Japan Society of Civil Engineers

STUDY TOUR GRANT 2018 Report

With the recommendation of the

PHILIPPINE INSTITUTE OF CIVIL ENGINEERS

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INTRODUCTION

About JSCE

In 2018, the Japan Society of Civil Engineers (JSCE) offered study tour grants to seven (7) different countries, namely: Myanmar, Turkey, Mongolia, Vietnam, Bangladesh and Philippines, to promote exchange and dialogue between civil engineers. One of these grants was offered to the Philippine Institute of Civil Engineers (PICE) and I was given the honor of being chosen as the Filipino Recipient.

This report aims to give the reader an insight of Japanese civil engineering through its research institutes, parks, museums, temples and on – going construction projects, as well research culture. All these aim to safeguard and make the lives of the Japanese people comfortable and convenient, using environmentally – sensitive engineering approach for the next generation.

About Study Tour Grant

A study tour like this needs thorough planning. In this process I got invaluable support from the JSCE in arranging a suitable schedule and VISA application. The JSCE has invited participants from ASEAN countries that are recommended by their accredited professional organization (APO). The recommended participants were then evaluated by the JSCE through their credentials and the content of their respective essays. From such essay, I was asked what Japanese civil engineering projects and research institutes that I am interested in visiting and so I wrote disaster risk management institutes, water resources engineering and other notable Japanese civil engineering projects. Fortunately, I was lucky to be chosen by the International Student Exchange Fund (ISEF) committee and the JSCE arranged for my travel which took place in Tokyo and Hokkaido, Japan from August 26 – September 01, 2018.

Application Procedure and Results

Last January 2018, the Philippine Institute of Civil Engineers (PICE) announced the application for JSCE Study Tour Grant 2018. Since then, I submitted the required documents to the central office of the Philippine's prime organization for civil engineers. There are two steps in the selection process. First, the PICE recommends applicants that have completed the requirements. These are then recommended to the JSCE for further evaluation and final selection. Finally, the JSCE announced the Philippine recipient for the JSCE – STG tour grant at the last week of May 2018.

Participants of JSCE – Study Tour Grant 2018

There are seven (7) participants for the JSCE STG 2018 which came from different countries:

Table 1.0 Study Tour Grant 2018 Participants

	Name	Affiliation	Country
1	**Mr. Anindya Samya Saha**	Lecturer, Department of Civil Engineering, Bangladesh University of Engineering and Technology	Bangladesh
2	**Ms. Khin Phyu Phyu Thandar**	UN – Habitat Programme Associate (Structural)	Myanmar
3	**Ms. Khaliunaa Darkhanbat**	University of Seoul, Reinforced Structure Laboratory (Full Time Student)	Mongolia
4	**Ms. Amie Lou Cisneros**	Program Head – Civil Engineering, College of Engineering and Technology, Cor Jesu College, Digos City, Davao del Sur, Philippines	Philippines
5	**Mr. Jetsada Kumphong**	PhD Student, Department of Civil Engineering, Faculty of Engineering, Khon Kaen University, Thailand	Thailand
6	**Mr. Ali Gürkan Genç**	Istanbul Technical University, Structural Engineering Graduate Program, Istanbul, Turkey	Turkey
7	**Mr. Ngoc Lan Nguyen**	Vietnam – Japan Research and Development Center, University of Transport and Communications, Hanoi, Vietnam	Vietnam

STUDY TOUR ACTIVITIES

Itinerary

The Study Tour Program in Japan including visiting research institutes, construction sites and museum last August 26 – September 01, 2018.

Table 2.0 2018 JSCE Study Tour Grant Itinerary

Date	Time	Event	Attended by:
August 26 Sunday		• Arrive at Narita International Airport • Check – in at Nishitetsu Inn,Shinjuku, Tokyo	
August 27 Monday	AM	• STG Orientation with the ISEF Committee • Visit Kajima Technical Research Institute (KaTRI)	Mr. Yoshizawa (Kajima), Ms. Suzuki (TC)
	PM	• Visit Tokyo Outer Ring Road JCT North Ramp Project Site	Mr. Yoshizawa (Kajima), Mr. Nomura (Obayashi), Ms. Suzuki (TC)

