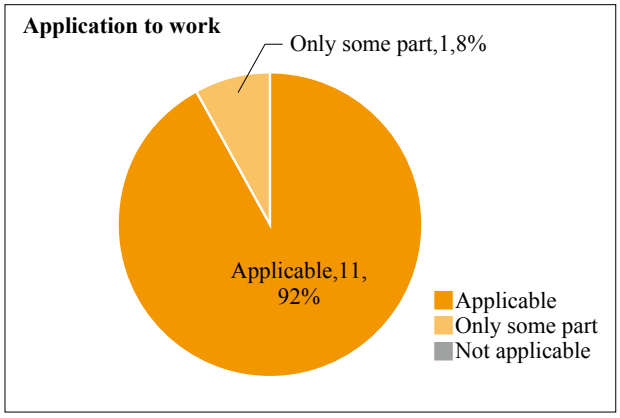
1. Participants

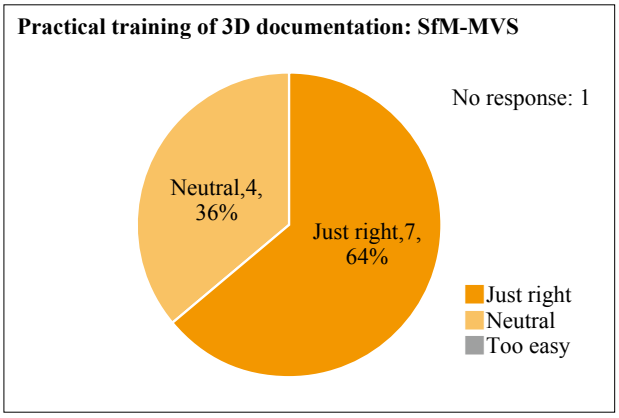


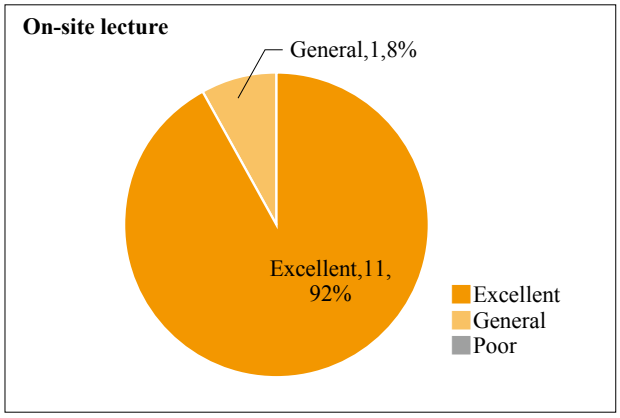
2. Overall

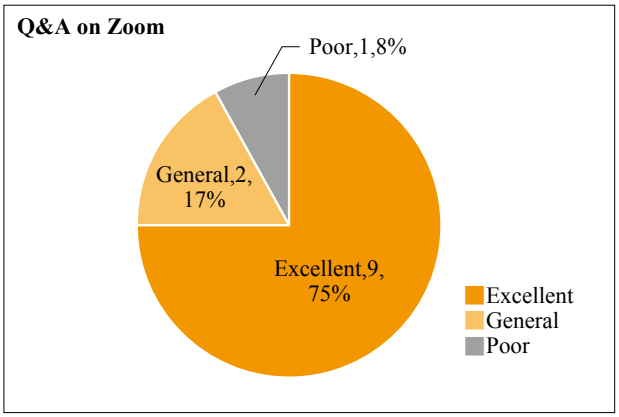


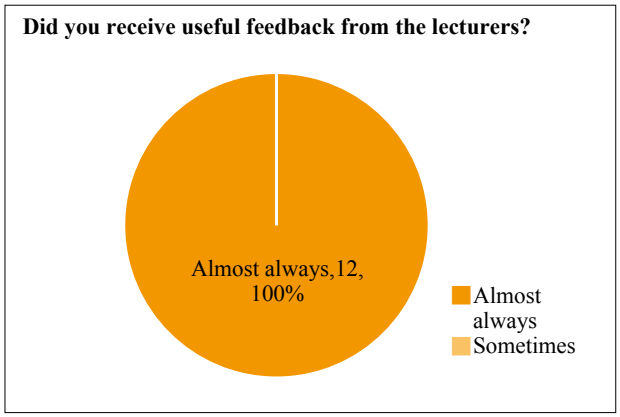












Please comment on what were the actual learning outcomes of the practical training for you

- During practice, I learned about the grey card to adjust the white balance. I used to have problems with colour rendering in other programmes when exporting with Agisoft software.
- The camera settings in this context, the viewing software, and some of the subtleties of taking pictures.
- Features of taking photographs to create a 3D model. The dimensions of creating 3D models (2).
- I found out that 3D scanning can be used to monitor the corrosion process of metal products.
- Of particular importance were discussions of the quality of the photos provided, the shooting algorithm and the process of working with Agisoft Metashape.
- I found the museum lecture and information about Japanese artefacts interesting.
- Learned new things about the photography techniques of small-size objects.

