Proceedings of the IACSC2021

12th Symposium

16 October 2021
Yokohama, Japan

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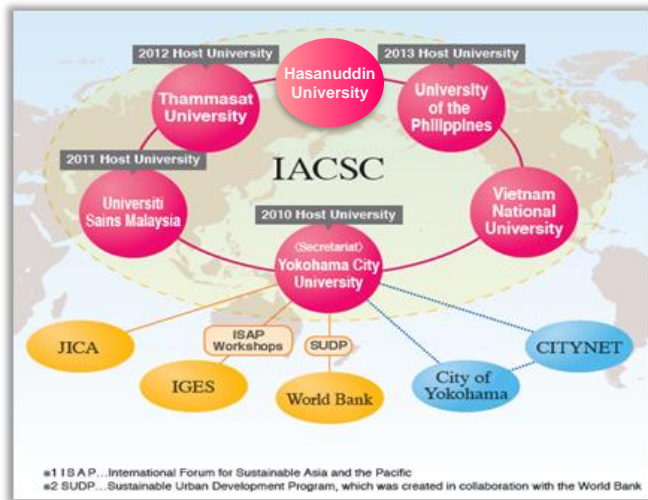
IACSC2021 12th Symposium

16 October 2021
Yokohama, Japan

About IACSC

The International Academic Consortium for Sustainable Cities (IACSC) was established in September 2009 upon the initiative of the Yokohama City University (YCU). It was an outcome of YCU's participation as coordinator of the meeting session entitled "Cities and Universities – Towards Collaboration for Sustainable Cities" at the Congress of Citynet held on September 9, 2009 at Yokohama City, Japan.

Realizing that majority of the population in the world lives in cities and more communities are currently shifting from rural to urban, YCU endeavored to create a network of universities and organizations that would cooperate with each other to build societies that are able to address their problems. Cities are important in attaining sustainability of both local and global societies. The new role of the universities as close ally and partners of city governments in solving their problems and achieving their development goals is highlighted in this consortium. In the process, universities are expected to "build an organic relationship with city governments, open their region to the world and be reborn as institutions that contribute to both their region and the world."

The IACSC endeavors to develop cooperation, foster dialogues and discussions, encourage sharing of information and resources, and promote conduct of research and collaborative activities between and among academic and research institutions. The goal of the consortium is to establish and strengthen the linkage between universities and the cities where they belong towards capacity building for a sustainable society. By focusing on three important components of the community namely urban planning, public health, and environment, IACSC will be able to achieve its goal in the future.

PROGRAM

Part 1: International Symposium (Open to the Public)

09:30 – 10:00　　Opening Session

09:30-09:35　**Opening Declaration** by Rui Ota, Director, Global Cooperation Institute for Sustainable Cities, YCU

09:35-09:40　**Opening Remark** by Michiko Aihara, President, YCU

09:40-10:00　**Looking Back to 12 Years of IACSC** by Hidefumi Imura, Advisor to the President, YCU

10:00 – 10:50　　Keynote Speeches

<Moderated by Hidefumi Imura, YCU >

10:00-10:20　**Keynote Speech "Towards a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific"**

Harumi Kodama, Representative, Asian Development Bank Japanese Representative Office

10:20-10:40　**Keynote Speech: "Roles of Public Health and Data Science in Building Sustainable Society beyond COVID-19"**

Atsushi Goto, Head of Department of Health Data Science, Graduate School of Data Science, YCU

10:40-10:50　**Discussion (Question-and-Answer Session)**

11:00 – 12:30　　Short Speeches and Panel Discussion

<Moderated by Hidefumi Imura, YCU >

11:00-12:30　**Theme: Looking Back on the Activities of IACSC:**

Ngai Weng Chan, Professor, Geography Section, School of Humanities, Universiti Sains Malaysia

Damasa M. Macandog, Professor of Plant Ecology, Institute of Biological Sciences, University of the Phlippines Los Banos

Huong Dang-Nguyen-Thien, Lecturer, VNU-HCM University of Social Sciences and Humanities

Theme: Expectations Toward IACSC:

Toru Hashimoto, Director General, International Affairs Bureau, City of Yokohama

Shuhei Okuno, Deputy Director General, Climate Change Policy Headquarters, City of Yokohama

Theme: Future Goals and Aspirations:

Mayumi Tsutsui, Special Contract Professor, Nursing Course, School of Medicine, YCU

Nobuharu Suzuki, Dean, School of International Liberal Arts, YCU

Andi Masyitha Irwan, Assistant Professor, Faculty of Nursing, Universitas Hasanuddin

Part 2: International Student Forum

13:30 –14:00	International Student Forum

<Moderated by Fumihiko Omori, YCU >

13:30-14:00 **Theme: Student Proposals for Sustainable Cities Toward Realization of the SDGs and the New Urban Agenda.**

・The Introduction of International Student Forum by Masahiko Nakanishi, Professor, School of International Liberal Arts, YCU

・International Lecture, Workshop, and Presentation Program between 5 Universities of IACAC Online

・Two Presentations Selected from 5 Teams during A Presentation Competition Held on 10 October

・Participating Universities:

1. Thammasat University, Thailand
2. Universiti Sains Malaysia, Malaysia
3. Universitas Hasanuddin, Indonesia
4. Vietnam National University, Vietnam
5. Yokohama City University, Japan

Part 3: Symposium toward Launching an Academic Consortium Cross-linked Project

14:00 – 17:00 Symposium toward Launching an Academic Consortium Cross-linked Project

<Moderated by Takashi Yoshinaga, YCU >

13:30-14:00 **Purpose:** Share and Discuss Research Themes That IACSC Member Universities Carry out and Could Develop into International Joint Research.

Five topics：

・**Online Global Education Program in the COVID-19 Pandemic Era**
Yayoi Shoji, Research Assistant, GCI, et al., YCU

・**A Comparative Study for Policy Making Indicators in Asian Cities for Achieving Sustainability after COVID-19 Pandemic**
Fumihiko Omori, Assistant Professor, GCI, et al., YCU

・**Development of Multi Actor Multi Criteria Analysis (MAMCA) Framework for Sustainability Assessment of Asian Cities**
Damasa M. Macandog, Professor, University of the Philippines Los Banos

・**Role of Sponge Cities as An Adaptation to Climate Change**
Ngai Weng Chan, Professor, Universiti Sains Malaysia

・**Creating Work Environments Based on An Understanding of Diversity: Focusing on Employment of People with Disabilities**
Ryota Ochiai, Associate Professor, School of Medicine Nursing Course, et al., YCU

17：00 **Closing Session**

EXECUTIVE SUMMARY

A total of over 20 speakers and researchers from collaborative academic and research institutions joined the 12th International Academic Consortium for Sustainable Cities (IACSC) symposium held on 16 October 2021 by Yokohama City University (YCU).

The three major sessions of the symposium are arranged. The sessions include topics namely International Symposium (Open to the Public), International Student Forum and Symposium toward Launching an Academic Consortium Cross-linked Project. The resource speakers were from Yokohama City University, Asian Development Bank, City of Yokohama, Hasanuddin University in Indonesia, University of the Philippines Los Baños, Vietnam National University, and Universiti Sains Malaysia.

The opening session covered the welcome remarks and introduction of IACSC's history. The first session covered the keynote speeches and panel discussion. The keynote speeches were about building resilient and sustainable society. The resource speakers generally discussed the approaches in addressing the impact of COVID-19, including ADB's activities and the contributions of data science. The short speeches and panel discussion were about the activities and future goals of IACSC.

The second session was International Student Forum. The students from five universities reported the sustainable cities toward realization of the SDGs and the New Urban Agenda provided. The last session was about launching an Academic Consortium cross-linked project. The resource speakers generally discussed the possible collaboration between IACSC member universities and other research institutes in order to strengthen and enhance the current research activities.

Presentation Summary

Part 1: International Symposium (Open to the Public)

Rui Ota / 太田 塁
Director of Global Cooperation Institute for Sustainable Cities, YCU
横浜市立大学 グローバル都市協力研究センター長

Opening Declaration

Rui Ota, Director, Global Cooperation Institute for Sustainable Cities, YCU

Professor Rui Ota, Director, Global Cooperation Institute for Sustainable Cities, YCU, welcomed the participants in the symposium. He introduced the brief history of IACSC and the topic of the symposium.

He explained YCU has built a strong intercollegiate network, the International Academic Consortium for Sustainable Cities (IACSC) since 2009, in order to help solving the urban issues and challenges Asian cities are facing. The symposium was addressed IACSC's twelve-year continuation of the activity.

The theme of IACSC 2021 is "Co-creating Solutions to Urban Challenges beyond the Pandemic: Reimagining the role of higher education and IACSC." This IACSC 2021 consists of three programs: International symposium to discuss the role of higher education and IACSC with highly renowned policy makers of international and municipal organizations and scholars; international students' forum on future urban development toward the realization of SDGs and New Urban agenda; and another symposium to seek future international collaborative research involving the participating universities in the IACSC. Looking back on the activities and looking forward to exploring new ideas and research topics are the main goals for this year's IACSC.

Opening Remark

Michiko Aihara, President, YCU

Professor Michiko Aihara, President, YCU, welcomed the participants in the symposium. She gave brief introduction of IACSC and explained the goal of the symposium.

In collaboration with local governments and international organisations, the IACSC has been working on resolving issues faced by Asian cities from an academic perspective. Many students have greatly enhanced their ability to understand international issues and to think globally through participation in IACSC organised overseas field surveys. However, due to the spread of COVID-19 infection, it is currently difficult to gain valuable experience through site visits and personal interaction. Meanwhile, due to a growing recognition of the advantages of web-based education and research, it is likely that online research and education platforms will continue to be needed in the aftermath of the pandemic. Based on this, it is important to facilitate unique opportunities for international experiences through exchange between overseas and local students. YCU hope that the IACSC will lead the education of this new era and conduct more field research to be conducted in post COVID-19.

Yokohama City University has a mission to grow with the international city of Yokohama, fulfil its roles and responsibilities of education, research, and medical care, and contribute to the development of a sustainable human society in which the residents can take pride. The activities of the IACSC form part of the university's active involvement in international programs and projects. YCU will continue to deepen the efforts of international cooperation toward solving urban issues in Asia and the world introduction of IACSC and the goal of the symposium.

Hidefumi Imura / 井村 秀文
Advisor to the President, YCU
横浜市立大学 学長補佐

Looking Back to 12 Years of IACSC

Hidefumi Imura, Advisor to the President, YCU

Professor Hidefumi Imura, Advisor to the President, YCU, started the background of the consortium and reviewed the activities of IACSC.

He stated the background of creating the consortium. In November 2010, the meetings of APEC, the Asia-Pacific Economic Cooperation framework for economic cooperation inviting 21 countries and regions in the Asia and Pacific region was held in Yokohama. By hosting this APEC meeting, the international city of Yokohama was known to the world. City of Yokohama not only offered a venue for conference, but also expressed its interest in taking the initiative in solving important global issues in line with this. YCU, the university run by the city of Yokohama, took the initiative to start the IACSC. Professor Imura also explained the three activities of IACSC in relation to the

United Nations' millennium development goals and sustainable development goals (SDGs). The activities of the IACSC are based on the three pillars of urban planning, environment, and public health. In each field, the member universities exchange information on their research on specific issues in the city, region, or country where they are located, and conduct student exchanges centered on local field studies. In addition, since 2013, SUDP (Sustainable Urban Development Program) has been conducted to develop a common educational curriculum for member universities, and since 2016, YUSS has started to offer opportunities for graduate students to come to YCU and learn about specific examples of the City of Yokohama in solving urban issues. Although the COVID-19 has made it physically difficult to exchange people after 2020, it has been an opportunity to open new possibilities to develop new methodologies for research and education based on COIL (Collaborative Online International Learning).

Lastly, Professor Imura also encouraged the participants to collaborate with society outside the campus and contribute to solving problems.

Keynote Speech: "Towards a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific"

Harumi Kodama, Representative, Asian Development Bank Japanese Representative Office

The introduction of ADB

ADB is an international organization that focuses on promoting development in Asia and the Pacific. It's a public institution governed by the member governments. ADB have 49 members within the Asia and the Pacific region. Aside from these regional members, ADB have 19 non-regional members, and they are countries in Europe and North America. These western countries are part of ADB as donors. In total, ADB has 68 members within and outside the region. The three main roles of ADB are providing finance and knowledge to our developing member countries, promoting good policies, and catalyzing regional cooperation and friendship among ADB's members.

Socio-economic Impacts of COVID-19 pandemic

Its enormous economic impact is clearly being felt in the region. Last year, the region experienced its first contraction in six decades, the first time their economy actually

shrunk in 60 years, with developing Asia's GDP contracting by 0.1%. Growth is forecast to rebound to 7.1% in 2021 and 5.4% in 2022. The Asian economy is not on track to return to the pre-pandemic level. This can hardly be called a V-shaped recovery. The main risks still center around the pandemic including renewed outbreaks driven in part by new variants, waning vaccine effectiveness, and delayed vaccine rollouts due to supply shortages.

The overall narrative is that Asia and the Pacific is bouncing back from COVID-19. However, the spread of recovery varies widely between different sub-regions and different countries. East Asia will see a strong growth of 7.6% this year led by China's rapid recovery from COVID-19. Countries in South Asia will also rebound quite strongly after a big drop last year and this includes India, which is expected to grow by a whopping 10% in 2021. On the other hand, in South East Asia the economy will only expand at a moderate level of 3.1% this year as recovery is held back by renewed outbreaks and slower progress on vaccination. The countries that are struggling the most are the tourism-dependent economies like those in the Pacific as the recovery from the collapse in global tourism will be very slow.

