

Preface

This training program is funded by world famous architect Ando Tadao, who was the first recipient of the Carlsberg Architectural Prize in 1992. Mr. Ando generously donated the entire amount of his prize money to Osaka Prefectural Government, which was later used to establish this program, now in its 27th year. Since its beginning, the program has invited a total of 241 young, talented architects from 19 countries and regions. It is highly regarded among aspiring architects in Asia as a program that offers trainees an experience like no other.

The program's success is the result of the cooperation of Tadao Ando Architect & Associates, corporate and individual support members who agree with the goals of the program, host companies, other relevant organizations and volunteers. I would like to express my deep appreciation to everyone.

The trainees were given the opportunity to experience Mr. Ando's architecture not only in Osaka, but also in Awaji Island in Hyogo, and Naoshima in Kagawa. For the first time on the program, they also visited Ando Gallery in Kobe City, Hyogo. Trainees had the chance to enjoy traditional Japanese architecture and gardens in Kyoto, discuss and exchang views during the training program led by Osaka prefectural government officials and join a workshop with students at Kindai University. Through these experiences, the trainees were able to deepen their knowledge of Japanese architecture, art and culture.

We hope that this report will be not only helpful for the trainees, but also for other young professionals in Asia working actively in the fields of architecture and arts.

> March 2020 Osaka Foundation of International Exchange (OFIX) Chairman Yoshikawa Hidetaka

Table of Contents

Preface

Ι	Program Overview	3
	Profile of Ando Tadao	4
	Training Schedule	5
	Trainees	6
II	Training Reports	7
	Courtesy Visit to Vice Governor of Osaka and Training Program by Osaka Prefectural Government	8
	Company Training: Obayashi Corporation	10
	Company Training: The Zenitaka Corporation	12
	Company Training: Takenaka Corporation	14
	Company Training: Daiwa House Industry Co., Ltd.	16
	Ando Study Tour and Courtesy Visit to Ando Tadao	18
	Awaji Island, Naoshima and Himeji Tour	20
	Architecture Workshop at Kindai University	22
	Discussion Program and Kyoto Study Tour	24
III	Discussion Program Reports	26
IV	Homestay	35
Wi	th Appreciation	37



(Note: Japanese names in this report are written surname first, followed by given name)

Cover Design by Tran Tuan Hung

I Program Overview

Osaka Invitational
Program for Short-Term
Overseas Trainees in
Arts and Architecture



By utilizing donations from architect Ando Tadao, an Osaka native, and a variety of corporate sponsors, the primary purpose of this program is to invite overseas art and architecture students and young professionals to Osaka and to help them learn about Japanese culture, art, and architecture, in addition to supporting architectural development in the participants' home countries.

Eligibility

Trainees must be citizens of an Asian country, currently living in Asia, and under the age of 35 with a high level of English proficiency. The participants must also meet one of the following requirements:

- Be currently enrolled in or a graduate of a master's or doctorate program in architecture or a related field.
- Hold a bachelor's degree and currently work as an architect or in a related field.

Number of trainees and their nationalities (eight trainees from seven countries) Bangladesh, Cambodia, China, Sri Lanka, Thailand, the Philippines, Vietnam (2)

Program Period

Wednesday, October 2 – Wednesday, October 30, 2019 (29 days)

Hosting Organizations

Osaka Prefectual Government, Kindai University, and the following four general construction companies in Osaka

- · Obayashi Corporation, Osaka Main Office
- The Zenitaka Corporation, Head Office Osaka Branch
- · Takenaka Corporation, Head Office · Osaka Main Office
- Daiwa House Industry Co., Ltd., Head Office Head Branch

Activities

- Practical training sessions at general construction companies including visits to construction sites
- Excursions to visit buildings designed by Ando Tadao and historically significant sites in Osaka and the Kansai region
- Lectures and site visits related to urban planning and regulations hosted by Osaka Prefectural Government
- Architecture workshop with students at Kindai University
- · Discussion Program with an architectural specialist
- · Homestay with OFIX volunteer families



Profile of Ando Tadao

1941 Born in Osaka, Japan 1962-69 Self-educated in architecture Traveled in U.S.A., Europe, and Africa 1969 Established Tadao Ando Architects & Associates

Awards

1979 Annual Prize, Architectural Institute of Japan "Row House, Sumiyoshi" 1985 The 5th Alvar Aalto Medal, The Finnish Association of Architects

1989 Gold Medal of the French Academy of Architecture

1992 Carlsberg Architectural Prize (Denmark)

1993 Japan Art Academy Prize

The Pritzker Architecture Prize (U.S.A.) 1995 1996 The 8th Praemium Imperiale (Japan)

2002 Gold Medal of the American Institute of Architects (U.S.A.) The Kyoto Prize, Japan

2005 Gold Medal of the International Union of Architects (France)

2010 Commander of the Order of Arts and Letters (France)

2013 Order of Culture (Japan)

2015 Grand Officer of the Order of the Star of Italy

Affiliations

2002 Honorary Academician, The Royal Academy of Arts in London

Academic Activities

1987 Yale University, Visiting Professor 1988 Columbia University, Visiting Professor 1990 Harvard University, Visiting Professor 1997 The University of Tokyo, Professor 2003 The University of Tokyo, Professor Emeritus 2005 University of California, Berkeley, Regents' Professor

The University of Tokyo, Special University Professor Emeritus

Representative Works

1983 Rokko Housing I, II (1993), III (1999) Kobe, Hyogo

1988 GALLERIA [akka] Osaka

1989 Church of the Light, Ibaraki, Osaka

1992 Benesse House/Naoshima Contemporary Art Museum & Annex (1995), Naoshima, Kagawa

Chikatsu-Asuka Historical Museum, Kanan, Osaka

Awaji-Yumebutai (Awaji Island Project), Awaji, Hyogo 2000 Fabrica (Benetton Communications Research Center), Treviso, Italy

2001 Pulitzer Foundation for the Arts, St. Louis, U.S.A. Teatro Armani, Milan, Italy Sayamaike Historical Museum, Osakasayama, Osaka Shiba Ryotaro Memorial Museum, Higashiosaka, Osaka

Hyogo Prefectural Museum of Art, Kobe, Hyogo The International Library of Children's Literature, Taito, Tokyo Modern Art Museum of Fort Worth, U.S.A.

2003 4 x 4 House, Kobe, Hyogo

Chichu Art Museum, Naoshima, Kagawa Langen Foundation, Hombroich Museum, Neuss, Germany

2006 Omotesando Regeneration Project (Omotesando Hills) Shibuya, Tokyo The Palazzo Grassi, Venice, Italy

2007 21 21 DESIGN SIGHT, Minato, Tokyo

2010 Chaska Chayamachi, Osaka

2012 Kamigatarakugo Association, Osaka

ANDO MUSEUM, Naoshima, Kagawa 2013

2014 21st Century Christ Church, Hiroo, Shibuya, Tokyo Shanghai Poly Grand Theatre, Shanghai, China

International Library of Children's Literature Arch Building, Taito, Tokyo

2017 Mitsumasa Anno Museum, Kyotango, Kyoto



Training Schedule

	Da	ay	Events	Hosted by	Accomodation
1	2-Oct	Wed	Arrival in Osaka, Orientation	OFIX	
2	3-Oct	Thu	Courtesy Visit to Osaka Prefectural Governmet, Training by Osaka Prefectural Government	Osaka Prefectural	Hotel Awina Osaka
3	4-Oct	Fri	Training by Osaka Prefectural Government	Government/OFIX	
4	5-Oct	Sat	Ando Study Tour (Chikatsu Asuka Museum, Sayamaike Museum, Shiba Ryotaro Museum)	OFIX	
5	6-Oct	Sun		Independent Study	
6	7-Oct	Mon	Architecture Workshop at Kindai University		
7	8-Oct	Tue	Ando Study Tour (Awaji Island)	OFIX	The Westin Awaji Island
8	9-Oct	Wed	Ando Study Tour (Naoshima)		Okayama City Hotel Kuwatacho
9	10-Oct	Thu	Ando Study Tour (Kobe)		1 10 11 5 115
10	11-Oct	Fri	AM: Orientation for Host Company Training PM: Host Company Training	Host Company	Cityroute Hotel
11	12-Oct	Sat	Discussion Program	Guenter Nitschke/	Toyoko Inn Kyoto Shijo- omiya
12	13-Oct	Sun	Kyoto Study Tour	Esther Tsoi	
13	14-Oct	Mon		Independent Study	
14	15-Oct	Tue	Host Company Training	Host Company	Cityroute Hotel
15	16-Oct	Wed			
16	17-Oct	Thu			
17	18-Oct	Fri			
18	19-Oct	Sat	Homestay program	Host families	Host families
19	20-Oct	Sun	Evening: Host Family Gathering	Tiost fairniles	
20	21-Oct	Mon	Host Company Training	Host Company	
21	22-Oct	Tue	Visit to the House in Nipponbashi	Independent Study	Cityroute Hotel
22	23-Oct	Wed	Host Company Training	Host Company	
23	24-Oct	Thu	Host Company Training		
24	25-Oct	Fri	AM: Host Company Training PM: Courtesy Visit to Ando Tadao	OFIX	
25	26-Oct	Sat			
26	27-Oct	Sun		Independent Study	
27	28-Oct	Mon	Host Company Training	Host Company	
28	29-Oct	Tue	Closing Ceremony/Farewell party	OFIV	Hotel Aston Plaza Kansai Airport
29	30-Oct	Wed	Departure from Osaka	- OFIX	7 III POIL

Trainees



A.A. Sonali Erandi
Abeysinghe
(Colombo • Sri Lanka)
University of Peradeniya
Graduate Student



Feng Sheng
(Shanghai • China)
Shanghai Construction Design
& Research Institute Co., Ltd.
Architect



Leakhena Setha
(Phnom Penh • Cambodia)
LSA
Architect



Katherine Leonin Almero
(Quezon City • the Philippines)
AIDEA INCORPORATED
Architect



Wannida Singhadej
(Bangkok • Thailand)
Duangrit Bunnag Architect
Limited
Interior Designer



Nguyen Quy Phu
(Ho Chi Minh City • Vietnam)
MIA DESIGN STUDIO
Architect



Kanij Fateema
(Dhaka • Bangladesh)
International Organization for
Migration
Architect



Tran Tuan Hung
(Nam Dinh • Vietnam)
Freelance Architect

II Training Reports

These training reports were submitted by the trainees, each one of them covering a different part of the program. Please understand that the writing styles of the reports reflect the trainees' experiences, learning and voice, and they may thus differ from each other.