Please comment what were the actual learning outcomes of on-site lecture for you

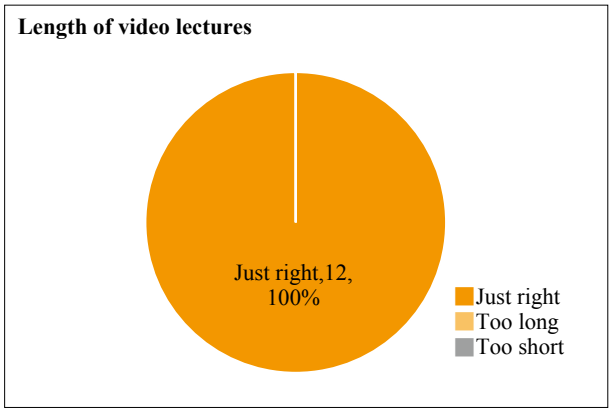
- The lecture at the Gunma Museum was very interesting, I especially liked that you could virtually control the 3D model with your hand right in the museum (4).
- It's great that the museum uses virtual artifacts even if they are not visible until one takes a photo. I first saw these technologies on Google and in the Kinder application, the children were delighted.
- It was interesting to know the approach to the planning of the exhibition hall, and the reasons why the objects are arranged in this way. It was also interesting to learn about the experience of off-site exhibitions.

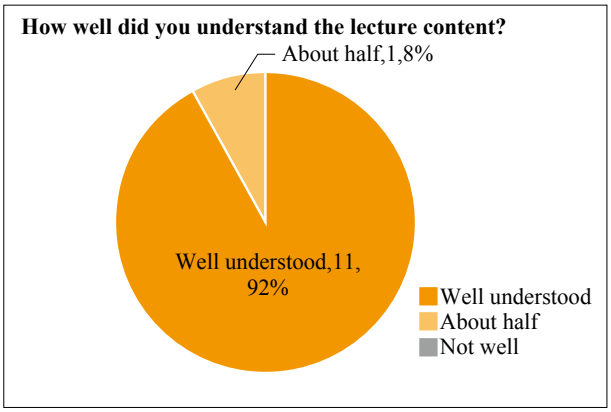
- Interesting expositions and ways to present them using innovative technologies
- The idea of organising exhibitions and presenting exhibits using QR codes and 3D models is very interesting. The museum staff's deep love and respect for cultural heritage was very moving.
- All in all, I enjoyed the whole virtual visit.

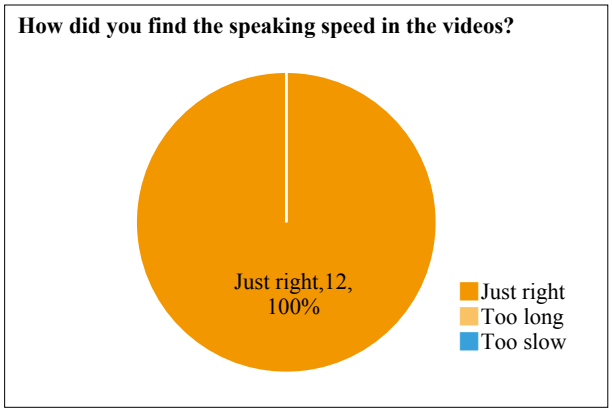
Please give an example of how you are going to apply what you learnt in this course in your job

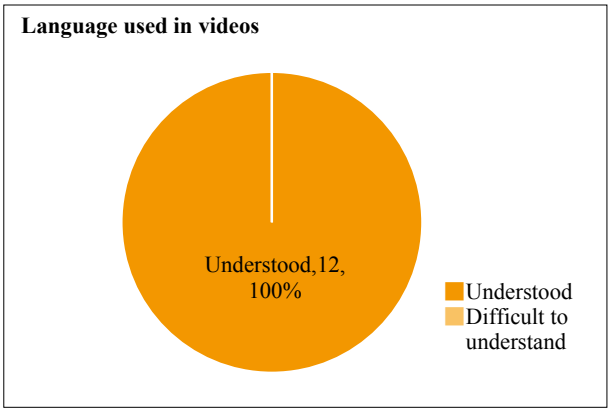
- I will use the knowledge gained in this course for building 3D models in the Agisoft Metashape program. Knowledge of camera settings for SfM-MVS will also be useful.
- I studied from your video lectures to make 3D recordings of swords and sabres
- I have already made a 3D model of the felt saddle and inserted it in the report. One such model has replaced several photos and given more insight into its shape. I plan to use these methods for making 3D models of the fossil imprints and for 3D printing.
- I plan to have some objects digitalised for display in presentations, lectures and videos, also for the archive.
- Capturing micro traces of wear and traces of technology on artefacts, compiling databases to record exhibits and field materials, maintaining field documentation.