The social impact or the longer-term impact of the pandemic on Asia and the Pacific: the progress on SDGs has lagged significantly behind in many areas even before the COVID-19 pandemic. For example, there were 1.1 billion people living on less than $3.2 per day before the pandemic. ADB estimates that the pandemic has pushed an additional 162 million people in developing Asia into poverty. Progress has also stalled in gender equality, even before the pandemic only 50% of women in the region participated in the labor force as opposed to 82% men and we think that this number has gone down further due to COVID-19. On climate change and disaster risks, not much progress had been made even before the pandemic. In the rural areas, many people still lack access to basic human needs such as water and sanitation and that one in five children are stunted due to food shortages and lack of nutrition.

ADB's long-term strategic framework, Strategy 2030
ADB's support focuses on seven operational priorities – reducing poverty, promoting gender equality, addressing climate change and environmental risks, livable cities, rural development, governance and regional cooperation. Among these seven priorities, ADB have set specific numeric targets for two of them, gender equality and climate change. We have announced that by 2030 at least 75% of ADB's projects would address both of these priorities – very ambitious target. ADB is not only focused on big infrastructure projects such as building roads and power plants, but also is increasingly focused on the social sector such as health and education, which would come under the first priority on reducing poverty and inequalities.

ADB's assistance packages to COVID-19

ADB announced a $20 billion assistance package in April of last year. In the past year and a half, ADB have already provided $18.5 billion out of the $20 billion package to the governments and private sector and developing member countries. ADB have also mobilized an additional $15 billion from other development partners. Moreover, in December 2020, ADB announced that it would provide an additional $9 billion to help our developing member countries access and distribute COVID-19 vaccines. These assistance packages are on top of all the usual assistance ADB provide to our member countries in transport, energy, agriculture, water, education, et cetera.

Post COVID-19
Five areas where ADB will support this brighter future for the region
1. To deepen regional cooperation and integration: enhancing regional trade and investment, diversifying supply chains, and strengthening regional health security.
2. To address inequality through focused investment in human capital and social protection: strengthening health systems, gender equality, education, and social welfare.
3. To promote green infrastructure as economies rebuild
4. To harness the benefits of digitalization
5. To strengthen domestic resource mobilization
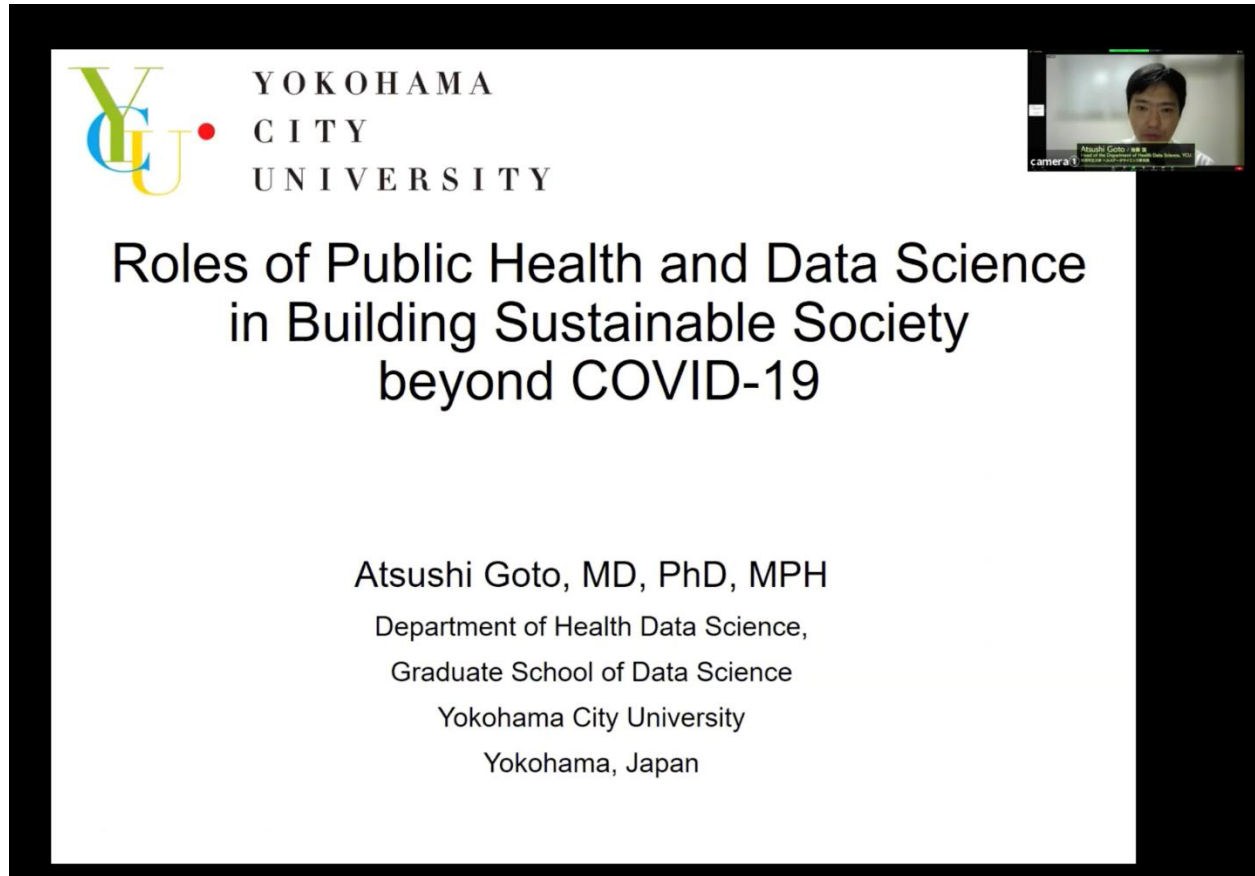
The role of universities and young people in Asia and the Pacific

What can group like the IASCS do to help the region not only survive the pandemic, but thrive in this uncertain world? First of all, the 21st century is the Asian century. The share of Asia in the global GDP was 34% in 2018. One-third of the world economy is in this region and this is expected to rise further to 50% by the middle of this century. For young people to play a major role in their region for transformation, embracing diversity and inclusion is key to driving change. In order for the society to innovate, people have to not only respect but take advantage of peoples' differences in age, gender, nationality, race, visibility, sexual orientation, and sexual identity. Some of older generation don't feel the need to change and they tend to hold onto the old ways of doing things. But the pandemic has clearly shown us that we cannot continue with business as usual. Young people are at an advantage at embracing the new normal because young generation are not bound by the past memories of success. Also, it is important for each individual to speak up on matters that affect their lives and the society. Universities and young people can play a crucial role in this regard. Finally, think globally. It's important to follow what's going on in the world, beyond your own country. In the uncertain world we live in, we must have a global perspective of things.

Keynote Speech: "Roles of Public Health and Data Science in Building Sustainable Society beyond COVID-19"

Atsushi Goto, Head of Department of Health Data Science, Graduate School of Data Science, YCU

The introduction of YCU

Yokohama City University consists of undergrad schools and graduate schools. To further improve the education program, School of Data Science initiated in 2018 followed by the Graduate School of Data Science in 2020, and Professor Goto is now teaching students in Department of Health Data Science.

The concept of Data science

Data science is not necessarily related to artificial intelligence or big data. The important thing is that the key word in data science is not data, it is science. Data science is only useful when the data are used to answer a question (by Professor Jeff Leek in the John Hopkins School of Public Health).

The Tasks of data science

By Dr. Hernan in Harvard School of Public Health, he categorized the tasks of data science in three groups. The first one is description, second is prediction, and the third one is counterfactual prediction. In description, we use data to provide a quantitative summary of certain features of the world – basically describing, summarize the data. The second is the prediction. In prediction, we use data to map some features of the world, the inputs, to other features, the outputs. For example, we use some baseline characteristics of people to predict the incidence of COVID-19. The third one is the counterfactual prediction. We use data to predict certain features of the world, if the world had been different. In the third one, we basically do the causal inference, to think about the cause and effect, and especially the third one is very difficult to do.

The definition of public health

Public health is defined as the science and art of preventing disease and prolonging life and promoting physical and mental health and well-being.

To solve COVID-19-related public health issues

In medicine, we typically evaluate a solution in many types of studies including randomized controlled trials, cohort studies, case control studies, case series, and case reports. We now know that randomized controlled trials and the systematic review and meta-analyses of randomized controlled trials provide the strongest evidence to how people make decision.

The introduction of the design of randomized controlled trial

In this study design, we randomize participants into two groups using, for example, dice, into drug group and placebo group. In the context of COVID-19, obviously the game-changer is the vaccination. Since its efficacy was proven in a randomized controlled trial, the things have gradually changed. Here investigators randomized about 43,000 people who received vaccine or placebo and found that people who took vaccine had very low incidence of COVID-19 compared to those who took placebo. And, people are now confident to say that this vaccine is effective against COVID-19.

The status of Singapore and Israel

In Singapore, there is a high proportion of fully vaccinated people. However, they experienced a rapid rise in the number of COVID-19 cases starting in early October. It is now speculated that this rise in the number of cases is probably caused by taking away, relaxing the restriction in Singapore like opening the restaurants and bars. Singapore has now started to restrict again to curb the rise in the number of COVID-19 cases. And, there is also good news in Singapore. The case fatality rate is very low compared to other countries including Japan, Indonesia, Cambodia, Malaysia, et cetera. Overall, Singapore is doing well in achieving the high coverage of vaccination and keeping the case fatality rate of COVID-19 low, but we need to watch how Singapore does thereafter. Similar to

Singapore, Israel is doing well in giving people vaccination and it is known that over 70% of the population in Israel had vaccine. However, similar to Singapore, Israel experienced the rise in the number of cases of COVID-19 beginning in early September this year. Vaccination is not the perfect solution. We need to do another thing like restriction and other things.

Using data science in the context of public health
Using the PPDAC cycle, we can implement the data science in the context of public health and also in other areas. In the PPDAC cycle, we first define the problem and plan the study and collect data and analyze data and interpret the data and make conclusion and get implication and develop the solution. By using this cycle and implementing many cycles, we could expect that we can improve the situation in each country related to the COVID-19. For example, we have conducted one study in our university. In July 2020, as the WHO official said that there was a concern that antibodies may wane after several months among people who get infected. The immunity against COVID-19 may disappear after several months. People were worried about potential disappearance of the immune response against COVID-19. Therefore, we defined the problem: long-term sustainability of neutralized antibodies after the COVID-19 infection was the problem. To answer this question, we recruited COVID-19 cases and draw the blood from those after six months of infection and measured the antibodies against SARS-CoV-2. We collected about 376 cases. Basically, among 376 cases, most of them had antibodies against SARS-CoV-2. Only six of them had negative results for SARS-CoV-2, meaning that 97% of cases who survived from COVID-19 had positive results for SARS-CoV-2. These findings might also be relevant for immune response after vaccination, and our research are in the process of planning a follow up study to examine long-term outcome of these survivors.

The usefulness of artificial intelligence in the context of COVID-19
Google and Harvard created AI model to forecast the COVID-19 cases, especially in the US and Japan. The model is doing well in predicting and projecting the number of cases now in Japan, however, major challenge in the forecasting is the dynamic change in the reproduction number. This model may give the right answer; however, it might fail, and some experts said that forecasting for COVID-19 has failed. The AI model will not give the correct answer every time. We must to learn how to use this kind of model.

In conclusion, data science could be utilized to solve COVID-19-related public health issues. However, the roles of artificial intelligence remain to be studied. The game-changer includes the innovations of vaccines and new treatments and rigorous evaluations through randomized controlled trials. Implementation of data science through PPDAC cycle would help to build societies beyond COVID-19 pandemic.

Discussion (Question-and-Answer)
Moderated by Prof. Hidefumi Imura

Prof. Hidefumi Imura: Thank you Ms. Kodama and Professor Goto for their nice cumulative speeches. Ms. Kodama presented the priorities of ADB. She mentioned about the importance of gender, diversity, and climate issues. She also pointed out the significance of health, education, and green infrastructures. The important message to our students was that young people should take risks for innovations, should not fear to change jobs, and they should be engaged in policy debate. This was a very relevant message to students at our university. Professor Goto talked about the meaning of data science and its role, and he took up some examples of Singapore case. He also presented the research results of his team.

Now, I would like to pose some questions to speakers, taking up the issues of COVID-19. Ms. Kodama mentioned that the ADB would like to allocate its resources for assisting the solution of this problem in many Asian countries. On the other hand, Dr. Goto said

that, even in a rich country like Singapore, the government had difficulties to solve this problem. The vaccination may be an effective solution, but the vaccination may cause relaxation of restriction and that may not be good. I would like to ask both speakers about what we should do to solve COVID-19 issues. For example, the ADB, of course ADB is a financial agency, it has big financial resources, but just simply distributing money for vaccination can't be a solution. What's the idea of ADB? A question to Dr. Goto is, what scientific research should we do? We know the urgent need of scientific research, but which area of research we should focus seems still unclear. Also, from the viewpoint of the IACSC, not all members of which are medical scientists, but rather social scientists, I would like to ask you whether you have any idea about the role of IACSC to play for the solution of these COVID-19 issues. Of course, you are free to take up any other issues, although the time is limited. May I ask Ms. Kodama first?

