



Tokyo Tech-AYSEAS 2018

Tokyo Tech-Asia Young Scientist and Engineer
Advanced Study Program 2018

Final Report

-From Asia to the World-



ACKNOWLEDGEMENT

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Kirin Brewery Company Yokohama Plant
Hanoi University of Science and Technology
Vietnam HTMP Company
Santomas Vietnam JSC.
DENSO Manufacturing Vietnam Co., LTD
Thang Long Industrial Park Corporation
Ebara Vietnam Pump Company Limited
Yen So Pumping Station
Luvina Software Joint Stock Company
Japan International Cooperation Agency Vietnam Office
De La Salle University
University of the Philippines Diliman

Special Thanks to Hanoi University of Science and Technology, this year's host university in Vietnam.

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CONTENTS

I . ABOUT THE PROGRAM.....	2
1. PROGRAM INFORMATION.....	2
2. SCHEDULE OF TOKYO TECH-AYSEAS 2018.....	5
3. SELECTION.....	6
II . PARTICIPANT LISTS.....	8
1. STUDENTS.....	8
2. FACULTY MEMBERS	9
III. PREPARATORY STUDIES IN JAPAN.....	10
1. OVERVIEW OF VIETNAM	11
2. PRE-STUDY LECTURES	14
3. KIRIN BREWERY COMPANY YOKOHAMA FACTORY	17
4. ASEAN.....	19
IV. TECHNICAL VISITS IN VIETNAM	21
1. HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY	22
2. VIETNAM HTMP MECHANICAL COMPANY.....	25
3. SANTOMAS VIETNAM JOINT STOCK COMPANY.....	28
4. DENSO MANUFACTURING VIETNAM Co., LTD.....	30
5. THANG LONG INDUSTRIAL PARK CORPORATION	32
6. EBARA VIETNAM PUMP COMPANY LIMITED.....	35
7. YEN SO PUMP STATION	38
8. LUVINA SOFTWARE JOINT STOCK COMPANY	41
9. JAPAN INTERNATIONAL COOPERATION AGENCY VIETNAM OFFICE	43
V . DISCUSSION AND PRESENTATION	47
GROUP 1: DEVELOPMENT OF ENERGY RESOURCES AND PROTECTION OF ENVIRONMENT	48
GROUP 2: DEVELOPMENT OF ENERGY RESOURCES AND PROTECTION OF ENVIRONMENT	52
GROUP 3: TECHNOLOGY TRANSFER TO VIETNAM: CURRENT STATE, EFFECTS AND RECOMMENDATION	55
GROUP 4: DEVELOPING ENERGY AND PROTECTING ENVIRONMENT	59
GROUP 5: MOTORIZATION AND TRAFFIC JAM	62
VI. EVALUATION OF TOKYO TECH-AYSEAS 2018	66

I . About the Program

1. Program Information

1-1. Outline

Tokyo Institute of Technology (Tokyo Tech) launched the Tokyo Tech-Asia Young Scientist and Engineer Advanced Study Program (Tokyo Tech-AYSEAS) in 2013. It is the successor to the highly successful Japan-Asia Young Scientist and Engineer Study Visit (JAYSES), which was launched in 2007 with the aim of establishing networks of promising young persons in Asia. Tokyo Tech-AYSEAS continues in the spirit of JAYSES while developing as an integral part of the Global Scientists and Engineers Course, of which it recently became a part. Tokyo Tech-AYSEAS provides opportunities for participants to broaden their horizons through collaboration with students from different backgrounds and to experience the dynamism of rapidly growing Asian industry, education and government.

This year, we visited Vietnam, and learned from many people working for manufacturers, government organizations, and educational institutions.

Tokyo Tech-AYSEAS 2018's main theme was "From Asia to the World." The program primarily consisted of the three parts outlined below:

(1) Preparatory studies from June to August, 2018

The Tokyo Tech participants had preparatory study sessions to deepen their understanding of the technical visits planned in Vietnam.

- Lectures about several topics
- Visit to Kirin Brewery Company Yokohama Factory
- Study and presentation (in English) on the institutions to be visited in Vietnam
- Discussion sessions to improve oral English

(2) Activities in Vietnam from August 29 to September 7, 2018

- Technical visits to Japanese and Vietnamese companies and government organizations.
- Group discussions and presentations
- Cultural exchange party and day excursions

At the end of each day, students discussed what they learned from technical visits, and exchanged their opinions. Based on those discussions, each group chose one topic and made

a presentation on the last day. The topics are below:

1. Cultural difference and understanding on different culture (Understand others/Let others understand us)
2. Precise forecast of natural disasters and developing cost of forecasting methods
3. Technology transfer between countries and the effect on business growth in each country
4. Improvement of health condition and excessive population increase
5. Development of energy resources and protection of environment
6. Economic growth and gap between the rich and the poor
7. Education and industrial management
8. Motorization and traffic jam
9. Innovation and regional/global competition
10. Smart City and Privacy

(3) Reporting after returning to Japan

Tokyo Tech students delivered a Final Presentations on October 10, 2018, and completed this Final Report.

1-2. Objectives

- To learn how the latest technologies and methodologies are applied to the practical stage in Vietnam, and to learn about the support from and control by government organizations.
- To experience collaboration with students from different nationalities, cultures, languages, viewpoints or fields of study.
- To brush up on their English skills as a tool for international communication.
- To develop close and international friendships.

1-3. Participating Universities

Japan: Tokyo Institute of Technology (Tokyo Tech)

Vietnam: Hanoi University of Science and Technology (HUST)
(Host university of Tokyo Tech-AYSEAS 2018)

The Philippines: De La Salle University (DLSU)

University of the Philippines Diliman (UPD)

1-4. Benefits for the participants

- Participants can develop an international human network.
- Participants can learn the latest technologies in Vietnamese industry and about the relationships between ASEAN countries and Japan through private investment or Official Development Assistance (ODA).
- Participants receive certificates issued by an Executive Vice President of Tokyo Tech.
- Participants can collect useful information about studying at Tokyo Tech.
- Participants can improve their English skills.

1-5. Expected Results

- More Japanese students will study abroad
- More ASEAN students will study in Japan
- Build a strong, international student network between top-ranking universities in ASEAN countries and Japan.

2. Schedule of Tokyo Tech-AYSEAS 2018

April - May, 2018	Announcement and application
May - June	Selection
June - August	Preparatory studies*
August 29 - September 7	Activities in Vietnam**
October 10	Final presentation session at Tokyo Tech

*Schedule of Preparatory studies

Date	Contents
June 12	Orientation by Prof. Nakashima Short lecture about Vietnam by Mr. Luong Quang Huan
June 19	Lecture "Used products and recycling in Vietnam" by Prof. Murakami Short lecture about Vietnam by Mr. Luong Quang Huan
June 26	Lecture "Single molecular electronics" by Prof. Kiguchi
July 3	Factory tour to Kirin Brewery Company Yokohama Factory
July 10	Seminar on safety and security by Prof. Nishizaki
July 17	Lecture "Photochemistry under natural light" by Prof. Nagai
July 24	Presentations by students

**Schedule of Activities in Vietnam

Date	Activities
August 29	Participants arrive in Vietnam, Ice Breaking Session
August 30	Opening Ceremony & Campus tour at HUST
August 31	Vietnam HTMP Mechanical Company Santomas Vietnam Joint Stock Company
September 1	Day excursion to Halong Bay
September 2	Cultural walk in Hanoi
September 3	Cultural Exchange Party
September 4	Denso manufacturing Vietnam col, LTD. Thang Long Industrial Park Corporation
September 5	Ebara Vietnam Pump Company Limited Yen So Pump Station
September 6	Luvina Software Joint Stock Company JICA Vietnam Office
September 7	Final presentation & Closing ceremony at HUST
September 8	Tokyo Tech Students return back to Tokyo

3. Selection

3-1. Tokyo Tech students

(1) Announcement at Tokyo Tech

The Tokyo Tech-AYSEAS administration office announced the program through its website, posters and flyers in April. They had briefing sessions the Study Abroad Fair on campus.

(2) Application

Applicants submitted an essay with their application titled “What is your purpose for joining Tokyo Tech-AYSEAS and what are your expectations for the program?” within 500 words in English by 21 May 2018.

(3) Interviews

Tokyo Tech-AYSEAS panel meeting members interviewed the applicants in May 30 and 31, 2018. The applicants were divided into four groups of 3-4 persons. They were asked to have a discussion for 20 minutes and to give a presentation about their conclusions.

The topic was as follows.

In 2015, Sustainable Development Goals (SDGs) were adopted by the United Nations. The 17 goals, listed on a separate page, are intended to be achieved on a global basis by 2030. Discuss the following:

Choose one SDG, discuss how science and technology can contribute to the achievement of the goal, and clarify why your group decided to focus on that particular goal.

(4) Criteria for Selection

The essays were scored based on the applicant's English ability, logical composition, and eagerness. In group discussions, applicants were appraised by assertiveness, cooperativeness, logicity, calmness, and attitude by Tokyo Tech-AYSEAS panel meeting members. After the selection, 13 Tokyo Tech students were approved to participate in AYSEAS 2018.

Participants from Tokyo Tech (by nationality and gender)

Nationality	Female	Male	Total
Japan	5	6	11
Indonesia	1	0	1
Taiwan	0	1	1
Total	6	7	13

Participants from Tokyo Tech (by course, year of study, and gender)

Course	Year of Study	Female	Male	Total
Undergraduate	B1	0	0	0
	B2	0	2	2
	B3	5	3	8
	B4	1	0	1
Total of Undergraduate		6	5	11
Graduate	M1	0	2	2
	M2	0	0	0
Total of Graduates		0	2	2
Total		6	7	13

3-2. Students from partner universities

Students from partner universities sent their applications to Tokyo Tech. The applications were sent for selection to the applicants' home universities, and 14 students were approved to participate in AYSEAS 2018.

Participants from member universities (by country and gender)

Country	Female	Male	Total
Vietnam	3	5	8
The Philippines	0	6	6
Total	3	11	14

II. Participant Lists

Students

	Name	Nickname	Sex	Year	School / Faculty / Department
Tokyo Institute of Technology (Tokyo Tech)					
1	Gyohei Nomura	Gyohei	M	B2	Physics
2	Kazuya Isawa	Kazuya	M	B2	Computer Science
3	Yuichi Hori	Yuichi	M	B3	Materials Science and Engineering
4	Shoichi Hirai	Shoe	M	B3	Civil and Environmental Engineering
5	Junko Tamura	Jun	F	B3	Materials Science and Engineering
6	Atsuko Tabuchi	Atsuko	F	B3	Chemical Science and Engineering
7	Tsamara Tsani	Tsani	F	B3	Transdisciplinary Science and Engineering
8	Ryosuke Kasori	Ryosuke	M	B3	Chemical Science and Engineering
9	Shiori Endo	Shiori	F	B3	Materials Science and Engineering
10	Seika Akiyama	Seika	F	B3	Chemical Science and Engineering
11	Riko Kamata	Riko	F	B4	Molecular Analysis of Symbiotic System
12	Wei-hung Chen	Wei Hong	M	M1	Chemical Science and Engineering
13	Yosuke Akahane	Yosuke	M	M1	Mechanical Engineering
Hanoi University of Science and Technology (HUST)					
14	Nguyen Viet Bac	Bac	M	B4	Transportation Engineering
15	Luong Duc Nhat	Nhat	M	B4	Mechanical engineering
16	Nguyen Anh Duc	Dan	M	B3	Transportation engineering
17	Nguyen Quoc Oai	Oai	M	B4	Aeronautical & Space Engineering

18	Nguyen Thi Thanh Nhan	Jasmine	F	B3	School of Foreign Language
19	Nguyen Thi Tam	Shin	F	B4	Material Science and Engineering
20	Nguyen Trong Thuan	Tom	M	B3	Aeronautical and space Engineering
21	Tran Thi Hoai	Hoai	F	B4	School of Textile Leather and Fashion
University of the Philippines Diliman(UPD)					
22	Raphaello De Vera Alba	Ralph	M	M2	Department of Geodetic Engineering
De La Salle University (DLSU)					
23	Jadin Zam S. Doctolero	Zam	M	B3	Chemical Engineering
24	Angelo Paolo L. Pagunsan	Paolo	M	B4	Chemical Engineering
25	David Francis Mendoza	Daivd	M	B4	Chemical Engineering
26	Michael Edgar F. Chua	Mike	M	B4	Chemical Engineering
27	Perry Nielson Co Dee	Perry	M	B4	Chemical Engineering

Faculty members

	Name	Sex	Affiliation
1	Dr. Motomu Nakashima	M	Professor, School of Engineering, Tokyo Tech
2	Dr. Shigeki Nakagawa	M	Professor, School of Engineering, Tokyo Tech
3	Dr. Nobuhiro Hayashi	M	Associate Professor, School of Life Science and Technology, Tokyo Tech
4	Ms. Kiyoko Yanagi	F	Support staff, International Student Exchange Division, Tokyo Tech
5	Dr. Le Anh Tuan	M	Associate Professor, DEAN, School of Transportation Engineering, HUST
6	Dr. Pham Van Sang	M	VICE DEAN, School of Transportation Engineering, HUST
7	Ms. Nguyen Mai Chi	F	International Relations Coordinator, HUST
8	Ms. Vu Hong Minh	F	Student Management Officer, HUST

III. Preparatory Studies in Japan

Outline

Before going to Vietnam, Japanese participants learned overview of Vietnam. And we had pre-study lectures to practice to discuss in English. In addition, we visited a Japanese company, Kirin Brewery Company Yokohama Factory.

1. Overview of Vietnam

We learned Vietnam on June 12 and 19, 2018. Mr. Luon Quang Huan lectured us about Vietnam.

2. Pre-study Lectures

- | | |
|---------------------------------------|------------------------------|
| 1) Single molecular electronics | 16:50-18:20, June 26th, 2018 |
| 2) The safety lecture | 16:50-18:20, July 10th, 2018 |
| 3) Photochemistry under Natural Light | 16:50-18:20, July 17th, 2018 |
| 4) Presentation | 16:50-18:20, July 24th, 2018 |

In every session, Japanese participants discussed about scientific topics and learned the safety in Vietnam. And on the last day, we made presentations of visiting countries.

3. Visit to Kirin Brewery Company Yokohama Factory

We visited a Japanese company, Kirin Brewery Company Yokohama Factory, on July 3rd.

4. Overview of ASEAN

Vietnam is a member of ASEAN. And ten countries are members of ASEAN. So we learned about ASEAN.

1. Overview of Vietnam

Reporter: Yosuke Akahane

Date & Time: July 12nd, 19th, 2018

Outline: General information about Vietnam

We had lectures about Vietnam from LUOG Quang Huan who is a student from HUST. He introduced general information, culture of Vietnam and his university. He also gave us some tips for trip in Vietnam.

1. General information

Vietnam extends 1,650 km from north to south, and the climate is humid subtropical (Cwa) in northern area and monsoon (Am) or tropical savanna (Aw) in the middle and southern area. The highest temperature outside in Hanoi reached over 40°C in July, 2017.

There are 54 ethnic groups in Vietnam and majority is called “Kinh (Viet)”, and 73% of people believe Vietnamese folk religion.

Information and communication technology industry and e-commerce is now having a fast development.

1 JPY = ~210 VND. Hồ Chí Minh is on all kinds of bills. One of the HUST student said university students use under 60k VND for their meals.



Figure 1 Vietnamese Dong

<http://backpackingwithkai.blogspot.com/2016/04/vnd-vietnamese-dong-currency-vietnamese.html>

2. Cooperation with Japan

The year 2018 is the 45th year from the establishment of diplomatic relations between Vietnam and Japan. Japan's ODA was the largest amount (30%) of all the international development agency for Vietnam, and Vietnam is the top recipient country for JICA (in term of net disbursement). Noibai international airport which we used and Nhat Tan bridge which we used many times to cross the Red River are famous facilities constructed with Japan's ODA.



Figure 2 Nhật Tân Bridge

(<http://www.tokyoropeco.jp/english/product/performance/10.html>)

3. Education

Education in Vietnam is divided into 5 levels : preschool, primary school (5 years), secondary school (4 years), high school (3 years), and higher education. In university, students who major engineering go to their school for 5 years. The number of unemployed students is high and it becomes a problem in Vietnam.

4. Transportation

Main transportation in cities in Vietnam is motorbike. There is also bus service in cities. Train is used for long journey to move north-south. The number of vehicles is increasing, and traffic jam and air pollution are big problems in Vietnam.

The HUST students who guided us also used motorbike to commute to their university.



Figure 3 Traffic in Hanoi (taken by Yosuke)

5. Tips

- Pay attention when you cross streets. Walk slowly, have eye contacts with the drivers. Crossing with some Vietnamese is a good idea.
- Electronic devices use 220V-50Hz in Vietnam
- Don't drink water from faucets, buy bottled water.
- Bring your umbrella because it often rains heavily in August.
- Pay more attention than in Japan, don't go out alone at night

6. Vietnamese phrases

- | | |
|------------------------|--------------------|
| - Xin chào. | Hello. |
| - Cảm ơn. | Thank you |
| - Tạm biệt. | Goodbye |
| - Tôi tên là ~. | My name is ~. |
| - Tôi đến từ Nhật Bản. | I came from Japan. |

2. Pre-study Lectures

Reporter: Yuichi Hori

Outline: Before going to Vietnam, participants from Tokyo-tech studied cutting-edge science and technology as Theme 1) & 3) indicated below, and discussed about them in English. We also learned about management for safety and health in Vietnam through the lecture as Theme 2) indicated below. On the last day of the preparatory studies in Japan, we made pre-trip presentation.

1) Theme: Single molecular electronics (by Prof. Manabu Kiguchi)

Date & Time: 16:50-18:20, June 26th, 2018

Summary of the lecture: Building an electronic device using individual atoms and/or molecules is one of the ultimate goals in electronics. In this class, we listened about fabrication and current topic of single molecular devices and discussed about it in English.