Contributors

Courtesy Visit to Vice Governor of Osaka and Training Program by Osaka Prefectural Government

Company Training

- · Obayashi Corporation
- The Zenitaka Corporation
- Takenaka Corporation
- · Daiwa House Industry Co., Ltd.

Ando Study Tour and Courtesy Visit to Ando Tadao Awaji Island, Naoshima and Kobe City Tour Architecture Workshop at Kindai University Discussion Program and Kyoto Study Tour OFIX

Leakhena Setha (Cambodia) Katherine Leonin Almero (the Philippines) Tran Tuan Hung (Vietnam) A.A. Sonali Erandi Abeysinghe (Sri Lanka)

Feng Sheng (China) Wannida Singhadej (Thailand) Nguyen Quy Phu (Vietnam) Tran Tuan Hung (Vietnam)





Courtesy Visit to Osaka Vice Governor and Training Program by Osaka Prefectural Government

2019 Osaka Invitational Program for Short-Term Overseas Trainees in Architecture and Arts kicked off with training programs offered by prefectural officials.

Courtesy visit to the Osaka Prefectural Government and lectures by officials on Day 1

The eight trainees made a courtesy visit to Vice Governor of Osaka Prefecture Seito Tanaka on the morning of October 3, one day after their arrival in Japan. The Vice Governor greeted them with a welcomeing and encouraging message. Then, Ms. Leakhena Setha, from Cambodia, made a speech on behalf of all trainees, saying that it is a great honor and pleasure for her, as an architect, to have been chosen as a member of the 2019 Ando Program, and expressed her hopes and expectations for the coming month. During a 15-minute free conversation, the Vice Governor inspired them to learn a lot from the architecture and history of Osaka during their stay, and get exposed to foods unique to Osaka and its laughter-loving culture as well. In a friendly and relaxed atmosphere, one trainee, being curious about the prefectural government building, asked when it was built. The 90-year-old time-honored building flanked by the historic Osaka Castle was their first venue for their quest during the one-month long training program.







After moving to the Tsunami/Storm Surge Disaster Prevention Station in the afternoon, they were lectured on the prefecture's administrative efforts, with the help of slides regarding Osaka's Urban Strategy, City Planning, Land Readjustment Projects and Urban Renewal Projects by officials from the Department of Housing and City Development and the Department of Urban and Public Works. Through the lectures, they were able to understand post-war developments and townscape changes in Osaka as well as various activities that have brought about progresses to date. In the exhibition facility, built to raise awareness of disaster prevention among Osaka residents, the trainees took a guided study tour to experience simulated disaster situations after an earthquake and tsunami, which helped them realize the importance of preparedness against natural disasters, and reconfirm the significance of making cities more resilient to them.



Day 2 Training by prefectural officials

Based upon the general understanding of Osaka's city planning and urban strategy they gained on the first day, they continued to receive lectures on specific topics, including development permit building certification, landscape policy, and safety measures for wooden houses. Also, together with watching video and photos about the 1995 Great Hanshin-Awaji Earthquake that inflicted heavy damage on disaster-hit areas, they understood the strong will Japanese people have in working on natural disaster prevention.



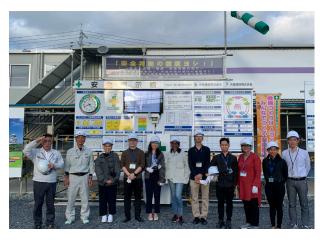
Those lectures on Day 2 were given at Osaka's high-rise Sakishima building, where the trainees were able to see its anti-earthquake reinforcement equipment first-hand such as vibration control devices. After being informed that the installation was triggered by the 2011 East Japan Earthquake, the trainees, with little experience of an earthquake, seemed to have further recognized the necessity and importance of antiquake measures. Finishing the morning lecture sessions, they left for a reconstruction site in Suita City, in the northern part of Osaka, where a project of reconstructing a prefectural housing complex called Fujishirodai was underway. After briefed by construction company officials on the project, the trainees were shown around facilities being constructed, as well as newly built houses. The comparison between before and after the construction offered them insight into the construction method and atmosphere at work.

The afternoon field trip provided the trainees with great

opportunities to closely see the Japanese construction style for the first time since they came to Japan, and coupled with the morning indoor lectures, it helped them feel first hand the extent of Osaka's housing and city development.







Company Training: Obayashi Corporation

Leakhena Setha (Cambodia)

For the last two weeks of the 2019 Ando program, I have been assigned to Obayashi Corporation along with my fellow trainee from Thailand, Wannida Singhadej. We have been sticking to different departments for ten working days. The schedule has been carefully thought out where each day is divided into two parts of morning and afternoon sessions. Both sessions are related to each other, thus, it kept us on track of the company's core focuses which are research, design, technology and development.

On the first day we were welcomed by the General Affairs Department staff. We had received the first greeting from Ms. Fujisawa, who was the person in charge of our training program, at the orientation. Later we took off to the Obayashi Corporation office. Following the arrival, we were greeted by two Obayashi staff, who briefed us on the company profile and operations in the company. In the afternoon, Ms. Fujisawa took us to the Obayashi History Museum for learning deeper about the company. Obayashi Corporation, which is known as Obayashi-Gumi by the Japanese public, is one of the biggest general contractors in Japan. It also has international branches. Even though the group was created in Osaka by Mr. Obayashi Yoshigoro, the headquarter office is now in Tokyo. Mr. Obayashi Yoshigoro founded the company in 1892 in the period of Japan's westernization and modernization. Many buildings constructed by the company still stands today. Ever since, Obayashi Corporation has kept strengthening their specialty in construction industry and been an important part of Japan's construction industry.



On the second day, before we learnt about the present works and projects of the company, we were given a tour of retro buildings in Nakanoshima, the center of Osaka. This gave us the idea of how the construction started back in the beginning of Obayashi first works. In the afternoon, we visited one of their facilities in Hirakata City called Robotics Centre in Western Japan. One staff presented us with the work they do in the facilities. The emphasise was on construction safety and technology. Obayashi Corporation is very serious about safety of their staff and has made efforts to train them in every possible way, including having "danger" and "fear" tests. Demonstration of their designed machinery was done for us to have a clearer picture of the on-site construction work.

On the third day in the Obayashi office, we were brought to the Design Department where we met Ms. Miki. She was one of the architects and managers on the team. She introduced the department structures and roles, as well as the working process of the three departments of architects, structural engineers and facility engineers. A short presentation was made by one of the engineers about seismic structural design used in their projects. The days ended with a site visit of the almost completed building, which was an apartment. We were lucky to witness the quake-resistant structure in the building, called the Dual Frame System. It was an amazing sight.

On the fourth day, we were introduced to BIM (Building Information Modeling) from the iPD (Integrated Project Delivery) Center. The main tasks of the team are to design optimal solution and manage projects before and during construction. We had a hands-on experience with the BIM software called Revit, through which we were taught the idea of how that software works in reality, as well as tested BIM with augmented reality that is currently under development. It is worth mentioning that one of the notable projects that was accomplished with BIM is the restoration of a historical monument, *Taiyo No Tou* (Tower of the Sun) at the EXPO '70 Memorial Park. We later visited the tower after a clear presentation

of their restoration procedures.



On the fifth day of training at the company, the practical works presentation was done by Mr. Iida. The lecture dived into a more detailed role about the operations of the architectural design groups from bidding process to construction. In the same afternoon, we were brought to one of the most interesting projects I have learnt about. It is an office building for the disabled. Obayashi team has an outstanding architect who dedicated months in conducting surveys of people with disabilities to design a functional workspace. The details of the designs are so precise to enhance the comfort of the end-users such as corridors corners, lighting, colors and signages.

The sixth day of the training came to the turn of Development Department to present their work. In order to keep up with the growth of the country, the department has an important job to promote their projects. With the good example of the past *Umekita* I and the future *Umekita* II projects. We had the pleasure to share a delighted *Sukiyaki* lunch with the team. A visit was made to the place connected to *Umekita*, Grand Front Osaka to Namba Parks and Namba SkyO by the projects' architect.

It was the seventh day that we got to join the Construction Technology Exhibition at MyDome Osaka. It was fascinating that all the construction companies have developed their own technologies to improve the resistance to natural disasters in the country.

On the next day, we travelled to Kobe. On the way to the city, we observed a construction site in Nishinomiya. It was a residential complex for seniors with special facilities such as entertainment centers and personal clinics. Upon arrival in Kobe after a healthy Japanese cuisine lunch, we walked up the hilly town to *Ijinkan* to visit the classic houses of foreign residences in the second half of the 19th century.