Ms. Harumi Kodama: Yes. Thank you. Yes, vaccination definitely is not enough and we need a whole range of solutions both, economic and social, environmental, to not only recover from COVID-19, but also to achieve the SDGs. As I said during my presentation, COVID-19 has wiped out some of the progress we have made in achieving the SDGs in the region. We have unfortunately fallen behind, but the SDGs are as relevant as ever and we need to do everything to achieve them by 2030. For vaccination, ADB is doing whatever we can to help our developing member countries in this regard and we need to really speed up the process in Asia. But beyond interventions in vaccines and the health sector, we need to do a whole lot of things. We need to fix the economy and we need to build green infrastructure so that it generates more jobs, while at the same time combating climate change. We need to strengthen our social safety net and address inequality so that no one is left behind in our recovery from the pandemic. We also need to promote regional cooperation so that we can collectively tackle issues that go beyond our borders like the pandemic, trade and investment and supply chain issues. We need to harness all kinds of technology including digital technology, the artificial intelligence, and big data. Finally, we must secure financing for development, not just from aid agencies like ADB and the World Bank and JICA, but also from the private sector and the developing country governments themselves through domestic resource mobilization and tax collection and administration. This is why I emphasize the need not only for the outside world to provide financing, but also to help the developing countries themselves come up with the necessary funds for development. Maybe I will stop here. Thank you.

Prof. Atsushi Goto: Yes. Thank you for your question. I think the situation is very difficult for many countries, but I think things we can do in this, for example IACSC, is that we can share our experience. I think if we can share our experience, then we can develop some solution in each country. I think this kind of way can work in some ways and we can possibly collaborate on some research. The good thing is that COVID-19 is related to any

science right now. Even some of the universities don't have medical science, we can collaborate on COVID-19 and do some research to solve some problems. We can possibly have from the perspective of data science or public health and medical science and we can collaborate in the future. Thank you.

Prof. Hidefumi Imura: Now, we would like to start the panel discussion session. First, I would like to explain the objective of this panel discussion briefly. We already had the video presentation about our activities in the last 12 years. I also expressed my personal observation and the comments on its history. Now we would like to go into further discussion on the role of IACSC in education as well as research, and our possible contribution to the society or possibility of conducting action research, not only confining ourselves to stay on the campus, but go out of the campus and then cooperate with other stakeholders for the solution of the problems in front of us.

Today we have a total of eight panelists. Six of them are from the IACSC member universities, and we are happy today to have two people from Yokohama City administration. I don't like to introduce the panelists in detail right now. There is a brochure that has not been distributed to the people, but it contains the CVs of panelists and the abstract of their speech. Now, we will go directly into the presentation by panelists and discussion. Before that, I would like to ask each panelist to make your camera on to show your face to the audience but keep your microphone mute. Please de-mute it only when you speak. The structure of this panel discussion I have in my mind is like this. In the first round, I ask three panelists from the IACSC member universities to speak. They are Professor Chan from the Malaysia Sains Universiti, Professor Damasa M. Macandog from the University of Philippines and Ms. Huong Dang from the Vietnam National University, Ho Chi Minh. In the second round, after these three speakers, I will invite two speakers from Yokohama City administration. Then, in the third and the final round, I will invite the other three speakers from IACSC member universities, namely, Professor Suzuki from Yokohama City University, Andi Masyitha Irwan from Hasanuddin University and Mayumi Tsutsui from Yokohama City University. Each panelist has five minutes for speech.

First, I would like to go to the first round, that is the presentation by three speakers. All these speakers are professor or lecturer at IACSC member universities. They have been participating in various activities of IACSC and they are very familiar with what we have been doing. I believe they may have various ideas about how to improve IACSC's activities, recognizing their challenges and opportunities. First, I would like to invite Professor Chan Ngai Weng from the Universiti Sains Malaysia.

Short Speeches and Panel Discussion
Looking Back on the Activities of IACSC: "The International Academic Consortium for Sustainable Cites (IACSC): Past, Present & Future"

Ngai Weng Chan, Professor, Geography Section, School of Humanities, Universiti Sains Malaysia

USM has been with IACSC since the very beginning. USM is one of the founding members. Through Prof. Chan experience, it has been fruitful, not only for USM, but also for the other universities, and universities have many benefited in the exchange. Universities have also sent a lot of students for training in the various courses offered by YCU and also by the member countries, until the COVID came.

USM has organized two times already IACSC in 2011 and 2016, and next year USM will organize it for the third time. The two symposiums that USM have organized in USM with different themes. The first one was on higher education in 2011. The second one was on prosperous urban living. The second one was focused more on urban planning while the first one was more on education. In the past, we allowed a lot of presentations from various sectors. The three important pillars of IACSC right from the beginning has been on health, environment, and urban planning, but in between some universities have included many other themes as well. For instance, economics, tourism have been in

included. In future, IACSC may see more and more themes being included, also include more people from different perspectives, different fields to expose the students and staff to a wide range of fields. Professor Chan said one of the aims of IACSC is to expose our students, expose our staff to all different cultures, not only in Asia. And he hopes that IACSC can move beyond Asia, into Asia-Pacific, into South America, North America, Europe, and so on.

For next year's symposium, USM are planning to allow students, young staff and experienced staff to present their research results. USM would like to index the proceedings. Basically, even other journals don't commit, USM journals are good enough. USM have journals publishing healthcare, medical, environment, urban planning and so on. Another hope of Prof. Chan is to have joint projects. There are only a few joint projects between the different universities. Prof. Chan had Sumitomo prime together with a professor from YCU, Professor Aao, and in future we hope to be able to apply for funding from Toyota and so on.

"IACSC Collaborative Activities Toward Climate-Proof Asian Cities"

Damasa M. Macandog, Professor of Plant Ecology, Institute of Biological Sciences, University of the Phlippines Los Banos

Professor Macandog presented their experiences and collaborative activities with IACSC. IACSC was formed in 2009 and University of the Philippines was one of the founding academic institutions that was University of the Philippines Los Banos. UP Los Banos (UPLB) just recently joined the IACSC in late 2017. By 2018, UPLB joined with UP Manila to host the SUDP 2018. During SUDP 2018, UPLB lined up different lectures from various experts in the university. Professor Macandog presented the evidences of climate change in the Philippines. Professor Chan also gave a lecture on water issues. Professor Macandog have also ongoing studies on the Sta. Rosa-Silang subwatershed. She presented the highlights of this study that is the land use change and environmental impacts of urbanization in the Sta. Rosa-Silang subwatershed and also its impact on the Laguna Lake. Aside from the lectures, they also exposed the students to some field trips. For example, Molawin, Toyota Motors Philippines in Sta. Rosa City and one of the duck farms in Victoria Laguna. The following year, SUDP 2019 was hosted in Hasanuddin. For 2020, there was no face-to-face SUDP because of COVID-19. It was mainly an online program that was hosted by Vietnam National University.

The other activity of IACSC is also the symposium. In 2018, after the trip here in Los Banos, UPLB students joined the IACSC Conference in Manila which was hosted also by UP Manila for the health section. The following year, that was in Indonesia and then Vietnam in 2020.

As for the future activities of IACSC, Professor Macandog considers that IACSC should continue on facilitating the promotion of knowledge exchange between the member cities of IACSC on climate change adaptation and mitigation. For example, Sta. Rosa City has a rich experience in that one than other cities in the Philippines. It's the same thing with the other Asian cities. It should be promoted the participation of various stakeholders, public and then youth, towards climate resilient and sustainable urbanization. In the future themes of SUDP and YUSS as well as international conferences and also future research linkages, IACSC can move into these participatory themes, participatory approaches. IACSC can also promote the development of a regional framework for curriculum development with local contents on climate and resilient cities because different cities would have different climate concerns. Member universities can share these various experiences through the various curriculum, that will widen the perspective of their students. Member universities can also conduct a comparative study on the state of urban development and lessons learned on sustainable urban development. Japan is leading in this field of urban development, but maybe other cities could also learn from the other Asian cities with regard to urban development. The other area that we can also look into would be the integrated coastal zone management for sustainable cities. As we know, many of the cities in Asia or also in the world most of them are located.

"Students' Responses to IACSC Activities"

Huong Dang-Nguyen-Thien, Lecturer, VNU-HCM University of Social Sciences and Humanities
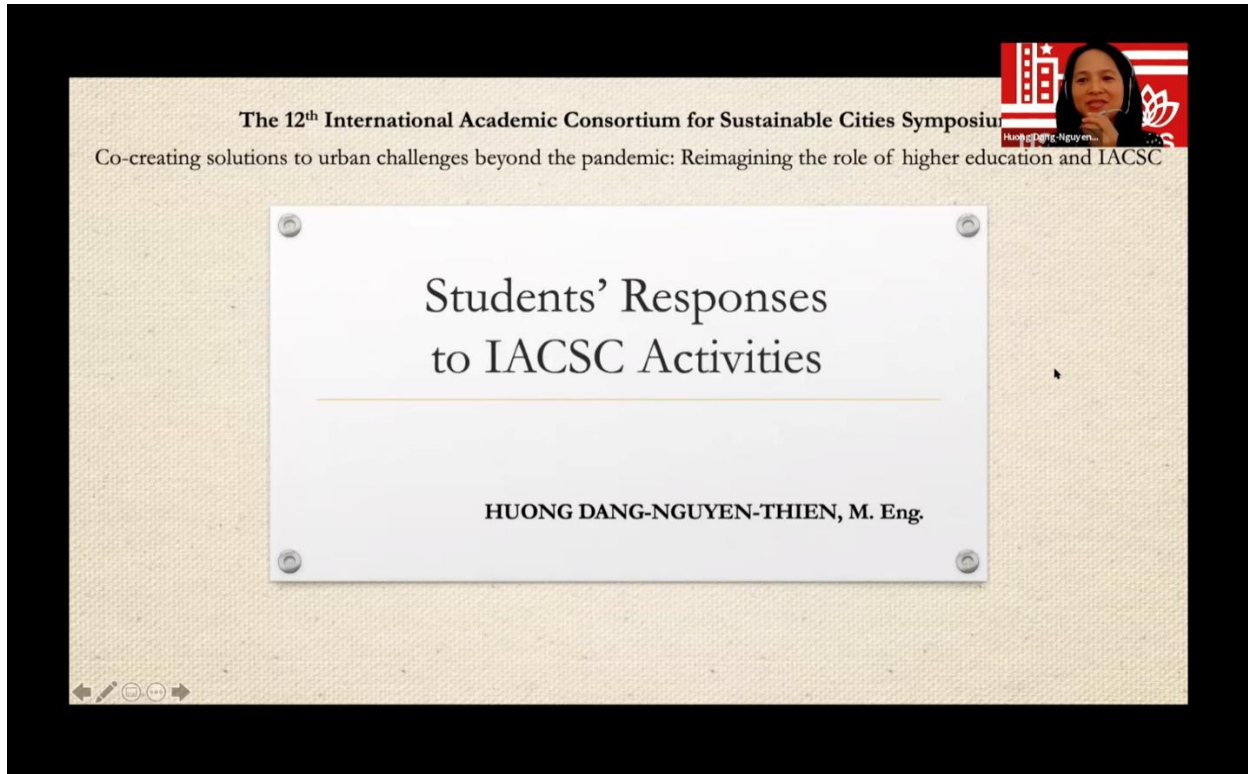
The symposium of IACSC brings the great environment for scientists by the sector, politician, and policymaker to meet and to share many ideas to make city achieve the sustainable development goal. Aside from this main activity, IACSC is also successful on educational courses for both, undergraduate and graduate students. These student activities bring the youthful energy to strengthen the networking of university's members. There are three programs for undergraduate students and one for graduate students; urban planning student workshop, experiences of Japanese culture in Yokohama, and SUDP.

First, the urban planning student workshop is very attractive to students who loves city designs, landscape sketching. However, to build up a fruitful course program, senior supervisor with his staff and house university staff need to make a site visiting in advance to be sure student can turn ideas into reality. Student works are displayed as poster panels in the same date of the symposium. After the workshop, Vietnamese students could apply what they have learnt to the subjects of urban planning and landscape designs.

Second, the experience of Japanese culture in Yokohama program, stage for international student who can use Japanese language. The course focus on traditional cultures and how to shift those spirit to the youth. Students were impressive on how the courses helped them to improve their handful skills and specially give them love of cultural products.

SUDP is the program, which attracts students the most because of the dynamic and the practical program. Student can have field trips along with lectures and group work in class. After every course, the feedback from students is always energetic. There are some differences between first/second year and third/fourth year students. The 1st/2nd-year student prefer to bring what they have learnt into actions. They made the fliers to introduce the SUDP courses information with a strong passion to their student club members. They also showed how much fun the course brought to them by copying a part of SUDP activities. The 3rd/4th-year student, their English has been improved in higher level. They also found their hidden skills through the friendship in deeper conversation related to their career or research topics. The best benefit of the course gave to student that was the consciousness of environmental protection their understanding into a new behavior for daily habits such as using glass or thermal bottle instead of plastic bottle, bring lunch box instead of one-time useful containers.

Last, under the COVID-19 pandemic, the online courses were conducted last year. Students found some difficulties with unstable internet connection and a little worried for the feeling being alone. But after the course, the joyful moment takes students into memorable experience, written as hugs through the screen that was printed in the popular newspaper Tuoi Tre in Vietnam, answered the reporters of Tuoi Tre newspaper. Finally, every student who ever have joined the on-site or the online courses wished IACSC will have a website for update activities and students are eager to keep following and honored to be student alumni. In the future the combination between field trip and online course will be suitable for the wish of students, also for the world of long-life learning.