2) Theme: Seminar on safety and health in Vietnam (by Prof. Shinya Nishizaki)

Date & Time: 16:50-18:20, July 10th, 2018

Summary of the lecture: We learned about the circumstances, sanitation and the way of crossing a street in Vietnam.

3) Theme: Photochemistry under Natural Light (by Prof. Keiji Nagai)

Date & Time: 16:50-18:20, July 17th, 2018

Summary of the lecture: Sunlight is energy source of our life and sustainable society. Chemistry induced by light relates to photosynthesis, solar cell and photo catalyst. In this class, we listened about the examples of photochemistry and discussed possible applications to utilize natural light.

4) Pre-trip presentation (by Tokyo-Tech AYSEAS members from Tokyo Tech)

Date & Time: 16:50-18:20, July 24th, 2018

Before going to Vietnam, we have made several groups and conducted a pre-survey about the university, company and factory which we visited during AYSEAS on-site program. On the last day of the preparatory studies in Japan, we made presentations and shared information about the places.

1. Hanoi University of Science and Technology (by Wei-Hong & Jun)
2. Denso manufacturing Vietnam col, LTD (by Ryosuke)
3. Thang Long Industrial Park Corporation (by Riko & Seika)
4. Ebara Vietnam Pump Company Limited (by Shiori & Gyohei)
5. Yen So Pump Station (by Shoe & Yuichi)
6. Luvina Software Joint Stock Company (by Kazuya & Atsuko)
7. Japan International Cooperation Agency Vietnam Office (by Tsani & Yosuke)



Denso manufacturing Vietnam col, LTD

DENSO
Crafting the Core

Ryosuke Kasori

<https://www.denso.com/jp/ja/>

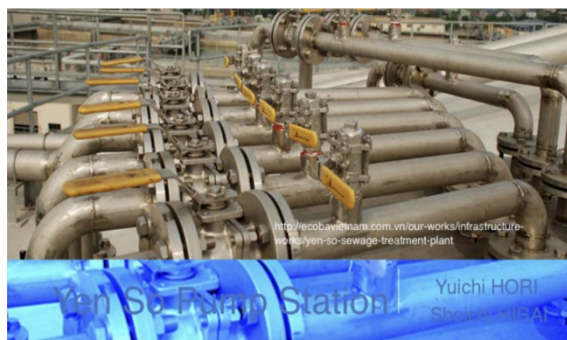
Thang Long Industrial Park Corporation

Riko Kamata Seika Akiyama



EBARA VIETNAM PUMP COMPANY LIMITED
Pump and System Engineering

Gyohei Nomura
Shiori Endo



Luvina Software Joint Stock Company

Atsuko, Kazuya



Figure 1-7 Covers of the presentation

3. Kirin Brewery Company Yokohama Factory

Reporter: Atsuko Tabuchi (Atsuko)
Date & Time: 13:40 – 15:30, July 3rd, 2018
Outline: Presentation of general information about Kirin Brewery Company Yokohama Factory and Q&A session

Contents of visiting and Reporter's comment:

1. Factory tour

Firstly, we watched a short movie about manufacturing process of beer. After that, we touched hops and malt, and smelt them. We learned the difference between them. We could also compare the wort gathered by the first press and the second press. The wort gathered by the second one was sweeter than the first one. The taste was like a honey. And we watched the machineries, which was used to make beer. Through the factory tour, we could learn the way to make beer by using our own five senses. After the tour, we tried drinking three types of beer. Because we drunk just after learning the process of making it, I thought the taste was better than usual.

2. Presentation about the company

We listened to the presentation about the factory. The presenter was the employee, who graduated from our university (Tokyo Institute of Technology). We learned the history of the company and reason why he decided to work for this company. He liked drinking a lot of kinds of beer and had interest in it so he wanted to work for the beer company.



Fig.1 The wort gathered by the first press (right) and the second press (left)



Fig.2 Hops and Malt

Q&A:

Q1: Is it hard to work in a different field from that you studied at your university?

A1: At first, it was hard because I had few knowledge of this field. However, the company gave us the environment to study, so I could learn after joining the company. I think if you have the passion to work for this company, it is OK if you don't study this field.

Q2: Why did you choose to work for Kirin Brewery Company in a lot of brewery companies?

A2: I wanted to make craft beer. Making it is unprofitable for a company. However, this company continues to make craft beer, which differs from other companies. And that is the most important point to have chosen to work for this company.



Fig3. Group photo in front of a poster

4. ASEAN

Reporter: Wei Hong

- A review of ASEAN [1,2]

Full name: Association of South East Asian Nations

Establish: 1967

Members: Indonesia(1967), Malaysia(1967), Philippines(1967), Singapore(1967), Thailand(1967), Brunei(1984), Vietnam(1995), Laos(1997), Myanmar(1997), Cambodia(1999)

Aim: Accelerate the economic growth, social progress and cultural development in Southeast Asia.

Population: 598 million

Total GDP: about 3 trillion USD



- Introduction [3]

ASEAN is a living and breathing modern miracle because no other regional organization has done as much as the conditions of a broad swath of humanity. Notwithstanding the fact that it has faced waves of doubts and pessimistic voices, it

has brought the light of peace to the region with diverse cultures and played a pivotal role for China's peaceful rise.

ASEAN is by no means the perfect regional organization. Instead, it is imperfect and still has a long way to go. ASEAN, nevertheless, does bring hopes to numerous difficult regions and lighten a possibility of hope to the world.

- ASEAN and Vietnam [2,3]

After joining ASEAN, Vietnam also joined the ASEAN mainstream in opening up its economy to trade with the rest of the world. Albeit Vietnam had a Soviet-style centrally planned economy in the past, it has conducted economic reforms in a short time.

The research shows there is a heavy capital outlay for port projects Southeast Asia. The World Bank has committed USD2.5 billion in loans for 41 port projects in the region, including construction of new ports, expansion of existing facilities and improving port-hinterland connectivity.

The Japan International Cooperation Agency (JICA) has, in addition, committed nearly USD3.3 billion to 61 ASEAN port development projects. Of the total 102 port projects involving both agencies, 38 are in Indonesia and 23 in Vietnam.

Reference:

1. ASEAN infographics: population, market,economy
<https://aseanup.com/asean-infographics-population-market-economy/>
2. Port productivity prioritised by ASEAN
<https://fairplay.ihs.com/ports/article/4262686/port-productivity-prioritized-by-asean>
3. The ASEAN Miracle: A Catalyst for Peace, Kishore Mahbubani , Jeffery Sng, 2017

IV. Technical Visits in Vietnam

Outline

We spent the most time for technical visit which one of the main activities of AYSEAS program. We visited nine organizations listed below, and observed the facilities and the business there.

Basically, we had a presentation about the organization, a facility tour and a Q&A session in each technical visit.

These experiences helped us to understand the current situation in Vietnam from various aspects. We could learn the relationship between Vietnam and the world, especially Japan. We saw technologies and machines transferred from Japan and other countries in many scenes. On the way to those sites, we exchanged questions and ideas compared to their own countries and thought about our future careers. We also get useful information for the discussions and the presentations from technical visits.

Detailed reports on each visit are on the following pages.

Schedule

August	30 th (Day2)	Hanoi University of Science and Technology (HUST)
August	31 st (Day3)	HTMP Vietnam Santomas Vietnam
September	4 th (Day6)	DENSO Manufacturing Vietnam Co., LTD. Thang Long Industrial Park Corporation
September	5 th (Day7)	Ebara Vietnam Pump Company Limited Yen So Pump Station
September	6 th (Day8)	Luvina Software Joint Stock Company JICA Viet Nam Office

1. Hanoi University of Science and Technology

Reporter: Wei Hong

Date & time: August 30, 2018

Reporters' Comment:

Hanoi University of Science and Technology (HUST) was established in 1956 as the leading research university rooted in the technical and technological fields in Vietnam. HUST has been continuously growing and making considerable contributions to the industrialization and modernization of the country. There are totally 23 schools and faculties in HUST, including School of Biotechnology and Food Technology, School of Transportation Engineering and Faculty of Political Theory. Moreover, 14 research centers, inclusive of International Training Institute for Materials Science (ITIMS) and Vietnam-Japan International Institute for Science of Technology (VJIIST), have been established to improve technology development in Vietnam.[1]

Approximately 6,000 students enter HUST every year. Now, there are more than 28,000 full-time students among which are more than 2500 Master's and 500 Doctoral postgraduates in HUST. It is also noteworthy that 70% of students are employed right in the final year.[2]

HUST's campus, located in Hai Ba Trung district of Hanoi, is roughly 26 hectares with 200 amphitheaters, teaching rooms, halls, and conference chambers. There are nearly 200 laboratories among which there are eight national key laboratories and twenty workshops in HUST. Although being a science and technology university, HUST also has plenty of facilities for physical education and sports activities including a standard stadium, an Olympic size swimming pool, tennis courts, and international standard sporting event hall. [3]



Reference:

1. <https://en.hust.edu.vn/list-of-schools-and-faculties>
2. <https://en.hust.edu.vn/quick-facts>
3. https://en.wikipedia.org/wiki/Hanoi_University_of_Science_and_Technology

Campus Visit

On August 30th, we visited the campus of Hanoi University of Science and Technology. The campus full of trees and flowers looked extremely beautiful under the shower of the rain. In the morning, we visited the library and viewed some books about the history of Vietnam.



In the library, there was a residue of the bomb from America left because of the Vietnam War. It reminded us of the history and the importance of peace. Then we walked around the BK hub, which was the workshop of HUST. Many discussions were held here, and we met many engineers programming here. After that, we had a lunch at the canteen, where was very crowded during the lunch time even in the summer vacation, and it only cost 40k Dong (around 190 Japanese Yen) to have a meal in the canteen.



After a short break, we had a brainstorming to discuss the situation that Japan and Vietnam currently faced and the solutions, such as the energy and environmental issues. Through the discussion, I found Japan and Vietnam have similar problems such as climate disaster and energy shortage. But they were less concerned about the aging population for the time being which is one of the most serious concerns in Japan.

During these 11 days, students from Japan, Philippines, Indonesia and Taiwan visited this beautiful university with its local students. It is a pity that we cannot stay longer, but I am sure we will not forget each other and genuinely wait for the day we can meet again.



2. Vietnam HTMP Mechanical Company

Reporter: Junko Tamura

Date & time: August 31, 2018, 10:00-12:30

Outline: Presentation about HTMP, factory tour and Q&A

Contents of visiting and Reporter's comment:

In 2006, Vietnam HTMP Mechanical Co., Ltd. was officially established and it mainly designed and manufactured molds. And in 2010, a new mechanical factory was completed, HTMP started building and completed the plastic injection molding factory.



During the economic restructuring, the mold manufacturing and plastic production industry is one of the relatively new industries in Vietnam. Vietnam HTMP Co., Ltd, with nearly 10 years of presence in the market, has contributed to promoting Vietnamese mold and plastic products to international customers.

HTMP always pays attention to training and improving qualifications and skills for engineers and workers, while creating a favorable environment for every worker to develop their creativity. And HTMP comprehensively invests in a system of machinery imported from advanced countries, focuses on technology transfer and applies the most advanced sciences to production. In order to create HTMP-branded quality products, the Company applies ISO standards.

The products of HTMP are Aluminum Casting Dies, plastics Injection molds, Gravity Casting dies, Jigs. And annual productivity is as follows;

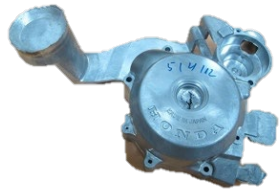
Aluminum Casting Dies: 300 set

Plastic Injection molds: 300 set

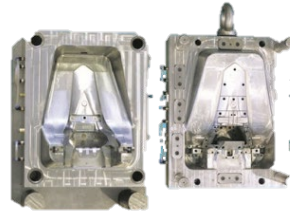
Gravity casting dies: 300 set

Jigs: 700 set

Dimension of molds: from 30 tons to 1,300 tons



Aluminum Casting Dies



Plastics Injection mold



Q&A

Q1: Which country is a major source of the most raw materials?

A1: The most raw materials are from India.

Q2: Which company is a main customer?

A2: The main customer is Honda Vietnam Co., Ltd. Because Honda is the first customer for HTMP.

Q3: What is the most important rule for HTMP?

A3: Quality-Delivery-Cost. This is the motto. So HTMP deliberate early and correctly the products which are high quality and low cost to meet the customer's need. With this motto, HTMP Vietnam has constantly made efforts to mark on the world map of mold

and plastic products by its own nature and reputation.

Q4: How many workers do you have?

A4: HTMP Vietnam has over 600 employees. But there is no Japanese. The number of man and woman is almost the same. The men do heavy labor and the women carry out a small activity. And they work in a shift three times, each shift has 8 hours. So all machines in HTMP work all day and don't stop.

Reference

A brochure of HTMP

<http://htmp.com.vn/ja/-159/-111.html>



3. Santomas Vietnam Joint Stock Company

Reporter: Riko Kamata

Date & time: August 31, 2018

Outline: Presentation about the company



Santomas Vietnam Joint Stock Company, formerly Santomas Vietnam Ltd., was established in the year of 2002. Santomas Vietnam Ltd was 100% foreign-capital held by Santomas SDN BHD (Malaysia). Its main activities are manufacturing of precision plastics gears and precision plastic parts for camera, office automation

equipment, such as printer, fax and copy machine.

The second factory was built and went into operation in 2006. Santomas Vietnam Ltd Company officially converted into Santomas Vietnam Joint Stock Company in 2007 with a registered capital of 64,000,000 VND (around 4,000,000 USD).

From 2008 until now, the Company has continued to expand operation and increase investment in machinery and infrastructure. Currently, Santomas's total capacity is 500 million parts, 200 moulds per year.

The factory we visited was the 3rd factory of Santomas Vietnam JSC, which went into operation in 2017. The first factory was in 2002, and the second factory was in 2006, respectively. To date, they have built connections all over the world. Japan, China, Malaysia and the Philippines are their main client countries. Their main products include camera (lens cap), medical and electrical appliance. It is also noteworthy that they have already started to invest in the automatic industry, which was considered to be potential in Industry 4.0.

Q & A

Q1. What does the name "Santomas" mean?

A1: Santo means money, and Mas stands for Malaysia. So the founding father hoped there

will be a lot of money come to Malaysia.

Q2: Why did you choose here to build the factory?

A2: The first reason is that there was less land for factories in Vietnam. So we have fewer choices. Second, the location here is close to our customers.

Q3: Who is your biggest customer?

A3: Canon. Because the lens cap is our main product.

Q4: How do you think about automation? It seems many people would lose their job because of automation.

A4: Automation is the tendency that we have not choice but to follow. This is the market rule.



Reference:

<http://santomas.com.vn/>

4. DENSO Manufacturing Vietnam Co., LTD.

Reporter: Ryosuke Kasori (Ryosuke)

Date & Time: 09:00~10:45, September 4, 2018

Location: Plot E-1, Thang Long Industrial Park, Dong Anh Dist., Hanoi, Vietnam

Tel: (84)-4-3881-1608

Program: Presentation about the company, factory & company tour, Q&A session

1. Basic Information

DENSO manufacturing Vietnam co., LTD. was established on the 4th of October in 2001 and currently they have 3220 employees. DENSO in Vietnam deals in production and marketing of products which is related to car manufacturing, such as air flow meter.

2. Contents of Visit and Reporter's Comment

2-1. Presentation about the company

First, they made a presentation about the company. They introduced basic information and philosophy of their company in the presentation. They emphasized that they concentrate on developing human resources. So, they have a firm belief in employee training and they have satisfying orientation for new employees.

In the presentation, they also introduced some products such as air flow meter (AFM), variable induction-air control (VIC) and so on.



Fig1. AFM



Fig2. VIC

2-2. Factory & company tour

Secondly, they guided us around the company and the factory. In the company, there were many kinds of prizes for employees that exhibits exemplary work, which praise their skill. And they may motivate employees and lead them for the improvement in quality of the products.

In the factory, many machines were properly arranged by the type. The most noticeable production line was “maternity line”, which is only for pregnant women. I could sense DENSO’s consideration for workers from this line.

2-3. Q&A session

Q1. How does DENSO in Vietnam contribute to environment preservation?

A1. By recycling gas, cutting CO₂, reusing material and so on.

Q2. What are advantages of this factory being built in Thang Long industrial park?

A2. They are near the proximity of the port and airport, and also have an easy access to information exchange with other Japanese company in Thang Long industrial park.



Fig3. Group photo

5. Thang Long Industrial Park Corporation

Reporter: Seika Akiyama (Seika)

Date & Time: 12:00 – 13:00, September 4, 2018

Outline: Presentation of general information about TLIP and Q&A session

Contents of visiting and Reporter's comment:

We visited Thang Long Industrial Park. First, staffs explained basic information of Thang Long Industrial Park.

Thang Long Industrial Park Corporation was jointly established in 1997 by and between Sumitomo Corporation, a world's leading integrated trading house of Japan who hold 58% of the legal capital and Dong Anh Mechanical Company, one of the most successful Vietnamese companies under the Ministry of Construction who holds the remaining 42% of the legal capital. The mission of Thang Long Industrial Park is to educate and provide clean and green resources for facilities, procurement, and manufacturing professionals. Through the management and operation of TLIP, they support the operation of tenants, contribute to the development of local society, try to keep good environment, contribute to the improvement of workers' living condition, and aim to maintain the social orders and traffic safety.

The features of this industrial park are modern infrastructure and convenient location. The following are the details.

Modern infrastructure specification

Drainage Total: 7 Retention Ponds / 7.62 ha

Sewage total capacity: 45,000 m³ per day (including public sewage treatment)

Power supply: 110/22 KV substation / 150 MVA

Water supply total capacity: 58,000 m³ per day (including public social water supply)

Fire station, post office, restaurant, clinic, police station, ATM, café, kinder garden, canteen

Convenient Location

Located near their suppliers

To Hanoi City: 16km / 30min

To Noi Bai Airport: 14km / 13min

To Hai Phong Sea Port: 130km / 120min

Facing TLIP main gate, Techno Center can be accessed easily and conveniently. It can be viewed from Highway.