On the morning of the ninth day, we successfully gave a final report of the training days at the company to the General Affairs Department.

On the last day, we had our last guidance from the Obayashi team in Civil Engineering Department. It was the Sakai Sea Water Pumping Station. It was, by far, the most unfamiliar project I have encountered since it was an infrastructural work. Therefore, it was very educational at the site itself. Afterwards, we were guided to the Sakishima Cosmo Tower to view the future site of the Osaka Expo 2025. To finish the training program, Obayashi Corporation arranged us to visit the Osaka Aquarium KAIYUKAN which was an unexpected treat for us.

The final thought on the Obayashi Corporation training period is nothing more than positive. Every lecture and encounter with the staff taught us in more ways than we could have imagined. Besides learning about the construction industry in Japan, we also learnt about the people behind it. The sincerity shown towards their everyday work was astonishing for me. They came out to answer every question and didn't hide anything for this once-in-a-lifetime learning experience for us. We were privileged to be a part of the company for this very short period of time.

Company Training: The Zenitaka Corporation

Katherine Leonin Almero (the Philippines)

"Love for the Earth and Love for Humankind" is the spirit of the Zenitaka Corporation, aiming to pioneer a new era for the great future through creativity and construction.—Hisayoshi Zenitaka

Feng Sheng and I are fortunate enough to be assigned to a company that values the technology and cultural significance of historical buildings and ruins. Both of us are very interested in traditional buildings, especially wooden temples and castles, so it is a good match that the Zenitaka Corporation has a history of building temples for 300 years.

On the first day, as a welcome gift for us from the company, they brought us to Zenitaka's very first project, the Honganji Temple in Ozaki. The founder of the company, Mr. Zenitaka Rim-emon was deeply involved as a master carpenter in the constructrion. We enjoyed the tour around the temple grounds while learning the traditional temple construction and a bit of Japanese history.





Later that day, we met Zenitaka's President—Mr. Zenitaka Hisayoshi. Mr. Zenitaka formally welcomed us as trainees and gave us a few insights of Japanese design and construction. We also got to share our own respective projects as well as some design practices in our countries.

The second day was dedicated to explore Osaka and its architecture. We got to see some of Osaka's long-standing buildings in the morning as well as its modern buildings in the afternoon. The Zenitaka Corporation showed us, through our architectural walk, the design trends in Japan from the past to present like today's trend of preserving an old building as the podium and integrating a new tower component.

A glimpse to Japan's religion and their corresponding temples, we visited the world's largest wooden building in the world–Todaiji Temple on the third day. We got to experience the grand approach and interior of its main hall. Culture has always shaped our traditional buildings and these temples are no exemption. We got to learn about the evolving traditions that continued to shape the past and present temples. Such translations can also be seen in the old houses of Nara where most are being converted to commercial to cater to Nara's evolving tourist identity.

On the fourth day, a candy factory and a nursery tour, both of which are places focused on children but uses different design scales. Scale is an important design factor and these two buildings were perfect examples of how to design with the users' anthropometrics in mind. In addition to human scale, we visited the longest suspension bridge in terms of central span. With a scale for the community, it connects the Honshu and Awaji Island.

Day five was the most intimate educational tour of our training. We got in-depth insight of the design details and use of traditional tea houses and wooden houses. The most informative and interesting part was the Chochiku-kyo wherein we can see the integration of modern concepts into the traditional Japanese house. Every corner of this small house was well designed and thought of.

The next day was our first day of construction visits, we were loaded with construction methods and technologies

used in challenging sites and situations for the projects that last several years. You can see the dedication and passion of overcoming such challenges like insufficient spaces and intersections with important structures.



On day seven we visited a factory in Nagoya. Designing a factory is usually underrated by most architects because of the minimal attention to aesthetics and focus on industrial function. In reality, this building type is one of the most challenging. This is shown by the design methods presented by the Zenitaka Corporation, providing architectural solutions that meet the functional and budgetary needs but still being human-centric with subtle user-friendly details and aesthetics.

The eighth day was all about museums, built and ongoing constructions. Just beside the National Museum of Modern Art is the future Osaka Museum. We visited the construction site and learn about the unique design of a black cube that seemingly floats above an all-glass ground floor. Quake-absorbing structure has been adopted in this museum, wherein the columns are equipped with isolators and dampers as well as movement limiters.



On the ninth day, we visited *Sumiyoshi-taisha* and the Azuma House in Osaka. Registered as a national treasure, the *Sumiyoshi-taisha* is the head and the most important of Osaka Shrines. It was built in the

Sumiyoshi-zukuri style, the oldest style in shrine construction. Although it was a brief visit, we got to see and compare this old shrine style from the more recent ones we had visited.

As part of our parting gift, our host company treated us to a whole day to USJ (Universal Studio Japan) on the last day. They built the Jaws area of the park and wanted to show us the rides. It was a nice gift because Feng Sheng and I are both fans of Harry Potter.

We ended our training with a small farewell party in our office. We exchanged contacts and shared some insights regarding our whole stay with the Zenitaka Corporation.

Instead of staying within the walls of our office, they took us to travel and visit around Kansai region. We can summarize our unconventional training into two parts. The first five days was mostly architectural tours while the last five days were mostly construction site visits. Instead of learning architecture through books and screens, we got to experience architecture and engineering at first hand. I prefer this kind of training because architectures are not meant to be just seen like decorations. They are meant to be experiential and human-centric. To appreciate architecture fully, you must explore around and within its walls.

Every day was tiring but we got to gain a memorable training that would stick with us longer than just classroom learning. We are very grateful for the Zenitaka Corporation for giving us this unforgettable experience.



Company Training: Takenaka Corporation

Tran Tuan Hung (Vietnam)

Being the participants of the 2019 Ando Program, we, Tran Tuan Hung from Vietnam and Kanij Fateema from Bangladesh had a great opportunity to work at Takenaka Corporation, a well-known company in the field of architecture and construction, not only in Japan but around the world. They have branches over different countries of the world i.e. U.S.A, Germany, Singapore, Vietnam, India etc. Takenaka Corporation has been nurturing "Toryo-Master Builder" spirit for 400 years and they believe that "the business of building is that of an architectural craftsman and not a merchant merely pursuing profit". Their motto is to contribute to society by passing on the best works to future generations. We were lucky enough to take a glimpse at their finest craftsmanship, experience their devotion to work during our training.

The first day we were given a tour around Takenaka Corporation's facilities by Human Resource Department, then got separated to different tutors. Kanij went with Ms. Ichikawa to work on a social project, while I supported Mr. Tanaka on designing a headquarters office building for a steel manufacturing company. The client wanted the building to be the symbol for their products, so Takenaka Corporation proposed a complex structure with many impressive steel joints. The shape of spaces was based on Voronoi diagram, applied in three dimensions and digitally calculated to achieve the most efficient spaces possible. Takenaka Corporation used its own algorithm to move the given points to the best position possible. I joined the process to make terrain for this project.

Kanij said that she and her tutor had visited Kyoto Nishiyama Highschool, which was a new additional part to an existing school. She said that she had learnt different techniques to make classrooms function, construction considerations and explored a cooking classroom for the first time. During the training, she also had a chance to help Ms. Ichikawa in the process of designing warehouse for carpentry tools museum at Kobe. She was involved in making the study models and

preparing the drawings. Also, we were given a lecture on sound design process of Takenaka Corporation. It was a great experience to know about the simulation to determine the quality of sound of different positions in a hall.

In the last few days, Kanij and I teamed up together again to share a one-day trip to Takenaka's Carpentry Tool Museum and Katsura Imperial Villa (*Katsura Rikyu*). This was a day that we really experienced Japanese schedule: extremely tight with no chance for any mistake. Lucky for us, at the end everything worked out just fine.

We arrived at Takenaka's Carpentry Tool Museum at Kobe in the morning. The building took a modest, seclusive form, existed harmonically among the trees and received a tour guided by the its designer, Mr. Suga. Through him we learned many interesting back stories about the project, its design and construction process. The whole area was formally a private guest house for Takenaka Corporation, and was forced to change its shape during the construction of the Shinkansen station nearby. Many parts of the old facility were kept during the construction of the new museum, including trees, rocks, lanterns and the main gate. Aiming to exhibit the most impressive carpentry techniques, the architect wanted to make the building an exhibition itself by showing the best crafting skills in every element: structures, roof, tiles and joints.





We reached *Katsura Rikyu* by train in the afternoon, and attended a one-hour tour. Even in heavy rain the landscape was still surprisingly beautiful with every corner, every window. Every view point was calculated carefully. Our tour is a walk through a chain of tea houses surrounding the villa. The five different teahouses are all separated from the main building and are isolated from everything except for the nature around them. To reach each building, one must take a path that doesn't reveal the view of the pavilion until the last moment. The tour was brief. However, it was enough to leave a long lasting impression.



Aside from company work I also had some nice talks with my tutor, Mr. Tanaka. Although his hands

were full with a building project, he still managed to share a coffee or a meal with me, almost every day. We discussed about job, architecture, life and Japan. I learned many things from him through these brief chats, which to me are the most memorable moments in company training period.







Company Training: Daiwa House Industry Co., Ltd.

A.A. Sonali Erandi Abeysinghe (Sri Lanka)

We, Sonali Abeysinghe from Sri Lanka and Nguyen Quy Phu from Vietnam, believe it's a great honor and a privilege that we were arranged to get a 10-day company training at Daiwa House Industries. I must say that the knowledge and experiences about disaster resilient sustainable construction industry as well as the leanings to my life are priceless and perfectly matched with my expectations to learn. I'm a person who always dreams big and works hard to achieve those. Therefore, I believe that working in Daiwa House Industry while learning the company's practical theories and business management technics was one the most amazing opportunities I would experience. From the training we gained a wide range of knowledge and understanding about the company strategies, current projects and most importantly newest researches and technologies.