Expectations Toward IACSC: "Invitation to the CMaaS concept - Sharing Yokohama's experience and expertise - "

Toru Hashimoto, Director General, International Affairs Bureau, City of Yokohama
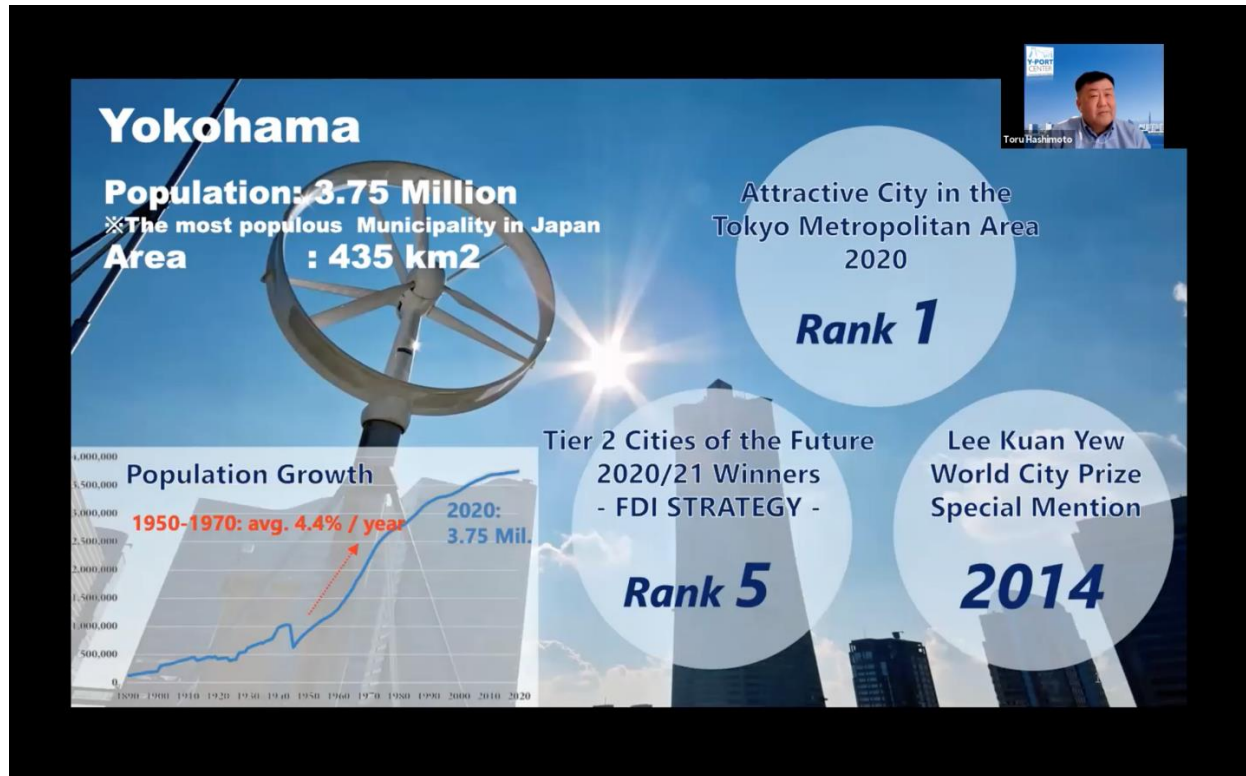
Dr. Hashimoto presented the uniqueness of Yokohama in terms of city planning and shared his view, what they would like to expect from international academic consortium. Yokohama become a very popular attractive city among the Tokyo region. The city administration has done tremendous work. They picked up some six projects, one of the areas was Centre Minato Mirai, it used to be a shipyard, but it was converted in the current urban center. It started construction in 1990, and right now around 30 years later this area became very interesting area including office headquarters, but more interestingly the research and development facility of big companies and small companies, cutting-edge companies attracted here. Minato Mirai now has a potential to move forward urban innovation because of this assembly.

What they would like to do is that they would like create some exclusive knowledge. It's very difficult to share the city management as a knowledge, but Yokohama city would like to try. They have set the goal to make, call it "city management as a service", CMaaS, means that they would like to offer to private sector by charge fee, and no charge to the public sector, for example, to share the knowledge. They setup the Galerio via this

conference, and they organize the conference called Asia Smart City Conference once a year. They believe this academic consortium session is a part strong link to it. Dr. Hashimoto concluded his presentation by saying two issues. The first part, Yokohama city would like to see more young generation to be involved to this conference. They would like to offer more and more opportunities, the University in the Philippines, Indonesia, Vietnam, Malaysia, Japan, Thailand, Korea to do that. The second part, the idea of publication is important, if we can aim at publish our knowledge as an annual publication, it will be one good part to move forward.

" Efforts Toward Carbon Neutral Sustainable Society- Zero Carbon Yokohama 2050-"

Shuhei Okuno, Deputy Director General, Climate Change Policy Headquarters, City of Yokohama

Mr. Okuno presented the climate change policy and what city of Yokohama have been doing so far. Due to the climate change, we have been actually receiving lot of negative impact including drought and also some heavy rains. August 2021, there were some announcements from the government panel regarding climate change. There was official announcement actually been made that human actually impacted this global warming and

there is no doubt with it, that was very much shocking statement shared by the government panel. Not only just to retain the human society, in order to recover sustainable growth, we must start working on this global warming countermeasure.

City of Yokohama was actually only to start on this in 2018. We made announcement of decarbonization, Zero Carbon Yokohama by 2050. We have been actually seeing steady reduction inside Yokohama; however, we need to enhance our initiative for decarbonization by 2050. On the other hand, October 2020 Japanese government actually made announcement that their plan for decarbonization by 2050 and also in April 2021 there was revision on law to promote global warming countermeasures, clearly stated zero carbon by 2050, this has actually been described in this revised law. Triggered by this, we have been actually seeing more active involvement in the economic world domestically and also industry for decarbonization. We noted that we had actually seen big changes in last 12 months for decarbonization. The actual initiative for decarbonization society is really inviting business and enterprise and firms in city of Yokohama is actually aligned and we have been actually looking at how we can actually set greenhouse emission reduction target and concrete initiative. We know that the municipalities are very much active. As of now, 440 municipalities declared decarbonization by 2050. If you just put this in the population, its's actually 110 million which is over 90% of Japanese professions in total.

City of Yokohama in the global warming area, we need to collaborate with other municipalities and stakeholders. Since city of Yokohama really had a lower potential, renewable energy potential, we could only generate the power, only 10% of which would be consumed in the city of Yokohama. That is why we are collaborating with the Tohoku area, Northeast part of Japan which actually has a high potential for renewable energy. We have been actually receiving negative impact due to the COVID-19 pandemic and we have actually seen large reduction of the actual from the tax revenue. That is why city of Yokohama came up with some complimentary budget. We came up with budget of 610 million Japanese yen just to promote on the living and economic measures. It's important to revive the economy from the COVID; however, we also need to enhance the climate change countermeasure, which could be one cause for the COVID-19. We know YCU have participated to coordination of universities contributing to carbon-neutral which is a wonderful act taken by YCU. Even in Japan, we have been actually seeing acceleration of those initiatives targeting for the natural energy 100%. Going forward, the message for young people is that really, we need to take actions. We hoping that YCU can actually take a lead in terms of moving onto the decarbonization in Asia and decarbonization across Asia, realizing collaborations through IACSC.

Future Goals and Aspirations:" International Inter-city Cooperation and IACSC, Its Possibilities and Challenges"

Nobuharu Suzuki, Dean, School of International Liberal Arts, YCU

International Inter-city Cooperation and IACSC,
Its Possibilities and Challenges

Nobuharu Suzuki
Member of Urban Planning Unit, IACSC
Professor / Dean
International College of Liberal Arts,
Yokohama City University

Professor Suzuki presented the three activities of urban planning unit and lessons from the activities. The first one is international student workshop that started in Georgetown, Penang, 2011. This is intensive workshop program in four to six for member universities of IACSC, usually held before IACSC meeting. The second is the international joint research. Research on urban heritage conservation in Asian big cities were implemented from 2014 to 2017. It includes the case studies from nine cities in eight countries and regions. This project is initiated by YCU and supported by JSPS KAKENHI grant. The results of this joint research are reported and published in three languages; Japanese, Chinese, and English. The third one is intercity technical cooperation project. This is organizational framework. Yokohama City and Yokohama City University jointly created one project team and implemented this project and funded by JICA. In this project, the counterpart is Seberang Perai city and USM. The project site is Bukit Mertajam district and it is old downtown of Seberang Perai city. Actually, this project starts from Penang city because there has been a long-term exchange between Yokohama City and Penang city through CityNet since 1980s.The research team focused on the cultural heritage like shop houses or traditional market and commercial activities and the other cultural heritage

like the very old industries and festivals. We tried to figure out how to regenerate the Old Downtown.

On the university's side, urban planning unit implemented international student workshop in conjunction with JICA Project. The students had research work and proposed their idea to the communities. One of their ideas is rehabilitation and renovation of the market building. This market building is the symbol of Old Bukit Mertajam. The students' ideas were accepted by the local community and we adopted their idea. Finally, the project team proposed urban design plan including rehabilitation and renovation of market, shop houses, and public spaces. Soon after the completion of the technical cooperation project, the local community started new activities. They setup the new organization Rakan BM, and held community art festival. Finally, the last issues, by coordinating the various activities of urban planning unit, a new and effective intercity cooperation can be realized.

"Fearless Environment for International and Interdisciplinary Collaboration"

Mayumi Tsutsui, Special Contract Professor, Nursing Course, School of Medicine, YCU

Since 2019, there were several collaboration programs conducted between YCU and Hasanuddin University such as the exchange program where three of our nursing and physiotherapist students attended the sustainable city program. During IACSC 2019 which was conducted in Hasanuddin University, that was the first time YCU faculty members visited the campus, followed by one-day tour of five YCU students to our network in the town which were junior high school and public health center.

During the pandemic, our collaboration kept continuing in the form of intensive discussion of our joint research, which we planned to involve the undergraduate students as the participants aimed to measure their health. However, due to the extended pandemic situation, we revised the research plan to add additional questions related to the impact of the pandemic on student's lifestyle. Another extensive program was the Sakura Science Program in early of this year where many of our nursing students participated. In addition, another program was conducted last September, a one-day online global program, and 15 of our students were involved. Those two programs were about culture, knowledge, and experience exchange.

Hasanuddin University also invited Ms. Moriguchi from YCU to deliver a guest lecture. Ms. Moriguchi lecture was entitled, dysphagia or swallowing difficulties management among older people. Professor Tsutsui also delivered a lecture, extended the lecture to all nurses in Hasanuddin University hospital entitled, dysphagia prevention of older people in the hospital setting. As the output, the hospital planned to adopt some of the exercise taught by Ms. Moriguchi to prevent dysphagia in Hasanuddin University Hospital.

Some suggestions to strengthen the collaboration, we hope that in the future the topic of the exchange program is broader, not only about health, but also some other topics such as sustainable development goals, et cetera, and more various activities such as exchange guest lecture could also be conducted. A few weeks ago, as additional, we surveyed our students who are alumni of the Sakura Science Program, an online global program, to ask for their feedback on those exchange programs. They mentioned that had a chance of cultural exchange program broaden their friendship and knowledge and time for practicing English as the benefit of attending these programs, whereas motivating them to study abroad and prepare themselves to be better future nurses are the impact of the program. Lastly, they suggested time extension, more ice-breaking among session, between session, and conducting offline as the input for exchange program in the future.

"Strengthening Students and Faculty Members Collaboration Program during Global Pandemic"

Andi Masyitha Irwan, Assistant Professor, Faculty of Nursing, Universitas Hasanuddi

Professor Irwan presented the Fearless Environment, International and Interdisciplinary Collaboration. For organizations with different culture and specialties to work as a team, it is important that the people in each organization feel psychological safety. Professor Irwan introduced the action research she conducted with nurses from six pediatric wards and an outpatient department in Japan to create a caring environment. A nurse at a ward receives harsh words that border on abuse from a child and family. However, she was unable to talk because she believed that talking about her experience of feeling hurt would result in being labeled as being an incapable nurse. In the sessions, there are others who have the same feelings and who would empathize with her feelings without denying them, help her regain the motivation, provide care. From the action research, to create a caring environment, the key is a secure and safe environment for the care provider. Psychological safety describes a climate where people feel safe enough to take interpersonal risks by speaking up and sharing the concerns, questions, or ideas. In international and interdisciplinary collaboration as well, it is important to create an environment where the participants are cared for and free of fear. Approach for creating a fearless environment, special for leader; emphasize purpose, clarify the need for voice, listen, ask questions, communication, express appreciation to the speaker. Professor Irwan hope that IACSC-based future projects will focus on the environment, process, and interactions of those involved as well as its outcomes.

Panel Discussion
Moderated by Prof. Hidefumi Imura

Prof. Hidefumi Imura: Thank you very much. Now, we have finished the presentations by all eight panelists. We are going into the question-answers or the comments session. We have about 30 minutes. If I comment on the ideas expressed by a panelist, then I will ask that panelist to respond. There were many comments and the last speaker, Tsutsui-sensei, very rightly commented that the environment where we can speak fearlessly is important. Now, I think we are in a very safe environment. We are free to speak. I don't like to force you to speak to a certain direction at all. We are free to say anything, any kind of opinions or comments. This atmosphere is very important for us all, especially in such a meeting where people gather from different countries, different cultures, different principles of academia.

