



## The 6th Osaka Meeting Lecture by Dr. TERASHIMA

### Capacity Development and Appropriate Technology in Human Resource Development

The 6th Osaka meeting was held on September 13, 2019. A lecture was given by Dr. Katsuhiko Terashima, JICA Expert participating in the project in Myanmar. Dr. Terashima is from Tokyo Engineering Consultants Co., Ltd., formerly worked for the Osaka Municipal Waterworks Bureau.



Reported by  
Mr. Hayashi

The participants were Ms. Yamamoto (WaQuAC-NET Representative), Mr. Arimura, and Mr. Shimomura from Tokyo, Mr. Miyauchi, Mr. Kitagawa, Mr. Nagashio, Mr. Ozaki, Mr. Koseki and Hayashi from Kansai region. The number of participants was 20 including 11 non-members. Friendship party was held after the meeting.

#### Outline of the lecture

The topic of the lecture was “Capacity development and appropriate technology of the person in charge (C/P; counterpart) in the field of technical cooperation activities.”

Taking “water quality management” as a specific example, report on the project activities was given in the lecture.

#### ✧ Project name:

The Project for Improvement of Water Supply Management of Yangon City Development Committee (YCDC)

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#### ✧ Project period:

July 5, 2015 -July 4, 2020 (5 years)

#### ✧ Expected results

Improvement of capacity on

- Water supply institutional management
- Non-Revenue water management
- Water quality management



Dr. Terashima giving a lecture

The feature of this project is that the Myanmar side is positively conducting activities in close cooperation with the Japanese Experts. This project aims to improve not only specific technologies but also overall capacities of the C/P, focusing on the process of thinking by themselves.

“Capacity development” is practiced in the project. Capacity is “problem management ability” and is “the ability to identify and solve

problems.”

### *Practice flow of “capacity development” (example)*

#### Recognition of issues

→ Change “global technology” to “local technology”

→ Knowledge and skill acquisition and application

→ Based on existing capacity

→ Existing facilities is the basis for improvement

Regarding the gap felt by C/P when they observed the latest filtration basin in Japan, the first impression was “filtration basin in Japan is not applicable in Myanmar.” However, the recognition changed to “Japanese filter basins are just different types. We have our filtration basin type in Myanmar, so improvement is required to make it work.”

The meaning of “appropriate” is important.

There are various factors in evaluation of “appropriate.”

### *Issues faced in the practice of “appropriate technology” (example)*

- Priority of water quality
- Possibility of assistance by donor country
- Necessary support for sustaining “appropriate technology,” etc.

### Through questions

- WHO guideline values are used as water quality standards in Myanmar.
- As a matter of project management, evaluation of “capacity development” is difficult. Evaluation method has not been established (fund and time tolerance, etc.).
- The theory and technical basis (i.e. the basis for numerical values) are important, and it’s the same when the theory is applied on existing facilities. For example, in the case of multi-layer filtration basin, anthracite is not

available in Myanmar. However, “filtration rate (=water quantity)” cannot be obtained without it because anthracite is necessary for the design.

### Summary of the lecture

- In the projects aiming at “capacity development,” positive activities of the C/P will lead to good outcome and will produce a virtuous cycle.
- Various ideas can be created by “capacity development” and the ideas lead to the production of “appropriate technology.”
- Evaluation (e.g. evaluators, evaluation criteria) is an issue on “appropriate technology.”

### Impressions

It was a memorable presentation; difficult topic was explained with humor and passion. The participants were able to understand the importance of “capacity development.”

Through opportunities like this, I hope the experience of JICA Expert is passed on to younger generation and it leads to further development of water supply in the world.



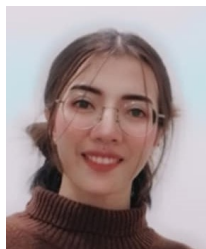
Participants listening eagerly



Friendship party

**Member interview**  
**Ms. Phaimany Sengphouvong**  
**(Ms. Kai) from Laos**

She came to Japan as a master course student in the JICA and University of Tokyo (UT) Collaboration Program. She is one of four students passed hard examination of the Program in 2018.