After the orientation which was conducted in City Route Hotel we were accompanied to the Daiwa House head office building in Umeda by Ms. Hashimoto and Ms. Nakatani, who coordinated the training program throughout our two weeks at Daiwa House Industry. The training started with a presentation on the general organization and the work of the company. We were also given an idea about the company's history and how they started pre-fabrication of houses. Then the General Affairs department arranged a tour in the 22 storied head office building where they showed us the power plant, the wastewater treatment plant in the basement, the chillers, helipad on roof top which is there to use in emergencies, solid waste management systems maintained inside the building and the overall function of the headquarters following the ecological point of view. We also learned about detached and apartment housing designs and environmental projects carried out by Daiwa House Industry through a few lectures. We also learned the new software used by the Daiwa House Industry, Dream PITT (Presentation Information Technology Tool) and recreated models of traditional houses from our respective countries using the software.

We also got the opportunity to spend a few days at their

Central Research Laboratory at Narayama and Nara factory during our training period. Central Research Laboratory exhibits all the research work that the company is involved in. We also got the opportunity to visit D'Museum in the Central Research Laboratory, where was premised of different housing types, Daiwa's history, technological innovations and future technologies and the Nobuo Ishibashi (the founder of Daiwa House Industry) Memorial Museum.





We experienced lectures on research work which are being carried out as well as the hands-on experience on different aspects of construction industry including sound proofing, thermal resistance walls, earthquake resistance structures and special construction methods used, roof inspection technologies, green designing and environmental aspects such as green wall technologies and corrosion resistant materials used in construction, fire proofing, energy and resource efficient equipment for kitchens. We also had a chance to learn about different and special projects that Daiwa House Industry is carrying out, including Olympic projects and COI (Center of Innovation Program) project. Nara factory is involved in manufacturing the pre-fabricated materials (mainly walls) for the construction of the Daiwa House products such as detached and apartment housing. The staff of the factory directed us to different sections of the manufacturing chains in the factory where different parts were manufactured.

Apart from the lectures, office activities, research and manufacturing observations, we were also involved in several site visits to places, buildings and construction sites. Hannan Sky town and SMA Eco Town are two towns that we visited to observe the housing designs and city development activities which Daiwa house had carried out since centuries ago. The visit to a shopping mall (Foleo Ootsu-Satoyama) which was designed, constructed and operated by Daiwa House was another unique experience as we could see how they had planned, designed and constructed the commercial buildings as well.



We also had a visit to the Condominium Gallery of PREMIST Tower Osaka Uehommachi, which is a site office and a business center of an apartment complex which Daiwa had designed and construction was being carried out. Then we were accompanied to a construction site of Daiwa House in Hommachi where the finishing work of the building had been mostly carried out.

Visit to the National Museum of Arts in Osaka was another experience which Daiwa offered us to admire and learn out of the art and culture of ancient Osaka and Japan. The visit to the Osaka Marubiru building can't be forgotten as the green design of that old building was done by Daiwa House Industry with the design collaboration of Mr. Tadao Ando. Through this visit, we got a brief idea about the design, greenery technologies and the structural stability considerations that they have considered in doing a green design to an existing building. The visit we had to Jo-Terrace Osaka, MIRAIZA Osaka-Jo and Osaka castle was really

impressive as we could observe and learn about public space designing, landscaping of parks and gardens, auditorium and public building designing and about Japanese historical arts and crafts.



Daiwa House Industry is involved in not only construction industry but also many other businesses. Robotics business is one of those businesses that they are rapidly working on and highly investing on as they believe it's the future of the construction industry as well. We got to learn and have hands-on experience on a few robots related to construction and health care industries, which was produced by Daiwa House Industry.



Finally, we would like to express our sincere gratitude to all the staff of Daiwa House Industry for providing us a valuable opportunity like this. We believe that the experience we received through this training will benefit ourselves as well as our countries, Vietnam and Sri Lanka which are both still developing countries. I can't forget the sincerity and the humbleness of Daiwa's staff that I had met during the two weeks of training. I believe they are an inspiration that we shall be taking home for a personal and a nations' betterment.

Ando Study Tour and Courtesy Visit to Ando Tadao

Feng Sheng (China)

October 5 Ando Study Tour

On October 5, we were organized to visit three museums in the suburb of Osaka City, which were designed by Mr. Ando. They are respectively Chikatsu Asuka Museum, Osaka Prefectural Sayamaike Museum and Shiba Ryotaro Memorial Museum.



First, we arrived at Chikatsu Asuka Museum in the morning. This building surrounded by the woods was designed by Mr. Ando. If one stand on the first floor, one can see a form of a keyhole-shaped mound in the basement floor. One can go up to the roof by the elevator in a museum, where is a space with many stairs and a high tower called *Yomi* in the center.

The interior of the museum consists of four parts:

- 1. The Chikatsu Asuka and international influence (first floor): The people of Japan gleaned knowledge and culture from Asian continent.
- 2. Origins of an Ancient Realm (Middle Basement
- Basement): The ancient state started in the time of Kofun period when many of the tombs like Nintokuryo were built.
- 3. Modern Science and our Cultural Heritage (Basement): The archaeological research & investigation is heavily dependent on the modern science & technology.
- 4. Special exhibition room (Basement): Several times of special exhibition are held in a year.

After that, we arrived at the Osaka Prefectural Sayamaike Museum. The building designed in 2001, is located on the edge of Sayama reservoir, which is the oldest reservoir in Japan. It embodies the three elements of Mr. Ando's architecture—reliable materials, complete geometry and artificial nature.





A complete section of the dam is placed in the museum so that people can see its arrangement. In terms of architecture, the museum also becomes an important part of the reservoir. In my opinion, this is just the aesthetics of Mr. Ando's architecture design.

Finally we arrived at the Shiba Ryotaro Memorial Museum. We are lucky to have a staff from Ando Tadao Architect& Associates to explain it for us. It's said that this museum was built with the concept of "Museum of Feelings". Mr. Ando hopes to create a place where visitors can experience a variety of emotions while conversing deeply with themselves or Shiba Ryotaro's works.

The museum consists of two parts, Shiba Ryotaro's house and a newly built museum. Shiba Ryotaro worked here until his death on February 12, 1996. The study room is kept as what it was like when he was alive. You can proceed to the new area through a curved glass corridor. The museum was designed to visualize the creative world of Shiba Ryotaro. Instantly when you

enter inside, you'll be overwhelmed by a huge bookshelf that stands 11 meters high with 20,000 books. The bookshelf allows you to have a view of a huge number of Shiba's works and contains a part of the reference materials he collected and read over years. Some people call this area, "Shiba's Other Study". I suggest one to sit on the chair and look up at the wall of books to feel the author's spirit.





October 25, the Courtesy Visit to Mr. Ando

On October 25, we had our meeting with Mr. Ando. This was the most exciting moment of this program. We finally met the master of architecture—Ando Tadao.

After attending the training of the host company in the morning, we gathered at 13:45. It is said that we could have a talk with Mr. Ando and get his autograph that day. First, we visited the Maruzen & Junkudo bookstore designed by Mr. Ando near the Umeda station. We carefully selected Mr. Ando's book there, looking forward to his signature.



Then we arrived at Ando Tadao Architect & Associates, which is a representative multi-storied building with Mr. Ando's philosophy. In the conference room we finally met Mr. Ando. He seemed to be full of energy compared to his actual age.





Mr. Ando kindly introduced his design concept, saying that "real architecture exists in architectural culture". He talked a lot about creating architectural culture, which is the true point to catch people's soul, in rapid economic growth. When one sees the building that can catch people's soul, one would be moved and be given energy to forward. His words really encouraged us, the younger architects of the new generation to carry on with our job. I am very grateful to Mr. Ando for his encouraging words. Of course, another exciting thing was that he signed on every book we had asked him with our name and attached a sketch. The time with the master is wonderful and will sure be the most precious memory in my life.

Awaji Island, Naoshima and Kobe City Tour

Wannida Singhadej (Thailand)

The Study tour took place from October 8 to 10, 2019 with the planning to visit Tadao Ando's architecture in Awaji Island, Naoshima and Kobe City.

On the first day of the tour, we went to the Awaji Island to visit the Honpukuji temple and the Awaji Yumebutai. We would later on spent the night at the Westin Awaji Island hotel in Awaji Yumebutai.

The Honpukuji temple, famously known as the Water temple, has a narrow entrance path that is defined by the tall concrete wall. With the complimentary of the narrow and tall entrance, it gives the feeling of peace while walking through it. After a walk with a limited view of just the concrete wall on both sides, the trees at the end of the path and the sky above, we finally experience the first feeling of exploding space when we saw the full view of the Water temple. The second entrance of the temple is a hidden stair in the center of the enormous lotus pond. The sacred space is located underneath the pond.



After the temple we went to the Awaji Yumebutai where we got to see the tea house, the chapel and the stepped landscape. The Awaji Yumebutai consists of the conference center and the hotel. The tea house, located in the conference center zone, is a private section which is open for only high ranking people to enter on a special occasion. The tea house consists of several spaces raised from the water level. Each space is designed for serving different occasions. Then we moved on to the chapel which is located in the hotel area. When you look

up in the chapel, you can see crossed skylight which is shaped by four rectangle ceiling panels. On top of the chapel is a shallow pond which has flooring made of scallop shells. After this we walked to the outside of the building to see a beautiful landscape and many nice spaces that show how to perfectly combine the landscape with architecture.