The panelists expressed various ideas about the role of the academic consortium in education. I think there are lot of very positive opinions and evaluation by the panelists, especially by Huong-san from Vietnam and Syitha-san from Hasanuddin. They highly appreciated the education programs, which IACSC has offered in terms of improving the communication skills of students and the very good atmosphere of learning and communication, especially the communication between students, not only communication

between students, but also the communication between students and the teachers as well as between teachers. The IACSC has provided very good opportunities for students to participate in various lectures and activities such as field studies, but we encountered a very serious problem caused by the COVID-19 pandemics. It was a chance, however, for us to promote a new type of education by developing online classes. There is an opinion that an online class is very good, but at the same time there is a strong wish to come back to face-to-face, in-person meetings soon. Maybe in the future we may develop a kind of hybrid system.

Some speakers also mentioned about the importance of research and the need of the joint research. We tried to promote research activities in the past, but if they have not been put into force satisfactorily, we have a big room of challenge to develop new initiatives towards the formulation of joint research. There was also a mentioning about the need of publication for our activities, especially for our research. From the Yokohama City, Mr. Okuno emphasized the need of collaboration between the university and the city administration as well as the collaboration among universities. The IACSC already has a function to promote coordinated activities to be conducted by member universities. It is a challenge for us to strengthen the collaboration for the solution of the climate change. Not only the collaboration among universities, but also the collaboration between universities and the administration plus other stakeholders out of campus is also important. Mr. Okuno suggested the further need for actions in this direction. Dr. Hashimoto also introduced the activities conducted by Yokohama City, and he also suggested possibilities for the cooperation between the universities and administration, especially with respect to CMaaS, City Management as a Service, which is a very new attractive concept. For the Asia Smart City conference, for example, Yokohama City has been cooperating with Yokohama City

Now, first, I would like to take up the issues of education. But, of course, education and research can't be separated from each other, you may speak not only from the dimension of education, but also cover the research field. A question is what kind of new ideas we can propose under COVID-19, by broadening our scope or developing new methodologies, and by other means. First, may I ask Professor Chan, Professor Macandog and Ms. Huong-san, the three speakers in the first round. May I start with inviting Professor Chan?

Prof. Ngai Weng Chan: Thank you very much Professor Imura. Education is not my field, but of course it's very important, that's what we do in university. All this while, we have been giving training programs for students, SUDP and YUSS program, and we have been sending individual– I think nobody has talked about student exchange. We have sent several students to YCU from USM over the years. They have spent one semester.

Some of them maybe less than one semester, one to two months, depending on the availability of the sponsorship and also their time. In USM also, we have received one student now from YCU. I think this sort of thing we can continue to do for our education, but of course with COVID around we cannot have that sort of thing. But I think the situation is getting better now, most of our students and staff already fully vaccinated and I foresee that in the future we will be able to send our students and staff for exchange further. We can continue with more elaborative and innovative educational programs. Online, I think, students are already doing online in the various universities. If you ask them, are they interested in another online program in another university, they may not be interested, but of course it's very convenient, they don't have to go anywhere. They can attend the online courses from their house, that's one of the benefits. I think we should continue this and emphasize more. I'm open to more suggestions. Thank you very much. Back to you, Professor Imura.

Prof. Damasa M. Macandog: Yes. Okay. I think one idea that I have thought of just now after listening to the different presentations is that probably even though we still have online courses, we could have probably collaborative research project among students, maybe we can choose for one semester, one topic. Let's say, for example, in my presentation maybe a comparative analysis on the state urbanization or urban development or any topic and then we will form the students a group, maybe we can have several groups from member universities. Then working on the specific theme or topic, then together they will review literature, and then they will also conduct their own meetings and develop their conceptual framework for the study, then they develop their methodology, and then once they have developed this methodology, maybe they can present it to us, the professors, some sort of, this is outline presentation and then we comment on the methodology. And then when it's approved, the students in their own universities, in their own localities, they do their own gathering. It could be primary data gathering or secondary data gathering. After they have gathered all the data, then we go to the analysis component. Maybe we can have a comparative analysis, so the students will collate all their data and then each one will be consulting through their professors, also how to analyze the data. They will analyze the data for each own country and then maybe comparative analysis for the various countries, and then they discuss the result and make conclusions or recommendations. I think this will be fun for our students because they will be doing their research in collaboration with the other students from the other member universities. Thank you, Imura-sensei. That's from my side.

Prof. Hidefumi Imura: Very good idea about the comparative analysis of data in terms of not just data itself, but also methodology. I think we should differentiate the education program for undergraduates and that for graduate students. For graduate students we

should provide a little bit more advanced course such as the one suggested by Professor Damasa Macandog. Thank you very much. Then, Huong-san, please.

Ms. Huong Dang-Nguyen-Thien: Yes, Imura-sensei. From my side, I get the response from undergraduate students and they like Prof. Chan and also Damasa-san have talked about the joint study. The groups, students can work together at one semester and they could earn credit after that, that is also what they want. They want to earn something as well, not only the knowledge during the courses for the program. Also, for undergraduates, some students, they cannot afford the travelling cost. Travelling cost is also a matter. That's why I think, yes, like Imura had said, maybe we make advanced courses for someone who could travel for the English abilities impressive enough and some other for other who cannot afford for the travelling cost or they still feel a little bit afraid of speaking English in big audience, they can join into online courses. Also, when we can travel, we can exchange lecturers. For example, we can invite Prof. Chan or Damasa-san or syitha -san from Hasanuddin come to VNU and complete one course, so-called as one subject in our syllabus. That is what students respond for me. Thank you very much Imura-sensei.

Prof. Hidefumi Imura: I would like to ask the other participants from the IACSC universities, certainly for the public health area. Syitha -san, do you have any more additional idea? Already you mentioned about the role of educational program related to research. Also, you mentioned about the necessity to grow regarding the exchange of students and faculty members. Do you have more idea about how to promote cooperation in public health division?

Prof. Andi Masyitha Irwan: Yes. Thank you very much Imura-sensei. I think after I hear some suggestions such as from Damasa and then Huong-san related to the joint research and then Imura-sensei response to there will be undergraduate and graduate programs, I think maybe kind of joint research not only for faculty members but also for students, but mainly for the undergraduate students the topic will be kind of lighter such as– because I'm from nursing, and then maybe, for example, such as kind of observation in the hospital in each place, in each country, and then they will compare the observation result among undergraduate students. For graduate students, because we also have nursing program for undergraduate students, I think they will be also interested not only completing their study in two years, but I think having exposure with international, even it will be kind of precious experience for them because after finishing their masters, they might continue their collaborations. So, why not we try kind of joint research among graduate students and then let's see their research and concept or framework. And then, it might end up also into kind of international publication among universities. I think that's all, Imura-sensei.

Prof. Hidefumi Imura: Thank you very much. Then, I wish to move to the slightly different topic, which is the collaboration, cooperation or joint work between the university and the stakeholders out of the university like the administration, especially in relation to the climate change. This morning, Kodama-san from ADB pretty much emphasized the role, needs, and importance of the challenges of climate change issues and Okuno-san from Yokohama City also eagerly mentioned that we have to promote efforts to achieve the zero carbon, for carbon neutrality hopefully by 2050 or so. I think this academic consortium has a very big advantage that we have as its members, universities from the ASEAN countries, enjoying the very rapid economic growth. At the same time, they will be very important emitters of greenhouse gases, and gradually they will pay more and more attention to and emphasis on the climate change actions. So, naturally we have to collaborate between Japanese universities and the ASEAN universities in this domain. Not only in research field, but also the involvement of, engagement of public– not only public, but private sectors, citizens of course. In this way, if we can cooperate with the city administration, and we may further promote cooperation among universities in this field.

Prof. Hidefumi Imura: Okuno-san, what further idea do you have? Apart from Yokohama City, you are free to say any kind of suggestions, opinions from a viewpoint of expert. I think there should be a lot of activities we can do. First of all, in the university, they have to think about achieving 100% renewable energy to make this happen. Actually, if you say that achieving 100% renewable energy, that actually sends great impact. I can think of three impacts. First one is to contribute to environment. Of course, that's one thing. And then, in the future cost of renewable energy may go down rapidly and cost of fossil fuel– even now it's increasing, so as an alternative. For the management of the university, I think that may have a great impact, eliminating the fossil fuel and then the shift into renewable energy. That's advantageous for university as well in terms of administration and operation of university. Also students, they can get great evaluation from general public and also the students can expect some funds coming up. Maybe we can think about the detail or specific part later, but those six universities, they have to get together. So, maybe we can decide on the declaration together, it's my personal idea though. If we do that, we can actually send impactful message across the globe. So, why don't we do that?

Mr. Shuhei Okuno: A suggestion, yes, if all these six universities of IACSC can declare some kind of promotion of achieving carbon neural campus, it's very attractive. I don't whether it is possible or not, anyway. But as you suggested, it is very important that we have this kind of idea, common goals and make an effort jointly, it's very important. Yes, it is really a matter which should pick up from now on, this point is how to promote renewable energy use in the campus, towards a carbon-neutral campus. Also, it will be

very good, we may receive good reputation from the students and also citizens. Thank you very much. Very good, a nice suggestion. Also, we described the collaboration with administration and Yokohama city is promoting various cooperation projects in Asia. May I ask Dr. Hashimoto? Already you mentioned about the smart city, Asia Smart City. Do you think any other possibility of not only Yokohama City University, but universities of IACSC to further contribute to the promotion of smart cities in Asia or any kind of projects, which is important in Asia? Dr. Hashimoto, please.

Dr. Toru Hashimoto: Yes. I think there is tremendous opportunities available. For example, our project Y-Port has been done like 10 years and this consortium is already more than 12 years. We have come up to the stages that it is already known that your universities are doing this collaboration and we have this project. For example, we have right now some projects in Vietnam, maybe in Indonesia, in Jakarta areas, and also in the Philippines, Thailand, that new area, new city development. Some ideas which Okuno-san said, carbon neutrality, energy saving, more livability though the digital connections, or circular economy, reducing the emissions including solid waste, lots of new ideas is being solved. Why not do some– for example, student idea competition using this platform, so we can introduce the project? Of course, the student ideas will not be 100% materialized, but I think it's really strong push for the students to come into the career in the city planning, carbon neutrality. I hope that lots of students will come into this career stream. I believe we can provide practical laboratory field for the consortium. After this, maybe Imura-san, Ota-san, and Suzuki-san, let's talk seriously what we can do for the next 10 years. Thank you.

Prof. Hidefumi Imura: We are in competition. This is a very good suggestion to us. We have students, not only in Yokohama, but in other cities in Asia. The competition of students' idea for certain policy goals such as carbon neutrality, circular economy must be useful for us all. Yes, it seems a very nice idea, I think. Thank you very much. Then, , still there are remaining questions about, for example, the cooperation with the external organizations. Already Suzuki-sensei mentioned about the project, which has been conducted in cooperation with JICA and other external agencies. Also, we have Sakura Science–we are promoting that program. We have many possibilities to cooperate with the external institutions. May I ask Suzuki-sensei to express further ideas about our cooperation with external agencies to promote the activities of IACSC?

Prof. Nobuharu Suzuki: Thank you, Imura-sensei. In terms of the project, I mean the Seberang Perai-Yokohama project, we would like to extend the project, I mean going to the second phase. But it was impossible because actually Malaysia is not a developing country anymore, I mean Malaysia is not the traditional target country of ODA or JICA project. In that case, the project is bilateral one-to-one technical cooperation, but I guess

we should think about multilateral technical cooperation among cities and universities. I know that our colleagues or member universities of IACSC, they have very talented professors and students. Also, probably we can do a project with our member universities to help other countries, and maybe if you think about the other style of technical cooperation, we can have more new projects and we also open to reach to the Asian countries.

Prof. Hidefumi Imura: Okay. Thank you very much Suzuki-sensei. Yes, anyway we have to continue to collaborate with the external institutes like JICA, ADB, World Bank, and others for further promotion and cooperation. Then the last but not the least, I would like to invite Tsutsui-sensei because she stressed the importance of fearless environment. I believe we have had discussion under fearless environment, but still our ideas might be limited or under some pressure. May I ask Tsutsui-sensei, if you have any suggestion to the activities of IACSC, anything important which has not been out of our scope or anything important which has not come to our mind, you are free to comment on our activities.

Prof. Mayumi Tsutsui: Thank you very much Dr. Imura. I think IACSC project or activities is very very impressive, so I don't think some comments will be needed. But for more innovation or promotion, maybe I will recommend for all activities or all products promotion will reflect or assist their project or program about the psychological safety, they encourage the member to speak out. For example, is it easy to ask question, their project is easy to ask questions or easy to express opinions, is it okay or is it possible to bring up problems or tough issues like that kind of things? In Japan, harmony is very important. However, sometimes we need to speak out if you innovate or grow the organization. Thank you.

Prof. Hidefumi Imura: Thank you very much for your valuable comments. Yes, it is really important that from time to time we have to hear the opinions and comments from not only participants, but from other people. That is something we didn't pay much attention so far, so we will do that way in the course of our projects from now on. Now, I would like to conclude this meeting, summing up just very briefly. But before that, if anybody wants to speak, you may talk. Otherwise, let's see, I will conclude by summing up.