*Ms. Kai*

(Other three persons are introduced in newsletter [vol.37](#), [41](#), [42](#).) I met her at 2018 WaQuAC-Net year-end party firstly. After 1 year, I could meet her again at the chance of this interview. She seemed very familiar with Japan. She responded to the interview with a smile while she was busy preparing her master thesis. This time, Mr. Shimomura joined her interview. The interview was conducted in Urawa on November 29, 2019

*(Yamamoto, WaQuAC-Net Office)*

**< Childhood and Family >**

**Yamamoto**) Your real name is Ms. Phaimany Sengphouvong. But everyone calls you Ms. Kai.

**Shimomura**) Lao people call each other by their nickname.

**Y)** It's the same custom as Thailand. Kai means what?

**Kai)** It means chicken. But I don't know why. I was called so, since a small child.

**S)** Well, I ask you about your childhood. Where you were born?

**K)** I was born in Vientiane, the capital city of Laos. I have a sister and a brother. My farther worked for Vientiane Capital Water Supply State Enterprise (Nampapa Nakhorn Luang: NPNL). My sister is one year younger than me and works at Japanese cake shop. My brother is a

university student.

**Y)** You got a job in NPNL by your father's influence, didn't you.

**S)** Most of the staffs are working at NPNL with their family, so I think Ms. Kai is the same too.

**<Educational background and Work>**

**S)** What did you study at university?

**K)** I studied the computer business at collage for 3 years and was employed in NPNL in 2011. And then I studied computer science for 2 years at university while working. The teacher was Vietnamese and all classes were in English. There was a system to study in Vietnam, and many students went to Vietnam.

It had been 8 years since I started working at NPNL when coming to Japan. I worked in the field of personnel management using computers in the Human Resources Division.

**<Research in the University of Tokyo>**

**Y)** You have been studying at Professor Takizawa Class of UT with three international students from Myanmar and Cambodia since September last year and conducting field surveys.

**K)** I have still two courses in class and presentations as well as writing a thesis, but I love Japan and I want to experience a lot of things in Japan.



*At Kashiwai WTP, Chiba with Prof. Takizawa in NOM7\* Observation trip*

\* NOM7: the 7<sup>th</sup> IWA Specialist Conference on Natural Organic Matter 7-10, Oct, 2019, Tokyo

**S)** Please tell us your research theme.

**K)** It is PI (Performance Indicator) development as an effective method of personnel management. In the beginning of last year, I went back to Laos and interviewed with my colleagues and customers mainly as one of field survey. Since my stay in Laos was limited to get enough data, I am continuously interviewing with 30 colleagues from various divisions of NPNL through smart phone. For example, I make questions like “what cases your motivation rise or fall, and what you think the work environment, work contents, staff treatments and so on”. Then I summarize them into the performance indicators and try to link them to effective personnel management.

**S)** Do you make it a formula ?

**K)** I don't think so. Apart from the existing 23 PIs, I consider developing indicators that can be expressed in words.

**S)** Do you think to use developed PI at NPNL first? Then if successful, you want to extend it to other water authorities.

**K)** I hope so. But It is hard target, because the interviews are sometimes difficult to get the answers I expect.

#### <Japanese life>

**Y)** You live in Japan for 1 year and 2 months from your coming. Have you gotten used to living in Japan?

**K)** Yes, I enjoy my life without any problems. I love Japanese food, sashimi, and sushi, and I can eat anything. I live in an apartment in Itabashi with other students come from Myanmar in 2018 and new commers from Myanmar and Nepal in 2019. I cook by myself.

I love walking and go alone to many parks and suburb of Tokyo in weekend or holidays. Sometimes, I interview with some colleagues by smart phone in the morning and walk around in the afternoon.

I keep balance between study and living.

**Y)** It is wonderful for you to enjoy Japanese life and culture positively.

**S)** Because Ms. Kai has taken a training in Japan before and loved Japan, she became familiar of Japanese life quickly and lives positively in this long stay.

**Y)** But, have you ever been lost way?

**K)** No!

**S)** But you lost several bags, right (laughing)

**Y)** So far, where is the best place?

**K)** It's Hie-Shrine in Akasaka. There were many small TORII gates. It's so impressive. I thought that I didn't need to go to Kyoto. As tomorrow is Saturday, I will go to Odaiba.

**Y)** I understood that you enjoy living in Japan and lives a fulfilling days. I hope you complete a good thesis. Thank you very much and see you soon.