On the second day, we went to Naoshima to see a lot of museums which were the Ando Museum, Lee Ufan Museum and Benesse House Museum. First, we went to the Ando Museum. The architect transformed an old house into a museum by keeping the exterior look as it is whereas the interior has been redesigned. Not only they are showing pictures and models of Ando Tadao's works, but also, they are replicating an echo space where visitors can experience. Next, we went to Lee Ufan Museum. The entrance of this museum was designed to be a narrow path defined by tall concrete wall on both sides. Instead of walking directly to a bigger open space like the Water Temple, the path leads to a small reception area before entering an outdoor exhibition area. They displayed the arts both in the open space outside and inside of the building. The last museum was Benesse House Museum. The building consists of museum and hotel sections constructed to allow a view of the Seto Inland Sea. Unfortunately, we were only allowed to access the museum area.



On the last day, we went to Kobe to visit the Hyogo Prefectural Museum of Art and Chapel on Mount Rokko. We went to Hyogo Prefectural Museum of Art first. Unlike other buildings designed by Ando Tadao, we can see not only concrete as a key material but also a black galvanized steel as well.





The highlight of this building is an outdoor void with a spiral slope that give access to exhibition entrance on both floors. At first the museum consists of two boxed shaped buildings but later on another building was added in between. That newly added building serves as Ando Gallery which showcases works of Ando Tadao. The museum plaza is designed to take view from the seascape behind the building. After the museum, we moved on to the Chapel on Mount Rokko which is also known as the Church of Wind. It's not opened to the public usually but fortunately for us that there's an event held in the Rokko Mountain area during the time of visiting so we can enter the church. To enter

the church, we had to walk along a long corridor to go to the entrance. If you look closely, you can see that the proportion size of material and the structure is coordinately designed to fit each other perfectly. This coordinate design can be seen throughout the building, the church itself and the corridor. When entering the church, one can sense the natural light coming from the only window on the left side of the space. The big window helps bring green scenarios to the interior space. Like the proportion size of the material and the structure of the corridor, furniture arrangement is coordinately designed as well. This characteristic can be found in Ando Tadao's early works.



From the study tour we got to experience the spaces designed by Ando Tadao, many of which are difficult to access by ourselves. The key designs of Ando Tadao that we can learn from by visiting his buildings are the use of light, the impact of the space, the tectonic thinking and the proportion design. It had been an absolutely good experience for young architects and designers to be able to experience his works by themselves other than only reading from books.

Architecture Workshop at Kindai University

Nguyen Quy Phu (Vietnam)

The architecture workshop, or more precisely, Kindai University campus tour and an architectural design presentation on "Micro Public Spaces" were held on October 7th, the first day of the second week in Japan. The workshop was held from the morning at 10:00 to the afternoon at about 18:00 in the premises of Kindai University, Osaka, Japan.

1

We were greeted by students from Faculty of International Studies at Kindai University in the morning. They introduced us to all the facilities of the campus, including the new constructed works that they themselves very much enjoyed, e.g. the cafeteria called E3[e-cube] and "Academic Theater", which was a new opened combination facility of library and labs.





As we walked around the large campus, the Kindai University students made an effort in communicating with us in English, introducing about aspects of their student life. The first place we walked into was a common cafeteria, where the students can have conversation in English with native speakers. It was a "cool" building.

We then went on with a small architecture exhibition, in which we saw books, drawings and models on a wide range of architectural projects.



Another building we went into was the new canteen, where in my opinion, the architectural details were similar to that of the architectural works by Kuma Kengo. The new canteen definitely amazed some of us.





The building that I like the most in the whole campus is definitely the "Academic Theater". The welcoming atmosphere of the architecture was clearly showed. I was in trance by the shelves of books immediately by the time I entered the architecture. The open atmosphere matches the welcoming attitude of the students perfectly.

We then shared lunch together, it was a typical lunch buffet with sandwiches and fruits, we shared our short time together conversing about our unique cultural backgrounds, the girl sat in front of me was in Vietnam very recently for her summer vacation so I had my lunch time inquiring about her experience in my own country. We then had to say good bye to the International Studies students for the afternoon event, which we would participate in with the graduate students from the major

of Architectural Design, Graduate School of Science and Engineering Research.

Now as I have my time to reflect on the brief experience, I am certain that the students from the Faculty of International Studies have contributed greatly to the great outcome of the day.

2

The afternoon started by a quick lecture then an excursion around the neighborhood surrounding the university. We then had a short presentation about our designs. We sat together in a room of the new complex of library and labs (Academic Theater). The lecturing was beautiful, the sky was very blue and leaves were astonishingly green, I had a great time sitting there and observing how greatly this simple work of architecture contributed to this afternoon lecture.





The lecture was mainly about public space, about how the Japanese society is pushing the quality of public space forward. I learnt something new that day even in the brief one-hour introduction of what Japanese architects were doing. After the lecture, the presentation started. Actually everyone of us have been given an assignment to do a research on "the Global Micro Public Spaces" in our own countries and a proposal on the same theme for an imagined festival called "KINDAI International Street Book Festival".

The concept of "Micro Public Spaces" originally came from Atelier Bow-wow. I did the presentation on the research I did in Vietnam with the conclusion that "Micro Public Spaces" in Vietnam are ones shaped by the behavior of people. In the predefined functional urban landscape, people still find ambiguous places for their own personal interpretations of their living environment. This expression, this creation made by people somewhat make Vietnamese cities exciting and worth exploring. Therefore, I presented that my design approach for the imagined festival should be "Small and humble intervention" and "Let people be the expression". I made a proposal that the street will be of pedestrians, the locals can support by giving out chairs and table, bringing their living room to the outdoor for treating international tourists. Storefronts will be modified, adjusted by adding foldable, removable furniture to serve the festival.

The presentation section ended with the first prize being given to one of the graduate students of Architecture Design, whom I had voted for as well. We then had a group photo together and our short day at the university ended.



Discussion Program and Kyoto Study Tour

Tran Tuan Hung (Vietnam)

Discussion Program

We arrived at Kyoto on October 12 to begin our discussion program with Professor Guenter Nitschke, Director of the Institute for East Asian Architecture and Urbanism, and Ms. Esther Tsoi, lecturer at Kyoto University. It was rainy and windy, as a result of the Typhoon Hagibis that hit Tokyo on the same day.

Professor Nitschke began the program with an insightful lecture about the typical "arm chair" form for Asian citadel planning and changes of Kyoto city over time, as well as the unusual neighborhood system "*Cho*". He also talked about his vision for a future Kyoto. Following the lecture is the presentations of 8 Ando trainees on "Renewal and Preservation in a Sustainable Global Environment".



The first speaker, Sonali Abeysinghe from Sri Lanka introduced a case study on providing a sustainable solution for a damaged bridge in Puttalam. Instead of demolishing the old one and building from scratch, they chose to repair and retrofit it.

The second speaker, Leakhena Setha from Cambodia talked about the current situation of wood recycling in Cambodia, and presented her own project related to the matter.

Wannida Singhadej from Thailand explained the flooding situation in Bangkok due to urbanization and their attempt to improve it by creating a green porous network which consists of parks, urban farming areas and green buildings.

Next, Kanij Fateema from Bangladesh presented her strategy to resurrect the canals of Dhaka, which once were beautiful out of the current miserable state.

Feng Sheng from China discussed a case study for sustainable development in Shanghai, which was a project that transformed an abandoned factory into an art center. The main structures were kept in order to preserve their relations with urban memories.

Katherine Almero from The Philippines talked about the revitalization process of a heritage area in Manila.

Nguyen Quy Phu from Vietnam, after brief introduction about his home, heritage city of Hue presented three of his own projects in renewal and preservation direction.

I, Tran Tuan Hung from Vietnam talked about two noticeable theories of sustainable architecture in Vietnam, represented by two local architecture firm, Vo Trong Nghia Architects and a21 Studio.

Discussion program ended with Professor Nitschke talking about his own perception about sustainability and announcing the prize for the best two presentations. Katherine was awarded with a calendar of Japanese gardens and Phu received the book named "The Silent Orgasm".



Kyoto Study Tour

The following day was Kyoto Study Tour with the professor and Ms. Esther. First, we visited *Shisen-do*, a temple which is formally a hermitage built by Ishikawa Jozan, who was a Japanese scholar. The spaces were carefully calculated, guiding visitors into a journey toward inner peace.

It began with a long stone corridor elevating people uphill. The path served as a portal separated visitors with the street, the slightly dimmed light by the shade of tall trees on both sides slowly calmed their mind. At the end the path opened up, showing a modest yet elegant wooden house, surrounded by its white sand garden. A peak to the inner garden was offered from outside the main gate, promising something exceptional waiting beyond. Here, once again visitors stepped up—this time on the temple's wooden platform—and behold the garden. The Japanese sliding doors are removable, and without any of them blocking the view, the house turned into a huge veranda dedicated solely to the beautiful scenery.





After this we visited *Nobotoke-An*, an old house which is just on the opposite side of *Shisen-do*. We attended a

casual tea ceremony there and learned more about the meaning behind it.





In the afternoon we visited *Yaoichi Honkan*, an integrated food-theme facility. An actual farm was put on the rooftop producing vegetables and fruits, which were delivered directly in the supermarkets and restaurants below. The building showed a promising business strategy to integrate sustainability into urban life.