August 28 Tuesday	AM	• Visit Railway Technical Research Institute (RTRI)	Mr. Yoshizawa (Kajima), Ms. Suzuki (TC)
	PM	• Visit Shimizu Institute of Technology • Fly to Sapporo, Hokkaido	Mr. Araki (Shimizu), Ms. Suzuki (TC),Mr. Yoshizawa (Kajima)
August 29 Wednesday	AM	• Participate in the International Summer Symposium, JSCE Annual Meeting at Hokkaido University	Mr. Yoshizawa (Kajima), Prof. Ishizaka (Nihon University), Ms. Suzuki (TC)
	PM	• Go on a Field Trip to the Ishikari Area: Sousei Bridge, River Museum, Frumai Bridge, Makunbetsu bog and others • Participate in the Networking Reception in the evening	Mr. Yoshizawa (Kajima), Prof. Ishizaka (Nihon University), Ms. Suzuki (TC)
August 30 Thursday	AM	• Visit Ishikari Port Ishikari LNG Terminal Station	Mr. Yoshizawa (Kajima), Ms. Suzuki (TC), Mr. Yamamura (JSCE), Mr. Nakayama (Nippon Koei), Ms. Ito (JR East)
	PM	• Visit Toya Geopark • Fly back to Tokyo	Mr. Yoshizawa (Kajima), Ms. Suzuki (TC), Mr. Yamamura (JSCE), Mr. Nakayama (Nippon Koei), Ms. Ito (JR East)
August 31 Friday	AM	• Free Time	
	PM	• Sightseeing in Asakusa Temple and Tokyo Sky Tree • Dinner with the ISEF Members	Mr. Arai (JSCE), Ms. Suzuki (TC)
September 01 Saturday		• Return Home	

DAY 1 – Arrival in Japan

On August 26, 2018, I departed from Francisco Bangoy International Airport (Davao) at 6:30 AM and arrived at Ninoy Aquino International Airport (NAIA) Terminal 2 (Pasay City), wherein I waited for my flight bound for Narita International Airport. After collecting my luggage and passing through the immigration and customs check, Ms. Tomomi Oda of Tobu Top Tours was waiting for me at the arrival area. She accompanied me as we rode the airport limousine for Tokyo where I spent the night at Nishitetsu Inn in Nishi – Shinjuku, Shinjuku - ku, Tokyo.

DAY 2 – STG 2018 Orientation, KaTRI and Tokyo Outer Ring Road North Ramp Project Site Visit

At 8:00 AM, the STG 2018 Participants met for the first time at the Nishitetsu Inn lobby and waited for Ms. Suzuki – the Tour Conductor. Shortly after the introductions were done, the group headed outside where a chartered bus was waiting to take us to Kajima Technical Research Institute (KaTRI) Nishichofu Complex. Covering 20, 000 square meters, the complex is the center of research and development that houses laboratories where tests are conducted and results applied to the construction industry.

Figure 1.0 The JSCE STG 2018 Participants

On KaTRI, the participants were ushered inside the inside, where Ms. Umehara and Mr. Yoshikawa, both representing the institute, were waiting. The group was welcomed and oriented on the overall itinerary for the tour. After the orientation, the two led the group around the complex by visiting the following laboratories, namely: shaking table, concrete, wind tunnel, and large – size structural testing.

Figure 2.0 With Ms. Umehara

These are further discussed in the following:

a. Shaking Table Laboratory

KaTRI is home to "W – Decker" – a 3 – dimensional, 6 degrees – of – freedom shaking table where simulations on ground motion and high – amplitude shaking, applying actual earthquake conditions experienced in the past are done and analyzed. The table is composed of the main and long – period shaking tables. The former tests a 60 – ton

specimen loaded on a 5 m x 7 m table, using the recorded large amplitude earthquake observed in Japan. The latter tests a 5 – ton specimen in a 2 m x 2 m placed on and interlocked with the main shaking table applying conditions reproducing long – period motions on top of high – rise buildings. Analyses were made to verify the safety of non – structural components at earthquakes, namely: preventing ceiling falling and collapsing, examination of piping in the ceiling, and verification of motion of interior fixtures and furniture.