This morning we celebrated 12th year of the IACSC. It was the third opportunity for YCU to host this meeting, first in 2010, second in 2015, then this third one in 2021, this year. Unfortunately, we are under the stress of COVID-19, so we are forced to organize this meeting in this way. But in a sense, this has provided a good opportunity for us. There is no physical barrier actually. If we use these online tools, we can communicate freely and vigorously in this way. There is the problem of time difference as somebody mentioned. We have two-hour time difference among us. It is a very big challenge in a sense. When

we held a class in the morning in Yokohama, in some cities students must wake up early in the morning, to start at 7 o'clock. It's a big problem, but to be very frank it's not a barrier at all. Somehow during last year and this year also, we managed to hold a number of online classes under COVID-19. Then today we received a lot of ideas about how to promote and improve our program in terms of education and research as well as for the collaboration with the outside stakeholders, with administration and external organizations. We must expand our scope, for example, to deal with climate change issues. Of course, we have already paid a lot of attention to this issue. ECO2 was the subject of the first SUDP, and its focus was the energy efficiency in cities, and it has developed into new SUDP. In that sense, we had already taken up this issue, but there was a more ambitious suggestion that we should go ahead further, for example, towards the carbon-neutral university or carbon neutrality campus. Thus, we should emphasize more on the carbon neutrality. Also, as Ms. Kodama said, not only climate, but gender, diversity and many other issues are being discussed in the context of SDGs. We should take up these SDGs issues and make a challenge. Now, it's almost time to stop and finalize this morning session. I would like to express my sincere thanks to all participants. Thank you very much for your cooperation.

Presentation Summary

Part 2: International Student Forum

Part 2: International Student Forum

- **Theme**: Student proposals for sustainable cities toward the realization of the SDGs and the New Urban Agenda.

- **Overview:** International student workshop and proposal presentation in collaboration with IACSC member universities based on 5 topics.

- **Topics:** Every university suggested 5 topics about the theme.
  - ✧ Urban development method aiming sustainability, urban development based on New Urban Agenda
  - ✧ Walkable city, pedestrian friendly city, low-carbon city, sustainable sight-seeing under travel restriction
  - ✧ Nature conservation, culture, biodiversity in a city, city village
  - ✧ TOD, low-carbon city, train station area development, mobility as a service
  - ✧ Culture/ art/ heritage preservation among a city

- **Participating universities and students**:
  - Thammasat University (Thailand): 6 students
  - Hasanuddin University (Indonesia): 10 students
  - Vietnam National University: 5 students
  - Yokohama City University: 11 students
  - Universiti sains Malaysia: only faculties (Total: 5 universities, 32 students)

- **Program**

Date	Agenda
July	Lecture videos about 5 topics from 5 universities on YouTube
August	Preparing presentation by each university
4th September	Interim Forum Presentation by 4 universities Grouping 5 inter-university teams for groupwork
September	Preparing final presentation by each inter-university team
10th October	Final Forum: Presentation Competition Presentation by 5 inter-university teams Selecting teams for IACSC Symposium or Asia Smart City Conference
16th October	IACSC Symposium Presentation by selected teams
28th October	Asia Smart City Conference Presentation by selected teams
November	Summarizing the report

Innovation in Public and Afforadable Housing

Monphat Boonyarit "Max" (TU), Suranta Muli Sitepu (UNHAS), Takehisa Masui (YCU), Akram Ramadhan (UNHAS), Max Miura (YCU)

Standing for Prefabricated Building, it's the method of constructing a house by "Completely produce each part before installing them together on site." PREFAB is coming to solve the problem of rising wages and the shortage of skilled labor outflows that could create higher prices of construction and indirect effects with the renting prices. Moreover, PREFAB could control both the quality standards and time management.

PREFAB has some merit; Suit for affordable and public housing, maintain the cost of construction, easier on quality control, faster construction times, variety of design for different segments of housing, environmentally friendly, more energy-efficient (e.g. air sealing, insulation, construction, and suitable for emergencies.

We refer the public housing policy in Singapore. Singapore has one of the highest homeownerships in the world and the highest in Asia. Over 80% of all Singaporeans live in public housing estates, of which over 90% own these homes. All estates are planned by the government under the Housing Development Board (HDB). In 1964, the Home Ownership Scheme was introduced to help citizens to buy instead of renting their flats. Citizens would purchase a 99-year lease on the property. The government is still the actual owner meaning that while residents can buy, sell and inherit property, the price is controlled. Public housing is effective towards eliminating racial bias. No single estate becomes an isolated enclave for a certain group.

For the conclusion, Public Housing can be proved to be effective in solving problems in Urban areas by the aspects of the social support, technology and efficient building. These aspects are corresponding to the SDGs No.1, 3,9,10 and 11.

■ **Presentation (Team B)**

Walkable City

Dwi Rezki Fauziah (UNHAS), Ihlam Fathul Kiram (UNHAS), Ouka Nakagawa (YCU),Tamae Sunano (YCU), Yurie Nakashima (YCU), Tishawree Gerdpratoom (TU) , **Zin Wint Nwe (TU)**
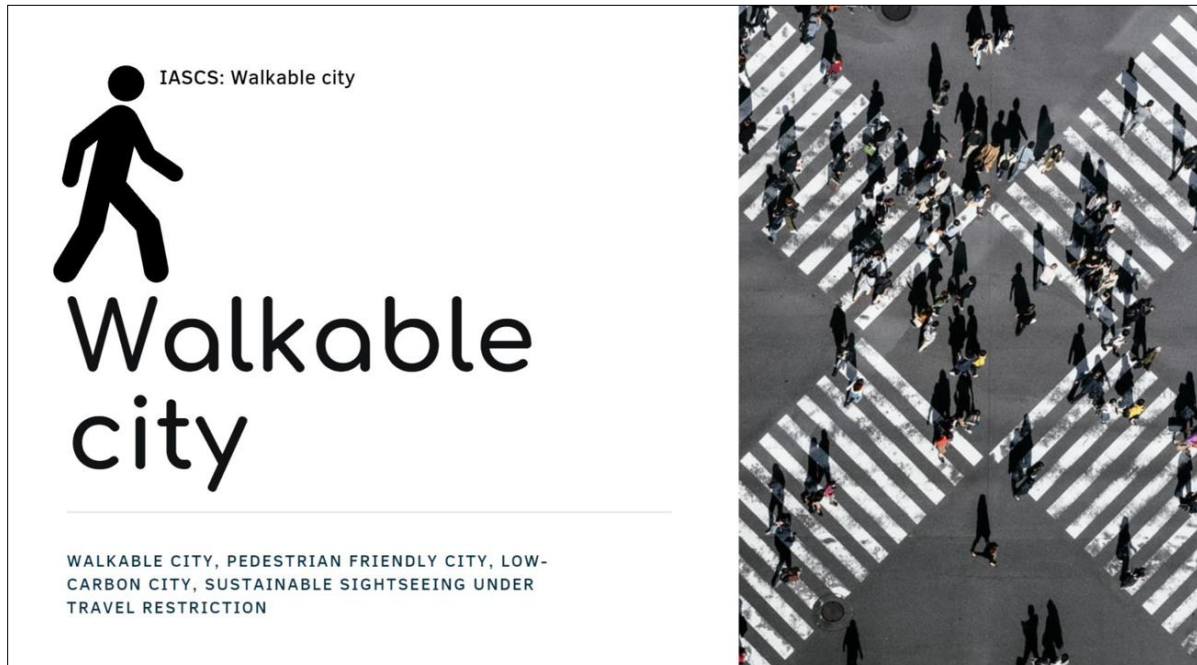
A walkable City is the city that can be able to walk to get around and interact with the city its related to happiness, quality of life and it also create sustainable community. In Asian cities, there are some issues related to walkability such as substitution of walking mode with private vehicles and public transportation, unsatisfactory facilities and quality of roads, and less connectivity between neighborhoods and significant nodes. As a result, these issues have caused problems such as higher rate of accidents and pedestrians having the highest exposure to air pollutants in car-dominant, and less walkable cities.

Seoul in South Korea is one example of the solution for these problems. Seoullo 7017 Sky garden; a forgotten 1970's highway was turned into a sky garden with ever-changing landscape in 2017. It has minimizing vehicle access and promoting walkability, 17 walkways connecting different places in the city, over 50 families of plants, shrubs and flowers grown in 645 tree pots on the 983-metre-long pedestrianized bridge. In addition, huge diversity of trees reduces carbon emissions.

Kashiwa-no-ha in Japan is also the good case. Kashiwa-no-ha city has a walkable design guide line and keeps on concrete efforts. This guideline is consisted of principals below.

    A. Adjust the scale properly
    B. Create direction and urge a huge variety of activities

C. Improvement of migration and selectiveness
D. Ensure safety and security
E. Maintenance and management of walking spaces and development of community awareness
F. Realization of Modal Mix
G. Contact points with nature and culture
H. Information collection and feedback

For realize walkable cities based on the SDGs and New Urban Agenda, how Asian cities should be changed? Our proposals are below.

A. Limit the private motor vehicle-ownership
B. Gradually change the car-oriented road to human-oriented road
C. Promote public transportation and transit
D. Create more narrow, safe and comfortable streets with trees and interesting nodes.
E. Give spaces for greenery!
F. Collaborative work between stakeholders in the city (government, academy, researchers,
    private/industries, NGO, community, etc.)

These proposals are related to the SDGs No.3, 7, 8, 9, 11, 13, 15, 17.

■ **Presentation (Team C)**
Nature conservation and biodiversity in a city
Pimonkhae (TU), Hamzah (UNHAS), UMAR (UNHAS), Minh Tam (VNU), Ayane Suzuki（YCU）, Erika Ando（YCU）

The moral philosophy and conservation movement focused on protecting species extinction, maintaining, and restoring habitats, enhancing ecosystem services, and protecting biological diversity. A growing population are placing higher demands on the natural systems in and around urban areas which effect to biodiversity.

As humans continue to consume natural resources, many organisms are headed for extinction. We have some issues such as population density, environmental damage, human activities, poor waste management, nature reserve problem, air pollution and water pollution, climate change Through this collaboration, a comparative analysis of achieving sustainable cities in Asia can be achieved. SDGs No.11~15 related to these topics.

We researched about Umphang District, Tak, Thailand for the fine case. The tourism industry in Thailand is the country's second largest revenue earner, second only to computers and computer components. To achieve sustainable tourism, local communities are the most important group to be educated and encouraged to take part in tourism management at every level, province, district and sub-district. The Tourism Authority of Thailand (TAT), has then made ecotourism guidelines at points 1, 3 and 4 which are more directed at nature protection and community development. Umphang is located among rugged mountains and dense jungles on the Myanmar border, with no roads to provide access. Umphang is as one of the country's major sources of water. There are overtourism during the high season. The limited accommodation and restaurants could not cope with the high demand by tourists, leading to many problems in the preserve.

Our ideas against these issues, we proposed 3 ideas. first, define tourism areas for tourists, second, preserve the cultural environment, third, human resources development. based on these methods, we proposed ecotourism and smart village. Especially, we emphasis We propose that reservation sites around the world, countries, and governments work together to manage all restaurants and hotels and other reservations in a single reservation system.

■ **Presentation (Team D)**
Tod Mobility Service in Ho Chi Minh City
Krittanat Tuesaksri (TU), Huynh Gia Lam (VNU), Van Cong Tien Quoc (VNU), Audi Rifyal Akbar (UNHAS), Reyhan Regisha (UNHAS), Nao Inoue (YCU), Shun Nishino (YCU)

In Vietnam, there are 9 million private vehicle consisted of 825,000 cars and 8.12 million motorbikes. In addition, Population density in the inner city is very high, up to over 10 thousand people/km2 (Nguyen, 2019). These concertation causes some problems; the division of traffic and lanes is not effective, traffic infrastructure is still weak, planning is not synchronized, the awareness of participating in traffic is not good, encroaching on the roadside for business, the number of traffic participants is increasing.

Recently, Todd Litman, described the shift paradigm in mobility. The old paradigm is really focusing on automobile-oriented transportation improvements. And the new planning paradigm expands the range of objectives, impacts, and options considered. TOD is a solution for above problems in aspect of traffic development orientation as a basis for urban development and planning, and taking the traffic hub as a population gathering point from which to further form a distributed transport system. It will also Solve problems related to traffic congestion and protect the environment.

There is a various of TOD, that generally has separated based on the scale, the intensity of transit system services, and also the scale of service development around the TOD area. Urban TOD; this type has high intensity of land use for offices, business center, high and medium density housing according to the size of employment. Neighborhood TOD;

it focus on developing medium density housing, commercial and services, entertainment, and any other recreation, also have the facility to fulfill the needs of residents so that can't reduce the automobile dependency. As for the physical development strategy of TOD, one of the strategies that suitable to our condition (problems) is redevelopable site. The development that now has been really oriented to automobile dependency could be changed through maximizing transit function on a trains mode system.

TOD will lead the economic growth, comprehensive social planning, and environmental sustainability. These concepts are equivalent to SDGs No. 9-1, 11-2, 11-3, 11-7, 11-A, 12-8, 12-A, 13-2.

■ **Presentation (Team E)**
Chinatown in big cities and experience preserving Chinese culture lessons apply to the preservation of culture for other countries

Karin Kalinta (TU), Ho Thanh Dat (VNU), Vo Minh Thang (VNU), Welti Ayu Oktafia (UNHAS), Claudia Regina (UNHAS), Nanaka Kojima (YCU),Ousuke Naganawa (YCU)

Chinatown is a district of any non-Asian town, especially a city or seaport, in which the population is predominantly of Chinese origin. Since the 17th century, overseas Chinese have been residing in Thang Long. Over time, Hang Buom Street has become one of the busiest overseas Chinese cities in Hanoi in Vietnam. In Indonesia, there is China town in

Jakarta. Dharma Bhakti Temple or Kim Tek Le Temple is known as oldest Vihara in Jakarta, with approximately 350 years old since their established in 1650. When Yokohama opened its port in 1859, a foreign settlement was established near the harbor (this area is still called "Kannai", meaning "in the settlement"). Many facilities for the Chinese were built in the settlement, and this is the original form of Chinatown. Through persistence and merit alone, the Thai-Chinese community was able to thrive within Thailand through adaptation of their culture to fit the locals while still maintaining their integrity of their culture.

