



Contents of Newsletter vol. 53

1. Self-introduction of Member: Mr. Toshiyuki Hiroe.....	1
2. A challenge to making a snow statue: Ms. Taeko Miyashita.....	3
3. Report: General Assembly, New Year Party and Send-off Party for Mr. Ozaki.....	5
4. Q&A: Cross connection of drinking water supply and its hazard of nitrite contamination.....	7

Self-introduction of Member

Mr. Toshiyuki Hiroe
(JICA Expert in Malawi)

1 Hajimemashite.

(Nice to meet you!)

Hello! My name is Toshiyuki Hiroe. I am working for the Waterworks Bureau, City of Yokohama (Yokohama Waterworks Bureau/ YWWB)



Mr. Hiroe at the hotel
Juba, South Sudan

as a civil engineer. I have just been assigned to an international cooperation project in a developing country.

YWWB has dispatched a long-term JICA expert to "The Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board (LWB)" (LisCaP), starting in June 2019, that aims to strengthen the capacity to control NRW of LWB, Malawi. I joined the project in April 2022 as the second long-term expert, taking over from my predecessor.

I learned about WaQuAC-Net, which shares information on site in developing countries, from my former supervisor in YWWB, and I am very

interested in it. I hope to move our project forward while acquiring a variety of information from you all!

2. International Cooperation Projects

About 12 years ago, I participated in a training program on policy making. In the program, as an example of revitalization of a rural area, I learned about a village in Shikoku area that had revitalized itself by marketing nationwide its specialty product, the "yuzu" citron, as a booster for the village. We learned how they solved various problems one by one, such as breeding, product development, distribution, and public relations, until they finally succeeded. My task at the training program was to consider a new policy for Yokohama City learning from this case study.

In Yokohama, today, infrastructure such as roads, sewers, waterworks, and harbors are well developed, while there is a need to find ways to efficiently maintain and operate these facilities. The large-scale projects of infrastructure such as in the high-growth period are outdated, and we are already in a mature stage of development. Then, I applied the case of the revitalization of the village to Yokohama, and replaced the specialty fruits product "yuzu" with the "technological capabilities" cultivated through infrastructure development. I formulated a

tentative policy of utilizing our technological strength not in Japan, where infrastructure has sufficiently developed, but overseas, especially in developing countries.

In the field of water supply, the national government has been providing technical cooperation as ODA to developing countries for about 50 years, and local governments have been providing technical assistance within this framework. I later learned that local governments have also been promoting technical cooperation on their own to specific overseas cities since more or less 20 years ago. Then, I realized that I was ignorant about international cooperation, and, became more interested in them.

Incidentally, the City of Yokohama established within it the International Affairs Bureau in 2015. In addition, it has been implementing the Y-PORT (Yokohama Partnership of Resources and Technologies) program since 2015, which aims to support companies in the city to demonstrate their technological capabilities and play an active role overseas.

3. Experiences abroad

Ten years ago, in 2012, I was dispatched from the Port and Harbor Bureau of Yokohama City to the Overseas Coastal Area Development Institute of Japan (OCDI) for three years. There, in 2013, I had an opportunity to participate in the JICA Technical Cooperation Project in South Sudan as a short-term expert. South Sudan is the newest country in the world at that time, but due to a long period of the civil war, infrastructure development was slow and they lacked of know-how for administration. Even the governmental bodies didn't have enough computers, and I taught local administrative staff how to use Word and Excel as an activity of the project. At the end of that year, the civil war broke out again, and the

project was suspended.

After that, I was transferred to YWWB and did not have opportunities to participate in international cooperation for a while. However, when YWWB decided to implement JICA Partnership Program, to support the Water Corporation of Medan, Indonesia, I visited the site twice in 2019 for preliminary survey. The objective of the program was to improve its capacities for water purification and distribution. However, due to the outbreak and spread of the COVID 19 immediately after the field survey, activities of the project are still not yet be implemented, although we keep in touch with the Indonesian side. At present, I am dedicated to the LisCaP, however, I hope the project for Indonesia will also be active soon.



In Medan, Indonesia

A challenge to making a snow statue

Ms. Taeko Miyashita (JENTEC)

1. Self-introduction

My name is Taeko Miyashita and I joined WaQuAC-Net last year. I was born and raised in Sapporo, north of Japan.



Ms. Taeko Miyashita

After I graduated from university, I got a job at Sapporo city office. My first assignment was the Pollution Inspection Division of the Institute of Public Health. At that time, water and air pollution in Japan was a serious problem. Then, I worked at the Waterworks Bureau and the Sewerage Bureau, and I retired 13 years ago. Of my 38-year career, I worked in Waterworks Bureau for 25 years, and was in charge of water quality management, customer service, and staff training. At the training section I was involved in not only in-bureau training, but also the training of engineers from developing countries through the acceptance of JICA training course.