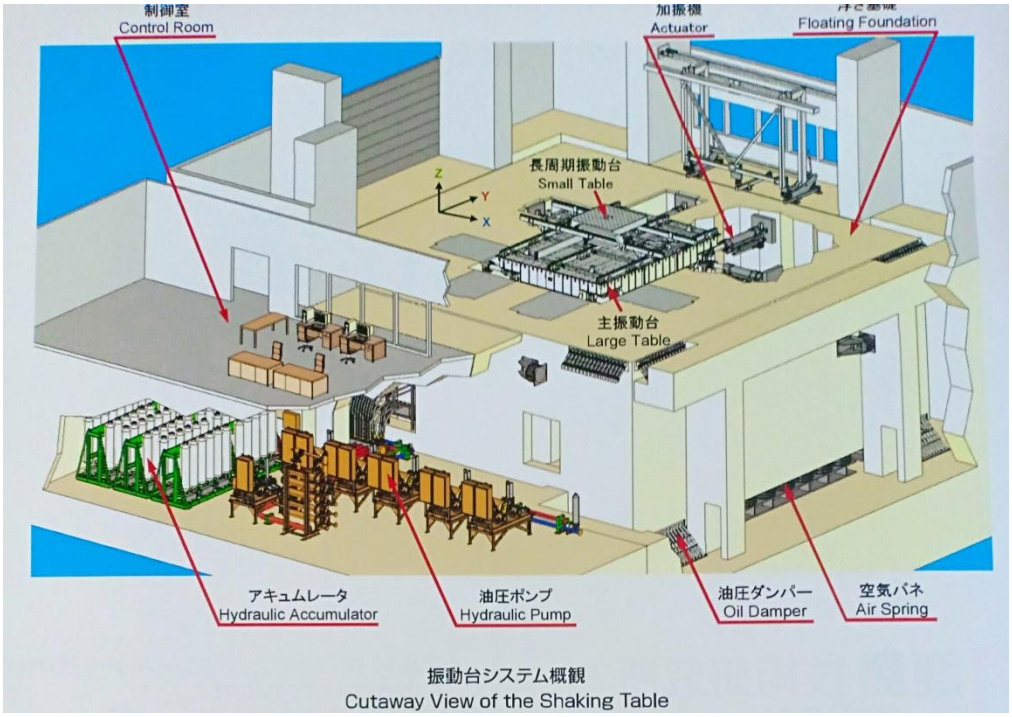

Figure 3.0 The Shaking Table

b. Concrete Laboratory

On the other hand, the concrete laboratory is focused on comprehensively evaluating the workability - to secure the reliability and efficiency of concrete work, durability – to ensure performance persistence for long service life through understanding concrete properties and securing design strength, as well as the analysis of concrete material microstructure. Results of concrete research are the following concrete types: ECC (high ductile fiber reinforced cementitious composites), Crafrete Hyper (non – shrinkage), SUQCEM (ultra high strength fiber reinforced concrete), NV Concrete (self – compacting concrete), Hydrocrete (anti – washout underwater concrete), Middle/High Flow Concrete (superplasticizer added), among

Figure 4.0 KaTRI Laboratory Handouts

others. Such variations were utilized for creating concrete buildings and structures that have high seismic performance, low shrinkage, eco – friendly, long service life, and durability along with aesthetics.

c. Wind Tunnel Laboratory

This laboratory has three wind tunnels to conduct experiments that will analyze the impact of wind force that affect the entire structure and the pressure that acts locally; generated strong winds around the building coming from various directions, and the noise resulting from the wind hitting the building. The tunnel is a 20.8 m x 53.0 meter facility composed of an axial fan, transverse equipment, main turntable, sub – turntable, sound arresting type corner vanes and flow temperature control equipment. Main turntables cost millions of US dollars to create where the influence of the surrounding environment of a high – rise buildings in urban areas are conducted to create a safe, comfortable wind environment. Since Japan is facing the Pacific Ocean, it is bombarded with cruel winds and typhoons that will result into harsh wind environments that will ultimately affect high – rise buildings, large span structures, and rooftop wind environment.

d. Large – size Structural Testing Laboratory

To verify strength and seismic behavior of large structures, especially those that need to be highly resistant to earthquakes, the maximum – scale Structural Testing Laboratory addresses the need for the construction industry by observing the deformation and failure of structural specimens, and confirming complex structural behaviors that cannot be explained by numerical simulations. These are done by achieving high performance structural members according to their applicability, and determining building framing systems and civil structures, through the control of four stress elements, namely: compression, tension, shear and flexure. Furthermore, the said laboratory houses a loading test system – which applies vertical and horizontal forces to a structural member, two (2.0) reaction walls – large (12 m high x 16 m wide) and small (5 m high x 12 m wide) that can withstand a maximum load of 46, 400 kN, and finally a 2.10 meter – thick with a maximum allowable shear load of 180 kN/m.