3. Course materials



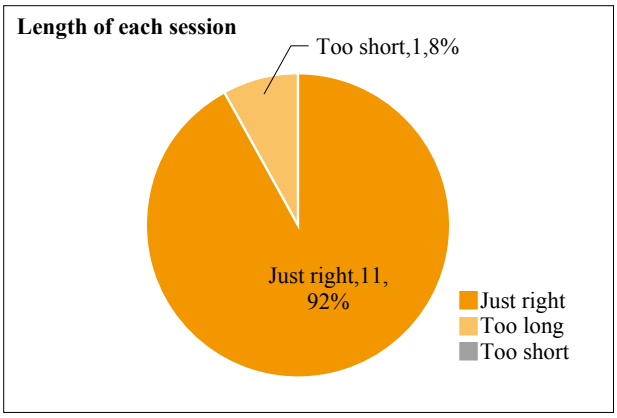


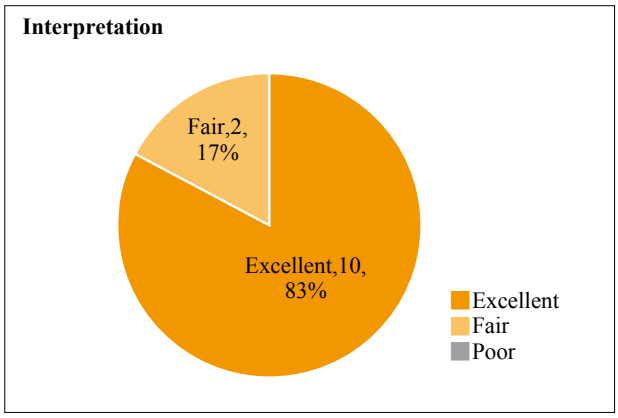


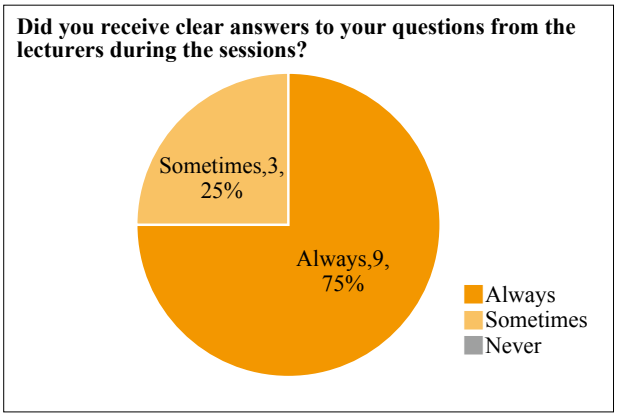


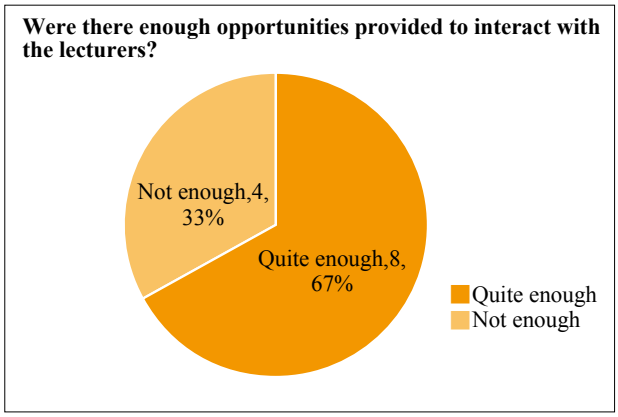
- You can add more practice. When setting up the course, it may be a good idea to focus not only on the general direction, but also to collect the information on narrow interests and issues of the participants. What did not work out and why, what difficulties arose, etc.
- I think there was not enough time for discussion during online meetings.
- The material is very good, and it is clear how well the lecturers have prepared.
- The course material was mainly of a theoretical nature, perhaps more detailed examples of the main difficulties in conducting SfM measurements would have helped not only to generate interest, but also to promote the method.

4. Interactive (Zoom) Sessions



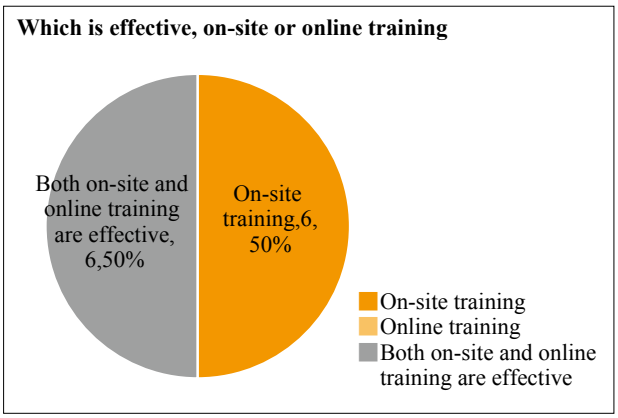






- Excellent
- If possible, it would be good to be able to send the questions to the lecturers by the end of the sessions. The participants were able to ask questions using the e-learning talk board function, but it seems that there was not enough recognition.

5. Future Training Course



Which topic(s) would you like to have additional or follow-up content for?

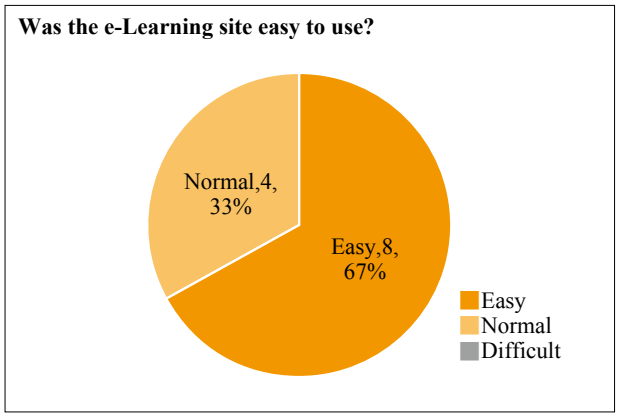
- I would like to learn more how to mark 3D models of finds when photographing them
- Restoration of degraded archaeological metal of the 5th degree (when there is no metal core remaining and the metal has practically turned to dust and the only thing holding its shape is the surrounding soil) and its further preservation in museum.
- Conservation, restoration of notches in semi-precious and precious metal.
- As well as methods and techniques for the restoration of thin-walled fragmented metal objects and their protection in the museums. Conservation, restoration of archaeological and ethnographic natural fabrics with metal (copper, brass, silver) threads (oxide removal from fabrics, stabilization of metal threads).
- There are also questions as a whole about the cleaning and restoration of ethnographic fabrics.