Then, we went around and saw many factories by bus. Fig.1 is pictures of those factories. We could see many tenants such as Canon, TOTO, Matsuo Industry and so on. As the person in charge said, there was no electric wire because the power transmission cables are installed underground. In addition, the road was wide and paved cleanly. There is less traffic than other industrial parks because only cars which is allowed to enter TLIP can go there.



Fig.1 factories in TLIP

Q&A:

Q1: Do you have any environmental assessment that you done in the whole industrial park?

If you have, is the data accessible to public or companies?

A1: According to laws and requirements, industrial parks must follow the rules and set up the industrial park assessment. And they get EIA (Environment Impact Assessment) that evaluates environmental impacts. They must submit the results to the authorities so companies can see the document.

Q2: Because of many factories in the industrial park, they need for 24 hours supply for electricity. You must ensure the stability of the electricity supply. How do you ensure the stability? And have you ever experienced any black out?

A2: Two Power plants enable to generate electricity stably, one is from public (Son La Hydropower plant) and the other is from Pha Lai Thermal Power JSC. If one cannot be used, the other can backup. Therefore, they have never experienced any black out.



Fig.2 Group photo at TLIP

6. EBARA Vietnam Pump Company Limited

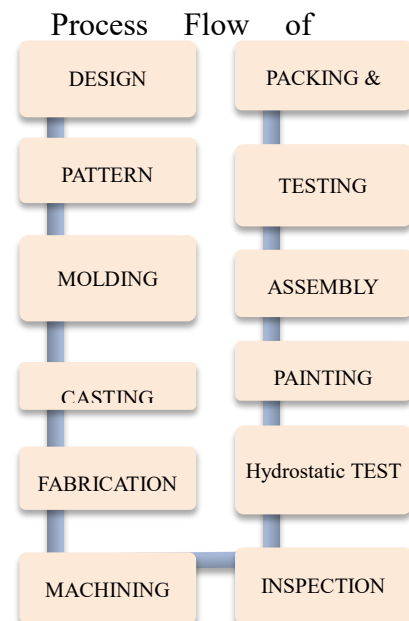
Reporter: Shiori Endo

Date & Time: 9:40 – 11:50, September 8th, 2018

Outline: Presentation about EVPC, factory tour and Q&A session

Contents of visiting and Reporter's comment:

EBARA Vietnam Pump Company Limited (EVPC) is a high quality large size custom-made pump manufacturer and a core part of EBARA Group Companies in South East Asia region. EVPC has Head Office & Factory in Ha Duong Province, Hanoi Branch and Ho Chi Minh Rep. Office. There are 300 staffs including 8 Japanese and 1 Indian. All of quality system & technical standard in EVPC is followed from Ebara Japan. 70% factory staff (Engineer, Workers & QC staff) have long term training in Japan (0.5~30 years). And trainee's skills have been certificated by EBARA Japanese Trainer. So they have the same skill and working style with Japanese. EVPC factory owns manufacturing process of pump such as pattern making, casting, fabrication, machining, assembling, painting and testing.



We visited the factory as follows. The first shop was molding shop where they are making pump molds using 3D CAD and CNC machining. We saw a large container which included liquid of metal in the casting shop. It uses alkaline-phenol non-bake

process to make good products and environment. All casting products are tested by material analysis to ensure their requirements such as mechanical properties, corrosion resistance and so on. In machining shop, vertical lathe process part that has dimension up to 4 meters with 10 tons. We saw pumps with coated surface in painting and assembling shop. Finally, we saw tested pump and packed pump. All shops were interesting and we could learn EVPC's high-quality technology.

Q&A:

Q1: Working for long time is hard for employees because it's very hot in the plant. How long do they have to work?

A1: They work from 8 a.m. to 5 p.m. and have 10 minutes break twice a day.

Q2: There is a tower continuously discharging black smokes in the backside of your factory and it is assumed that it gives some impact to surrounding environment. Does this action meet the Vietnamese regulation on environmental protection? And how's the difference between Vietnamese environmental regulation and the Japanese one? Is the Japanese environmental regulation stricter than it is in Vietnam?

A2: Of course, when we built this factory, we already conducted the environmental assessment and we ensure that we already passed the environmental criteria and regulation given by the Vietnamese government. Regarding the regulation, we can say that the Japanese environmental regulation is stricter than it is in Vietnam.

Q3: Why do you use different color sand when you manufacture patterns of pumps.

A3: We usually use 3 types of sand. We divide and recycle sand because shape of sand is changing as we use it. Newest sand is used on patterns and recycle one is used around newest one.

Q4: In factory your, the guide said that size of sand should be divided. Why should sand have the same size?

A4: By using sand of the same size, spaces are formed between sand. Liquid or gas is released through that space and we can manufacture products of good quality.

Q5: How often are you offered maintenance for each product?

A5: Usually each two year but it depends on customers.

Q6: There are different materials for manufacturing patterns. How do you decide which materials you use?

A6: We usually manufacture custom made pumps and design is different for each customer. We have to make the pattern one by one, but sometimes we can use the same pattern for other customer. In that case, we make the pattern by wood because wood is very strong and repeatable for many times. When we assume that this pattern is used only once, the pattern is made by foaming polystyrene because foaming polystyrene is cheaper than wood.



7. Yen So Pump Station

Reporter: Yuichi Hori

Date & Time: September 5th, 2018

Outline: General information about Yen So pump station and Q&A session

General information about Yen So Pump Station

The topographic condition of Hanoi was low and flat having lower ground level than the high-water levels of rivers and channels, making it prone to flooding. The city's drainage facilities had been limited in capacity and therefore resulted in frequent inundation, which sometimes lasted for a few days. Thus, JICA assisted the development of water condition in Hanoi.

Yen so was upgraded with corporation of JICA. Hanoi agency embraced JICA's ODA loan in order to upgrade Yen So. It took 6.3 trillion VND, (which equals to 315 million Japanese Yen).

When the scheme is executed completely, the 13 pump stations which Hanoi have will totally clean 621,000 cu m /day. Yen So can dispose 200,000 cu m/day, and that is the second largest amount in Hanoi pump station.



Figure1. 2 Inside and outside of Yen So pump station

After listening to the general information about Yen So pump station in the meeting room, the manager of Yen So pump station guided us to inside and outside of the pump station and the control room. In the control room, the system always checks the level of water in rivers

in Hanoi and controls the valves automatically. If some abnormality in pump station occurs, they are informed about it in the room and consider measures to solve the problem. In the pump station, there are a lot of big pumps to move water from small river to big river in order to prevent flood. Some pumps are always used, others are used in an emergency to increase the amount of water that move to big river.

Q&A:

Q1: If the power shuts down because of unexpected happening, like earthquake, what will happen to the control system?

A1: In Vietnam, earthquakes don't happen much. However, if that happens, the control system will keep working because we have spare generators.

Q2: There are a lot of pumps in the Yen So pump station. Where are the pumps in the pump stations from?

A2: Most of pumps are made in Ebara pump company. However, we imported some pumps from Japan.

Q3: (In the control room) We saw the map of pumps in Hanoi. However, we didn't see a big pump on the top left corner of the map. If it has a heavy rain in the area, what will happen to the area?

A3: we don't have a big pump in the area, but we have a lot of small pump there. Thus flooding won't happen.

Reference:

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https://www2.jica.go.jp/ja/evaluation/pdf/2009_VNV-1_4_f.pdf

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TALK VIETNAM

<https://www.talkvietnam.com/tag/yen-so-pumping-station/>

Japan Meteorological Agency

http://www.data.jma.go.jp/obd/stats/data/bosai/report/2018/20180713/jyun_sokuji20180628-0708.pdf

8. Luvina Software Joint Stock Company

Reporter: Atsuko Tabuchi (Atsuko)

Date & Time: 9:00 – 12:30, September 6th, 2018

Outline: Presentation of general information about Luvina Software Joint Stock Company and Q&A session

Contents of visiting and Reporter's comment:

We could meet Mr. Bui Tran Luong, who is the deputy general manager of company and is the graduate from both of Tokyo Tech and HUST. At first, we listened the introduction about the Luvina Software Company in the meeting room. The company was established in July, 2004. The head office is in Hanoi. Four hundred employees work there. Their customers are only Japanese, so the company familiarizes employees with Japanese business habits. The company has free training course for freshmen. In that course, freshmen have to learn basic Japanese, Vietnamese, Japanese working methods and so on. 40% of the employees have passed Japanese Language Proficiency Test. Mr. Bui Tran Luong told us how he studied Japanese. He studied Japanese in the night class of Tokyo Tech for two months, and he studied it by himself with watching Japanese drama and TV.

After the introduction, we walked around the company and Luvina Academy, in which a computer was prepared per employee. After that, we listened to the introduction about Software Development Process. Staff members explained the software development story with showing the illustration, which made it easy to understand the presentation. They explained about Waterfall model and Spiral model, which are cycles of software development life. They also explained us what CMMI is. It is an abbreviation of “Capability Maturity Model Integration”. It is used in process improvement activities. After a short tea break, we were separated into groups. We discussed what were questions we wanted to know. After the



Fig.1 Photo in the meeting room

discussion, we moved on the question time.

Q&A:

Q1: How to keep employees continuing working in this company? Because people in Vietnam are likely to change jobs.

A1: We have contracts with employees to work them for this company after freshman training for several years.

Q2: Is it possible to work in this company if I don't learn programming?

A2: It is OK. We have training course, which takes three to six months. So if you are interested in this company, you can participate in an internship, which we provide for one or two people per year



Fig2. Group photo in Luvina Software JSC

9. Japan International Cooperation Agency Vietnam Office

Reporter: Tsamara Tsani (Tsani)

Date & Time: 13:30 – 14:30, September 7, 2018

Outline: Presentation about JICA Vietnam, Discussion and Q&A session

Contents of visiting and Reporter's comment:

JICA Vietnam office was established in 1995. JICA has two offices in Vietnam. One is located in Hanoi and the other one is located in Ho Chi Minh City. In this tour, we had the opportunity to visit JICA Hanoi office, which is located in Corner Stone Building, along with other Japanese company and agency offices.

JICA Vietnam has a responsibility to conduct Japanese ODA (Official Development Aid) in Vietnam in the form of technical corporation, monetary loan and aid. Despite the fact that JICA offices were established in the mid 1990s, the ODA from Japan actually has been poured to support Vietnam's development since 1959. However, Vietnam has through several political instabilities and war even after the independency. Thus, forced a lot of countries including Japan to suspend their ODA to Vietnam in early 1980s.

In 1986, Vietnam launched a new economic policy, called "Doi Moi" (means "innovation" in Vietnamese). This economic reformation has allowed Vietnamese market to become more open to foreign investment. This also resumed foreign countries' ODAs and assistances to Vietnam. As a result, Vietnamese economics has grown rapidly. This rapid economic growth was also enhanced by technological assistance, infrastructure construction, and monetary aid from Japanese ODA which accounts for almost 30% of all foreign countries' ODA to Vietnam.

On our visit to JICA Vietnam Hanoi office, we were welcomed by Mr. Koji Shimizu, the Representative of JICA Vietnam. On the first half of our meeting, we were divided into three groups and had discussion session. We were assigned to discuss about Vietnam's Challenges and present our discussion results. Despite the limited time given, the discussion went very well. All students expressed their ideas and thoughts about problems in Vietnam that they found in the observation during their stay in Hanoi. Vietnamese students also gave a lot of insights regarding the real situation and problems in Vietnam. In the presentation, students mentioned at least ten major challenges of Vietnam. These challenges include: traffic jam

due to motorization, huge disparity between the rich and the poor, lack of infrastructure, hygiene problem, lack of health treatment and facility, risk of flood due to the emerging climate change, rapid urbanization, pollution, garbage problem, and environmental problem.



Fig. 1 Discussion session



Fig. 2 Presentation of discussion result

Mr. Shimizu then summarized all Vietnam's challenges and started to introduce about JICA Vietnam and its project through video. Until 2016, total amount of Japanese ODA given to Vietnam is 2.9 trillion Japanese yen, which came in the form of technical assistance, loan, and monetary aid. JICA Vietnam focuses on three priority areas in conducting their project in Vietnam, which are:

1. Promotion of economic growth and strengthening international competitiveness.

In this area, JICA focusing their projects on constructing transportation infrastructure, such as roads, railways, bridges, and airport. JICA also improved Vietnamese energy sector and the market economy system in order to meet the increasing demand of economic infrastructure development. Some real example of JICA's projects in this area are: the construction of Noi Bai Airport Terminal 2 and Nhat Tan bridge (Japan-Vietnam Friendship Bridge).

2. Response to fragility

Rapid economic growth often brought together some negative impacts to the society. In order to response and tackle the problem that may appear as a result of rapid industrialization in Vietnam, JICA also conducted some projects which focus on response to fragility. The projects cover the improvement of healthcare, environmental protection and effort to reduce economic disparity.

3. Good governance

The last priority area of JICA projects in Vietnam is to reform judicial and administrative functions in the country to achieve good governance. In this area, JICA applies Japanese technology to improve the speed and efficiency of bureaucracy process in some governmental agency. JICA also provide some trainings to improve the capacity of National Assembly.

After explaining three majors focus areas of JICA project in Vietnam, Mr. Shimizu explained the most important element in creating a project to us. This element is sustainability. It is important to create a project which can sustain and later can be conducted independently by the target country. It is easy to directly help the target country by giving direct aid. For example: directly sending Japanese doctor to the area which is infected by diseases without giving any further training. Direct aid can solve problem faster and cheaper. However, it creates dependency. Once the Japanese doctor went back to Japan and the same outbreaks happen in the area, the local doctor will not be able to do anything. They will wait for the Japanese doctor to come and the donor country need to send the Japanese doctor again. It will cost more money in the future and only give temporary benefit to the target country. In the opposite, aid project which is equipped by transfer of expertise and knowledge can ensure the project sustainability. It may take longer time and more money, but it equips the target country with skills. It will give benefit to both the donor and the target country for a long run. Thus, JICA in every project its conducted, always try to pursue sustainability and put it as the most important element of the project.

Q&A:

Q1: Does JICA in other countries (such as Philippines) also conduct similar projects as it is conducted in Vietnam?

A1: Yes, in some countries which have bilateral relation with Japan, according to each country's needs and circumstances JICA will distribute Japanese ODA in the form of technical helps, monetary loans and aid as it is distributed in Vietnam.

Q2: In conducting some projects which is intended to change people's lifestyle, such as teaching about hygiene, constructing toilet, etc. It might be very hard to educate and convince the people about their wrong habit in the first place. Is there any experience or tips that you can share with us regarding how to convince people to participate in such

project?

A2: It is a very hard question. Maybe other students can help to answer this question. Yes, it sometimes remains as a very crucial issues to be solved in the first place. I have no answer for that.



**Fig. 3 Tokyo Tech souvenir
awarding**



Fig. 4 Group photo

V. Discussion and Presentation

Outline

We visited 8 companies and organizations. In order to share what we learned from them and pursue deep understanding of current topics in ASEAN countries, we had discussion at HUST. We were divided into 5 groups and each group decided their own discussion topics provided by faculty members. We had discussed our own topic and prepared for the final presentation almost every day. In the final presentation, each group had 20 minutes for presentation and 10 minutes for questions.

Discussion Topics and Members

Group1

Topic: “Development of energy resources and protection of environment”

Member: Gyohei, Shiori, Yosuke, Mike, Bac, Hoai

Group2

Topic: “Development of energy resources and protection of environment”

Member: Kazuya, Atsuko, Wei Hong, David, Nhat

Group3

Topic: “Technology transfer between countries and the effect on business growth in each country

Member: Yu-one, Tsani, Seika, Paolo, Ralph, Dan

Group4

Topic: “Development of energy resources and protection of environment”

Member: Shoe, Jun, Zam, Oai, Jasmine

Group5

Topic: “Motorization and traffic jam”

Member: Ryosuke, Riko, Perry, Shin, Tom

Edited by Ryosuke

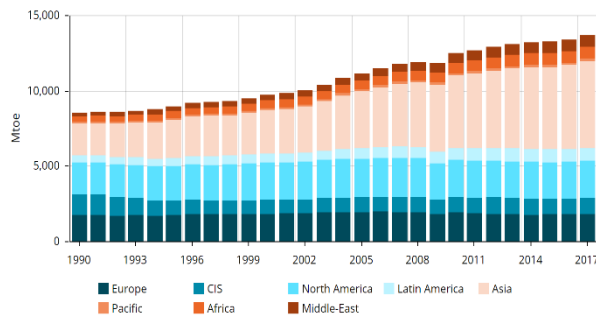
Group 1: Development of energy resources and protection of environment

Members: Yosuke, Gyohei, Shiori, Mike, Bac, Hoai

Contents:

1. Introduction

Today, the amount of power consumption in the world is increasing year by year. In order to avoid energy shortage, we have to generate more electricity. On the other hand, energy resources such as coal, petroleum, LNG (Liquified Natural Gas) are limited. Moreover, when they are burned these fuels emit CO₂ which is one of the causes of global warming. How can we generate enough electricity without having a negative impact on environment? Then, our group decided to focus on new energy resource that is developed from organic materials; biomass.



<https://yearbook.enerdata.net/total-energy/world-consumption-statistics.html>

2. Discussion

Why Biomass?

There are many profits to use biomass.

Firstly, different from alternative energy resource like solar or wind, biomass will not be affected by weather. Additionally, biomass fuel is made from wood, crop waste and garbage which is continually produced by society, therefore it is stable energy resource.

Secondly, it is carbon neutral which means it does not change the amount of CO₂ in the atmosphere. That is because, while they are alive, they absorb CO₂ from the atmosphere. Thus, this resource is eco-friendly.

Thirdly, it can solve social problems. For example, food waste and agricultural waste are very big problems in developing countries. Agricultural waste refers to waste produced from agricultural operation. It has a potential to damage environment, because if you just bury it into land, bacteria eat it and emit greenhouse gases like methane. Therefore, it has many

profits to use biomass.