After retirement, as I believed that my mission was transfer of waterworks technology, I have been providing technical guidance on water quality management in Indonesia, Solomon Islands, Samoa, and Laos as a senior volunteer or an expert of JICA.

Seven years ago, I established a company, JENTEC (Japan Environment Technology Consultant) with a friend, wishing to work until 2030, the target year of the SDGs.

I have a lot of fun memories in various places, this time I would like to introduce the memory of challenging to make a snow statue at the Sapporo Snow Festival with the volunteers who acted together in the Solomon Islands.

2. Memorial Island “Guadalcanal Island”

For nine months from January 2013, I acted in Solomon Islands, an equatorial country, as a senior volunteer of JICA. The Solomon Islands are an island nation with a population of about 500,000, consisting of more than 1,000 large and small islands, east of Indonesia. Although independence from England 44 years ago, it still belongs to the British Commonwealth of Nations, the head of state is Queen Elizabeth, and the official language is English. It is said that the name of the country “Solomon” is derived from the discovery of a gold mine, which might be the treasures hidden by King Solomon of ancient Israel. Actually, one of my work was analyzing wastewater from the gold mine. Guadalcanal Island, where the capital Honiara is located, was the battlefield of World War II, where the Japanese and the US troops clashed. Tens of thousands of Japanese soldiers died. It seems that more people died of hunger, dysentery and malaria than the number of people who died in battle. A group to gather the remains of Japanese soldiers comes to Solomon Islands every year. They gather the remains, wash them, burn them, and bring them back to Japan. Even now, more than 100 sets are found every year.

3. Let's make a snow statue, “Nguzu-Nguzu”!

The Sapporo Snow Festival is a major winter event held in February every year. Large and small snow statues are made and exhibited over about 1.5 km. Citizens could also make small snow statues. I decided to participate in making a snow statue on the Sapporo Snow Festival held in 2015 with JICA volunteers who returned from Solomon Islands. The group named “Solomon Cooperation Team” carved a snow statue of “Nguzu-Nguzu”, the guardian god of battle in Solomon Islands. Solomon Islands’ soldiers attached a wooden carving of the god

“Nguzu-Nguzu” holding a skull to the head of the boat praying the victory of the battle and sailed to the battle field. When staying in the Solomon Islands, I showed to JICA volunteers some photographs of Fish Owl’s snow statue that I made in the past with my friends on the Sapporo Snow Festival. They excited and said “We want to participate in making a snow statue.” That’s why my story started. It was decided that on the 2015’ Sapporo Snow Festival, when the volunteers returned to Japan after completing their two-year term, they gather in Sapporo and make a snow statue of “Nguzu-Nguzu”.

4. Lottery through persistence

The participants in making snow statues by the citizens were selected by lottery. So, we must first break through the difficult lottery. In the lottery held in December of the previous year, more than 700 groups applied for 80 snow statues. How was the result? Luckily, we won the third prize! Winning through persistence! Immediately, I sent e-mail about the result to the volunteers and transmitted “The term for making snow statue is five days from January 30th to February 3rd of 2015. If you cook your own meals by yourselves, I will provide you with my home, so please come even just one day.” One after another, volunteers in Solomon Islands replied, “Yeah! I’ll definitely go.” That’s why I decided to make my home a training camp for the returnees from Solomon Islands and started to prepare their acceptance.

5. Start making a snow statue!

The snow statue is made by carving out a 2m square’s snow cube arranged by staffs of the Snow Festival committee. The subsequent process depends greatly on how much rough

cutting can be done on the first day. In some years when it rains it’s easy to cut, and in other years when it’s frozen it’s too hard. Most Solomon returnees planned to appear after the third day. Participants from the first day were only local oldsters. I was wondering what would happen, but soon after, a rough shape appeared by the wonderful cooperative play, one carved the snow, the others carried it with a snow scoop. I understood it was because they were usually trained to remove snow around their houses.



Start making snow statues with only oldsters!

6. Completion of “Nguzu-Nguzu”!

From the third day onward, returnees from Solomon Islands appeared one after another and entered to the finishing stage. I was worried that some people couldn’t come because of the snow obstacle, but they all arrived without delay. The skull which Nguzu-Nguzu was holding was assigned to the member who participated in the remains gathering in Solomon Islands, the cheek tattoo was assigned to the members of art and handicrafts fields, the earrings were made by two Solomon’s students studying at a university in Sapporo, and a science teacher and a speech therapist adjusted the left-right balance. They all enjoyed touching the snow cheerfully and boisterously. In the last evening, “Nguzu-Nguzu”

was finally completed. We all jumped with joy and took many pictures playing the face of “Nguzu-Nguzu”. That night, we hold a party to celebrate the completion. The director of JICA Hokkaido also participated, and it was a big banquet for a total of 20 people. After the completion party, everyone seemed to be satisfied.