#### From Mr. Shimomura to Ms. Kai

In 2012, I met Ms. Kai when Project MaWaSU was launched in Laos. She was an original member of the Project. I have kept in touch with her for 5 year- project period and after the project too. When she applied for the collaboration program of JICA and UT, I supported her from preparation period.

She is not afraid of failure for work and for her personal life, and she takes amazing and bold actions with enjoying. Even though sometimes got depressed, she is extremely resilient. There is no doubt that this experience of studying in Japan will make her an epoch in her working and private life. and I expect highly that she will lead the water supply field in Laos in the future.



*Mt. Takao, from left, Ms. Kai, Ms. Ei, Ms. Kounthy*





*Ms. Kai (Center) receiving the interview*



### Reunion with Mr. Long Naro from Cambodia

November 19, 2019, Mr. Long Naro who is Deputy General Director of PPWSA came to Japan as a guest of the INCHEM TOKYO 2019 Mr. Kiyama, Mr. Sasaki and Yamamoto welcomed him



and warmed up the old *Mr. Long Naro(left)* friendship at Kaihin Makuhari, Chiba City where the venue was located. He was very energetic and talked about many projects that PPWSA is planning or implementing. (By Yamamoto)



### Discussion with MWA on Technical Cooperation, Until now & Near future

September 4-6, 2019, we visited Metropolitan Waterworks Authority (MWA), Thailand. The purpose was to look back technical cooperation since MWA and WaQuAC-Net signed MOU in 2012 and exchange opinions on the future technical cooperation from this year. We had 2

meetings. One was held with Mr. Chaiwat, Deputy Governor in charge of HRD, WaQuAC-Net members of MWA, and staff of MWIT (MWA Water Institute of Thailand). The other was held with Mr. Somboon, Deputy Governor in charge of production and other 2 staff members.

From WaQuAC-Net, Mr. Saiki and Yamamoto participated in two meetings. Following is the report from Mr. Saiki who is former JICA Nepal Expert. (By Yamamoto, WaQuA-Net Office)

### Visit to MWA Mr. Takashi Saiki



*Report by Mr. Saiki*

It was my first visit to MWA. Firstly, I visited the Water Quality Department close to the

Bang Khen Water Treatment Plant. I was pleasantly surprised with the welcome given by nearly 20 MWA staff members. I was also impressed by the number of WaQuAC-Net members in MWA (28 persons) and the depth of exchange between the two organizations (MWA and WaQuAC-Net).

At the first meeting, the participants shared the progress of our technical cooperation including the signing of the MOU in 2012 (Newsletter No. 15) and the result of main activities. After that, the participants introduced themselves and presented their activities in Japan. Ms. Weesuda (Ms. Be, see page 8 for detail) who has scheduled to be dispatched to Japan (7 months) as a Kanagawa Prefecture Government Overseas Technical Trainee in September 2019 received several advices.

Regarding the future cooperation, Mr. Chaiwat mentioned a request of the analysis training for recent water pollutants (chemical substances including microplastics). WaQuAC-Net side said to consider it positively.

We expressed our thanks that MWA accepted the observation of Bang Khen WTP for Japanese members in July 2019. We proposed regular



observation of MWA facilities and MWA agreed it.

#### *Discussion with WaQuAC-Net members of MWA*

The next day, we visited Mr. Sombboom Deputy Governor Office and discussed on the past cooperation such as biological survey and how to operate the water treatment facilities under the high turbidity.

Moreover, he talked the necessity of future cooperation. He has been working on a high-precision approach to commercial water loss. However, MWA still has the basic issues of physical water loss caused by pipe material, poor connection, etc. and current non-revenue water ratio of MWA was 30%. We exchanged opinions based on our experiences.

At the end of discussion, MWA donated 300,000 Baht for the appreciation of past WaQuAC-Net cooperation and further development of activities. We also visited the water transmission and distribution monitoring department in Samsen WTP. Three staff members explained the monitoring of the water pressure and flow rate. These data are sent to monitoring system every 10 to 37 seconds from 948 DMAs.

In addition, we went to Mansuri Service Branch Office in the same building and the office manager explained about the leakage detection and repair.

I was very lucky to attend this opportunity to deepen the cooperative relationship between MWA and WaQuAC-Net.