Chinatown offers a revealing look at how a group of people bound geographically, culturally, linguistically can flourish to become a vibrant, courageous and proud community of Chinese Descent. The success and survival of Chinatown depended greatly on the family and district associations which served as political and social support systems to newcomers. The members strove to meet the basic needs of the community and represented a united voice in the fight against discriminatory legislation.

In conclusion, what we've seen so far from Chinatown from each respective country, is the fact that the Chinese were able to adapt its original culture to the host country. Its ability to preserve their cultural integrity through businesses and trade, with identifiable architectural features as well as meaningful connection to the local people.

Furthermore, by ensuring that there are affordable housing options in any neighborhood has become a necessity. This is especially important for an area experiencing rapid demographic or economic changes. It is also vital to ensure the retention and creation of working-class jobs so that residents can continue to make a living and contribute to the community they live in. Providing support to local businesses that not only fund the local economy, but contribute to the cultural and historical integrity of the neighborhood.

Overall, understanding the origins of the area and supporting the residents who still live there are an essential step towards learning from mistakes of the past and protecting communities across the nation undergoing similar struggles today.

Presentation Summary

Part 3: Symposium toward launching an Academic Consortium cross-linked project
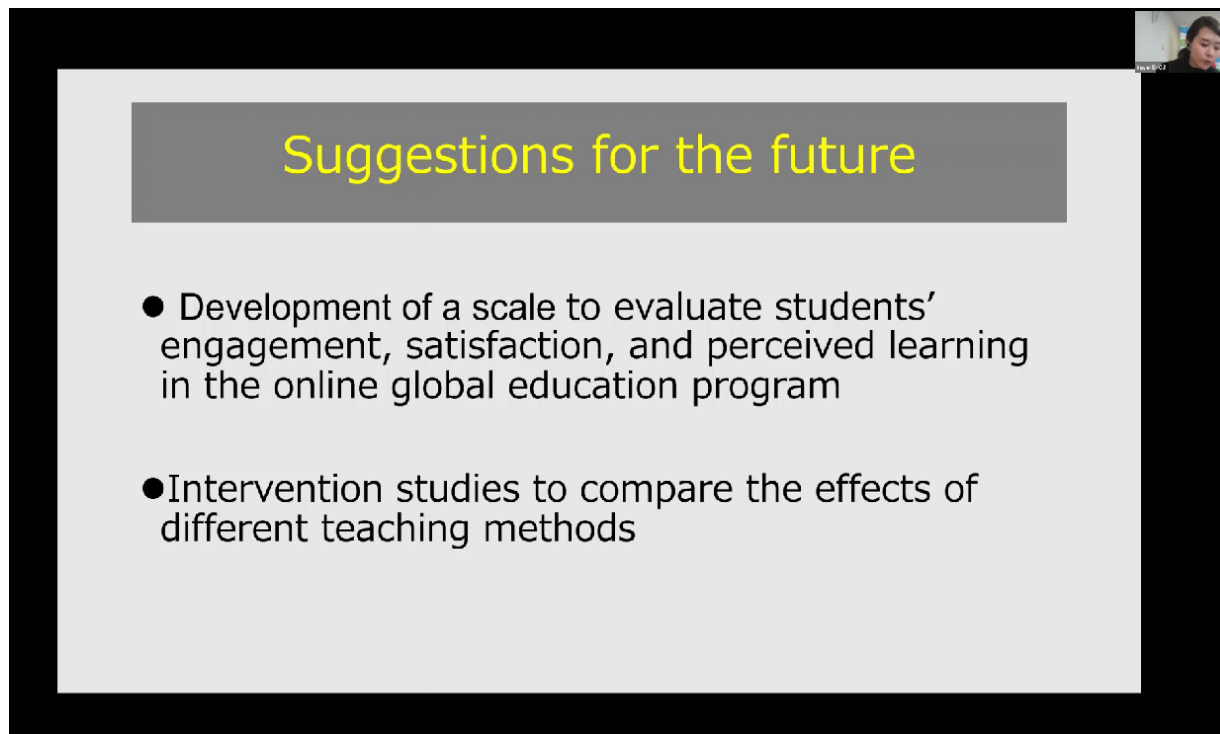
Part 3: Symposium toward Launching An Academic Consortium Cross-linked Project

■ **Purpose: Share and discuss research themes that IACSC member universities carry out and could develop into international joint research.**

■ **Presentation**

Online Global Education Program in the COVID-19 Pandemic Era

Yayoi Shoji, Peii Tsai, Fumihiko Omori, Akio Onishi, Masahiko Nakanishi, Ryota Ochiai, Makoto Seta, Takashi Yoshinaga, Rui Ota, Hidefumi Imura, GCI, YCU

Due to the global spread of COVID-19 infection, it has become impossible to conduct face-to-face classes, and online classes have become the standard. The rapid development of the Internet has facilitated international exchange, rendering it less time-consuming and costly. Conversely, going abroad and interacting face-to-face have become impossible, which has engendered various problems.

Against this background, this presentation aims to share the status and issues of online global education with the participants, and to discuss its future development. Yokohama City University has been actively conducting international exchanges with universities in

Southeast Asian countries through some programs, including SUDP and Sakura Science. These exchanges, which are student-led and involve group work and discussion, have been conducted in collaboration with faculty members and have been maintained online even amid the spread of infection. We have been using online tools to interact as much as possible during the epidemic, such as Miro and Google Slides for group work, and virtual tours and facility introductions for those who are unable to visit the local sites.

For future international and interdisciplinary collaborative research, we have collected the two following suggestions from Yokohama City University, which has experienced multinational online global exchanges:

> The development and implementation of a standardized scale to evaluate students' engagement, satisfaction, and perceived learning in the online global education program.

> Intervention studies to compare the effects of different teaching methods (e.g., Real-time vs. video-streaming lectures; Virtual site visit vs. facility introduction video).

In the session, after introducing our educational experiences and suggestions for future research, we would like to share the experiences and discuss research plans with IACSC member universities.

■ **Discussion (Question-and-Answer on the chat box)**

Dr. Rui Ota: A classical evaluation method is giving an exam. Is it appropriate for this kind of international online program?

Dr. Takashi Yoshinaga: Discussion points about an online global education program
- What online tools are you using?
- What difficulties do you experience with online global education?
- What are the pros and cons of online global education?
- What alternative methods of fieldwork do you use?
- How do you evaluate your online classes?

Dr. Akio Onishi: To Students and teachers, do you have any opinions above questions? for sentence, what sort of online tools are you using?

Dr. Akio Onishi: To students, do you satisfy to take online lecture? or do you prefer take a lecture on site (off line)?

Ms. Huong Dang-Nguyen-Thien: Unstable internet connection is a problem as well.

Ms. Huong Dang-Nguyen-Thien: I agree with Prof. Chan

Dr. Rui Ota: Dr. Chan's idea would widen students' point of view. Studying a same topic and learn many results.

Ms. Huong Dang-Nguyen-Thien : Fieldwork is really needed.

Prof. Ngai Weng Chan: Good Wi-Fi is of course needed.

Dr. Akio Onishi: what type of lectures are difficulty for online? Huong-sensei.

Dr. Rui Ota: Haha, yes Wi-Fi is necessary in this era.

Ms. Huong Dang-Nguyen-Thien: Onishi-sensei, we can make theory online class but to build skills we need face-to-face class

Ms. Jennifer Rae Pierce: Multimedia can be important to create the feeling of actually, visiting the site, using sounds, video, etc. and describe the smells, and behaviors of people too.

Ms. Welty Ayu Oktafia: I prefer face-to-face class, sir.

Dr. Ryota Ochiai: Thank you Jennifer and Welty!!

Dr. Ryota Ochiai: Experience and satisfaction are important. I've found that we need a variety of stimuli such as streaming video, image sharing, music, and interaction among students for good online global education program. Thank you!

■ **Presentation**

A Comparative Study for Policy Making Indicators in Achieving Sustainability After COVID-19 Pandemic

Fumihiko Omori, Peii Tsai, Masahiko Nakanishi, Akio Onishi, and Takashi Yoshinaga, GCI, YCU

This study aims to compare the indicators which are used in Asian cities for measuring sustainability and supporting policy decisions.

Currently, many cities are facing a variety of problems such as over population in cities and expansion of urban areas, traffic congestion and mobility difficulties, the environmental impact of greenhouse gases and waste, vulnerability to disasters and infectious diseases, difficulties in urban planning, consensus building through participatory decision making of citizens and the management of personal information and privacy, and so on.

Each city has been trying to clarify and improve these issues by using various indicators. In addition, changes in lifestyle due to fear of covid-19 infection forced us to consider to use different indicators for making more sustainable and resilient cities.

Although there are many researchers report city rankings and indexes around the world, research has mainly focused on generating data about the cities in more economically developed countries, such as US and Europe. There is still limited understanding of the scale and depth of policy implication to explore how sustainability indicators are perceived

and whether strong support for local action exists in Asian countries. Therefore, it is important to undertake systematic comparison between cases, to employ quantitative methodologies at local level in Asian countries, and utilizing data such as common and different indicators for each city, statistics in each city, methods and frequency of surveys and questionnaires, and concept of indicators to achieve the purpose.

In this study, we would like to clarify and improve the city sustainability indicators, enable it to be applicable to authorities in decision making on how institutional and social political support are required in Asian cities.

■ **Discussion (Question-and-Answer on the chat box)**

Dr. Ryota Ochiai: I am a medical professional, and there are a huge number of quality indicators just in the medical field. How detailed will the indicators be?

Ms. Jennifer Rae Pierce: Thank you Omori-sensei for the presentation

Ms. Jennifer Rae Pierce: It seems there a couple of different ideas in this proposal: (1) to compare what cities are actually measuring for sustainability (2) to explore the political aspects of the indicators (3) how the indicators are impacted/changed by COVID and (4) development of an index that accounts for the previous 3 items.

Ms. Jennifer Rae Pierce: My organization, the Urban Biodiversity Hub, is potentially interested in this research project. I have been in discussion with Tsai-sensei about this :)

Dr. Takashi Yoshinaga: YCU have started to announce the online education YUSS (Yokohama Urban Solution Studies) program for involving students to the activities from next November. Please ask for your home University if you are interested in the program.

Dr. Peii Tsai: Thank you, Jennifer! Yes, let's continue discussing after this meeting.

Dr. Fumihiko OMORI : Thank you Jennifer! Keep in touch with us continuously! Thank you.

Dr. Ryota Ochiai: I am very much interested in this analysis methodology.

Dr. Takashi Yoshinaga: Fair, livable, and viable worlds sound like valuable concepts to understand the sustainable world.

Dr. Takashi Yoshinaga: I suppose the stakeholder analysis is essential for choosing appropriate stakeholders.
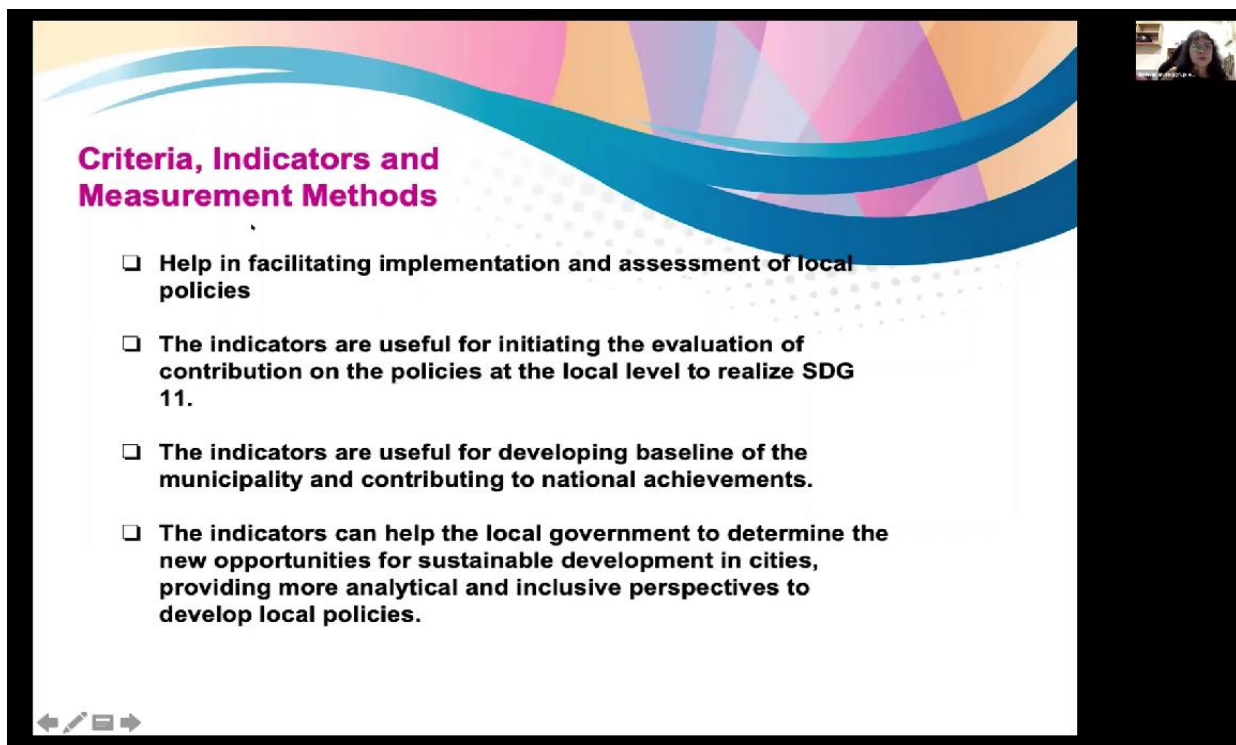
Dr. Rui Ota: Is it correct to understand that this is a methodology to create indicators and then make decisions at the local government level as a result of evaluation using those indicators?