Type of Biomass fuel

There are mainly three types of biomass; solid biomass, biogas, alcohols and biodiesel.

Solid biomass:

These solid biomasses can be burned to obtain heat which can generate electricity. It is a source of energy from materials including wood, sawdust, and crop waste, which can be used directly or processed into biochar. Biochar is a charcoal used as a soil amendment and fuel. It is made from the pyrolysis of biomass. Since biochar is one of the good ways to keep carbon in a solid state and can endure in soil for thousands of years, it has a potential to mitigate global warming.

Biogas:

This is made from row materials such as agricultural waste, food waste and so on. Biogas can be produced by anaerobic digestion with bacteria like methanogen or fermentation of biodegradable materials. This gas mainly consists of methane gas.

Alcohols and Biodiesel:

Agricultural wastes are rich in sugars and lipids. Lipids can be converted into biodiesel through the process of transesterification. Sugars can be converted into alcohols like ethanol. We can use this fuel for diesel vehicles by blending with gasoline.

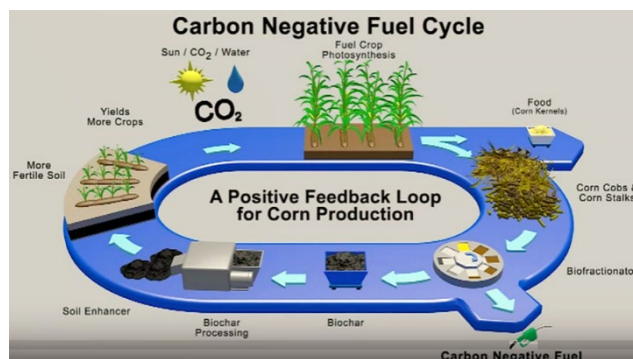
Which biomass fuel should we focus on?

We decided to focus on biochar. There are mainly three reasons.

Firstly, biogas is not efficient because it is a mixture of methane and other compounds, so we have to separate to use it as a fuel. Moreover, biological degradation takes time and biogas includes toxic gas like hydrogen sulfide.

Secondly, alcohols and biodiesel usually require fossil fuel additive to make them more efficient as well and it requires large amount of energy.

Thirdly, biochar is a very versatile product which can have multiple applications. For example, it can be used to increase agricultural productivity. Additionally, as we mentioned above, it has the potential to mitigate climate change via carbon sequestration.



3. Our suggestion

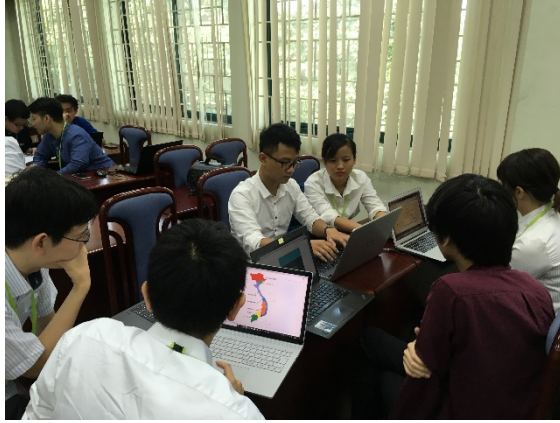
Our suggestion is to manufacture biochar in large scale and introduce biochar to farmer to realize the cycle on the figure to the above.

How about the cost? It seems to cost a lot to collect waste like agricultural waste in farming area. However, in Vietnam, the Red river delta and Mekong river delta which are famous for rice field are flat areas. Hence, we propose to build factories in these areas.

4. Conclusion

Biomass has many good points, but we must think about its cost. In order to reduce the costs, we have to improve the way of transportation system to collect materials from farm or house to generating factory. Additionally, we also have to improve the existing technology to further efficiency.

We should have discussed more in quantitative way. For example, gathering data and calculating how much does it cost in each way. And it might be good to discuss more about feasibility. Not just thinking logically but also we should research some examples of difficulties using biomass.



Edited by Gyohei

Group 2: Development of energy resources and protection of environment

Members: Kazuya, Atsuko, Wei, Hong, David, Nhat

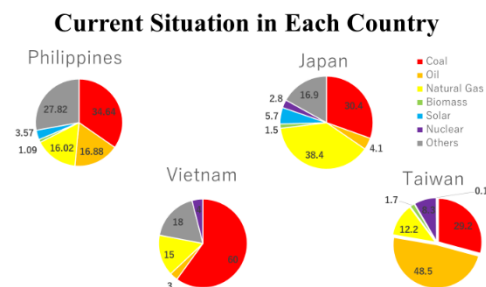
Contents:

1. Introduction

We started to consider this social problem because each country has different energy policy. Through our discussion, we knew we have the same problem that we have to solve. Fortunately, two of our members researched about biomass in university, so we thought we could talk deeply about this problem.

2. Background

Currently, we depend on fossil fuel such as coal, crude oil (liquid hydrocarbons) and natural gas. When we use these resources to generate electricity, huge amount of carbon dioxides(CO₂), sulfur dioxides(SO₂) and nitrogen oxides(NO_x) are produced. Those substance are hazardous for environment and fossil resources are not sustainable. Thus, we targeted on new energy resources to substitute for fossil fuel and discuss about feasible solutions.



3. Discussion and work

At first, we picked up nuclear and four renewable energy, such as solar, wind, tide and biomass and discussed about pros and cons for each energy resource. Then we decided to focus on biomass and solar power because these two energy resources would be able to make huge amount of energy. At that time, we did not think nuclear as future energy resources because it would be hazardous if nuclear power plant accident like Fukushima Daiichi nuclear disaster happened. We delved into biomass and solar panel.

(1) Solar power

Solar energy is a renewable and sustainable energy source. Solar energy is available all over the world. Not only the countries that are close to the Equator. The cost of panel is decreasing but still high. Certain solar cells require materials that are expensive and rare in nature.

Efficiency of solar energy is low because solar energy is an intermittent energy source. Innovation in nanotechnology and quantum physics has the potential to triple the electrical output of solar panels.

(2) Biomass

Biomass is also attractive energy. We can use fuel from algae instead of fossil fuel. In the process of producing algae, algae absorb carbon dioxides. So, we can say that biomass is environment friendly and also sustainable. But there are huge obstacles to use biomass. Efficiency of biomass is also low. Algae is extracted a few times to make pure products, so yield is not good. We cannot transfer all of fatty acid to biodiesel, so part of energy is lost.

Thorough our discussion about biomass and solar, we understand that the technology of biomass and solar panel is not nature enough to substitute for fossil fuel. Production efficiency of both methods is low. The cost of these energy is expensive compared to energy from fossil fuel.

To use biomass and solar to substitute for fossil fuel, we have to promote research on the technology. Then we think it need a lot of research fund. In current situation, Most of research fund on biomass are from government because investors cannot expect return on investment in biomass. The technology in solar panel are relatively advanced but cost to install panels are still high.

It takes time and money for these technologies to mature, so we cannot transfer to green energy now. So, we think about using nuclear to gain time and money.

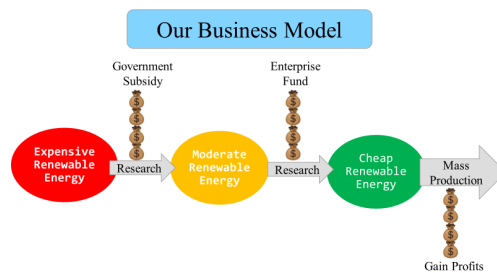
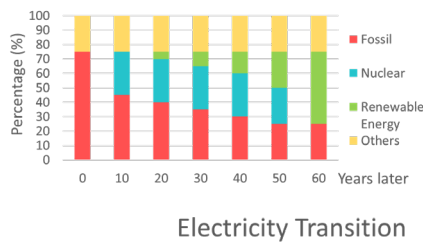
4. Our solutions

Our final purpose is to substitute fossil fuel to solar and biomass energy. However, technology to use the energy is not advanced enough so far. Therefore, our suggestion is to use nuclear power to earn time and money and to promote research in biomass and solar in the meantime. Since electricity from nuclear is relatively inexpensive compared to fossil fuel that cost rises year by year, it is possible to earn money by switching to nuclear power generations. Moreover, nuclear power generation produces small amount of carbon dioxides so we can say that nuclear is environment friendly. To get the understanding of nuclear, we propose two

suggestions. One is to show clear plan and the other is education.

(1) To show clear plan

Our plan is to make many nuclear power plant in 10 years. After 10 years, share of Nuclear power will be reached to 30%. We will reduce the consumption of fossil by 5% /10 year, and increase the consumption of the green energy by 5%/10 year. Electricity of Nuclear is relatively cheap compared to fossil so we could reduce spending money on producing energy. Even we could reduce the carbon dioxides emissions from producing energy.



(2) Education

We have to know that nuclear power plant accident is hazardous, but the risk of the accident is not so high than we expected because scientists are discussing a lot about safety of nuclear power plant. So, it is necessary to continuously educate people not only to risk but also to usefulness and understanding. Even there is a risk of the accident, we think that nuclear power plant is the best choice so far in terms of environment friendly.

(3) Conclusion

At first, we are targeted on biomass and solar energy only but through our discussion, we knew that there are many problems to use this energy right now. So, we propose using nuclear in a short term during researching on solar and biomass. Although nuclear power plant is certainly dangerous, it is possible to use safely by paying close attention.



Edited by Kazuya

Group 3: Technology Transfer to Vietnam: Current State, Effects and Recommendation

Members: Tsani, Yuichi, Seika, Dan, Ralph, Paolo

Contents:

1. Introduction

Technology transfer is defined as a process of transferring technology, skills, knowledge, facilities, or methods of manufacturing from the originator to the secondary user. Technology transfer can happen between companies, universities and even between countries. Nowadays, the advancement of communication and transportation system has made it easier for technology transfer to happen even between countries. During our company visit in Vietnam, we witnessed a lot of technology transfer practices happened from other countries to Vietnam, especially from Japan. Thus we decided to conduct a literature research to analyze the current state of technology transfer to Vietnam, discuss its positive and negative impacts, and formulize recommendation for Vietnamese government and companies to improve the effectiveness of technology transfer and maximize the positive impacts over the negative.

2. Findings

Technology transfer between countries involve a lot of stakeholders and parties. First, it involves the home country where the technology is originated and the host country where the technology is being transferred. The government, companies and global engineers from both countries play as the major actors in technology transfer between countries. When technology is being transferred, monetary investment, aid and knowledge are followed to be transferred to ensure sustainability. All this actions are protected by the law and regulation in both countries, especially intellectual property rights to protect the patent of the technology being transferred.

Vietnam firstly opened its market to foreign investment in 1986, after the Doi Moi reformation. Vietnamese government hoped that along with a lot of FDI (Foreign Direct Investment) coming to the country, high technology would also be transferred. However, the reality was not as it was expected. Technology transfer to Vietnam is said to be ineffective. In over 14,000 FDI projects in Vietnam, only 600 projects involved technology transfer. In

the other words, only 4.28% FDI projects involved technology transfer. Most of the technology being transferred are medium and old technology, with only small number of high technology. In 2009, according to World Economic Forum assessment on technology transfer efficiency, Vietnam ranked number 57 over all the countries. The ranking even got worse in 2014, where Vietnam stood in rank 103, lower than other Southeast Asian countries. We also saw in some companies we visit, we witnessed that most of Vietnamese company does not have R&D department, which make it hard for the technology transfer to be conducted to Vietnamese company.

3. Discussion

We discussed the positive and negative impacts of technology transfer to both host country and home country. Host country (in this case Vietnam) can enjoy rapid economic growth as a lot of factories are open in the country and the production efficiency is increased due to the transfer of technology. A lot of business also grown in the host country and new jobs are open for the people. The home country, i.e. Japan also benefits by the good image obtained for transferring technology to other less developed country. Technology transfer also allowed the home country's companies (such as Ebara pump, Denso, etc.) to create its manufacturing factory in host country, in this case Vietnam, with cheaper production cost and loser regulation.

On the other hand, technology transfer also bring some negative impacts. Rapid industrialization as the effect of technology transfer has brought along environmental pollution to the host country. For example, in 2016 the central Vietnam experienced the 2016 Vietnam Marine Life disaster. Toxic industrial waste from Taiwanese Plastic company were illegally discharged to the ocean and damaged the surrounding environment. We also witnessed air pollution during factory visit. Technology transfer also create dependency of host country to home country. Without proper effort to catch up with research and technology development of the home country, the host country will remain dependent to the home country.

Home country also experiences some negative impacts from technology transfer. Without prior research and proper assessment, there is risk that the technology being transferred is not applicable in the host country. This may result in economical loss of the home country's

investment. The other thing is that many developing countries are still lack of proper IP protection regulation. This gives risk of intellectual information leak and give chance to plagiarism of technology.

4. Our Recommendation

We formulize some recommendation for Vietnamese government and companies to improve the effectiveness of technology transfer to Vietnam and reduce the negative impacts. We categorized our recommendation into four clusters, which are: legal, economical, technological and cultural.

Legal

1. Legislate and enforce policies to improve research and development
2. Improve environmental regulation in host countries to prevent pollution
3. Establish certification to enable technology transfer to local companies
4. Revise more secure regulation to protect intellectual property in Vietnam

Economical

1. Vietnamese government needs to invest more on R&D to improve technology
2. Explore joint ventures in companies, i.e. 50% Japanese vis-à-vis 50% Vietnamese

Technological

1. Develop more ecologically-friendly inventions
2. Vietnamese companies should provide internal R&D
3. Aim for sustainability practices

Cultural

1. Improve cultural awareness and understanding

5. Conclusion

We believe that technology transfer between countries cannot just happen involuntarily. Both the home country and host country need to properly regulate technology transfer between countries in order to make it effective and take the most benefit of it. By improving the legal and economic policy, technology and cultural understanding we believe that Vietnam can one day complete the technology transfer cycle, master the technology that received and minimize the negative impacts it may face due to technology transfer.

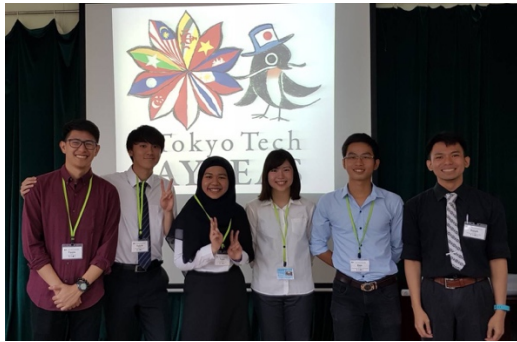


Fig. 4 Group 3 members

Edited by Tsani

Group 4: Developing energy and protecting environment

Members: Zam, Shoe, Jasmine, Oai, Jun

Contents:

1. Introduction

The nationality of each member is as follows; Shoe and Jun from Japan, Jasmine and Oai from Vietnam, and Zam from Philippines. We have 2 reasons for choosing this topic. The first reason is that this topic is related to our major. The second reason why we chose this topic is that not only our native countries but also whole Asia are facing the environmental problem caused by energy consumption. Among them, global warming, which is mainly caused by excess emission of CO₂, is a serious problem. We focused on power generation in Asean+3 and discussed how to reduce the CO₂ emission.

2. Discussion

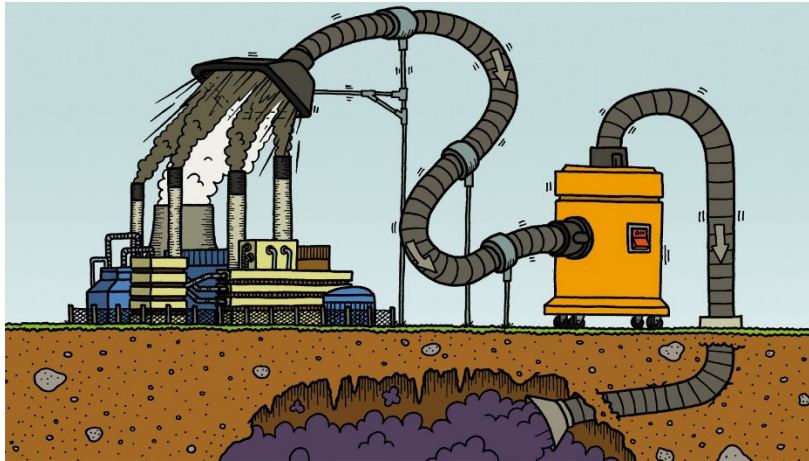
We started from researching about energy situation in Asean+3. According to the research, we found that Asian countries mostly rely on thermal station. Since thermal station emits large amount of CO₂, we moved on to search the way to reduce CO₂ in energy generation scale.

We discussed the energy generation system that emits less CO₂. At first, renewable energy such as solar, wave power, and wind, was thought to be the solution. However, we found that there were difficulties to build power station that uses renewable energy. For example, we found that the first investment for renewable power station was so expensive. Taking these situations into consideration, we finally decided to present the technology that can reduce CO₂ emission from existing fossil-fired station; Carbon Capture and Storage (CCS).

3. Suggestion

Our suggestion is to equip CCS into the existing fossil-fired plant in Asian countries.

CCS is the technology that can capture 90% of CO₂ emissions from power plants and industrial processes.



Reference: <https://www.ft.com/content/88c187b4-5619-11e5-a28b-50226830d644>

Fig.1 image of CCS

Fig.1 is the image of CCS. The process of CCS is as follows.

First, CCS plant gathers CO_2 from CO_2 sources such as power plant. It is necessary to separate CO_2 from other gasses in that process. Second, using pipelines or shipping, CO_2 is transported to the place where it would be stored. Lastly, storage process is executed; CO_2 is injected into deep the earth and stored under saline formations safely.

We focused on the relation between power station and CCS; Power stations provide electricity but need to reduce the amount of CO_2 , and CCS can reduce the emission of CO_2 system but needs the electricity to function. Thus, if we could equip CCS to existing fossil-fired power plant, the dramatic reduction of CO_2 emission would be expected.