Our last stop is *Mumeisha*, a traditional *Machiya* merchant house built in 1909 at the center of Kyoto city. The house is two times bigger and two times deeper than normal townhouse, built by a family selling textiles for kimonos. To react to the threats of earthquake and typhoon, the columns were not fixed to the base so the house would move slightly. The room facing the street was used for business, and the interior area, including two inner gardens was used for family living.

The tour showed clearly the impressive combination of clever practical thinking and deep life reflection within Japanese traditional architecture, which are still extremely essential to the modern world.



III Discussion Program Reports

These discussion program reports, submitted by the trainees, are summaries of the reports presented at the Discussion Program on October 12, supervised by architect Guenter Nitschke on the topic of "Preservation and Renewal in a Globally Sustainable Environment."

Discussion Reports

- A Case Study on Providing a Sustainable Solution for a Damaged Bridge in Puttalam, Sri Lanka
- · Wood Recycling in the Kingdom
- · Bangkok the Porous City
- · Resuscitating the Canals of Dhaka
- Preservation and Renewal in a Globally Sustainable Environment
- · Calle de la Escolta: Old Manila's "Queen of Streets"
- Preservation and Renewal in a Globally Sustainable Environment
- Preservation and Renewal in a Globally Sustainable Environment
 –Unique Sustainable Theories in Vietnam

A.A. Sonali Erandi Abeysinghe (Sri Lanka)

Leakhena Setha (Camobdia)

Wannida Singhadej (Thailand)

Kanij Fateema (Bangladesh)

Feng Sheng (China)

Katherin Leonin Almero (the Philippines)

Nguyen Quy Phu (Vietnam)

Tran Tuan Hung (Vietnam)



A Case Study on Providing a Sustainable Solution for a Damaged Bridge in Puttalam, Sri Lanka

My case study is based on a railway bridge in Puttalam, Sri Lanka. I chose this case study due to the recent increase in cement production in the factories of Puttalam, which has resulted in people using heavier locomotives and taking more trips to transport the materials. A similar case can be seen on the railway track from Puttalam Cement Factory to Limestone Quarry, which is used for transporting limestone. There were several bridges along this railway track that needed to be assessed to determine whether they could be used safely in the future, or whether new bridges needed to be built. For the assessment, a condition survey was carried out on all bridges along the track from Puttalam to Limestone Quarry, which found that one of the bridges was weak having been damaged and displaced from its abutments by past floods. The span of the bridge was 34m long and 5.2m wide. It was a single spanned, double lattice girded, wrought iron railway bridge located in Puttalam (Bridge No. 2 on the railway track between the Puttalam Cement Factory and Limestone Quarry, used for transporting limestone) and was built about 40 years ago. Having been damaged by floods, the bridge was being used thanks to temporary timber abutments for several years.

During the condition survey, through visual inspection, several deficiencies were identified such as corroded places in the bridge deck and improper alignment of the rail track on the bridge deck. Then an analysis called Finite Element Method (FEM) was done by modeling the bridge by using general purpose SAP 2000 (structural software for analysis and design) and validating the FEM by using the results of a field loading test. Both static and dynamic loading tests were carried out for 5 different loading cases to measure the displacement, strain and acceleration at pre-determined critical members of the bridge. The future fatigue life of the bridge was estimated using the prescribed last method. This found the bridge to have an estimated life of 30 years with a factor of safety of 3.1 (93 years/30 years). Further, using the validated model, the ability of the bridge for higher loading situations was confirmed.

After a proper cost-benefit analysis, the ratio for retrofitting work and the construction of new reinforced concrete abutments was much higher than constructing a new bridge with many social and environmental benefits as well. Therefore, it was decided that rehabilitation of the bridge with necessary. Retrofitting work is more sustainable than demolishing it and constructing a new bridge. As per the assessment results, the following improvements were carried out:

- Placing the bridge on newly built reinforced concrete abutments:
- Making the railway track straight near the bridge to reduce lateral forces;
- Cleaning the steel structure completely using sand blasting techniques;
- Rectifying defects and retrofitting or replacing defective parts;
- Applying a corrosive resistant paint;
- Placing new steel sections for missing elements and high-strength bolts for all missing rivets;
- Aligning the railway track as smooth as possible to reduce vibration;
- Placing sleepers at regular intervals;
- Providing a proper river bank protection;
- Undertaking regular maintenance.

The bridge is now in use after being repaired, retrofitted and placed on new abutments.



Bridge before repairing (With corroded load carrying elements)



Bridge during repairing



Bridge before and after moving from old timber abutments to reinforced concrete abutments



Bridge after improvements (repaired retrofitted and placed on new abutments

by A.A. Sonali Erandi Abeysinghe (Sri Lanka)

Wood Recycling in the Kingdom

For the discussion theme of "Renewal and Preservation in Globally Sustainable Environment", I chose the topic of wood, a natural construction material. I'd like to discuss how Cambodia acts to renew and preserve the usage of old wood, known as reclaimed wood.

With the global acceptance of economical strive, Cambodia in recent years has been modernized. Construction has developed in many corners of the major cities. Due to the preference for bigger, lower priced and faster built houses with concrete and bricks, wood is becoming less popular as a construction material, compared to the old days. However, wood is still seen in some areas. Another evidence of unpopularity is illegal logging which is a big issue in the country. This problem has also brought up the price of wood making it a luxury and problematic material to incorporate in construction.



Regardless, there are three ways that old wooden material as well as old wood structures are being used in the Kingdom. The first method involves furniture-making, due to the wood's beautiful texture and the quality of low moisture content which makes it easier to craft. The second method is to

have the reclaimed material serve as decorative elements in interior spaces with the help of innovative designers. The reason for its use is the same as the first method. The third method concerns not only the renewal of the material but the preservation of the architectural style of Cambodian housing, where the houses are relocated to a different setting yet same idea for accommodation. All methods are commonly seen and chosen to enrich hotel and restaurant businesses.





Kampot River Resort http://kampotriverresidence.com/villas/riverside-khmer-house.html

Aside from the material itself, I wanted to show that there is an activity that influences the use of wood. I mentioned carpentry through a project that I have created by designing and building modular homes in Cambodia. Since this craft is the direct link to the material, it is vital to generate its structural possibilities in construction. It is sad to say that as the popularity of wood as construction material plunges, the need for carpenters has also decreased. The skill of their craft is not valued and the community focuses less on nurturing the young for this profession. That is why, through my project, I aim to raise awareness of not only the value of the reclaimed and raw material, but also the skill to process it.





LSA – Niron House Models: MPH-32-R & MPH-22-F. 3D images

This is the first step of my steps to embrace this beautiful material and thus help preserve the profession. Along with this idea, in order to be able to walk alongside the modernization of the world, this skill has to be renewed in a way that connects creative design and advanced technology. This refers to learning new techniques in the craft and do on-site experiments. For inspiration, I have looked to Japan which is one of the best specialists in timerized architecture.

To conclude, even though renewal and preservation of wooden material is not a common thing to look into on a global scale at the moment, I believe that we need to support the ideal from the small beginning before it gradually becomes a big problem in the future. I am putting myself in this problem right now as to be ready for what comes next.

by Leakhena Setha (Camobdia)

Bangkok the Porous City

24 years ago, in 1995, Bangkok suffered major flooding for a two-month period. That was when the late King Bhumibol Adulyadej's initiative for a detention basin plan for Bangkok was established. The project was called "Gam Ling" Project (or "Monkey Cheek" Project in English). The idea of the project was to create a detention area to hold water before releasing into the sea by gravity flow, or to release it for some useful purposes later on. The procedure is similar to the way a monkey keeps food in its cheeks and consumes it later when it is hungry. Since then, several detention basins have been built following that idea. However, another instance of major flooding hit Bangkok again. In 2011, many provinces in Thailand including Bangkok suffered from serious floods for almost 6 months. What went wrong during that period of 16 years?

Many years ago, Bangkok was chosen to be the new capital of Thailand because of its location at the delta of the Chao Phraya River basin. But even during that time, Bangkok's basin area level has already been below Chao Phraya River, which runs through Bangkok at two meters above sea level. Nevertheless, due to rapid urbanization, many buildings have been constructed on soft land that is much more suitable for growing plants rather than construction. With the construction of more buildings, the pathway for the water to flow or to be absorbed through the land is further lessened. When heavy rain occurs, Bangkok is blocking the flow of water with its concrete buildings and detaining massive amounts of water within this concrete barrier. The purpose of choosing this wetland for a growing capital city in this modern world seems to have been an incorrect choice at this moment.

According to the World Bank's report, by 2030, 40 percent of the Bangkok area will be underwater due to climate change which has brought about rising water levels. Not only is the sea level increasing 4 millimeters every year, but Bangkok's land level is also decreasing one to two centimeters every year. At this rate, Bangkok does not appear to be an ideal choice for a capital city

in this modern world of construction, unless something changes.

Chulalongkorn Centenary Park, designed by Land process and N7A Architects, is focusing on dealing with the flood management control by creating a space to detain the rain water within the park. The project construction was completed in 2017 and is located in the heart of Bangkok. The park is designed so that water can be collected at the lowest point of the space when it rains. The design of the park can be divided into three parts along the slope of the land. The first part is the raised green roof, which has a rainwater tank underneath that can be used to water plants in the park during the dry season for up to one month. The second part is the wet land where the water runoff from the green roof is falling through. The plants at this level will help slow down the runoff and also filter the water to be cleaner, according to the designer's statement. Finally, the retention pond is there to collect water at the lowest end of the area. The park can hold up to a million gallons of water within it.