Dr. Ryota Ochiai: I understand that the indicators are established in the context of the local community. Is it possible to use them widely in Asian cities?

■ **Presentation**

Development of Multi Actor Multi Criteria Analysis (MAMCA) Framework for Sustainability Assessment of Asian Cities

Damasa M. Macandog, Professor of Plant Ecology, Institute of Biological Sciences, University of the Phlippines Los Banos

SDG 11 aims "to make cities and human settlements inclusive, safe, resilient and sustainable." IACSC member universities will collaborate toward the development of a Multi Actor Multi Criteria Analysis (MAMCA) framework and analyze a set of indicators to facilitate the implementation of SDG 11 in Asian cities. Indicators are classified into four categories of sustainable development, i.e. institutional, economic, social and environmental. Furthermore, each Asian city is unique in terms of the dimensions of indicators of sustainable development including education, health, planning, fiscal

management, environment, protection of the cities and information technology governance.

Following the approach by Macharis et al. (2004) and Almeida (2019), participatory activities with various stakeholders are conducted to discuss and understand the main challenges and opportunities in implementing SDG 11 in Asian cities. Multi stakeholders representing local government, business sector, scientific and technical community, civic organizations and local communities are engaged in the various steps of the MAMCA framework. These analytical steps include identifying the problems and alternatives for evaluation; stating the objectives and criteria; allocating weights to each criterion; and expressing their preferences. Another important step is the construction of indicators to evaluate each individual criterion and specifying the measurement method. Analytical Hierarchy process (AHP) is used to obtain the relative importance of each criterion. Each stakeholder group will conduct a multi-criteria decision analysis (MCDA). Each criterion will be analyzed to generate a multi-stakeholder view for the different alternatives. The LGU will decide on the alternatives to implement toward SDG 11.

Through this collaboration, a comparative analysis of achieving sustainable cities in Asia can be achieved.

■ **Discussion (Question-and-Answer on the chat box)**

Dr. Akio Onishi: What specific method do you use to analyze the effects of sponge city? For instant, do you use the hydrological model to evaluate effects of sponge city?
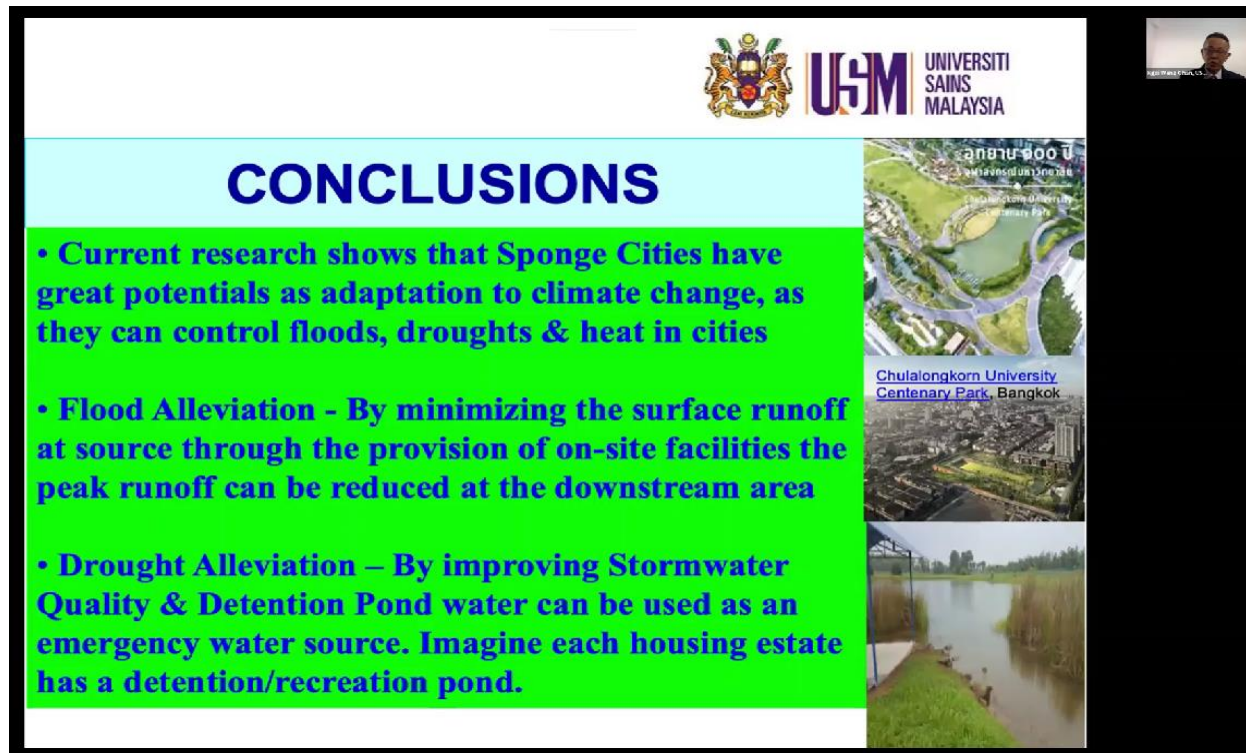
Dr. Akio Onishi: Thank you! So, one of the specific methods is to use the satellite images to identify effects of heat island mitigation in sponge city.

Dr. Peii Tsai: To Demi-sensei, Thank you for wonderful presentation! Actually, MCA was my doctor thesis's topic:) I agree with you that we should include the opinions from indicator-making process. However, sometimes it is difficult for student's studies to conduct the community meetings or workshops. And, I have a question about the weight which you used. Did you use AHP to have multi-actors' weight?

■   **Presentation**

Role of Sponge Cities as an Adaptation to Climate Change

Ngai Weng Chan, Professor, Geography Section, School of Humanities, Universiti Sains Malaysia

Climate change is a highly pervasive phenomenon in the 21st century, largely caused by anthropogenic activities and resulting in severe negative effects on cities including hazards such as heat waves, urban heat islands, floods and droughts. To address these hazards, better coping, adaptation and resilience are needed at the city level. Cities all over the world suffer from heat, flood and drought hazards that often escalates into disasters resulting in significant loss of life, injury and property losses. This proposal examines the incidence of heat, flood and drought occurrence in urban areas, and examines how "Sponge cities" relying on sustainable urban drainage, reafforestation, maintaining wetlands, increasing green lungs, urban farming, and water storage capabilities combine to reduce floods, heat, droughts caused by climate change. Addressing these climate change effects will lead to achievement of Sustainable Development Goals 6 (Clean water and sanitation), SDG 11 (Sustainable cities & communities) and SDG 13 (Climate action). The methodology of the proposed research is based on past research, historical event analysis, literature review, case studies and other secondary data. Primary data in the form of questionnaire survey of city folks and city managers will also be carried out. Expected results based on existing research have shown the potential of sponge cities in addressing heat, flood and drought hazards in cities. This research will produce deeper understanding on the role of sponge cities in

adapting to climate change, including absorbing and retaining rainwater and stormwater, purifying and storing the water, and transferring excessive city heat elsewhere. Sponge cities have great potentials in reducing flood peaks, reducing floods and reducing loss of life and other flood losses. Sponge cities can purify and store rainwater and stormwater, often in ponds and lakes, which can be used to address drought problems. Finally, Sponge cities are a viable method of solar radiation reflection and heat transfer as these cities cope very well with heat due to their lower incidence of urban heat islands. Sponge cities and their green attributes also provide huge recreational values. Overall, the green landscape offered by sponge cities is also found to be aesthetically pleasing, socially acceptable as it is safe for the public and cost-effective. In conclusion, a holistic strategy combing technical application of sponge cities and non-technical human coping and resilience is the key towards effective adaptation to climate change in terms of heat, floods and droughts in cities.

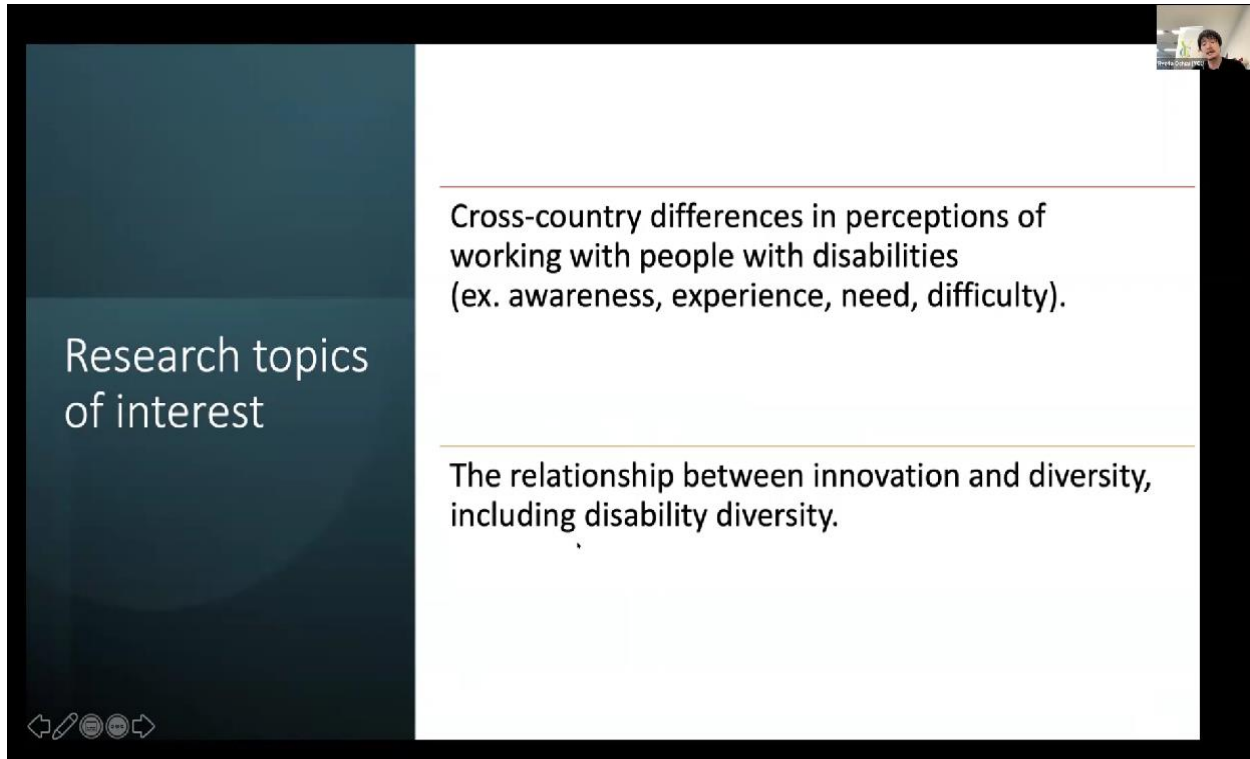■ **Discussion (Question-and-Answer on the chat box)**

Dr. Akio Onishi: Have there any cities been introduced the green infrastructure in Malaysia?

Dr. Takashi Yoshinaga: I like the sponge city concept. I think it makes sense not only in Malaysia but also in Japan.

Creating Work Environments Based on an Understanding of Diversity: Focusing on Employment of People with Disabilities

Ryota Ochiai, Takashi Yoshinaga, Shoji Yayoi, GCI, YCU

With advancements in medical care, an increasing number of people are able to work even with chronic disabilities. In the U.S., one in ten people has at least one disability, while in Japan, one in two is estimated to develop cancer in his/her lifetime, with one in three cancer patients belonging to the working age group. The proportion of adults with childhood-onset diseases has also been increasing, and employment has become an issue.

Systems to support the employment of people with disabilities vary by country. In Japan, people with a certain severity of disability are eligible to obtain a disability certificate. There are three types of disability certificates: physical, mental, and intellectual. Persons with a disability certificate can seek employment under the quota for the disabled. In Japan, companies with 43.5 or more employees are required to set aside at least 2.3% of the jobs for people who have a disability certificate. Meanwhile, some people who have gained employment under the quota for the disabled do not disclose their condition to superiors and colleagues, amid concerns of discrimination and prejudice. Consequently, companies are unable to provide reasonable accommodation, resulting in low retention rate in the workplace.

The key words in this field are "reasonable accommodation," "universal design," "self-understanding," "employability," and "diversity." While employment of people with disabilities has a welfare aspect, it also provides benefits for workers without disabilities by creating a work environment based on an understanding of diversity. Support systems, the concept of disability, and public perceptions of working with people with disabilities may differ among countries. In this study, we aim to elucidate the differences between countries and discuss the creation of comfortable and creative working environments based on an understanding of diversity.

Dr. Takashi Yoshinaga: The proposal strongly connects to the SDGs core belief, "no one will be left behind." Moreover, we will combine "innovation" or "group-level creativity" to the issue.

Yohohama City University
Global Cooperation Institute for Sustainable Cities
The Academic Consortium Secretariat

http://www-user.yokohama-cu.ac.jp/~english/index.php/global/gci/