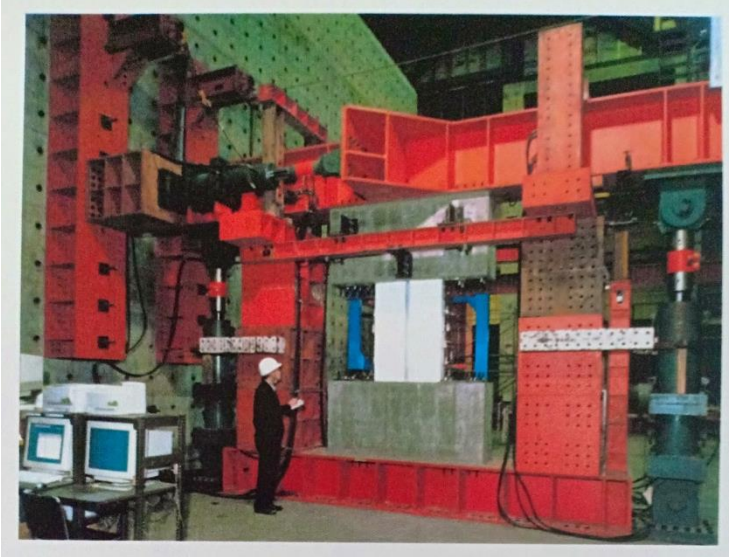

Figure 5.0 Structural Testing Laboratory

After the visits at the aforementioned laboratories, the group had their lunch and headed to the Tokyo Outer Ring Road JCT North Ramp Project Site. Approximately 85 kilometers long and connects area within the 15 kilometer – radius from the center of Tokyo, The said project will eliminate the chronic traffic jam in the Greater Tokyo Area by adopting a deep – bore tunnel structure between Kan – etsu Expressway and Tomei Expressway that has started since 2009, spearheaded by the central government, East Nippon Express Company, and Central Nippon Expressway Company to reduce the travelling time from 60 minutes to just 12 minutes from; improve the environment through traffic volume reduction and faster traveling speed thereby reducing air pollution; provide safety for the community road, and secure detour route when disasters or accidents occur.

Figure 6.0 The Project Site of the Tokyo Outer Ring Road JSCT North Ramp

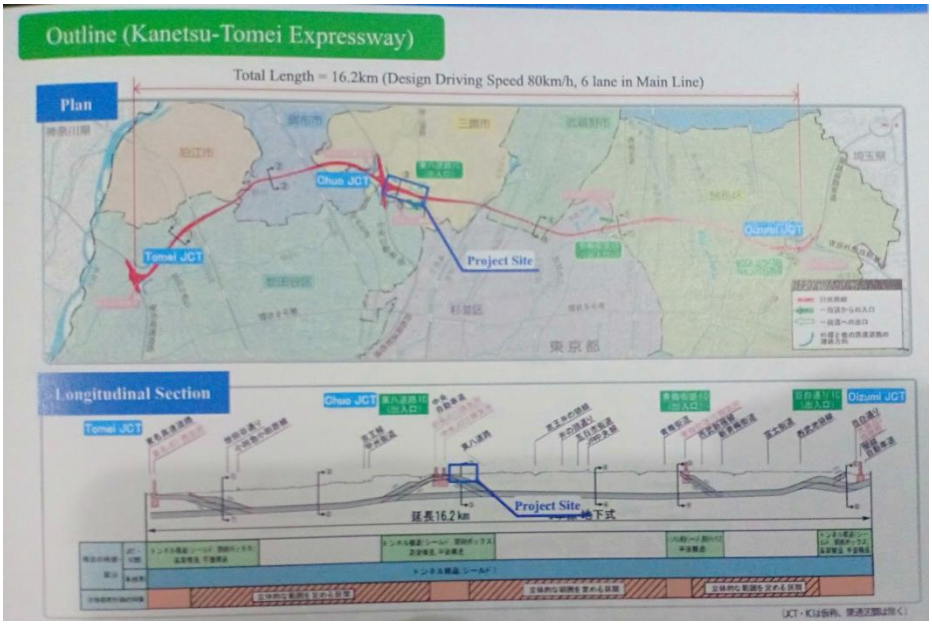

Figure 7.0 The Plan and Longitudinal Section of the Tokyo Outer Ring Road JCT North Ramp Project

The Obayashi – Omoto Joint Venture leads the project represented by Katsuhito Yamaura as the Project Manager and Fumihiro Hane as Managing Engineer. The project entails work preparations, open cut section, pneumatic caisson, groundwater preservation system and reinstatement works. The group was briefed at a temporary office a few meters away from the construction site. The participants, along with the group of engineers managing the project, came down to the project site through numerous flight of stairs below the ground where caissons are preventing the soil from caving in and pipes that supply air to the workers are installed since the excavation was covered to minimize noise arising from construction activities. Due to high humidity and extreme heat, the participants were advised to keep themselves hydrated to prevent dizziness and heat stroke.