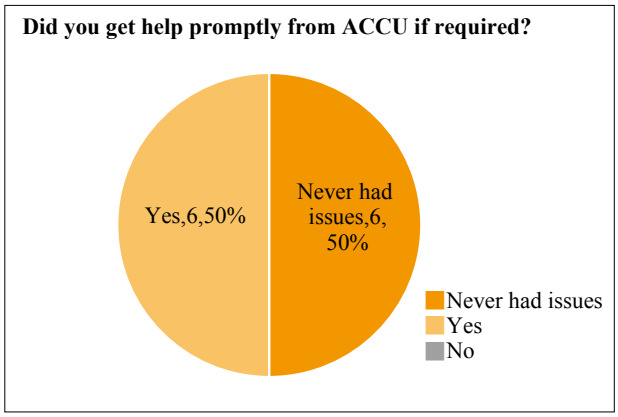
- How to preserve wet (dump) wood.
- Building a 3D model from scratch (from drawings, photos and videos).
- I would like to learn more about examples of the use of 3D scanning in conservation and other resources on LiDAR
- 3D recording of museum objects and archaeological sites using the method SfM-MVS (part 3).
- More practical sessions and details of working with different artefacts
- 3D models of the combined objects (when several objects of different size are in one model)

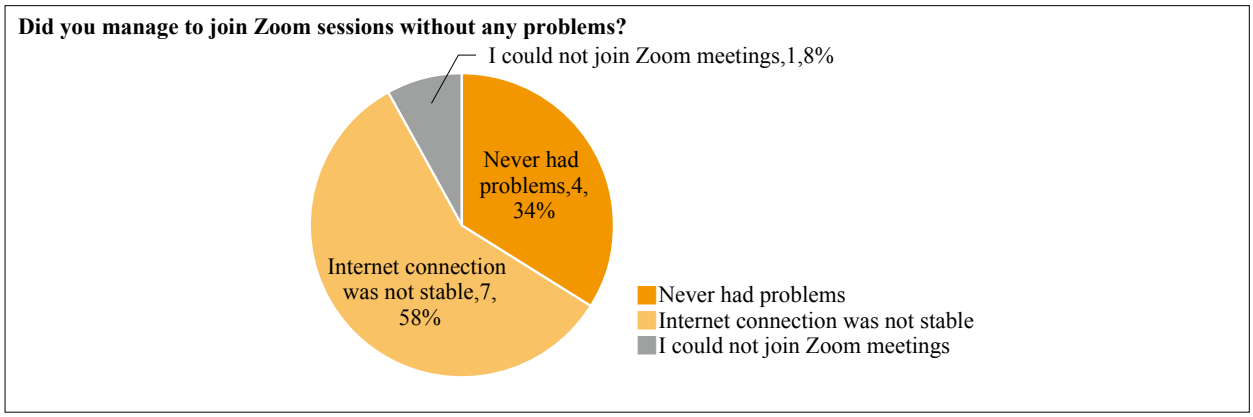
What kind of local trainings/capacity building project sponsored by Japan would you wish to be implemented in your country?

- Preservation and museum display of the Mongolian mound Maykhan-Uul in Ulaanbaatar
- How to analyse lipids. Biological, Physical-chemical and similar analyses.
- 3D laser scanning and SfM technology as well as GIS technologies
- Documentation and monitoring of cultural heritage sites by means of satellite imagery, aerial photogrammetry, LiDAR applications, geophysical survey methods.
- 3D modelling training

6. Technical issues







IV. International Workshop

1. General Information
2. Course Evaluation

1. General Information

International Workshop for Senior Professionals 2022
Disaster Risk Management for Cultural Heritage in the Asia-Pacific Region
Current State and Issues (2): Post-Disaster Recovery and Resilience-Building
Case Studies

1. Background and Objectives

Each year the countries of Asia and the Pacific face disasters caused by natural hazards such as floods, landslides, typhoons (cyclones), earthquakes, tsunamis, storm surges, volcanic eruptions, and so forth. How to protect cultural heritage from these disasters is common issue for all the countries throughout the region.

International Workshop on Disaster Risk Management for Cultural Heritage in the Asia-Pacific Region is a three-year project which promotes the sharing of experience, expertise, and case studies on the issues created by natural disasters in the Asia-Pacific countries, and aims to discuss the ways of minimising the damage to cultural heritage by undertaking measures on an everyday basis. Last year, the workshop focused on the case studies of emergency response. This year, we would like to address the issues of post-disaster recovery and reconstruction. In the third, concluding workshop, we will summarise the opinions expressed in the previous years and discuss the methods of effective disaster mitigation.

In the aftermath of a disaster, even if the local infrastructure is restored and livelihoods and economic activities are maintained, a true regional recovery can only be achieved by reviving the elements of culture and heritage. The relationship between the local heritage and relevant stakeholders is very tight and cultural properties play a profound role in the process of post-disaster recovery and reconstruction. However, this process does not imply an identical restoration of the pre-disaster situation. Post-disaster recovery should concern with creating the conditions which will better resist future hazards. By making the most of the lessons learned from the disaster response and taking measures to prevent the same damage from reoccurring, we can strengthen recovery capacity and the effectiveness of disaster mitigation.

In this year's International Workshop, the relationship between cultural heritage and the local communities were considered through opinion exchanges and sharing various cases related to post-disaster recovery and resilience-building. The role of cultural heritage in the recovery through build back better approach was discussed. At the same time, the workshop seeked to support the development of leaders in this field and establish networks among the professionals in charge of Disaster Risk Management for Cultural Heritage in the Asia-Pacific Region.

2. Organisers

This workshop was organised by the Agency for Cultural Affairs, Government of Japan (Bunkacho); Cultural Heritage Protection Cooperation Office, the Asia-Pacific Cultural Centre for UNESCO (ACCU); National Institute for Cultural Heritage, Cultural Heritage Disaster Risk Management Center, Japan; and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM). Support is provided by the National Research Institute for Cultural Properties (Tokyo and Nara); Nara Prefectural Government; and Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University in collaboration with Japan Consortium for International Cooperation in Cultural Heritage.