*Donation ceremony, from the left, Ms. Chaweeapan, Ms. Sivilai, Mr. Saiki, Ms. Yamamoto, Mr.Sombboom, Mr.Washirawit, Mr.Somsak*

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### **Report of JWWA Annual Conference in Hakodate**



*Report by Ms. Yaiuchi*

This year's General Assembly and Conference of Japan Waterworks Association (JWWA) was held in Hakodate, Hokkaido from November 6 to 8. I accompanied two of my Myanmar counterparts, Ms. Khin Zin Mar Myint and Mr. Zin Min Latt. We joined Ms. Weesuda Chaloeythit (Ms. Be, see page 7-8 for details.), coming to Japan for long-term training from MWA, Thailand.



*Mr. Latt's presentation*

We joined Ms. Weesuda Chaloeythit (Mr. Be, see page xx for details) coming to Japan for long-term

training from the Thai MWA, and went on a research presentation.

The two members of Myanmar, C/Ps of the Project on Yangon City Development Committee Water Supply Management Improvement, made presentations "Training effectiveness to retain staff members" and "Research experiment of direct filtration treatment for an improvement of water quality supplying from reservoirs" respectively. Those activities are supported by the Project activities. was announced. Presenting in such a place is not only a matter of

publicizing the project results, but also an invaluable way for them to improve their ability to understand the meaning and progress of the series of activities, organize data and considerations, and communicate in an easy-to-understand manner. At the exhibition held at the same time, they were so active to gather information curiously on water-related, of which scale of exhibitions was unthinkable in Myanmar. On the night of the 7th, a welcome party for those three; Ms. Khin, Mr. Latt and Ms. Be. In addition to the three, Mr. Shimomura (Fuji Tecom Inc.), Mr. Morita (TEC International Co.ltd), Mr. Saheki (JICA Expert @Nepal), Mr. Terashima (TEC Co.ltd), Mr. Shimizu (Ritsumeikan Univ.), Mr. Saiki (JICA), Yariuchi (WaQuAC Office) participated in a total of 10 people. Although it was with a sign of winter, it was exciting to enjoy talking and seafood. Though many other members were supposed to be in Hakodate during the period, I'm sorry that I couldn't meet all!

(by Yariuchi, WaQuAC Office)



*Welcome party; (clockwise from left) Morita, Shimomura, Saheki, Saiki, Yariuchi Be, Latt, Khin, Terashima, Shimizu (Titles omitted)*

## Report of 11<sup>th</sup> Kyushu Meeting

September 5, 2019, 11<sup>th</sup> Kyushu Branch general Meeting was held at Tsukushi Hall in Fukuoka City. Participants were Mr. Nakashima, Mr. Kagata, Mr. Oda and Yamamoto. as guests, Ms. Noguchi and Ms. Nomiya. Totally 6 persons joined.

After self-introduction, Mr. Kagata gave the presentation on the comparison of Sudan



*Guest, Ms. Nomiya (Left)*

human resources development project with Cambodia's one.

(see more detail in page 7-9, 13<sup>th</sup> Mini talk)

Two guests asked several questions to Mr. Kagata about JICA international Cooperation.

Mr. Oda evolved from the senior volunteer activities in 2010 to the international cooperation of the Fukuoka City Waterworks Bureau, and made a report on Fiji's ongoing non-revenue water reduction activities as "Current water situation and issues in overseas island countries". He distributed participants his report. Ms. Noguchi is a representative of "International Student Front" which is volunteer group, and has been supporting international students in Iizuka City for many years, including teaching Japanese. She keeps in touch with the international student that she has supported, for long time and has many chances to go abroad invited in their wedding party. I felt that she contributed at the forefront of international cooperation even in Japan.

Ms. Nomiya is a fourth-year student of the Faculty of Global and Science Studies, Yamaguchi University. She has been interested in the overseas from childhood and wanted to help the people who had difficulties.



She noticed that while China is a country close to Japan, the Japanese did not know much about China. She wanted to learn various matters of China and went to China during the Yamaguchi University Student and studied Chinese Language there.

As a result, she gained the job of teaching Japanese as a foreign lecturer at Jiujiang Academy in Jiangxi Province, China in September 2020. I would like to send cheers to her eagerness and action.

After the meeting, we all had the party in Tenjin. Mr. Toma who was former volunteer in Panama joined there. We talked international experiences continuously while drinking and eating.