4. Conclusion

Asian countries now mostly rely on thermal power generation, however, fossil-fuel plants emit large amounts of CO_2 . CO_2 contributes to the global warming that causes serious environmental problems. It is necessary to reduce the CO_2 emissions globally; however, we are still transitioning to renewable energy and cannot utilize it effectively for the present. CCS is the technology that lessen the CO_2 emission from existing big plants and would work effectively if we could equip it into power station.

Our group concluded that CCS would play an important role in preserving environment in Asia.

5. The limitation of our suggestion

First, CCS can only deal with CO₂ as of now. Since the cause of environmental problem is not only the emission of CO₂, we need to consider other gasses like NO₂ which is emitted from power station.

Second, we discussed about the feasibility of CCS in Asian country in our presentation, however, the cost of CCS is so high that we are not sure whether most of Asian countries introduce CCS equally or not.



Fig.2 picture of group4

Reference

<https://www.ft.com/content/88c187b4-5619-11e5-a28b-50226830d644>

Edited by Shoe

Group 5: Motorization and Traffic jam

Members: Riko, Ryosuke, Shin, Tom, Perry

Contents:

1. Introduction

Seething anger at standstill is a common emotion felt by all drivers, but is there anything more than just the frustration of sitting in a line of stationary traffic? Causes of traffic jams are well known, such as location, road condition, people's awareness. On the other hand, solutions and how traffic jam effect is still unknown. Road congestion is a pervasive phenomenon and it exists in basically all of the cities all around the world. However, cities are actually very different in countries. That's why road congestion is difficult to control. It is a complex social system and it organizes itself; No one is responsible for this.

2. Costs of traffic jams

There are 3 measured costs of traffic jams: pushing costs of transportation industry, less efficient productivity of labor force and exhausted gas-emissions. First, traffic jam pushes transportation cost, which affect the prices of the products. This in turn lead to inflation, and all of this theory is called Cost-push inflation. Second, it reduces productivity of labor force. Indeed, in developed countries, such as US, Germany and UK, hourly value of time in business is high, and losing a lot of time and money by commuting is a question in controversy. Third, there are more and more motorcycles in Vietnam. In particular, it is more remarkable in Hanoi and Ho Chi Minh city. CO2 emissions in Vietnam is also rapidly growing, and PM2.5 and PM 10 are predicted to be very high pollution level in 2017 as shown in Fig.1.



Fig.1 estimated air pollution level in 2017

Quated by "PACIFIC CROSS VIRTNAM" Tuesday, 11 July 2017

<https://pacificcross.com.vn/en/eblog/air-pollution-2017.html>

3. Status Quo

Countries with highest GDP in the world are also countries with the problem of congestions. At present, there are no names of Vietnam, Hanoi and Ho Chi Minh City in those tables. However, it is obvious that GDP of Vietnam is rapidly increasing. So, Vietnam seems in turn to be in the ranking of worst congestion countries. That's why traffic jam in Vietnam is so important.

4. Motorization

A few years ago, Vietnamese could buy only foreign automobiles like YAMAHA or TOYOTA and so on. In other words, there are no domestic car provider in Vietnam, but as you know, in order to buy foreign automobiles, customers must pay a very high tax to import. So it was not so easy to buy vehicle for Vietnamese. However, the situation has been changing. Firstly, the import tax on car is reduced because of ATIGA. Secondly, domestic car providing was established in Vietnam. The name is VIN fast. Vin fast was established to represent the Vietnamese identity in the automotive industry on the global stage. They manufacture cars and electric buses and electric motorcycles, electric cars. The most notable thing is that they manufacture cars using only domestic parts. So, Vietnamese can buy car manufactured by Vin fast without import tax. This means that Vin fast make it easier for Vietnamese to buy a car. This is one of the reasons that Motorization has been progressing in Vietnam.

5. Conclusions

As shown in the table in Fig. 6, we concluded that there are 5 solutions.

- **driving awareness**

The number one problem that Hanoi is facing is due to the ignorance of the drivers. From our experience, we could see that many motorcycles ignore stop signs, and travel really fast, which pose danger to civilians walking. This is because driver's license can be easily bought as there is no more form of test needed. Thus the simplest way is to educate the drivers. This can be done in the form of a written and practical test. This will allow drivers to follow proper protocol in obtaining their license. Another issue that our group have observed is that the signs in Hanoi are very lacking and or small. This could potentially be an issue which causes people to ignore traffic laws. This is because driver's license can be easily bought as there is no more form of test needed. Thus the simplest way is to educate the drivers like Japan. This

can be done in the form of a written and practical test. This will allow drivers to follow proper protocol in obtaining their license.

- **law**

Nowadays in Hanoi, there is a lot of drunk driving. I actually witnessed it. Needless to say, it raises the possibility of traffic accident, which cause traffic jam. And also, there is a lot of on-street parking, which makes it harder for driver to go through quickly. In addition, many people ignore traffic light. Because of this, drivers have to slowdown in intersection. All of these facts are brought about because law and regulation are insufficient. And as I said before, people have poor understanding of the laws. In order to solve these problems, adding new laws to former laws is very effective. Or, law and regulation have to be tighten or stiffen. And at the same time, the government has to give drivers enough education not to break laws.

- **road condition**

In Hanoi, there are some narrow roads in comparison with traffic density. Also, there are some roads whose pavement are bad. These cause slowdown of vehicles and traffic jam. These problems come up of course because of insufficient infrastructure. In addition to this, many locals occupy road space. These are also reasons of narrow road and bad pavement. By moving citizens to countryside, these problems can be relieved. And of course, the government has to invest a lot of money to improve infrastructure. Improving infrastructure leads to improve distribution of goods and leads to economic growth. But easier said than done. So the government has to work on this problems little by little.

- **location**

Hanoi is the capital of Vietnam. So, there are so many universities, hospitals, companies, malls and plazas. It's convenient. So, people love to live and work there. There are a lot of people and vehicles. The solution is clear, and the government has already taken measures for it. This is the most realistic solution compared to others. Indeed, they've moved some universities to other cities, such as Hun Yen, Ha Nam and Ba Nih. We also have some Industrial Parks at some cities near Hanoi, as we visited.

- **public transportation- railways**

At present, railways in Vietnam only connect north and south. So it's not for citizens, and

railways for citizen is under construction.

- **public transportation-buses**

Now buses are not working in Hanoi, because of 3 reasons. First, buses cannot go through the narrow street. Second, the intervals between bus stops are too far, and it takes a long time walk to arrive the destination or go back home. Third, it's slower than motorbike: Motorbikes can go through narrow spaces but buses cannot.

	Situation	Reason	Solution	Progress
Driving Awareness	Drivers are Ignorant	Lacks Knowledge in Rules and Regulation	Educate the Drivers	License is a LOT More Difficult to Obtain
Law	People Ignore Law	Regulation is NOT Enough	Stiffen the Laws	Laws Now Punish Harder
Road Condition	Roads are Old and Narrow	Historical Preservation and Citizen Occupancy	Move Citizens to Countryside	Roads are Being Upgraded
Location	A LOT of People and Vehicles	Centralization of Facilities	Transfer of Facilities to Another City	Some Facilities have Already Been Transferred
Public Transportation	Functional Disorder	Inconvenience	Wakadori-Tamago	Public Transportation is Being Expanded

Fig.6 Summary of suggestions



Fig.7 photos of Group5 members

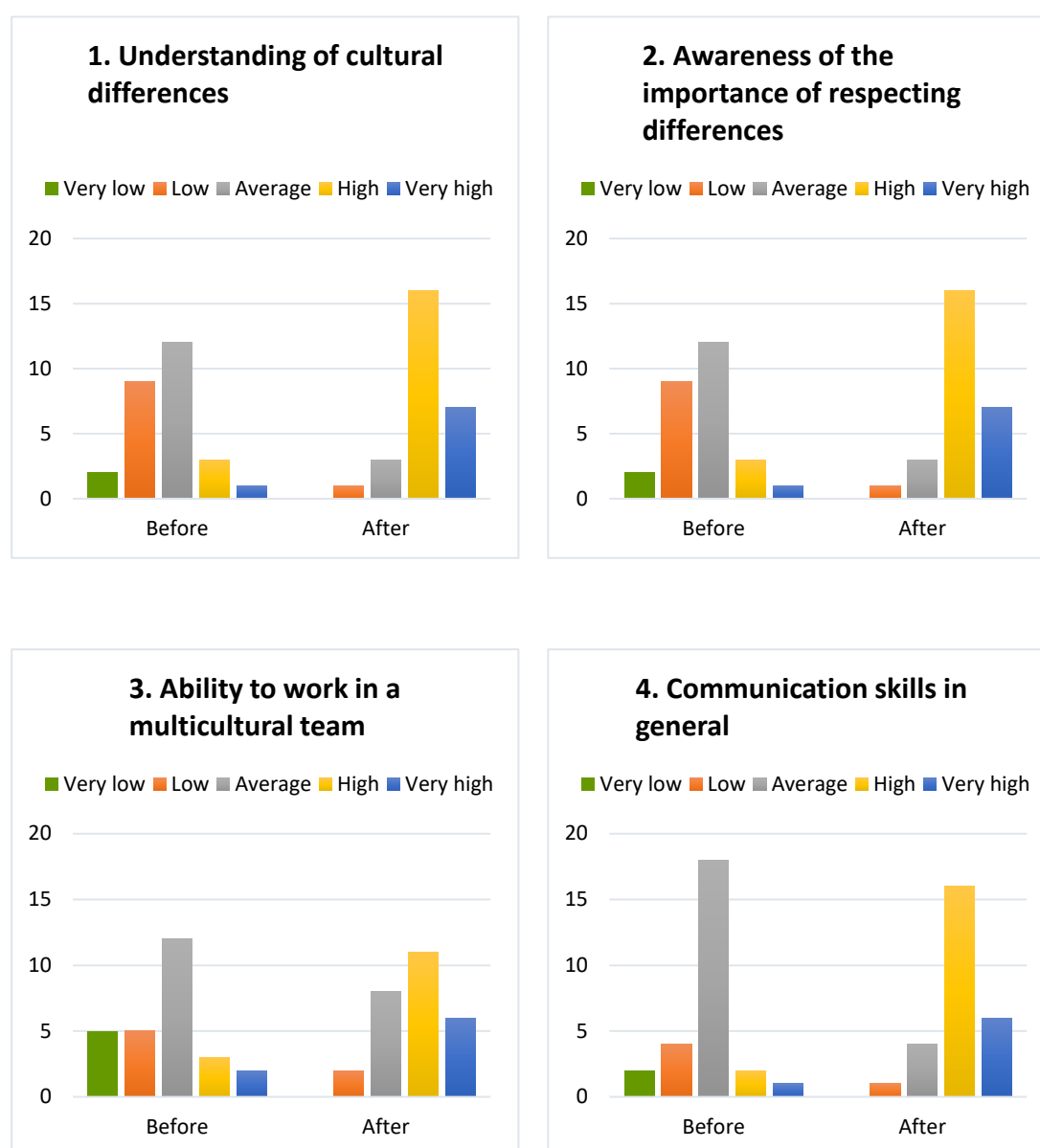
Edited by Riko

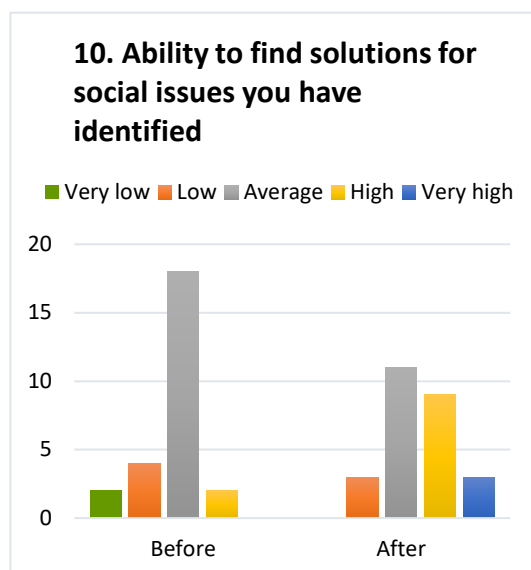
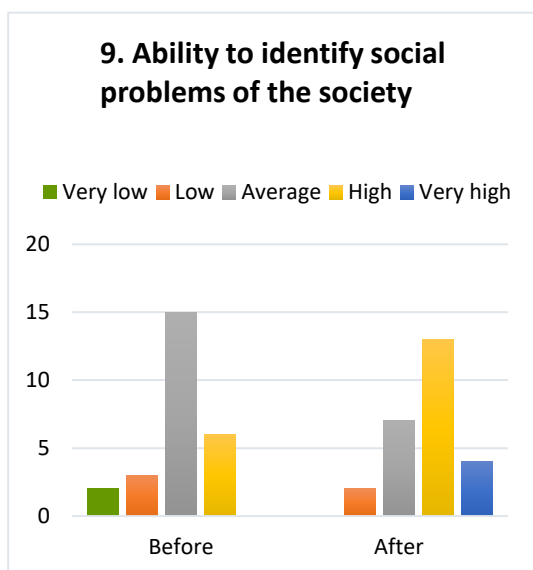
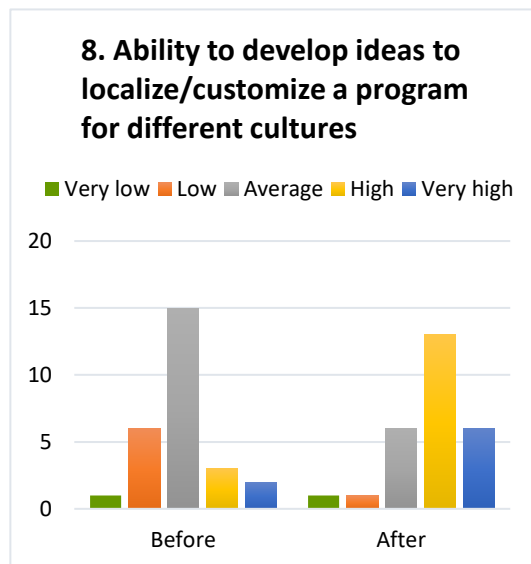
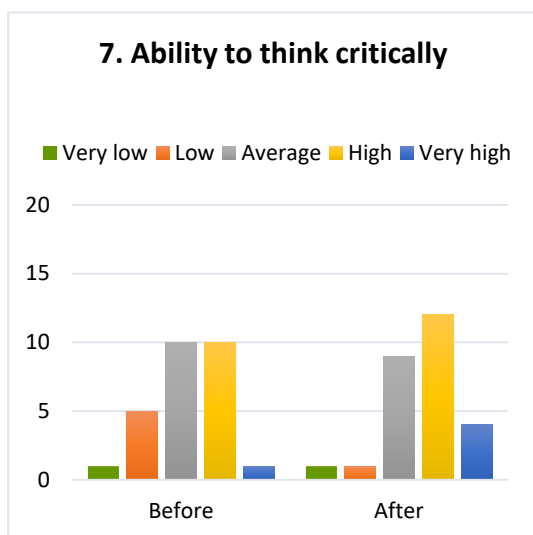
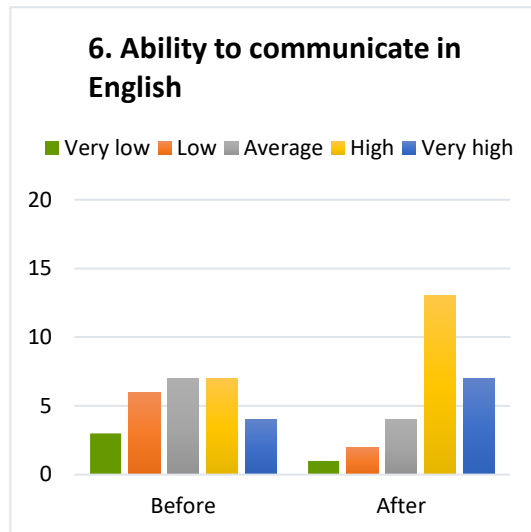
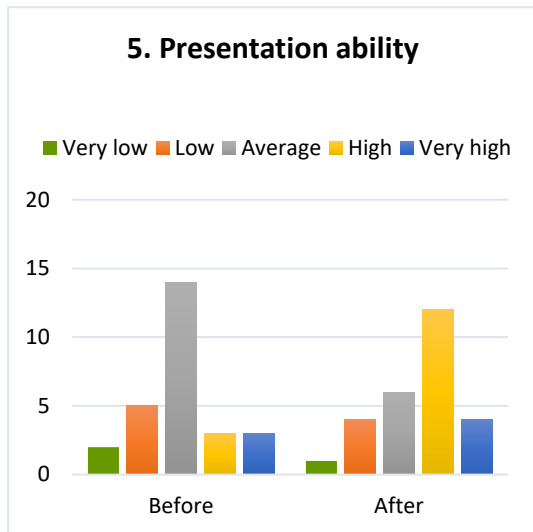
VI. Evaluation of Tokyo Tech-AYSEAS 2018

All 27 participants in Tokyo Tech-AYSEAS 2018 were given a questionnaire about the program. The following evaluation was based on the answers to the questionnaire.

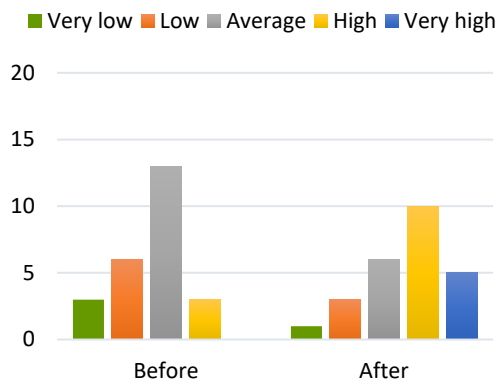
Part 1: Global awareness

For each item, please select the answers that best describes your level of interest or awareness or ability level before and after participating in AYSEAS 2018.