Chulalongkorn Centenary Park is designed using the same theory as the Monkey Cheek Project, which is to detain the water within the design space until the water is released. This concept is also being practiced by a social enterprise called "Porous City Network". The aim of this project is to create more green public spaces for cities like Bangkok to better deal with water management and climate change. To create new green spaces is to change the original footprint from solid material like concrete to a more water-absorbable spaces such as detention basins, canal restorations, retention lawns and so on. The Porous City Network team also works together with the local communities and teaches them how to effectively live within this new space. The city will eventually be porous by creating more green spaces instead of the concrete jungle that we see today.

by Wannida Singhadej (Thailand)

Resuscitating the Canals of Dhaka

Dhaka, once called the Venice of the East, was famous for its canals, lakes, rivers and beautiful natural landscape. There were many canals and sub-channels which were used for travelling with boats, ferries and other small vessels of water transportation. But this scenic past has diminished with time. According to a report published in "The Daily Star" in 2015, the encroachers have gobbled at least 43 of the 54 canals that once crisscrossed Dhaka city interconnecting the four rivers surrounding it, resulting in the destruction of almost the entire natural sewage system of the city. As a result, most of the low-lying areas and roads go under water following heavy rain fall.

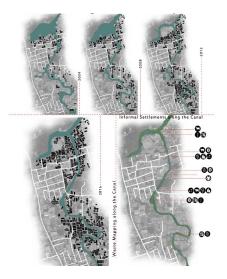


Saving Dhaka's waterbodies has become a dire need now. We should think of ways to preserve these natural assets and introduce sustainable policies and strategies to renew these spaces so that we can make Dhaka breath again.

The Proposal: Ramchandrapur canal, one of the canals with the informal settings along it, has been selected as a case study. The canal runs through the Mohammadpur and Adabor area and connects to Kalyanpur canal at the east and Turag river at the west.

The canal is extremely polluted due to the disposal of garbage and human waste from the surrounding households. The blockage created due to the waste disposal and water hyacinth creates new scope of expanding settlements and working as a barrier for transportation possibilities through the waterways. The idea is to improve the environment of the settlements by developing appropriate module, cleaning the surrounding area and generating proper waste management at once. The canal can work as a vein for them and the city as well. The goal is to clean the water area in order to improve the environment and reduce the health hazard, by involving the slum dwellers and turning them into man power instead of evicting them.

Through this process, the dead canal will reincarnate. The environment will be improved by cleaning the canal and providing a sanitation solution to the slum dwellers. With the flow of the canal it will hopefully bring more benefits to the area and the local people. An urban oasis can also be created, which will have a positive long-term effect for the surroundings. Water-based transportation can be introduced which will greatly reduce the traffic load on roads and also create employment possibilities for some people.



Marginal people can produce their food by fishing, cultivating different vegetables on the water (aqua culture) and earning their livelihood by selling the rest. Gradually different commercial activities will develop alongside of the canal, transforming it from the currently most ignored part of the area into the most vibrant area of the locality.



by Kanij Fateema (Bangladesh)

Preservation and Renewal in a Globally Sustainable Environment

The city has transformed itself continuously throughout history. The process of urban development has been long and tortuous. It developed at the intersection of old and new ideas of urban planning, traditional and contemporary culture. The collision and the fusion of these ideas create diversified characteristics of structure, form and landscape.

There cannot be only one approach to the renewal and preservation of a sustainable global environment. There have been many excellent cases of renewal and preservation in some countries, like Japan, and we have learned a lot from them. Now, this process of demolition then construction is no longer suitable, as protecting and renewing these sites have become a priority in modern society. Environmental improvement, functional promotion, respect for history and continuation of urban planning have become core concepts in popular culture. The core content of my report is the "blank space" in the process of urbanization and the core strategies of how to transform the design. The core strategies of the reconstruction design are as follows. Firstly, the reconstruction of the surface brings vitality and updates and protects a city's historical memory. Secondly, adjusting the relationship between the existing spatial streamlines to activate the spatial potential. Finally, the scattered green spaces are integrated into a complex space with clear fields and connection. I'd like to use two practical cases below to explain.

CASE 1 The "reconstructing the surface" mode: TANK Shanghai Art Center



Located in Shanghai's Xuhui district, TANK Shanghai was originally an industrial site along the Huangpu river consisting of abandoned aviation storage tanks, fire tanks and other supporting facilities. The designer hopes

to transform the dilapidated industrial ruins into a cityoriented cultural center with the theme of contemporary art, and inject a variety of art-related functions into this industrial space full of urban memories, making it a new public-activity and art center on the west bank of Huangpu river. This cultural park consists of three main parts: super-surface, urban forest and city square.



CASE 2 The "spatial streamline reconstruction" mode: The greenspace at the entrance of Jiahong community in Pudong New Area

The core strategy of the renovation design is to precisely activate the existing activities on a minimal scale by connecting them thorough a winding corridor, thus stimulating the potential of the existing spaces.

In the transformation, a carefully designed winding corridor is placed on the site. The winding corridor adjusts and redefines the boundaries of the community and forms a coming-home path. At the same time, it also connects together several different functional venues which were initially separated. The corridor also attracts the passengers on their way home.





by Feng Sheng (China)

Calle de la Escolta: Old Manila's "Queen of Streets"

During Old Manila, Escolta was known as the VIP passage to Intramuros. Thus, its name "Escolta" is from the Spanish word "escoltar" which means to escort.

Located in the oldest Chinatown in the world, Binondo, Escolta became known as the "Queen of Streets". It was the premier business and commercial center, a place to shop and dine.

Escolta was a street full of architectural gems and home to Manila's many architectural firsts. Even though it was a small stretch, this street was full of heritage buildings like the Capitol Theater by Juan Nakpil and the famous Crystal Arcade (glass palace).

Renewal Battles of Escolta

With the Battle of Manila in 1945, Escolta was not spared from the massive destruction. Buildings were destroyed or damaged. Through government efforts, reconstruction of Escolta's buildings were made, the first of many battles. But with the vastness of destruction, minimal attention had been done to restore Escolta. For years, buildings stood with only their shells and lower floors. Eventually, a redevelopment project in 1966 meant that some buildings were demolished to make way for the Philippine National Bank (PNB) building. This played a vital role for Escolta. For 30 years, Escolta regained its life.

Sadly, with PNB's decision to transfer to Pasay, another downfall of Escolta started. As years passed, the identity of the street diminished and buildings underwent decay. The street's identity as a once premier destination started to be forgotten by locals, leading to more buildings being abandoned.

Coming in the new century, another project came along. This time, the project aimed to demolish buildings and make way for high rise constructions. For years, Escolta's buildings were threatened and eventually, the old PNB and the Capitol Theater were also demolished. With the rampant demolition of heritage buildings, organizations were established to protect our remaining architectural gems. This time with a different approach:

to bring back the life of Escolta with a new identity—a new place for artists and start-ups as a cultural hub. Artists and craft makers all over Manila gather at 98B COLLABoratory's Saturday Market to sell their products as well as hold lectures and workshops. They also started adaptive reuse in Escolta with their coworking spaces. Revitalization efforts are large through events and festivals like Escolta Block annual street party, where Escolta is temporarily closed off for people to gather. Organizations also offer free heritage walking tours (Conversation Society-Youth) and sketch walks (Urban Sketchers). Slowly, through these various efforts, Escolta is starting to earn back its place as a destination.

Community and Preservation

Various architectural preservation projects have been undertaken for Escolta but all have had minimal or shortly-lived success. The expensive costs involved in rebuilding a sleeping street gives investors reason to ignore such efforts. With a shift in focus to preserve Escolta, conservation of the "Queen of Streets" looks brighter.

"Our realization through the years is that young people need to make new memories here for them to truly care about the heritage structures, and about the neighborhood and community... they become advocates for the area."–98B COLLABoratory

By inviting the community back, it's essentially giving life to the buildings. Rather than just grooming buildings, a more natural urban renewal would follow suit. This revitalization may be more complex and longer, but there is a better chance for positive results when the community truly cares.

For cities like Manila wherein preservation and conservation funds are lacking, volunteers and advocates are of the utmost importance to help fight off projects that disregard the past. I think this is the appropriate urban renewal strategy for our historic cities.

by Katherin Leonin Almero (the Philippines)

Preservation and Renewal in a Globally Sustainable Environment

I | Introduction:

Global warming has claimed to be the greatest challenge that we face in the 21st century. According to statistics published in 2009, the construction sector contributed to 23 percent of all CO² emissions annually.

In this trend of the world economy, architecture has gradually become an image for commercial appeal, which has in turn transformed the role of architects into merely producing attractive facades. This trend of economic development has also encouraged architecture to be constantly refreshing by inventing styles and new formal characteristics. In other words, most parts of the world want new buildings.

Sustainability is about the whole artificial living environment that we create. Considering that buildings are one from the earth, it's natural to imagine that we will preserve and renew as much as possible because of the limited availability of resources. The challenge seems to be how to adapt by adjusting and modifying the existing structure for the commercial appeal.

I believe that preservation and renewal is the key to keeping the construction industry from producing more and more CO². As a future architect, I believe my "playfield" will be more of readjusting the existing context for future demand than creating new buildings myself. With that in mind, I've been exploring the field of reusing and remodeling old architecture for contemporary needs.

II | Examples from Vietnam:

1. The first example is the demolishing of Bason area, which used to be one of the biggest shipyards during the French colony in the 18th and 19th century. Even though the people of Saigon strongly resisted the new development for Bason, demolition still carried on. Historical, traditional and cultural values are all ambiguous in the eye of the young economy, with profit being perhaps the most important factor is evaluating the development. If the municipal authority had considered

that CO² emissions would be less significant if old structures were not demolished, we could come to the conclusion that first and foremost, an existing building should be integrated into the new development.