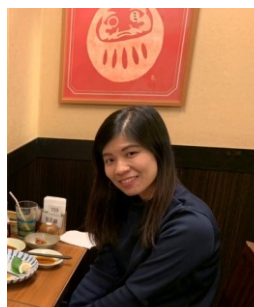
From left, Mr. Nakashima, Mr. Kagata, Ms. Nomiya, Ms. Noguchi, Yamamoto (by Yamamoto, WaQuAC-Net)

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## Introduction of Overseas Trainee and International Student

### Ms. Weesuda Chaloeythit from Thailand (Nickname Ms. Be)

Ms. Be is a trainee of Kanagawa Prefecture Government (KPG) Overseas Technical Training. She belongs to Metropolitan Waterworks Authority (MWA),



Thailand. She is the third person who is dispatched from MWA to KPG. First one was Ms. Oil who trained from 2015-2016 and second one was Mr. Pow who trained from 2017-2018. They

all passed Japanese conversation test. Ms. Be came to Japan in September 12, 2019 and will have KPG training until March 13, 2020. Training consists of Japanese language course for 1 month and half, and then technical course for 4 months, basically she takes trainings on the water quality analysis at the laboratory of Dr. Kamata Motoyuki in Kanto Gakuin University.

Ms. Be studied biotechnology at university. After graduated from the university, she was employed in MWA in 2013. She has worked for the water quality management from raw water to tap water at water quality department in MWA. WaQuAC-Net is supporting her for training and living matters as same as previous two MWA staffs. I (Yamamoto) met and talked with her at Futamatagawa, Yokohama City near her dormitory on October 5. On November 1, the discussion meeting for technical training for Ms. Be was held in Dr. Kamata's office. Participants were Dr. Kamata, Ms. Be, Ms. Tomikawa from KPG in charge of international cooperation, Mr. Sakaguchi from JOCA ([Japan Overseas Cooperative Association](#)) and assigned for Ms. Be's support for living in Japan and Yamamoto. I suggested some contents for her training considering the experience of previous trainees come from MWA. As a result of discussion, training for Ms. Be in the Kamata's laboratory was mainly analysis of micro plastic by FTIR (Fourier Transform Infrared Spectroscopy). And also, she has OJT of water quality analysis, survey of water sources and operation of water treatment facility in Yokohama Waterworks Bureau, Kanagawa Water Supply Authority and KPG Water Quality Center. She has the observation trip to Asaka WTP in Tokyo Metropolitan Waterworks Bureau for the advanced treatment plants. She joined JWQA Conference held Hakodate, Hokkaido from November 6 to 8 with



Dr. Kamata. Ms. Yariuchi joined the Conference with Myanmar counterparts, and also supported Ms. Be for accompany from hotel to the place of conference and session. Ms. Be enjoyed friendship party and site seeing with Ms. Yariuchi. (Please see page 6 of this newsletter). Her training continues by March 13, 2020. So, WaQuAC-Net will support her continuously.



*Night view of the City from the top of Mt. Hakodate Ms. Yariuchi, Ms. Be (right)*

### Mr. CHENDA Pharith from Cambodia



*Mr. Chenda*

I met Mr. CHENDA at a coffee shop near his university. We talked his stay in Japan. He is researching at Dr. Kitawaki laboratory of master course at Toyo University from

September 2019. He came from Phnom Penh Water Supply Authority (PPWSA), Cambodia.

He graduated Bachelor of Water Resource and Infrastructure Rural in 2015 at Institute of Technology of Cambodia (ITC).

After graduated, he started to work at PPWSA as trial period without salary around 6 months. Then he was successfully hired as official staff after passing PPWSA recruitment procedures in the end of 2016. Along with around 3 years experiences in field water supply, especially in Non-Revenue Water reduction, he was an candidate to apply for JDS scholarship ([the Project for Human Resource Development Scholarship by Japanese Grant Aid](#)). After a long selection procedure around a year such as English proficiency test, two interviews (technical and comprehensive interview) he was successfully selected as JDS fellow batch 19th

to come to do research as master's degree in Japan from 2019-2021. His research theme is non-revenue water (NRW) maintaining and reduction. However, he has to study other subjects not only water distribution network technology but also advanced theory of water environment, water quality and sanitation and so on in order to earn enough credit for his master's degree. Anyway, He has to get 30 credits to finish 2 year-period of course work plus master thesis. It has required him to put many efforts to achieve it and it won't be easy for him, he said. The NRW ratio of PPWSA is currently around 8% depend on specific years. The Deputy General Directors, who has contributed successful development of PPWSA, will retire soon in the next few years and the time for a generation change is pressing. Therefore, young generation staff members have to learn and gain the ability for maintaining the present level of PPWSA, Mr. Chenda said his strong determination.