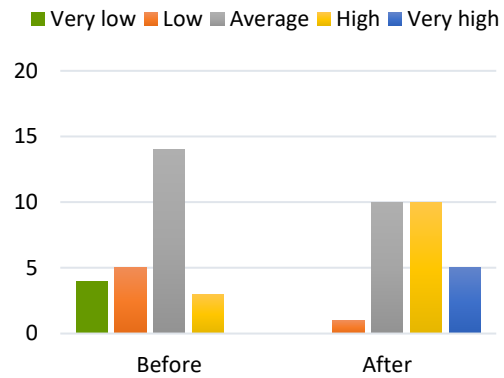




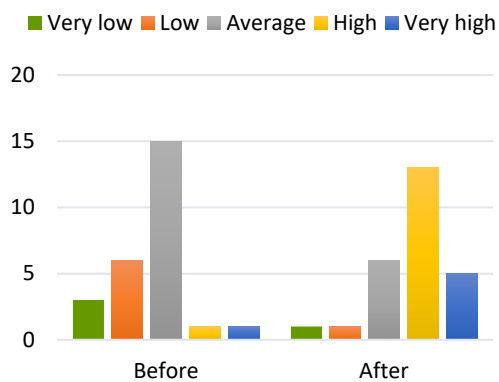
11. Awareness of successful program implementation on global scale



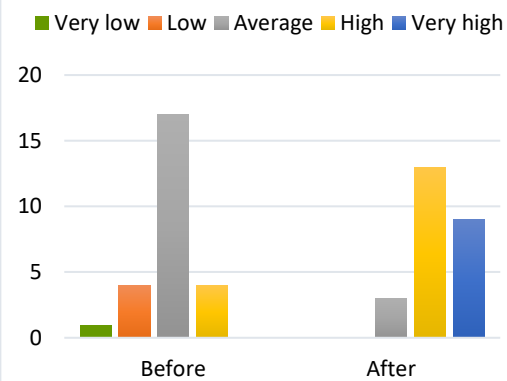
12. Interest in problems common to different societies



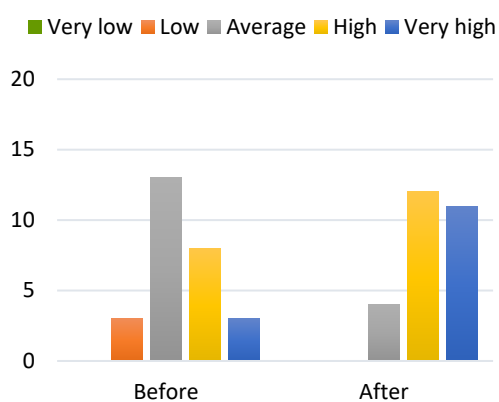
13. Confidence in becoming someone who can utilize his/her expertise and skills



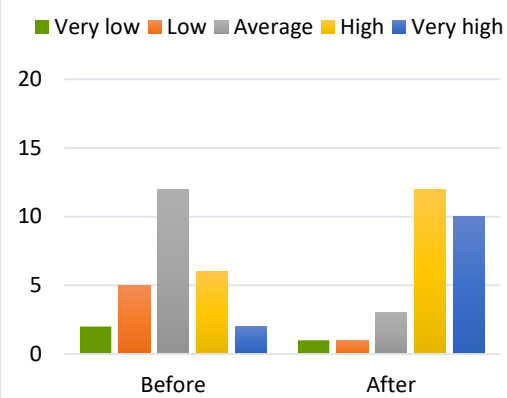
14. Expected impact on your future plans

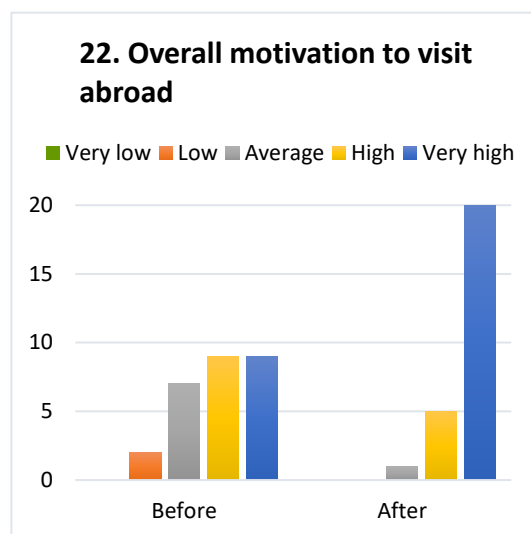
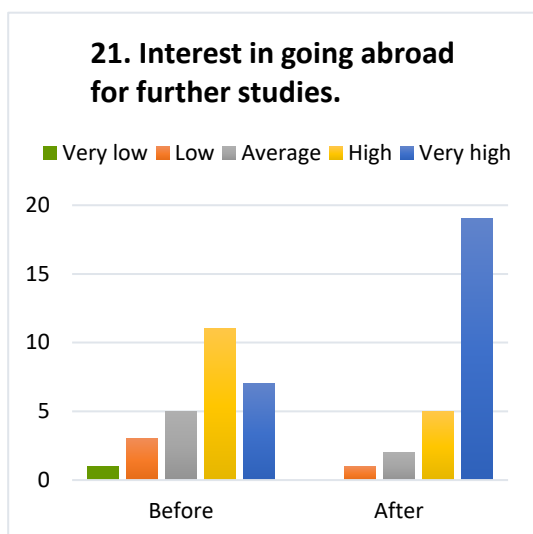
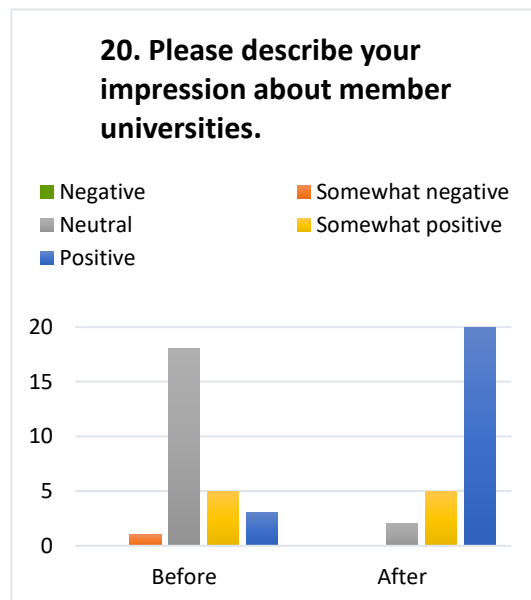
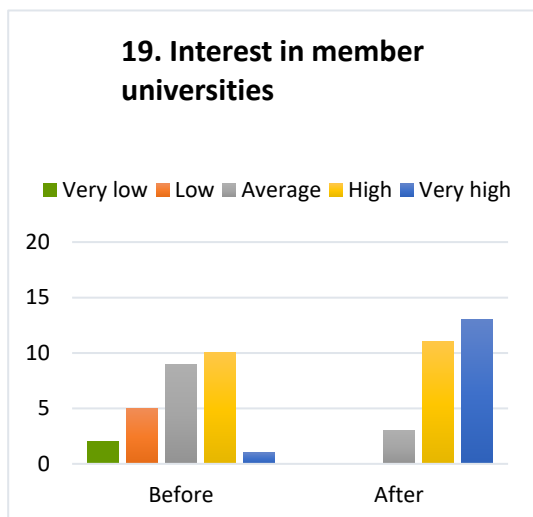
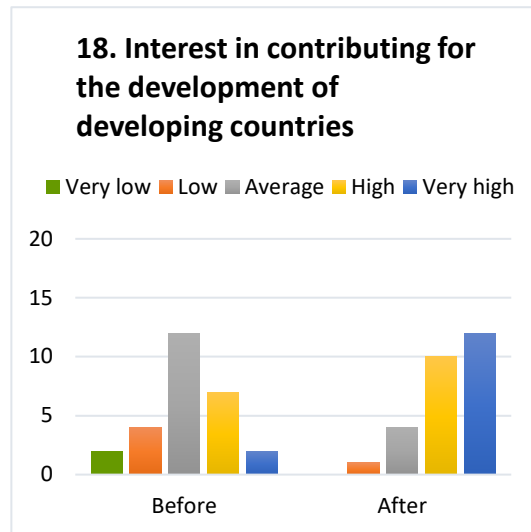
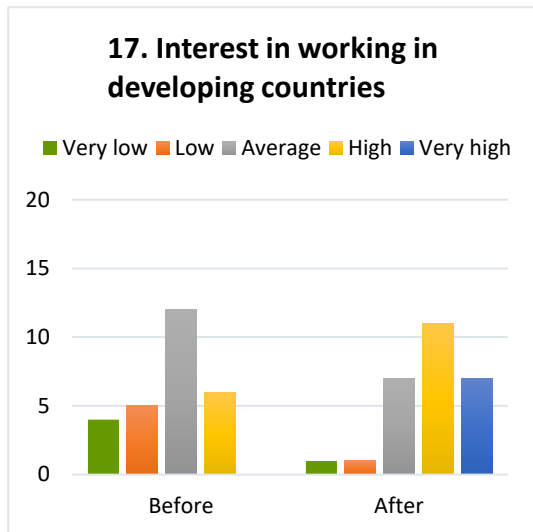


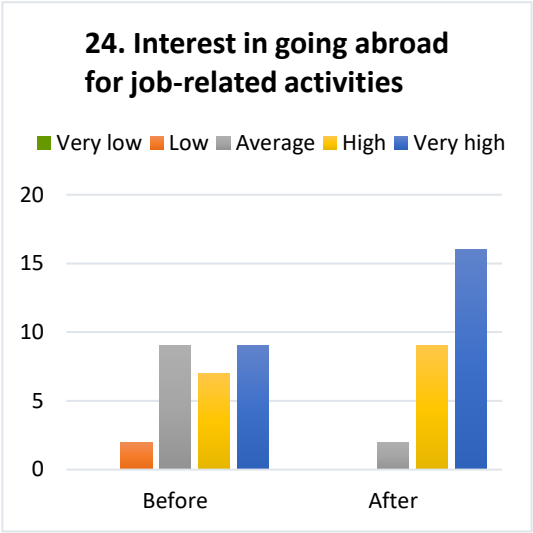
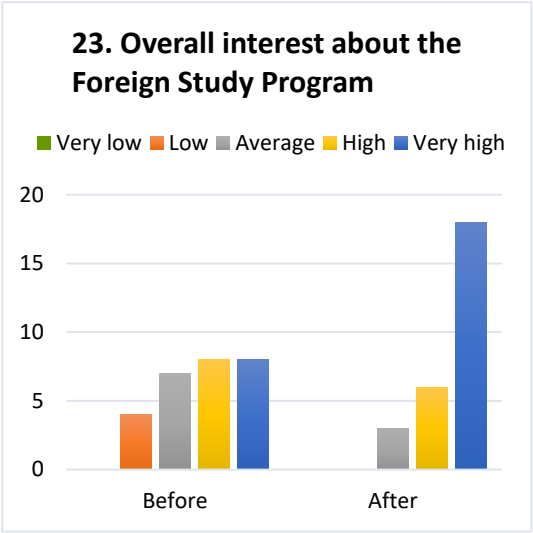
15. Interest in advanced countries



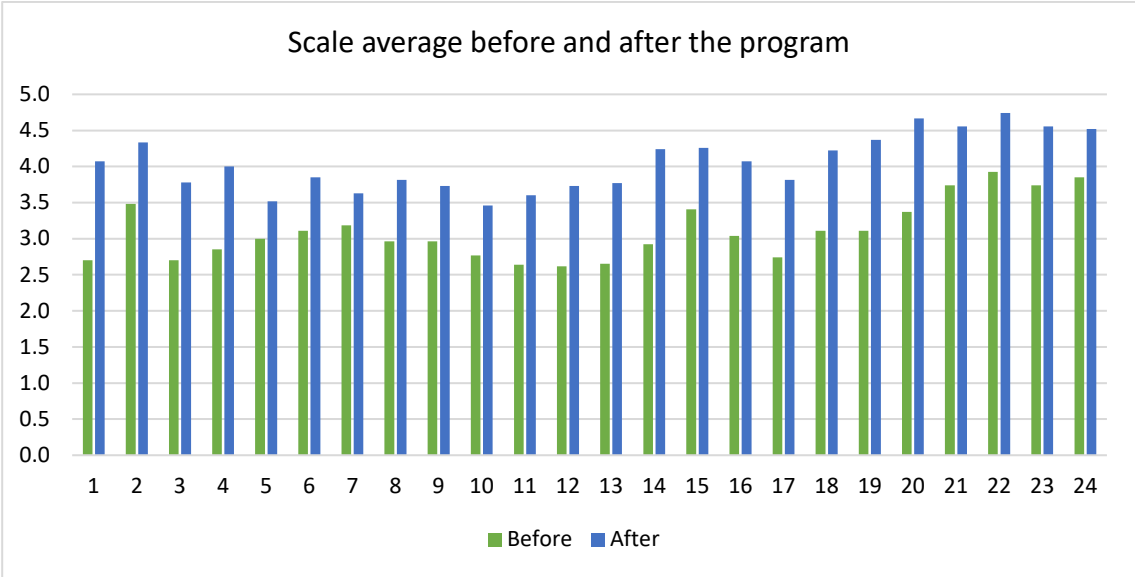
16. Interest in developing countries







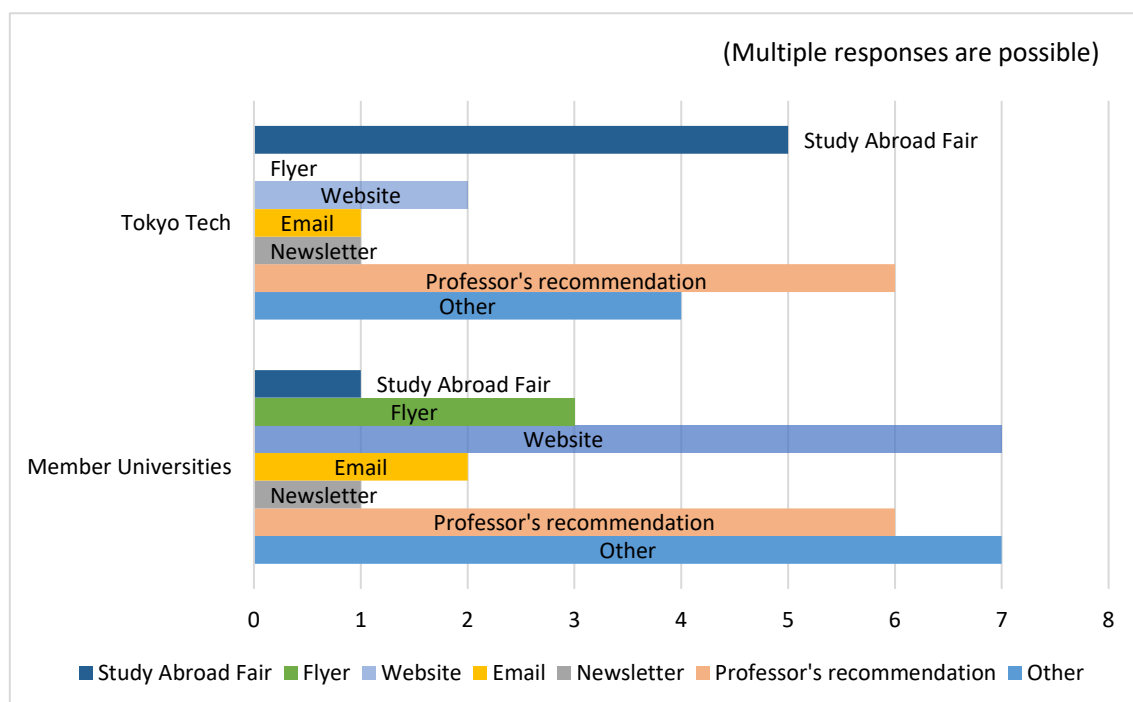
Rating Scale	Very low Negative				Very high Positive	
	1	2	3	4	5	



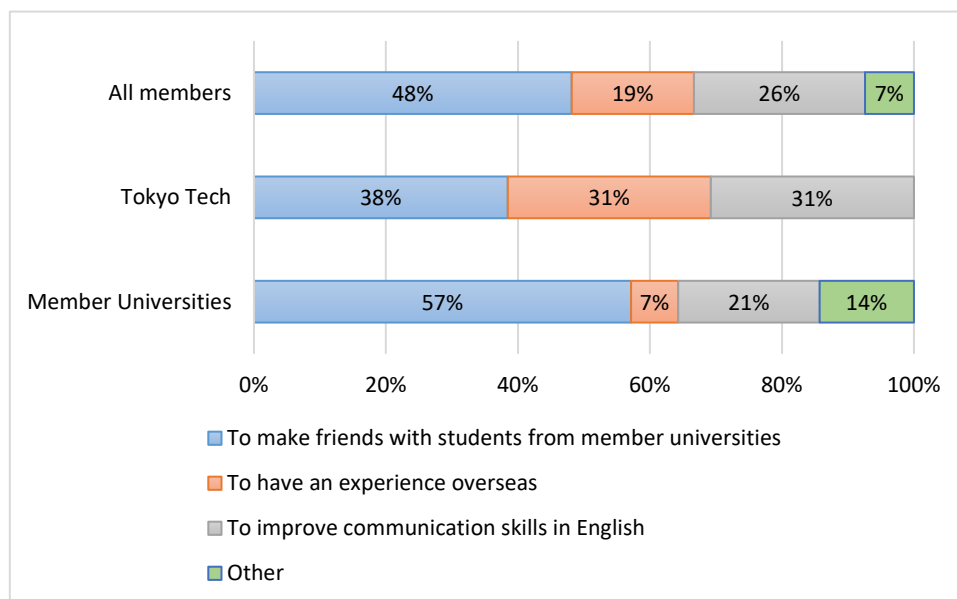
Questions	Scale average	
	Before	After
1. Understanding of cultural differences	2.7	4.1
2. Awareness of the importance of respecting differences	3.5	4.3
3. Ability to work in a multicultural team	2.7	3.8
4. Communication skills in general	2.9	4.0
5. Presentation ability	3.0	3.5
6. Ability to communicate in English	3.1	3.9
7. Ability to think critically	3.2	3.6
8. Ability to develop ideas to localize/customize a program for different cultures	3.0	3.8
9. Ability to identify social problems of the society	3.0	3.7
10. Ability to find solutions for social issues you have identified	2.8	3.5
11. Awareness of successful program implementation on global scale	2.6	3.6
12. Interest in problems common to different societies	2.6	3.7
13. Confidence in becoming someone who can utilize his/her expertise and skills in a professional capacity in global society	2.7	3.8
14.Expected impact on your future plans	2.9	4.2
15. Interest in advanced countries	3.4	4.3
16. Interest in developing countries	3.0	4.1
17. Interest in working in developing countries	2.7	3.8
18. Interest in contributing for the development of developing countries	3.1	4.2
19. Interest in member universities	3.1	4.4
20. Please describe your impression about member universities before and after the program.	3.4	4.7
21. Interest in going abroad for further studies	3.7	4.6
22. Overall motivation to visit abroad	3.9	4.7
23. Overall interest about the Foreign Study Program	3.7	4.6
24. Interest in going abroad for job-related activities	3.9	4.5

Part 2: Tokyo Tech-AYSEAS

Q-1. How did you know about Tokyo Tech-AYSEAS?