2. The second example is about a renovation project from "NISHIZAWAACHITECTS", an architecture firm based in HCMC, Vietnam. In the center of Saigon, Ben Thanh market used to be the most crowded area in the city, with many merchants and commercial activities. NISHIZAWAACHITECTS were given a 100-yearold building, which was surrounded by "block" houses newly built after the unification of the country. From the facades filled with advertising signages and artificial painting of the modern day, the building was brought back to its old honest appearance. The old yellow painted wall was rediscovered with a few exposed bricks shown, and the facade now consists of balconies of plants and wooden seats. By removing some signs, relocating some movable walls and a few other minor interventions, the newly designed space was able to appeal the customers while minimizing construction and thus its CO² footprint as much as possible. And with this kind of intervention, the original beauty of time was marvelously revealed. For me, this project was a success not only in terms of aesthetics, but also in terms of sustainability.









Restaurant Of Shade, NISHIZAWAACHITECTS by Nguyen Quy Phu (Vietnam)

Preservation and Renewal in a Globally Sustainable Environment –Unique Sustainable Theories in Vietnam

In recent years, the threats of climate change urge architecture in Vietnam to be more sustainable. I want to talk about two Vietnamese architecture firms with quite interesting approaches to sustainability: A21 studio and Vo Trong Nghia architects. This report only represents my own point of view on them.

Vo Trong Nghia Architects is probably is the most well-known Vietnamese architectural firm globally. It was founded in 2006 by Mr. Vo Trong Nghia after studying several years at the University of Tokyo. Bamboo structures are one of Nghia's favorite styles. The material is strong, resilient and ecofriendly. Unlike wood, bamboo grows much faster.





Bamboo Wing: https://votrongnghia.com/projects/bamboo-wing/

Besides bamboo, integrating trees into design is also Nghia's passion. In cities, the more constructions there are, the less green areas there will be. People live further and further away from nature and trap themselves in a concrete jungle. Finding a way to add trees into each individual building is their way to fight off this tendency. To make every roof in Vietnam green is Nghia's dream.

For Nghia, in order to create sustainable designs, it is also important to develop a sustainable workplace as well. He believes that meditation is a tool to achieve that. At Vo Trong Nghia architects, it is compulsory for architects to learn how to meditate and practice it every day together. The job of an architect involves a

lot of pressure, which can negatively affect one's mind and body. Moreover, the work of an architect has a significant influence on how the world in structured, so it is essential for them to practice with a cool, clear mind. Meditation is a very effective tool to deal with these problems.



The greenest architect, a meditation worshiper and the most weird Vietnamese: http://cafef.vn/vo-trong-nghia-kien-truc-su-ky-di-nhat-viet-nam-20160623165558595.chn

a21 studio is an architectural firm founded in 2009 by Mr. Nguyen Hoa Hiep. He used to work with Vo Trong Nghia in the early days of his company. Using surrounding materials with minimum treatment is the company's signature. They also collect interesting scraps to use in their designs. In my view, using scraps is a very clever way to create architecture, not only environmentally but also aesthetically. Scrap materials, with their unique treatment from time, being used sensibly and with care, can bring out a special nostalgic beauty.





The Cloud: http://a21studio.com.vn/?portfolio=the-cloud

by Tran Tuan Hung (Vietnam)

IV Homestay

Ijiri Family / A.A. Sonali Erandi Abeysinghe (Sri Lanka)

I was able to experience my homestay with the Ijiri family on October 19 and 20. Their home was situated on the border of Kyoto and Osaka prefectures. On the first day, we went to Osaka Aquarium, cruised around Osaka Bay on a Santa Maria ship and had a ride on a Ferris wheel. They treated me with lots of Japanese traditional foods and drinks during my whole stay while providing me with the opportunity to sleep in a traditional Japanese bedroom with a *futon*. On the second day, I experienced a once-in-a-life time opportunity wearing a *maiko*-type kimono. On the same day Mr. & Mrs. Ijiri took me to some traditional shrines and temples in Kyoto while explaining the architectural aspects and historical values and stories of them.

Sakai Family / Wannida Singhadej (Thailand)

My weekend with my host family was one of the best moments during my one month stay in Japan. I was fortunate to stay with the Sakai family who had spent several years in Thailand before. Even though I had known that fact prior to coming to Japan, I was more at ease when I actually met them in person. The kindness and generosity shown by the family made me feel much appreciated. They were not only taking care of me during my stay but also showing me different aspects of Japanese culture through the places we visited and the time spent together. I also had a chance to meet with Mr. Sakai's colleagues who were all kind to me while we went sightseeing together. I will always cherish the friendship and the memories I had with all of them.



Shimaoka Family / Feng Sheng (China)



On October 19 and 20, I stayed with the Shimaoka family. Mr. Shimaoka, his parents and aunt welcomed me warmly. After we met, they took me to the city of Nara where they live. Luckily, Mr. Shimaoka knows much about China and speaks fluent Chinese. He also likes travelling to China very much. I guess he has probably visited more cities than me in China. I would also like to express my gratitude to Mr. Shimaoka's mother for treating me with delicious food, which was said to be things they usually only have during the New Year period. I was deeply impressed by my host family's hospitality and look forward to meeting them again on my next trip to Japan.

Takashiba Family / Kanij Fateema (Bangladesh)

During the homestay program, I had a great opportunity to spend time with the Takeshiba family —a warm, kind and happy couple. I am grateful to them for hosting me and sharing their daily life with me. Ken *san* (Mr. Takeshiba), an architect and teacher, shared the story of his father who was a soldier during World War II, as well as his views on different Japanese traditions, Japan's past, architecture and life in general. I also had the opportunity to share the culture of my country, Bangladesh. Additionally, the delicious dishes of Kimiko *san* (Mrs. Takeshiba) had brightened up our thoughtful discussions. Kimiko *san*, a piano teacher, played piano for me. She even tried to teach me but I proved to be a bad student. On Sunday, we visited different places including the Azuma house, Sumiyoshi shrine and Shitenno-ji Temple. During the visit, Ken *san* shared details of these structures as well as cultural and traditional backgrounds of these places. I will forever cherish our enlightening conversations and my stay with them.



Nojima Family / Tran Tuan Hung (Vietnam)

During the homestay program I had a chance to spend two great days with the Nojima family. In my brief stay, I met Mr. and Mrs. Nojima and their daughter Chika *san*. They were extremely nice and caring. We spent day one in Kyoto visiting old temples and gardens. I was so impressed by the beauty of Kodai-ji Zen Temple and Entokuin Temple that I would later spend one of my free days to visiting them again. Knowing my interest in Japanese tea ceremony, the Nojimas arranged one for me and gifted me a detailed textbook of Chado, which I enjoyed very much. On day two I shared a morning walk around the neighborhood with Mrs. Nojima and her dog, then attended a local festival that happened to be held with Mr. Nojima. We spent the rest of the day visiting Osaka Castle and some of Mr. Ando's works.



Fushimi Family / Leakhena Setha (Cambodia)



It was the second weekend into the Ando program. On a Saturday morning, I greeted Ms. Fushimi with her daughter Hiroko *san*. They were eager to show me around town so we headed to Osaka Castle. Since I'm one of the Ando trainees, they took me to one building in the neighborhood which was the Church of Light. They knew that I am interested in wooden structures so we drove to a local temple and a compound of wood model houses by Nakashima Construction. The next morning, I was delighted to visit Hiroko's apartment which was not far from the Expo '70 memorial Park to have lunch. We ended the homestay program with a coffee at a local festival. I really appreciate how patient my hosts were to show me around Osaka in their daily life.

Mizutani Family / Nguyen Quy Phu (Vietnam)

I stayed with the Mizutani family for the homestay program. The most unique part of my experience was definitely the two young boys of the family, who were very adorable. We first went to the Nara City Museum of Photography on Saturday afternoon before heading home for dinner. I must also mention the grandparents who truly made our sushi dinner memorable. After having breakfast on Sunday morning, we went to the Church of Light. Because we were late for Sunday worship, we waited for almost an hour outside while enjoying the calm atmosphere in the garden of the church. I am also grateful for the meals that we shared and the joyful rides to architectural sites. I would like to thank to my host family for the time I was able to share with them.



Mori Family / Katherine Leonin Almero (the Philippines)



My host family was a heart-warming couple. They welcomed me like their own family and told me that I can call them *Okaasan* and *Otousan*. We went to Yawata Shrine and Chishakuin Temple, where I saw children in kimonos for their age ceremonies and a couple at their traditional wedding. My most memorable time with them was during our night game competition. They taught me how to play *hanafuda*, a Japanese card game. *Okaasan* and *Otousan* were both very competitive. I am fascinated by kimonos so *Okaasan* lent me her pink kimono for the evening party. It was a different experience to wear a kimono, especially one with long sleeves. My stay with them was brief but it is one of my favorite experiences from the program. I didn't expect to gain a second family and am grateful to have met them.

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Coordinator

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Architect, M.R.T.P.I,

Director, Institute for East Asian Architecture

and Urbanism

Assistant

Esther Tsoi

M. Arch. Harvard,

Licensed Architect in the State of New York,

Lecturer at Kyoto University

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OFIX Homestay Volunteers (Representatives)

Fushimi Ayako Ijiri Makoto Mizutani Tsuyoshi Mori Tsudou Nojima Yumi Sakai Hironori

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