3. Dates and Venue

14-22 December 2022

The workshop was hosted online.

*A two-day symposium (21–22 December) took place at Nara Prefectural Convention Center. All events broadcasted online for international participants and attendees.

4. Schedule

A) 14-22 December: Distribution of presentation papers and slides
Keynote speeches and case study reports (Japanese, English) were distributed to all participants before the Symposium.

B) 15 December: Preliminary meeting of the panellists (online)

C) 21-22 December: Symposium (two-way online participation)

21 December 15:00-18:00

Keynote Speech I:

HIDAKA Shingo

Professor, National Museum of Ethnology, **Japan**

The Significance of Supporting Damaged Cultural Property Conservation: Learning from the Great East Japan Earthquake Experiences

Case Studies:

Karma Tenzin

Executive Architect, Division for Conservation of Heritage Sites, Department of Culture, Ministry of Home and Cultural Affairs, **Bhutan**

Post Recovery and Reconstruction of Wangduephodrang Dzong after the Fire

Shuang Hao

Engineer, World Heritage Center of China, China Academy of Cultural Heritage, **China**

Post-Disaster Recovery of China's Cultural Heritage: A Combination of Community Participation and Disaster Risk Management Technologies

SAMPEI Hidefumi

Deputy Director (Curator), Archive Museum of Tomioka; *Assistant Head*, Lifelong Learning Section/ *Senior Staff*, Lifelong Learning, Tomioka Board of Education, Fukushima prefecture, **Japan**

Conservation and Management of Cultural Properties in Tomioka Town, Fukushima Prefecture, developed after Great East Japan Earthquake and Fukushima Daiichi Nuclear Accident

Suresh Suras Shrestha
Joint Secretary/Head, Culture Division, Ministry of Culture, Tourism and Civil Aviation, **Nepal**
Nepal Earthquake 2015: Post Earthquake Recovery and Rehabilitation of Cultural Heritage

Amanda Ohs
Senior Heritage Advisor, Heritage Team, Christchurch City Council, **New Zealand** *and*
Fiona Wykes
Area Manager, Southern Regional Office, Heritage New Zealand Pouhere Taonga, **New Zealand**
Weaving Heritage Values into Earthquake Recovery on Ōtautahi – Christchurch

Michael Querido
Project Officer, Project Development and Management for Heritage Conservation, Escuela Taller de Filipinas Foundation, Inc., **Philippines**
Preventive Conservation of Heritage Structures and Sites Towards DRR: Empowering the Managers, Administrators, and the Local Community in the Philippines

22 December 15:00-18:00
Keynote Speech II:
Aparna Tandon
Senior Programme Leader, First Aid and Resilience for Cultural Heritage in Times of Crisis, Sustaining Digital Heritage, Programmes Unit, **ICCROM**
Building Back Better for, and with Cultural Heritage: Perspectives, Tools and Training from First Aid and Resilience for Cultural Heritage in Times of Crisis(FAR) Programme of ICCROM

Panel Discussion:
"Cultural heritage in Post-Disaster Recovery - towards Build Back Better"

Moderator: KOHDZUMA Yohsei *(Director*, Cultural Heritage Disaster Risk Management Center, National Institutes for Cultural Heritage, Japan)
Commentators: Hidaka Shingo, Aparna Tandon, Shakya Lata (*Associate Professor*, Kinugasa Research Organization, Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University), Victoria Pearce (*Director and Senior Conservator*, Endangered Heritage Pty Ltd.), Morimoto Susumu (*Director*, Cultural Heritage Protection Cooperation Office, Asia-Pacific Cultural Centre for UNESCO (ACCU Nara)).
Panellists: Seven case study presenters involved in disaster risk management of cultural heritage in the Asia-Pacific region and beyond

5. Secretariat, co-operators and cooperating organisations
ACCU Nara and the National Institutes for Cultural Heritage, Cultural Heritage Disaster Risk Management Center, Japan were responsible for the overall management of the symposium. We obtained cooperation from Prof. OKUBO Takeyuki, Director of Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University; Ms Li Hong from WHITRAP Shanghai; Mr IKAWA Hirofumi, ICCROM; Ms Pema, Ministry of Home and Cultural Affairs, Bhutan; and Ms Vanessa Tanner, Heritage New Zealand Pouhere Taonga for recommending panellists. We received support from ICCROM, National Institutes for Cultural Heritage, ICOM Japan, Japan Consortium for International Cooperation in Cultural Heritage for publicising the online symposium.

The online symposium at the Nara Prefectural Convention Centre

Opening address by KOHDZUMA Yohsei

Keynote Speech 1: HIDAKA Shingo (National Museum of Ethnology)

Keynote Speech 2: Aparna Tandon (ICCROM)