He lives in an apartment located in Ichikawa City, Chiba Prefecture with his friend and commutes using 2 lines of subways from there to Toyo University in Bunkyo-Ku Hakusan, Tokyo everyday. He seemed accustomed to such a life in Japan. I promised him to go to Cambodian restaurant in Shinjuku together next time.

*(By Yamamoto)*

## Self-introduction of New Member

Hello, everyone! I am Akiko KUNIYASU, currently working for International Operations Division, Waterworks Bureau, City of Yokohama. (Yokohama is a capital city of Kanagawa prefecture adjacent to Tokyo area.) I've been working for the City Hall more than 30 years, and serve 10 years in the Waterworks Bureau. I'm still a novice in the "Water Family", where many devote themselves to waterworks for long years. I set foot on the international cooperation in the field of waterworks as a "lecturer" at a training program for overseas participants when I was a manager for Customer Service, which was my first position in the Bureau. In 2012, the 3<sup>rd</sup> year of my tenure, I was given an opportunity to be dispatched to Vietnam for 3 months as a JICA short-term expert. Afterwards, I assumed my current position to utilize my experiences for the international fields during my career at City of Yokohama.



Ms. Kuniyasu

As an administrative staff, my role is mainly coordinating and management of the

international projects. Originally, I have been a "non-scientific" person, but through my job here, I've been more interested in the waterworks technologies. I really enjoy my current work; pursuing "Water for All". I find it rewarding when I feel like being even a tiny part in international contribution.

I will reach retirement age as a civil worker in about a year to come, but I hope to be involved in the waterworks even after I will leave my position. That's why I decided to join WaQuAC-Net, which is managed by my fabulous friends, Yamamoto-san and Yariuchi-san.

**Personal matters.** I was born in Hiroshima prefecture, brought up until late 20's in Fujisawa, coastal area of Kanagawa pref. and now live in Yokohama City. Married and with 2 children (University and High-school students). My main hobby is to watch sports, particularly, Sumo wrestling! (Of course, it is not practicable for me, just a fun to watch.) As I love Sumo since I was 9-10 years old, I can't imagine my life without Sumo. That's something indispensable for me, such as "water for human being!"

I look forward to meeting you on some occasions and through activities of WaQuAC-Net.

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### 13th MINI TALK

#### Technical cooperation on water supply Cambodia and Sudan



This time, the theme is African and Asian water supply, which has been discussed at the 8th meeting in 2015. (see [Newsletter vol. 27](#)). This theme had been suspended for a while.

Mr. Katsutoshi Kagata, a former staff member of the Kitakyushu Waterworks Bureau, has been

involved in human resource development projects to improve the operation and maintenance capacity of water treatment plants in many projects. He talked about his experience in technical cooperation projects in Cambodia and Sudan, comparing the general matters of both countries, PDM (Project Design Matrix)\* of the project, goals and activity plans for performance.

The meeting was held at the Renoir coffee shop in Shinjuku from 19:00 on October 29, 2019. Participants were Mr. Kuroda, Ms. Ono, Mr.

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Igarashi, Ms. Yamamoto, and Mr. Horie (WaQuAC office).

## **1. Outline of the general matters**

### **1) Assistance from Japan**

In terms of loan aid, Sudan was provided about 10.5 billion yen, while Cambodia was provided about 140.3 billion yen. (Sudan aid is about 1/10) The amount of grant aid is about 125.5 billion yen in Sudan, compared with about 201.5 billion yen in Cambodia. The amount of technical cooperation projects are about 21.2 billion yen in Sudan, while about 86.3 billion yen in Cambodia. Not only in the water supply sector, but also in other sectors, Japanese assistance situation is very different between Sudan and Cambodia. (Amount is cumulative total, Cambodia one is until 2017, Sudan one is until 2015)

### **2) Amount of aid from major donor countries and organizations**

In addition to Japan, Cambodia is supported by Australia, US, EU, China, ADB, and the World Bank. Sudan, on the other hand, is subject to the economic sanctions by US, with the main donors being China, UK, and international organizations (UNICEF, FAO, IOM, UNDP, etc.).