Figure 8.0 The JSCE STG Particitpants with the Engineers of the Tokyo Outer Ring Road JSCT North Ramp Project

After the visit, the group went back to the temporary office and questions were entertained. The participants then thanked the engineers and staff for their warm accommodation and took the bus to travel back to the hotel. Alas! Day 1 came to a close.

DAY 3 – RTRI, Shimizu Institute of Technology

The third day was spent at the Railway Technical Research Institute with the prime objective of pursuing innovations in railway technologies. The participants watched a video presentation of RTRI. Furthermore, the institute's vision is summarized by "RISING" (Research Initiative and Strategy – Innovative, Neutral, Global) to contribute to the creation of a happier society, which translates into three missions, namely: intensifying R&D activities, using best available science as an independent and impartial research body and become a world leader in the field of railway technologies. Furthermore, RTRI aims to improve safety, reduce costs, environmental harmony and improve convenience.

Figure 9.0 At the RTRI

After the orientation, the facility tour was next which was composed of:

a. Lobby and Maglev Exposition

The RTRI representative led the group to the exposition of Shinkansen (bullet train) and MagLev (Magnetic Levitation) train models.

Figure 10.0 Orientation of the Train Models (magnetic levitation - behind and bullet train – right) at RTRI

Figure 11.0 Let's Strike a Pose with the Shinkansen (Bullet Train) with top speed of 300 kph

b. Track and Roadbed Testing Equipment

The next was the track and roadbed testing equipment where the optimum subgrade material and its stability to resist moving train loads with respect to wind, rain and earthquake occurrences, were tested.

Figure 12.0 The STG Participants asking about the how Railway Tracks and Roadbed are Tested

c. Rolling Stock Test Plant

The Rolling Stock Test Plant is where the stability of the train wheels are tested from ground shaking with respect to the x – and y – directions, vibrations, and wheel displacement due to train velocity.

d. Large – Scale Rainfall Simulator

In the large – scale rainfall simulator, rainfall scenarios are tested so that slope protection measures are arrived at where trains are traversing mountainous areas during large magnitude earthquakes and severe typhoons that may induce landslides.

Figure 13.0 Large – Scale Rainfall Simulator

Figure 14.0 The STG Participants feeling the intensity of rainfall at the Large – Scale Rainfall Simulation Laboratory, RTRI

e. Large – Scale Shaking Table

In this laboratory, ground shaking effects to the train are tested so that beams, columns and foundations are designed according to hazardous situations.

After the tour, the group went back to the lobby where exhibits of the RTRI complex are placed and earthquake prevention measures on moving Shinkansen were shown. After that, the group said thanks to the RTRI speakers and bid goodbye.

With this, the participants were whisked and were bound for Shimizu Institute of Technology in the afternoon. The said institute is the first institute of Japan construction industry. To this day, the institute continues to develop technologies that offer safety against earthquakes and other natural disasters; reduced environmental impacts through energy – saving technologies, mechanisms for reliable energy, food and water supplies, as well as healthy

Figure 15.0 At the Shimizu Institute of Technology

and comfortable lifestyles for the community.

Mr. Araki led the group around the Shimizu Complex. The tour started with orientation and then tour around the complex. First on the list is the center for geotechnical centrifuge model. Next is the wall where different types of concrete are displayed ranging from high strength, workability, fire proof concrete samples are presented among others. Such models have been used in actual projects in Japan. Next is the life – size structural testing laboratory wherein long – spanned beams are tested by a huge universal testing machine (UTM). Another laboratory is the shaking table along with a video presentation on how critical understanding the behavior of earthquakes is to the disaster management of Japan. Wind tunnel exposition was presented to us next where various main turntables are presented per project. Such are needed for projects in urban areas. Finally, the group was led back to the main office of the institute, where 3D presentation of Shimizu's latest crowning glory was presented.

Figure 16.0 Listening at the Orientation at Shimizu Institute of Technology

Figure 17.0 Miniature Models of the Projects handled by the Shimizu Institute of Technology ranging from airports, trade centers to dams and coliseum in Japan and abroad.

Figure 18.0 The STG Participants with Mr.Araki

After the tour, the group went back to the conference room so that questions were entertained. Then, the participants thanked Mr. Araki and the staff and then left for the Haneda Airport bound for Sapporo later in the afternoon.