Case Study from Bhutan: Karma Tenzin

Case Study from China: Shuang Hao

Case Study from Japan: SAMPEI Hidefumi

Case Study from Nepal: Suresh Suras Shrestha

Case Study from New Zealand: Amanda Ohs and Fiona Wykes

Case Study from Philippines: Michael Querido

Panellists during the Discussion

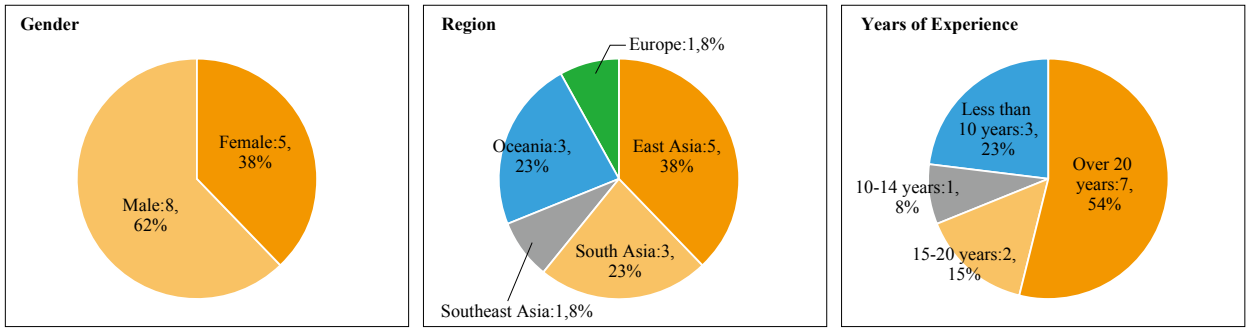
2. Course Evaluation

The online symposium was held on December 21–22, 2022. Two keynote speeches and six case studies were presented, after which the speakers joined the panel discussion. Four Japanese panellists participated at the venue in Nara, while others joined in via Zoom.

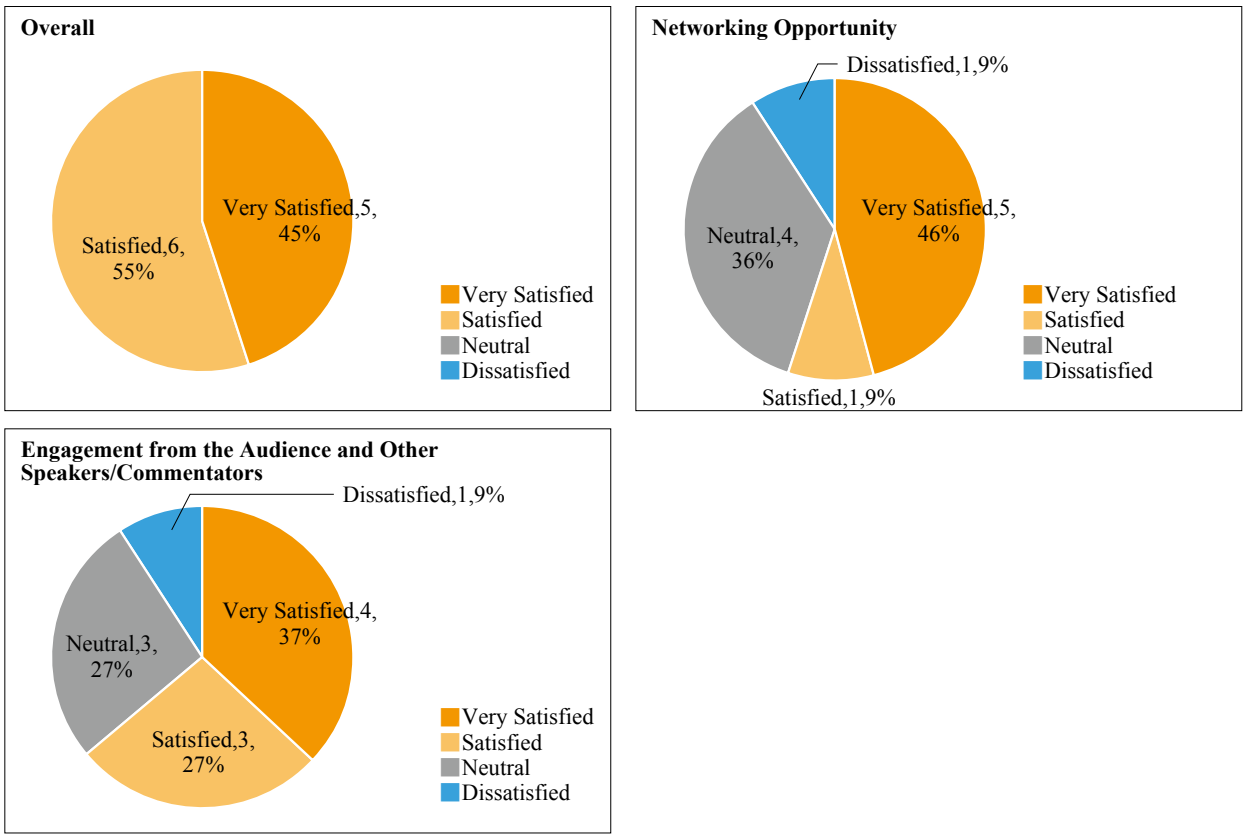
Eleven out of thirteen participants filled in the questionnaire. Taking the last year's evaluation into the consideration, this year the moderator addressed the comments and questions from the observers as well.

There were some opinions regarding the preparation of the symposium to make it better from the panellists. We would like to take them into account when planning the third (final) year's programme.