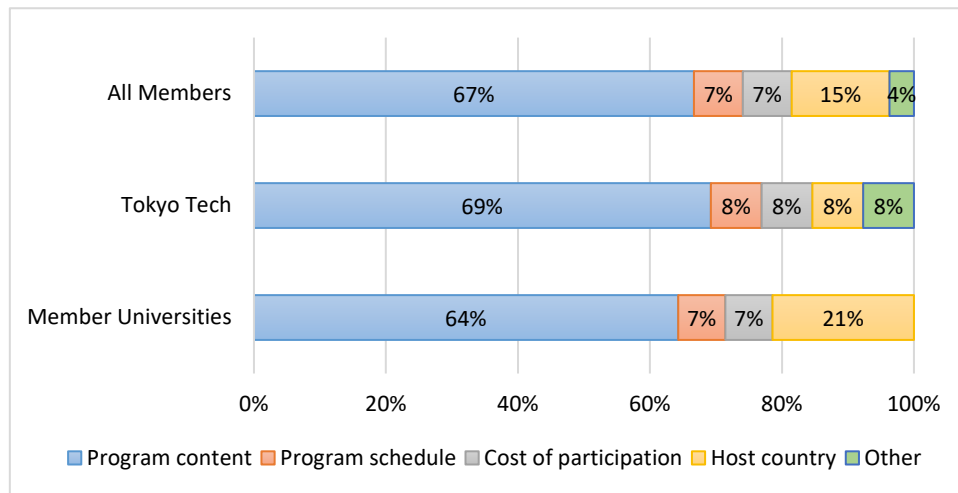
Q-2-1. Please specify your initial motivation joining Tokyo Tech-AYSEAS 2018.



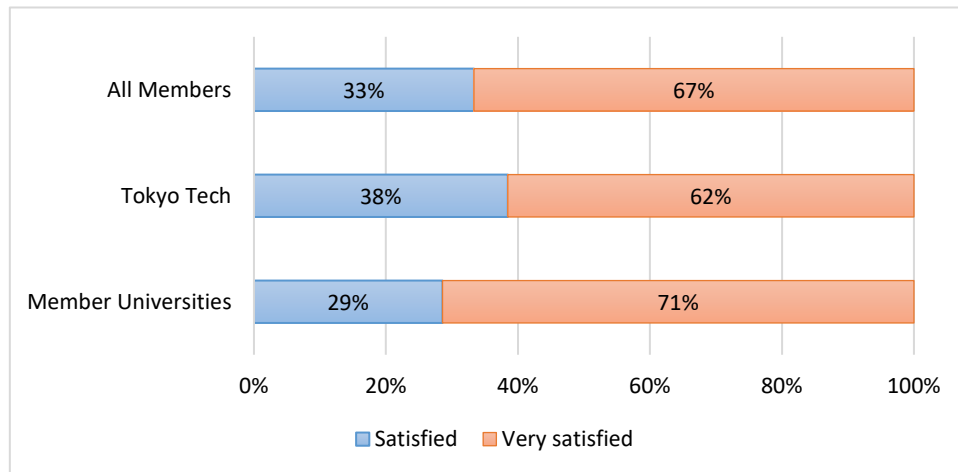
Q-2-2. If you chose "other", please describe a specific answer.

- I have a plan to study aboard at Tokyo Tech
- To seek chances for studying aboard

Q-3. Please specify the main reason why you ultimately decided to join AYSEAS 2018.



Q-4-1. Please indicate your overall satisfaction with Tokyo Tech-AYSEAS 2018.



Rating Scale	Very dissatisfied					Very satisfied				
	1	2	3	4	5	1	2	3	4	5

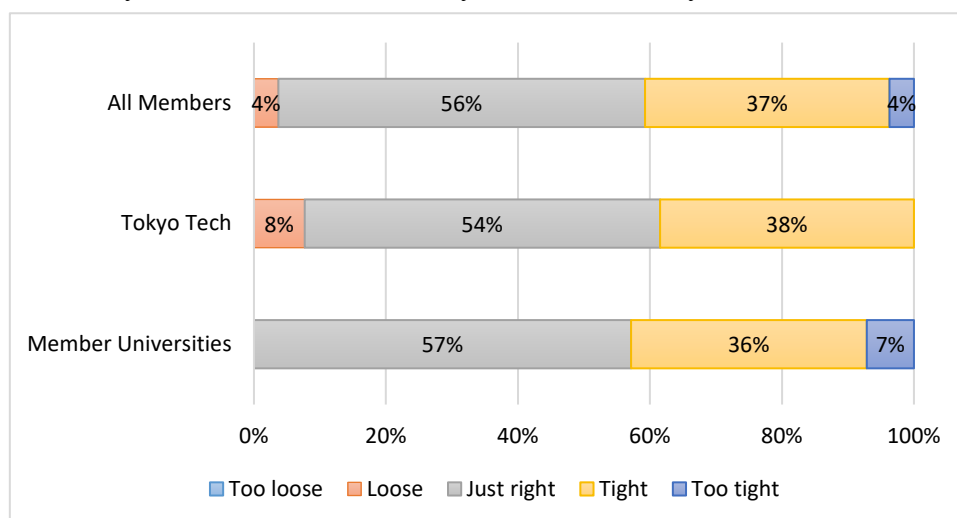
Average	All members (27)	Tokyo Tech (13)	Member Universities (14)
	4.7	4.6	4.7

Q-4-2. Please describe why you chose the above answer.

- I really learned a lot and enjoyed the Program.
- I have learned so many new things from the other students and from Vietnam. I also met new friends with different culture.
- This program was a really great program as I got to meet very many people, and I have so many new friends and I learned how to work with people with different cultures and perspectives.

- I really learned a lot from the program and the whole experience was totally worth it. However, there are some improvements needed such as the clarity of the communication skills of some of the speakers.
- That because I gained a lot of knowledge and experiences after completing this program.
- I can make friends and learn another countries' culture.
- When I was a part of Tokyo Tech AYSEAS, I receive more things than I thought before. I have wonderful time with friends overseas, and improve much knowledge, not only English speaking skill but also problem/issues in ASEAN.
- This was the first time that I joined in an international program. I was excited to communicate with student, especially, students who study technology like me.
- I think I have gained many things after the program. I have some friends, some relationships overseas. I have found my way to develop my career in the future, what I want to do when I'm young is that I want to discover more about the world, see different races and cultures. The first thing I think I need to do is prepare and look for the scholarship to study aboard.
- After I join AYSEAS 2018, I have learnt a lot of knowledge about different culture, team work, and know more about the Japanese company.
- I learned a lot and made new friends.
- I learned many things and could get a lot of wonderful friends. I could really enjoy this program.
- Because I could have a good experience.
- I could experience discussion with multicultural team and get to visit a lot of Japanese companies in Vietnam which meets my expectation about the program
- I could get a lot of knowledge about the developing country.
- I had very good time.
- I could learn not only issues in developing country but also the importance of making relationship all over the world.
- Because I made a lot of friends and enjoyed different culture.
- Experience in Vietnamese company was very meaningful. And I can communicate deeply with members.
- We could make a lot of friends from many country, and it motivated me.
- The journey contains not only company visit but also university visit. And we can make friends with local students, which is really wonderful experience.
- I enjoyed this program but I didn't communicate with others aggressively, so my English skill didn't improve.
- I have got many helpful experiences for my future planning. However, half of preparatory studies were not so helpful for preparation.

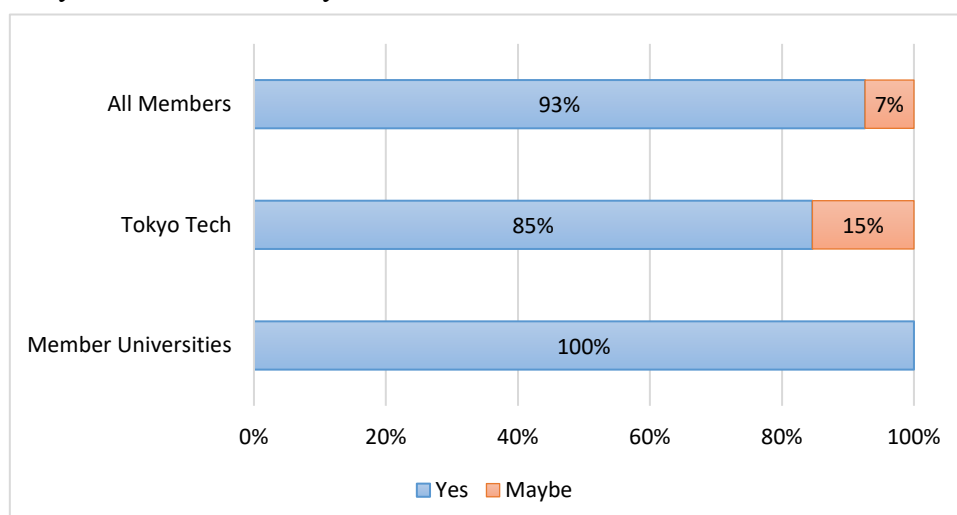
Q-5. How would you rate the overall activity schedule of Tokyo Tech-AYSEAS 2018?



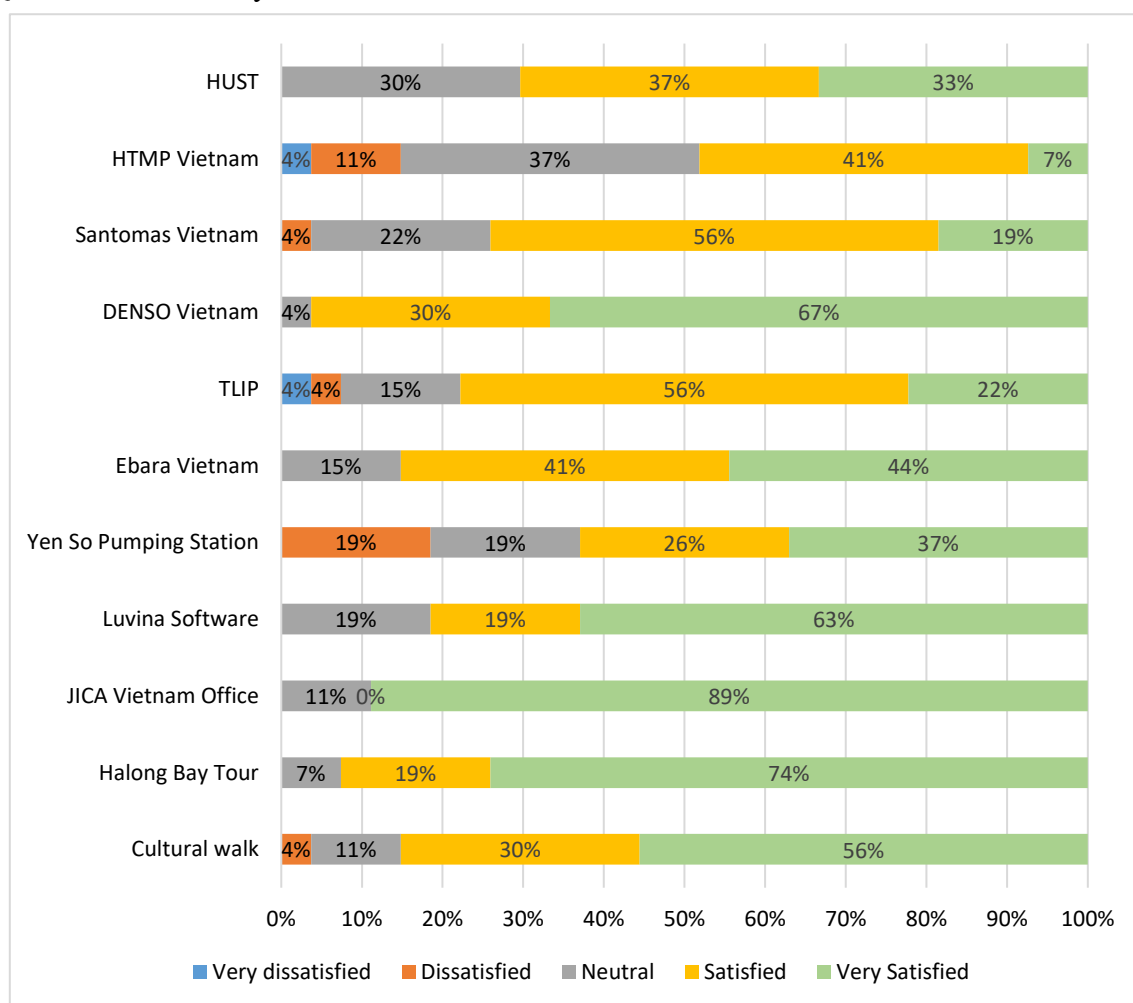
Rating Scale	Too loose		Just right		Too tight	
	1	2	3	4	5	

Average	All members (27)	Tokyo Tech (13)	Member Universities (14)
	3.4	3.3	3.5

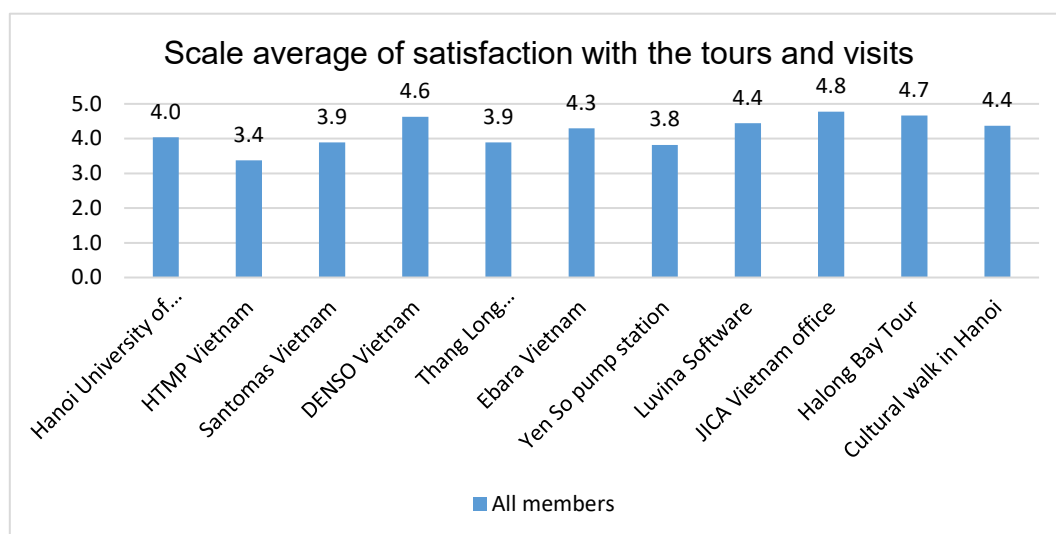
Q-6. Would you recommend Tokyo Tech-AYSEAS to others?



Q-7. Please indicate your level of satisfaction with each of the tours and visits.