DAY 4 – 20th Intl Summer Symposium, Ishikari River Museum

Figure 19.0 Just Arrived at the Hokkaido University for the 20th International Summer Symposium

Tthe fourth day of the tour started with different presentations of each STG participant on different tracts in civil engineering at the 20th International Summer Symposium during the JSCE Annual Meeting 2018 at Hokkaido University, Sapporo, Hokkaido. There were 80 presenters, which were divided into the different tracks of civil engineering, namely: structural engineering and earthquake engineering, hydraulic engineering, geotechnical engineering, concrete engineering and construction management / planning. Yours truly presented my research on the second half of the morning session under the geotechnical engineering tract at the International Session 3 at the Institute for the Advanced Higher Education N302 from 9:00 – 10:20 AM. The session was composed of 15 presentations.

Figure 20.0 The Question and Answer Portion with Dr. Mori after Presenting my Research at the 20th International Summer Symposium

Figure 21.0 Striking A Pose at JSCE Annual Meeting at Hokkaido University

Figure 22.0 The STG Participants2 2018 after the Research Presentations at the 20th International Symposium, Hokkaido University

After such, the group reunited and grabbed a quick lunch at the university cafeteria and then headed to the Ishikari River Museum. They visited the canal sluice and the river gates that face the Sea of Japan. Due to great floods, the Ishikari River was shortened from 364 to 268 kilometers. The said river was home to flora and fauna, but has experienced great floods that affected the farms and livelihoods of the inhabitants of Ishikari. Thus, to solve such the Dr. Bunkichi Okazaki investigated and surveyed the flood damages starting 1899 and become the first executive director of the Hokkaido Flood Control Survey Committee.

Figure 23.0 The Ishikari Channelized River

Figure 24.0 At the Ishikari River Gates

He devised an improvement plan under the "Ishikari River Flood Control Planning Survey Report" in 1909. He also advocated the "discharge channel method", a concept where the natural geomorphic style of the river is preserved as much as possible and during floods, diversion of flows to discharge channels was done only at the time of floods. Furthermore, "concrete single flooring blocks" were used for riverbank protection, which were later adopted in China and USA. It was very important to create livelihood, and safer and more comfortable communities for the future generations that led to land transformation and urban area expansions amidst frequent floods. With this, cultivated areas increased sevenfold and urban areas have expanded 43 times. These are concrete evidences of the effects of steadfast and low – key efforts to improve flood control technologies, while maintaining or improving the flow capacity of the river channels.

Figure 25.0 The STG Participant at the Ishikari River Gates

Next, the group went back to Hokkaido University to participate in the dinner with the presidents of civil engineering societies from different countries. Also, the group finally met Ms. Yukiko Shibuya and honored her efforts with gifts from home. Teary – eyed, Yukiko – san posed for a picture with the participants.

Figure 26.0 JSCE Annual Meeting Reception

Figure 27.0 The STG Participants at the JSCE Annual Meeting Reception

DAY 5 – Ishikariwan LNG Thermal Plant, Toya UNESCO GeoPark

On Thursday, the STG participants visited the Ishikariwan Shinko Thermal LNG Power Plant. The plant has been harnessing seawater to generate power from liquefied natural gas (LNG) delivered by ship from Malaysia and stored into 230, 000 kiloliter – capacity LNG storage tanks with a diameter of 90 meters and height of 60 meters to power the province of Hokkaido. Such tanks are the largest in its class in Japan. Using a combined cycle type power generation system where natural gas is burned in the combustor to cause the generated combustion gas to rotate the "gas

Figure 28.0 The Engineers as they Explain the Project

turbine" and then heat the exhaust gas to generate the steam to rotate the "steam turbine". The system is composed of three (3.0) units, each with respective output capacities of 569.4 MW – a total of 1, 708.20 MW.

Figure 29.0 The STG Participants with the Engineers of the Ishikariwan LNP Power Plant with the 230, 000 kiloliter – capacity LNG storage tank behind

The project features high power generating efficiency, outstanding environmental performance and excellent operability. Moreover, the station components are the covered discharge channel, discharge channel shaft; intake and circulation pump chamber, main turbine building and chimney. Furthermore, the company is also aware that the project may harm the environment and makes sure that the used seawater may be within the limits set by the Ministry of Environment, which requires that the allowable change in water temperature is within the ± 3.0 degrees Celsius range.

After that, the group went to the Toya – UNESCO Global Geopark. This park is beside the Lake Toya and is the location for nine (9.0) volcanoes that are active. The STG participants watched a video about the history of volcanic eruption in the area and how the Japanese people coped with the disaster and survived various earthquake occurrences.