1. Panellists



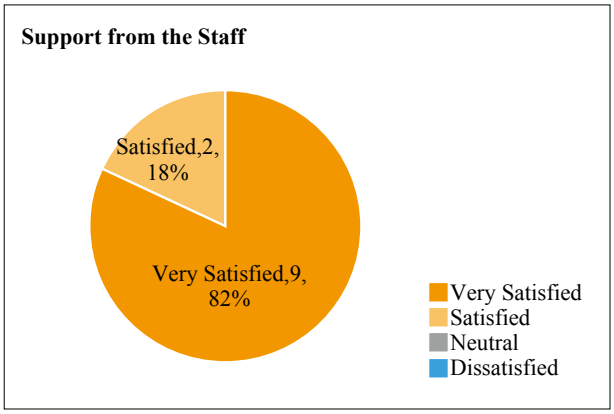
2. Overall

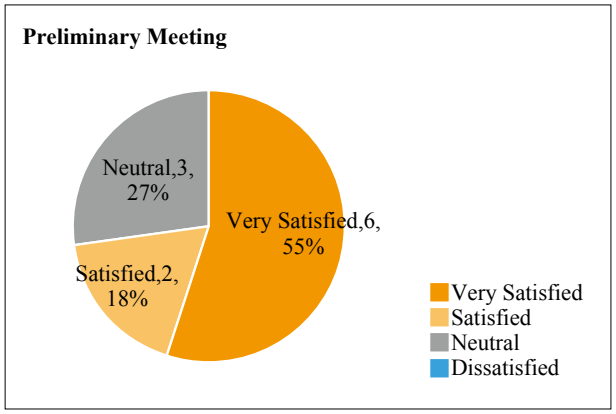


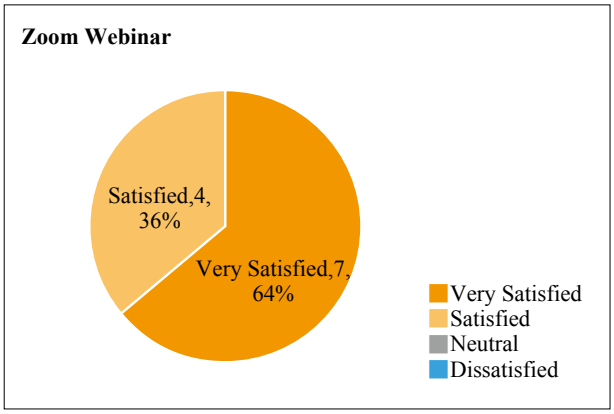
- It may be that a questionnaire could be sent to participants to get their questions or concerns even before the symposium. I felt that with such a diverse audience it may be that embarrassment about language translations or other issues prevented questions to the panel.
- Overall, it was satisfactory; however, I felt it would be nice to allocate a little more time for having questions from the audience.

- More discussion about next year's event might have been useful. It will be an interesting event next year.
- I would like to see civil defence personnel, emergency responders, engineers involved—as well as heritage experts—to reflect the identified need to collaborate across sectors in order to achieve better heritage protection during emergencies.
- Additional matter: Networking of experts/professionals and emergency assistance via networks in the Asia Pacific Region should also be discussed during the workshop. It might be during the panel discussion.
- The presentation time should be 20 minutes with 10 minutes for question-and-answer time.
- I felt it would be better to organise an on-site symposium, though it is not a problem to use an online system in parallel with a physical venue.

3. Event Organisation

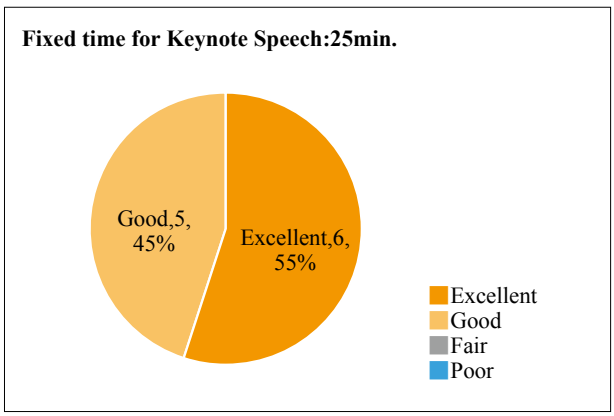


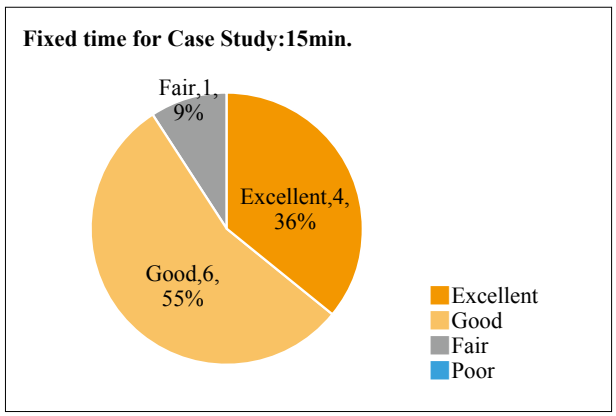


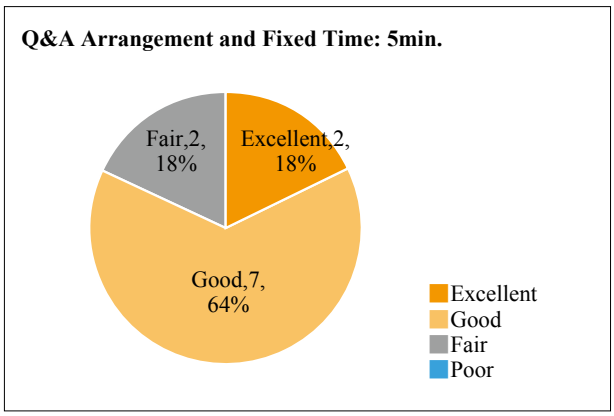


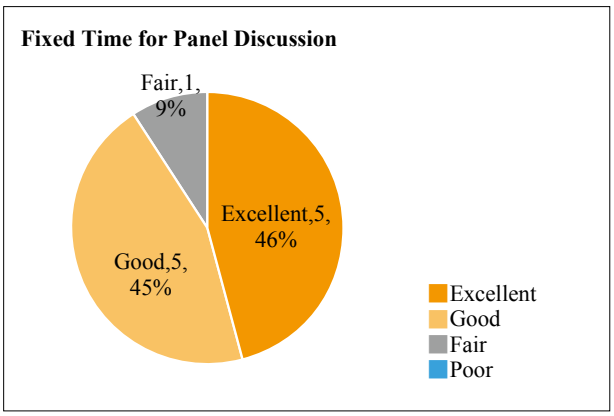
There were no major problems with the overall organisation of the conference. However, several people expressed the opinion that there should be clear instructions regarding the division of roles in the panel discussion, and for this reason, the number of preliminary meetings should be increased.