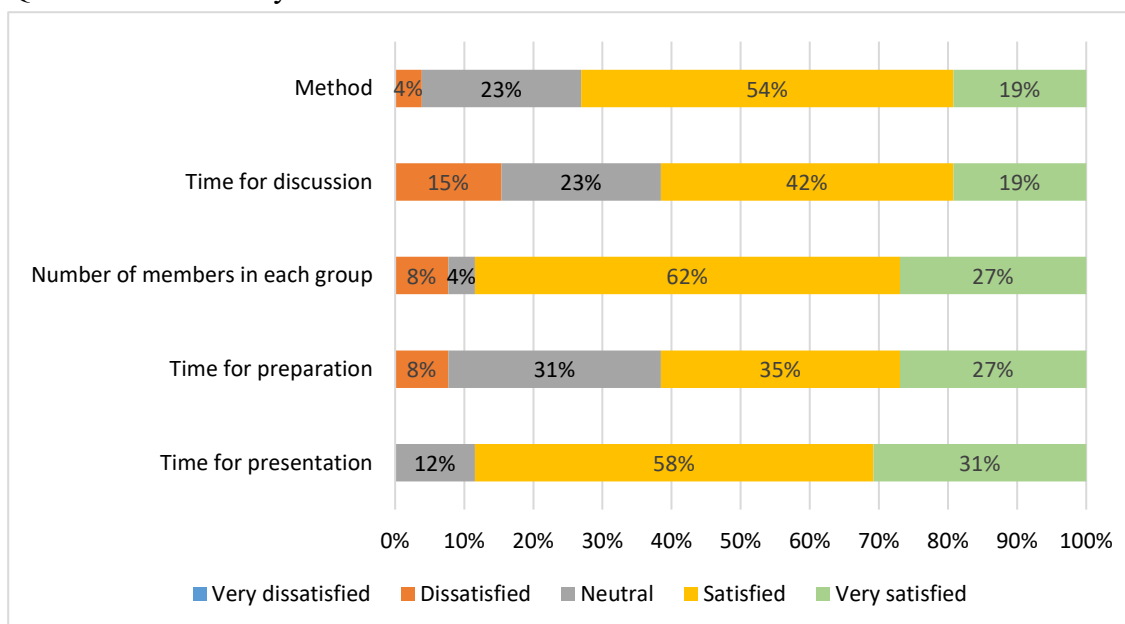


Rating Scale	Very dissatisfied				Very satisfied	
	1	2	3	4	5	

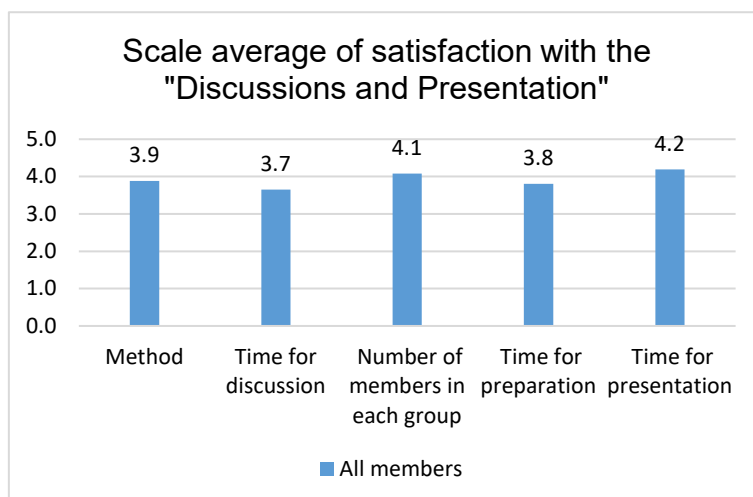


Tours and visits	All members (27)	Tokyo Tech (13)	Member Universities (14)
Hanoi University of Science and Technology	4.0	4.0	4.1
HTMP Vietnam	3.4	3.1	3.6
Santomas Vietnam	3.9	3.7	4.1
DENSO Vietnam	4.6	4.4	4.9
Thang Long Industrial Park	3.9	3.5	4.2
Ebara Vietnam	4.3	4.2	4.4
Yen So pump station	3.8	3.1	4.5
Luvina Software	4.4	4.5	4.4
JICA Vietnam office	4.8	4.8	4.7
Ha Long Bay Tour	4.7	4.8	4.5
Cultural walk in Hanoi	4.4	4.4	4.4
Total Average	4.2	4.1	4.3

Q-8. Please indicate your level of satisfaction with the "Discussions and Presentation"

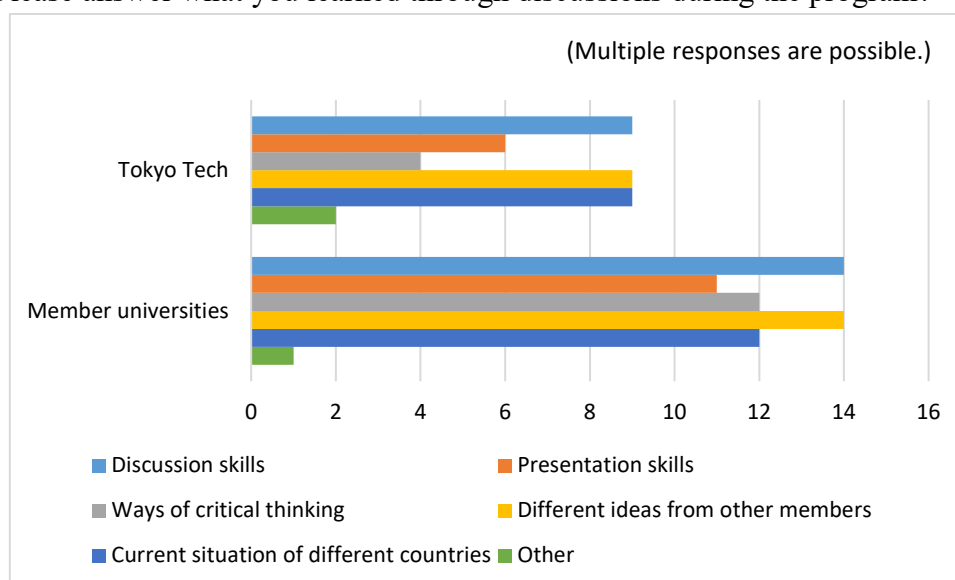


Rating Scale	Very dissatisfied					Very satisfied				
	1	2	3	4	5	1	2	3	4	5



Element	All members (27)	Tokyo Tech (13)	Member Universities (14)
Method	3.9	4.0	4.2
Time for discussion	3.7	3.1	4.2
Number of members in each group	4.1	3.7	4.3
Time for preparation	3.8	4.4	4.4
Time for presentation	4.2	3.5	4.4

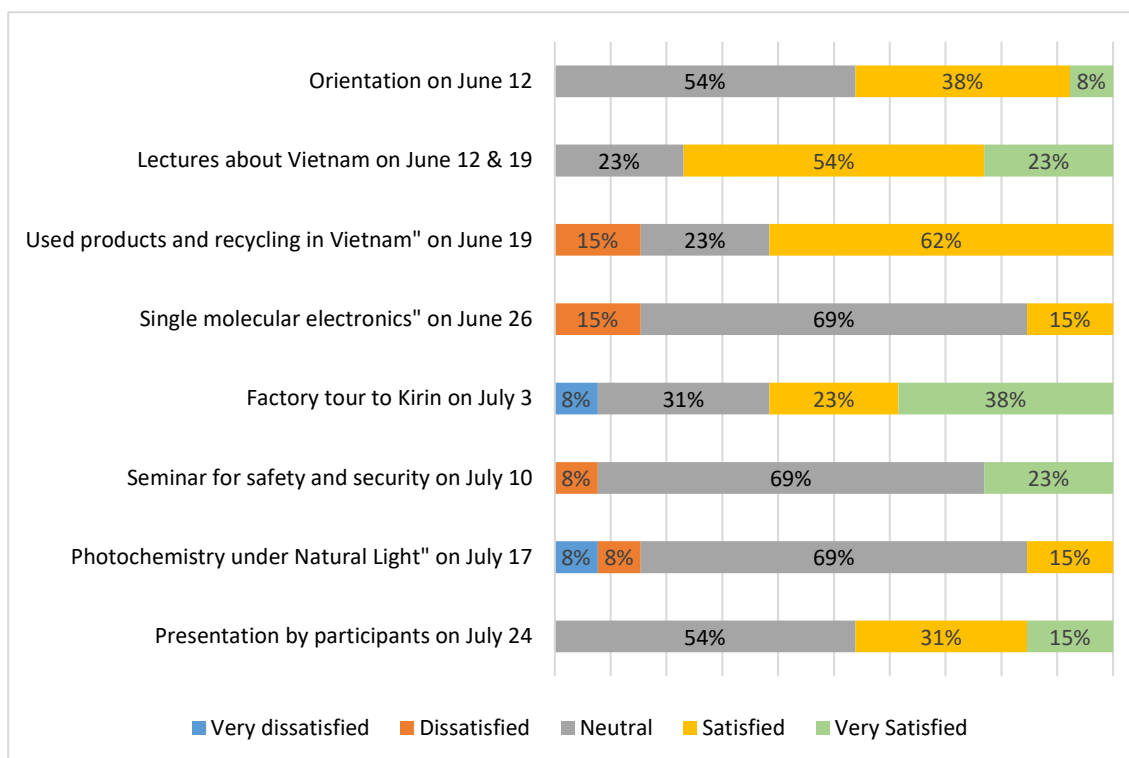
Q-9-1. Please answer what you learned through discussions during the program?



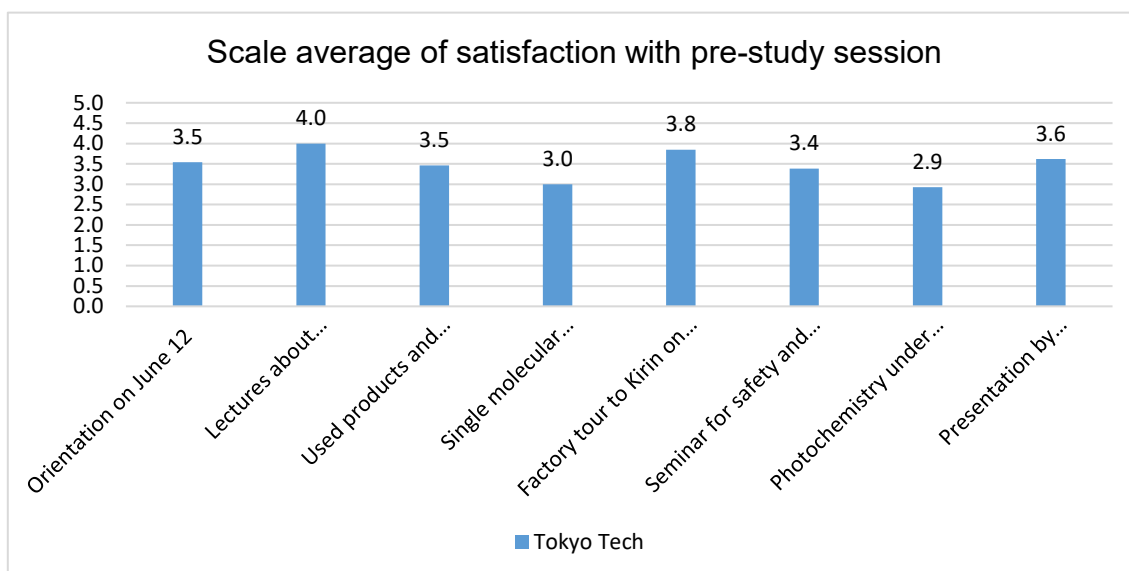
Q-9-2. If you chose "other", please describe a specific answer.

- Teamwork skills
- Communication in English

Q-10. (Only for Tokyo Tech Students) Please indicate your satisfaction with pre-study session.

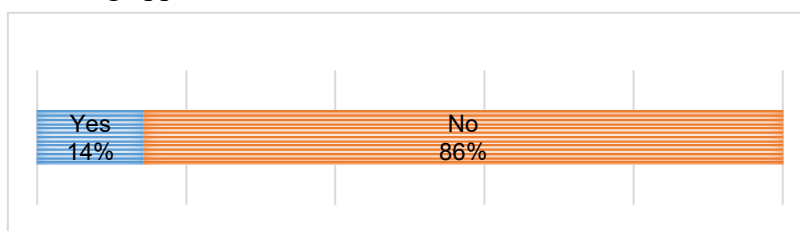


Rating Scale	Very dissatisfied				Very satisfied	
	1	2	3	4	5	

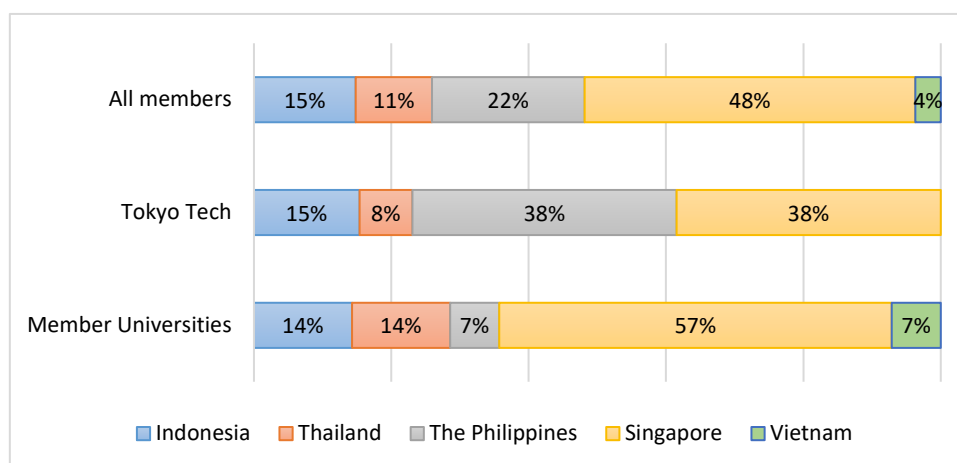


Pre-study session	Scale Average
Orientation on June 12	3.5
Lectures about Vietnam on June 12 & 19	4.0
"Used products and recycling in Vietnam" on June 19	3.5
"Single molecular electronics" on June 26	3.0
Factory tour to Kirin on July 3	3.8
Seminar for safety and security on July 10	3.4
"Photochemistry under Natural Light" on July 17	2.9
Presentation by participants on July 24	3.6

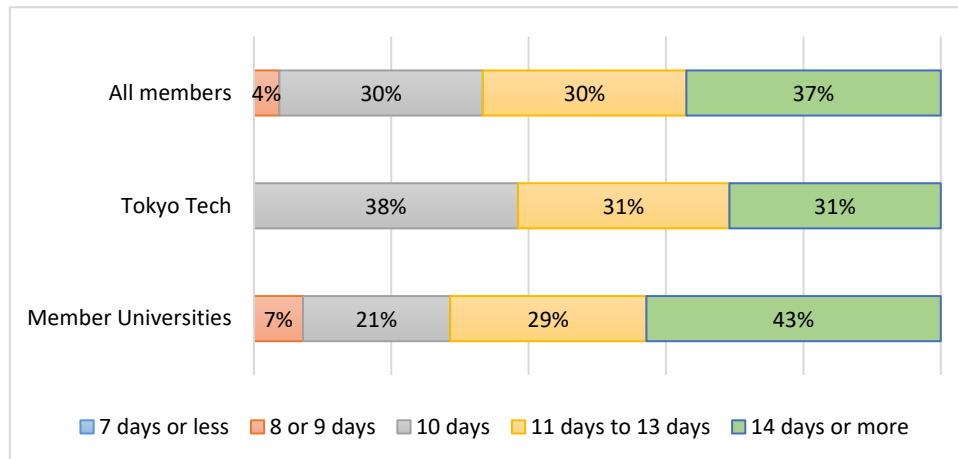
Q-11. (Only for member universities' students) Did you have an interview test in your university after sending application form?



Q-12. If you were participating in AYSEAS 2019, which country would you like to visit?



Q-13. How many days would be best for Tokyo Tech-AYSEAS?



Q-14. What discussion topics would be of interest to the participants?

- Advanced or smart materials, nanotechnology, 17 sustainable development goals
- Aging problem
- Building good team from different backgrounds
- Culture exchange
- Developed countries and developing countries
- Education for global leaders
- How to develop future career
- Motorization and traffic jam
- Public sanitation
- Role of globalization in ASEAN, the trade war between the USA and China, environmental effects of government policies
- Sustainable Development Challenges, Climate Change and Global Warming Risks and Opportunity, etc.
- Technology transfer
- The gap between rich and poor
- Things related to our majors
- What you want to do in the future

Q-15. Please describe your suggestions, idea, and comments for Tokyo Tech-AYSEAS.

Positive Comments

- I think that the program as a whole has a very good structure that is beneficial to the students that are joining.
- I really love the program because apart from making new friends, it put me under a situation where I saw the common links between different cultures within Asia.

- The students from the host country (Vietnam) are very helpful and showed us around.
- I learned a lot of things through this program. So, I really appreciate for this program.
- It was the good program. Thank you for giving me a chance to go abroad.
- It was really valuable experience for me. I want to say thank you to all the teachers and Vietnamese students who arranged everything for us.

Suggestions for improvement

- Increase the number of participants, and length of program.
- Have a free day for students to experience the country.
- The program was very fun as I really got to meet new people, and experience work and group mates, my only suggestion would be to have more time for the whole program.
- Maybe, the professors can give comments to the presentation of the groups after everyone has presented.
- Members must learn how to effectively present.
- I think you can extend the number of universities members to increase the diversity of culture and knowledge.
- I hope program will be continue in the future.
- The professor, staff and students from Tokyo Tech Institute were very nice and responsible. I felt the schedule of Tokyo Tech-AYSEAS is a little bit tight.
Suggestions: we should have more time to discover the city and people in this country.
- I think we should have more time to discuss and have the presentation. Because it very helpful and the student have more time to think and create more useful idea. However, I think the program very suitable, helpful and wonderful. Thank you for give me a chance to join this! Best regard!
- Over all, I'm satisfied with the company visits and discussion experiences that this program provided. However, I am a little disappointed with the discussion. I think it is better to have some guides regarding how to conduct the discussion especially in some first days. Encouraging the group to create the group timeline also could help the group to progress in their discussion. Some group members' are clueless regarding how to start the discussion, I also saw that some groups were worried in the last day because they didn't progress well and decided the theme and presentation focus in the last minute. I think for some first days, it is better to give guide regarding how to conduct a good discussion. Overall, I'm glad to join this program :) Hopefully this program can continue to improved and give a lot of beneficial experience to the participants in the future :)
- After presentation, I want a day for sightseeing.
- I wanted to learn the efficient way to discuss, and more opportunity to discuss in pre-study.
- I think it is better to increase the day of AYSEAS.

- I suggest students can also design the schedule and decide which company to visit.
- I really enjoyed this program and were very satisfied. But, I had to prepare more to enjoy more. For example, I had to research restaurants, sightseeing spots, culture, history, and so on.
- Even I am a student of a host university, most of announcement I received are come from Japan and I was confuse at the first time. I hope Tokyo Tech-AYSEAS could make the host university staffs be more aggressive. Lacking information will make this program go behind schedule. Even there are still many imperfect things and somethings bad happened, I hope Tokyo Tech will still give Vietnam and HUST a chance to be the host of this program again.

Other comments

- Before I decided to participate in this program, I was nervous about communicating with people from abroad. In Vietnam, sometimes friends couldn't understand me, but they asked me what I mean for many times. I feel kindnesses from that experience and I keep in mind that I will do the same if someone was not good at English.



Tokyo Tech-AYSEAS 2018:

Tokyo Tech-Asia Young Scientist and Engineer Advanced Study Program 2018

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