Figure 30.0 At You Know Where

With continuous survey of the new faults formed due to volcanic – eruptions induced earthquakes and the observations of the volcanic events; the Mountain Master has been able to track the possible year of volcanic eruption and what volcano will erupt next. They also predicted that the next eruption would happen very soon

and identified the possible volcano that will erupt and the area which will be affected. Despite all of these, the mountain master was very proud that no matter how many eruptions have happened in the past, there was not a single inhabitant that has died. This is because of the effective and diligent warning system and disaster risk management.

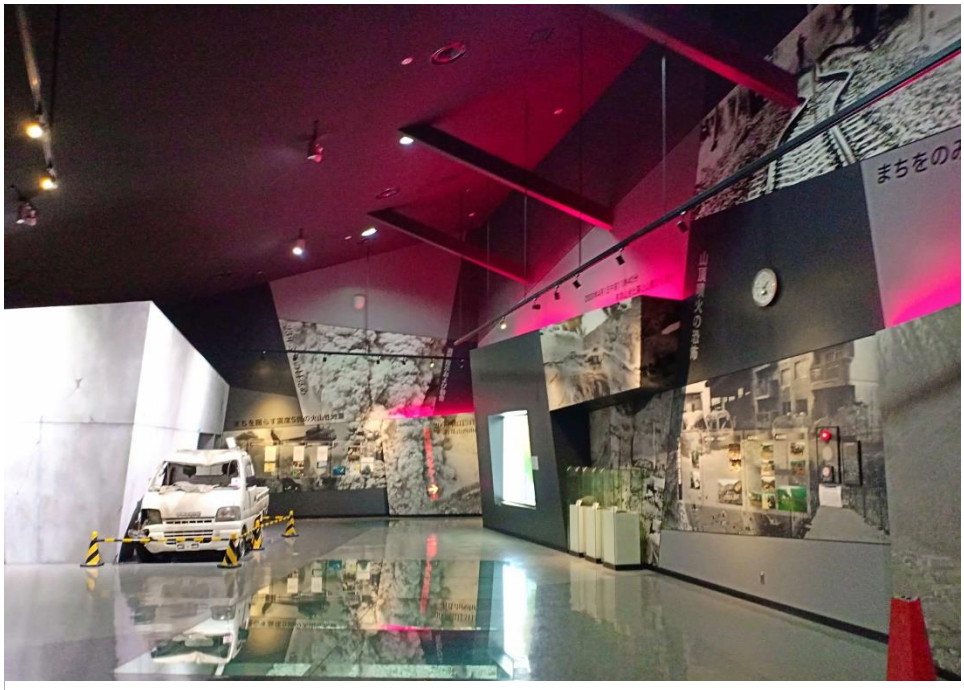

Figure 31.0 The Volcano Science Museum

Figure 32.0 The STG Participants with Lake Toya and Volcano Science Museum Behind

Figure 33.0 The STG Participants with Ms. Suzuki at the Toya UNESCO GeoPark

The ruins due to the volcanic eruption and mudflow have been shown to the group by the Mountain Master. The have made mudflow dams to obstruct mud flows during the eruptions and protect the people and the properties. He also stressed that although the people have experienced and evacuated for so many times, they would still go back to their homes as if nothing happened and continue on with their lives, because home is where the heart is.

Figure 34.0 The Mountain Master Explaining the Mud Flow Dam

Figure 35.0 The Mountain Master Explaining the Results of Mud Flows

Figure 36.0 STG Participants and the Mountain Master with the Remains of Volcanic Eruption just behind

After that, the group again went back to the museum and he explained that map of the Geopark and the remains of the eruptions such as wrecked cars, deformed rails, stones, ashes and pictures. Although the Geopark is a hazardous area, it never diminished the Japanese people's capacity to effectively handle the volcanic risks that they have faced - a very remarkable feat to achieve for so many times. Truly, the Japanese people is a resilient race.

Figure 37.0 The Mountain Master Explaining to the STG Participants the Locations of Seismic Hazard Areas at Toya UNESCO GeoPark

DAY 6 – Sightseeing at Asakusa Temple and Tokyo Sky Tree, Dinner with JSCE

On Friday, the group met at the lobby of the Keio Espresso Inn in Tokyo to have a tour at the famed Asakosa Temple. The said temple was very important on Japanese history and religion and visited by many tourists. The temple also has many stores that sell gifts. The group has also looked around and prayed at the temple. One very interesting trait of Asakosa Sensoji is that is has been renovated by the Shimizu Institute of Technology. The old roof weight was very heavy which poses a threat to the people's safety, especially the very frequent occurences of earthquakes in Japan. With this, the said institute made a titatium roof that looked like the original roof – a clever way preserve their culture and history without compromising the people's safety.