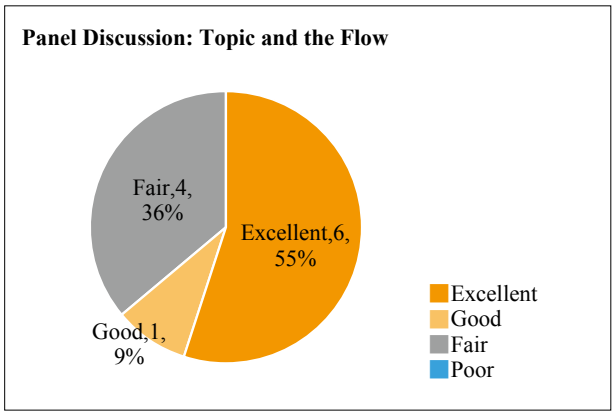
4. Keynote Speeches and Case Studies on December 21–22, 2022

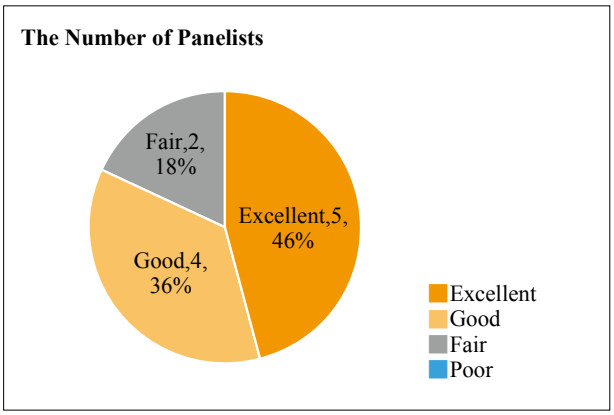


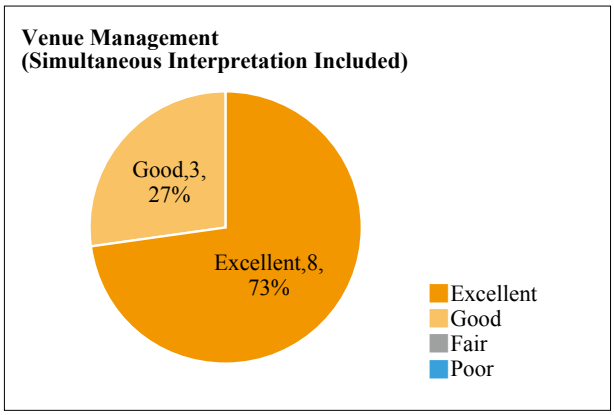












- I was astounded at the quality of the simultaneous translation; it was excellent.
- I felt the time allotment, and the number of panellists were appropriate.
- The management, including simultaneous interpretation in different languages, was excellent and well done.
- Perhaps a little more time needs to be given for questions to be raised, to allow for people to think of their questions. It sometimes felt it a little repetitive when the organiser summarized the talk, and then the questions directed to the speakers also requested them to summarize points already made. It would be good if the organisers could prepare and circulate questions for the speakers in advance, and perhaps other speakers could also prepare questions for the other speakers in advance, so that respondents have time to prepare, and the issues/conflicts and themes are identified and discussed in depth at the preliminary meeting, and then could be looked at in more detail during the panel discussion.
- The number of panellists was a bit larger; however, it was excellent due to the expert moderator. But again, if it could be improved, decreasing the number of panellists to having 4–5 panellists at once with twice the time for panel discussion, divided according to the title and the theme as well.

V. Appendix

1. Group Training Course
2. Thematic Training Course
3. Regional Workshop
4. International Workshop
5. Acknowledgements
6. Staff Members of ACCU Nara

1. Group Training Course

A. List of Participants

Bangladesh
Md. Mukhlesur Rahman Bhuyan
Custodian/Field Officer, Rabindra Kuthibari Museum, Department of Archaeology,
Ministry of Cultural Affairs

Bhutan
Pema
Executive Engineer, Division for Conservation of Heritage Sites (DCHS),
Department of Culture, Ministry of Home and Cultural Affairs

Fiji
Ratu Leone Matanitobua
Tradesman Builder (Technical), Technical Administration & Facilities, Fiji Museum

India
Asha Theres
Architectural Conservation Consultant, Independent Researcher

India
Saumya Tripathi
Principal / Conservation Architect, Vernarch Design Studio

Indonesia
Trisha Karina Lahu
Research Staff, Architectural Research,
Pusat Dokumentasi Arsitektur (PDA) Indonesia

Kiribati
Meere. Kenana
Museum Curator Officer, Museum Unit, Culture and Museum Division,
Ministry of Internal Affairs

Lao PDR
Thongsavanh Khammanichanh
Deputy Director, Plain of Jars World Heritage Office,
Heritage Department, Ministry of Information, Culture, and Tourism

Nepal
Govinda Adhikari
Conservation Engineer, World Heritage Conservation,
Department of Archaeology, Ministry of Culture,Tourism and Civil Aviation

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