## **2. Training in water treatment**

In both countries, the training consists of Lectures → OJT (On the Job Training) → Making Manual and SOPs.

### **➤ Lectures**

Calculations needed for water treatment, Basic theory of water treatment

### **➤ Basic OJT**

Water quality measurement, Jar test of coagulant

### **➤ Operation OJT**

Chemical dosing, desludging, operation and backwash of sand filter, pump operation, daily and monthly operation reports

### **➤ Manual and SOPs**

Making English and local language manuals and SOPs based on OJT



*Mr. Kagata gives lecture*

## **3. JICA Technical Cooperation Project**

JICA technical cooperation project is implemented within a certain period by a combination of three means: dispatch of experts, acceptance of trainees, and provision of equipment.

Project is implemented according to PDM (Project Design Max) and PO (Plan of Operation) where the goals, indicators, means of acquiring the indicators, and activities are defined.

## **4. Recommendation for good result**

Based on his experience in both projects which are “The Project on Capacity Building for Water Supply System in Cambodia (Phase 2)” and “The Project for Strengthening Capacity of Institutional Management, Operation and Maintenance in State Water Corporations” in Sudan, he recommended as follows.

➤ Project goals should be specific. (numerical targets of water quality, daily inspections of facility maintenance, etc.)

➤ OJT on the field of operation and maintenance of the water treatment plant should be composed of various subjects such as water treatment, water quality control, electrical



equipment, mechanical equipment, chlorine dosing equipment, and pipe network.

➤ Each facility of the water treatment plant should be functioning to some extent.

➤ Appropriate number of staff should be assigned according to the workload of each section in the water treatment plant.

Willingness is the most important. The heads of waterworks and national government ministries and agencies must have willingness to achieve the target.



*From left, Mr. Igarashi, Mr. Horie, Mr. Kagata, Mr. Kuroda, Ms. Ono*

### Introduction of new members

1. Ms. Weesuda CHALOEYTHIT (Thailand)
2. Mr. CHENDA Pharith (Cambodia)
3. Mr. Rabindra Pokhrel (Nepal)
4. Mr. Sandeep Pandharkar (India)
5. Ms. Phaimany Sengphouvong (Laos)
6. Mr. Kayinamura INNOCENT (Rwanda)
7. Mr. MUGWANEZA Vincent de Paul (Rwanda)
8. Ms. Nwe Nwe Zin (Myanmar)
9. Mr. UMUHOZA Marie Grace (Rwanda)
10. Mr. FUJII Keisuke (Japan)
11. Mr. IWAO Natsuki (Japan)
12. Ms. SYOJI Izumi (Japan)
13. Mr. KINNO Shyotaro (Japan)
14. Mr. KIMURA Ryota (Japan)

***We welcome new members anytime  
Please contact us***

### **(Postscript)**

It was great to listen to Mr. Kagata, who experienced two countries. A comparison of the two projects revealed differences in the situation of water treatment facilities and distribution networks before the commencement of the project, the dispatch of experts, and project goals and PDM. As the conditions and assumptions of the countries are different, there might be no correct answer. However, we should set our future goals after thoroughly understanding the state of infrastructure development and the existence of M/P before starting the project. I felt that it was important to have a long-term perspective.

Mr. Kagata's last words were impressive. "Improving water maintenance is similar to learning a language. It's not something that you learn a little and then suddenly start speaking, it's something that grows with the time and effort you devoted. The improvement of water supply maintenance capacity is similar to this. not grow quickly in a short period".

In this way, the capacity of operation and maintenance of water supply facilities is not acquired in two or three years. Rather than seeking results in a short period, it is important to continue steadily and for a long time to achieve the ultimate goal in the long run. Lastly, Mr. Kagata, thank you for your valuable experience.

*(Text attributed to Mr. Toshiki HORIE)*

### **WaQuAC-NET Newsletter Vol.43**

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(Yariuchi, Yamamoto)

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### **Next Activity**

February 5 2020 General Meeting

March 15 Newsletter vol.44 in Japanese

April 15 Newsletter vol.44 in English