Figure 38.0 At the Asakosa Temple Just Behind me.

Figure 39.0 Asakosa Sensoji Temple

After some time, the STG participants traveled to the Tokyo Sky Tree – the tallest tower in the world. There they have witnessed the view of the entire Tokyo from the Tembo Deck and Tembo Galleria more than 400 meters above the mean sea level. From such viewpoints, one can see the entirety of the majestic capital of Japan. Then the group went back to the hotel through a bus ride at past 5:00 o'clock in the afternoon so that they have time to take a rest before the dinner with the JSCE ISEF committee later in the evening.

Mr. Koji Kevin Arai, from the International Activities Center of JSCE, accompanied the group to the Tokyo Buffet Station to meet the ISEF committee. The committee members are Mr. Araki Masahiro (General Manager, Business Development Department, International Division, Shimizu Institute of Technology), Dr. Hiroshi Takagi (Associate Professor, School of Environment and Society, Tokyo Institute of Technology), Ishiwatari Mikio, Ph.D., (Senior Advisor for Disaster Management and Water Resources Management, Visiting Professor, The University of Tokyo), Dr. Tetsuhiro Ishizaka (Associate Professor, College of Science and Technology, Nihon University) and Mr. Tetsuya Yoshizawa (Senior Manager, Planning Group, Construction Department, International Division of Kajima Technical Research Institute). Each of the STG participant chatted with the committee members that ranged from how their presentation in the 20th International Summer Symposium to their future plans with regards to work and studies in Japan. With everybody full with the sumptuous dinner, the group and the committee members called it a day and happily bid each other good bye and von voyage.

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Figure 40.0 At the Tokyo Sky Tree – The Tallest Tower in the World

Figure 41.0 The STG Participants after the Dinner Meeting with JSCE Committee

DAY 7 – Going Home

At 5:50 AM, I met Ms. Suzuki at the lobby of the Keio Espresso Inn and was accompanied to the airport limousine terminal, which will take me to Narita Airport. There, I checked my luggage in and waited for the boarding time bound for NAIA Terminal 2, Pasay City, Philippines. After waiting for few hours in the said terminal, I got in the plane that will take me to Francisco Banggoy International Airport. After which, I took a bus for Digos City. Finally, I arrived. Home sweet home.

Figure 42.0 Homebound!

CONCLUSION

Exploring Japanese civil engineering gave me a whole new perspective on the crucial role of research is in nation – building, its growth and development. Due to the great need to safeguard and provide the people of Japan the comfort and convenient life, Japanese civil engineering surely is the one of the reasons why the Land of the Rising Sun is one of the most progressive countries in the world.

It is also very interesting to note that the Central Government takes into consideration the needs of the people and the environmental sustainability in the project implementations. Furthermore, I am amazed with the cooperation of the Japanese people, which is a very important factor in the success of the research implementations to manage disaster risks, as well as protect and provide comfort and convenience to the people.

On the other hand, cultivating research culture is also crucial in building and preserving the heritage. The Study Tour Grant 2018 really taught me that engineers should remember that what we build today is tomorrow's heritage.

SPEECH OF GRATITUDE

First and foremost, I would like to thank the Divine Providence for blessings He has bestowed upon me. Also, I would like to extend my deepest gratitude to my mentor, Engr. Jonas M. Placer, M.Eng. for pushing me to apply for JSCE Study Tour Grant 2018. You, Sir, see beyond what we see of ourselves and for that, I am very thankful. I also appreciate the recommendations of Engr. Ma. Teresa Lucaberte of the Department of Public Works and Highways – Digos and to the National President of the Philippine Institute of Civil Engineers (PICE) - Dr. Catalina Cabral. Furthermore, my deepest thanks to Cor Jesu College Research and Publications Office for the support they have given me.

I would also like to express my appreciation to my friends and family who gave me strength and who always believed in me. To my co – participants in the Study Tour Grant 2018 - Saha, Lan, Jet, Phyu, Khaliunaa and Ali, it was fun exploring Japanese civil engineering with you guys! Lastly, thank you very much Japan Society of Civil Engineers for choosing me as the representative of the Philippines and for giving me the opportunity to appreciate how brilliant the Japanese civil engineering is. Daghan kaayong salamat!