After the completion party, everyone seemed to be satisfied

7. Camp for volunteers was closed

The Miyashita camp was closed on February 5, when volunteers from Solomon left Sapporo. My house was completely quiet. I felt much lonelier because it had been lively until then. How was our “Nguzu-Nguzu” afterward? During the Snow Festival, it rained for several days. Snow statues began to melt. Although many snow statues were pulled down by the staffs of Snow Festival Committee to avoid the danger of collapse, our “Nguzu-Nguzu” was standing firmly. Just as we’d expected, he was the guardian god of battle. He also won the battle against the rain.

*Unfortunately, the construction of the snow statues by the citizens was cancelled last two years due to the corona virus pandemic.



~~~~ Report ~~~~

The 2022 WaQuAC-Net General Assembly, New Year Party and Send off Party for Mr. Ozaki

The 2022 WaQuAC-Net General Assembly, the New Year's Party and Mr. Ozaki's send-off Party were held online on 22nd January 2022. A total of 11 participants were Mr. Ozaki, Mr. Nagashio, Ms. Asami, Mr. Fujitani, Mr. Minami, Mr. Ishibashi, Mr. Sasayama, Mr. Saeki, Ms. Yamamoto, Ms. Yariuchi, and Mr. Ono.

1. The 2022 WaQuAC-Net General Assembly

The general assembly was held on Zoom.

Ms. Yamamoto and Ms. Yariuchi reported on our 2021's activities and accounting. In addition, the action plan for 2022 was discussed and decided. For details, please refer to WaQuAC-Net website.

<https://www.waquac.net/english/index.html>

It was also approved that Mr. Ono join the WaQuAC-NET office member for managing our official Facebook page.

WaQuAC-NET Facebook page

<https://www.facebook.com/WaQuAC.NET/>

2. The New Year's Party and Mr. Ozaki's Send-off Party

We moved to SpatialChat from Zoom to hold the New Year's Party and Mr. Ozaki's send-off Party after the general assembly. SpatialChat app is designed that the voices of people nearby hear

well and the voices of people who are away sound small. So, we could enjoy private conversation and an atmosphere that like a real party.

At the beginning of the party, Mr. Ozaki gave a greeting on his assignment to Nepal. Mr. Ozaki have been assigned to Nepal for two years as a JICA expert from January 26, and he is working for the Ministry of Water Supply. After the greeting, Ms. Yamamoto gave Mr. Ozaki a bouquet of flowers as a surprise. It was like a magic because she gave it him through online. Mr. Saeki of JICA expert who has experience of JICA expert in Nepal gave Mr. Ozaki a greeting of encouragement. From Kagoshima City, Mr. Minami who also has an experience of activities in Nepal gave him a greeting of encouragement as well.

Mr. Ozaki has a long relationship with Nepal. At first, he visited to Nepal by a personal trip in 2000. Then he worked as a JICA expert in 2006-2008. After this experience, he was assigned as a member of various surveys in Nepal.

According to the situation of Nepal at the time of the send-off party, he said that he would be

active online from the hotel for a while due to the Omicron variant of COVID-19, but now he is working face-to-face with C/Ps. Please do the best for Nepal!!

During the party, we enjoyed the conversation with members in some small groups. In addition, we moved freely to deepen the individual relationship. We widely exchanged ideas regarding this year's activities, such as a status of work under COVID-19 and the plans of overseas activities. Time flew by quickly. At the end, Mr. Fujitani gave a closing remark, and the party ended successfully.

It was an online meeting following last year, but by using the SpatialChat app, individual conversations between members were lively. As a merit of online, we were able to talk with people who cannot usually talk in the distance. But after the pandemic, we would like to meet actually at New Year's party next year.

Report: Mr. Yoshinobu Ono
(Yokohama Waterworks Bureau)



Participants of the 2022 general assembly centered on Mr. Ozaki



Question & Answer Corner

We welcome any opinions, and questions to this Q & A Corner. Please contact us.

Q: Please show me an example of cross connection of drinking water supply and its hazard of nitrite contamination against human health. (S.F. Japan)

A:
 Answered by Mr. Yoshinobu Ono, supervised by Mr. Hiroshi Sasayama

I show the example of cross connection between pipeline for air conditioner and drinking water pipeline. It caused nitrite contamination and some babies got methemoglobinemia.

1. Outline of the contamination

10 babies showed symptom of methemoglobinemia in a hospital in Gunma prefecture, Japan, October 2021. The hospital had provided baby formula with drinking water which was supplied by the individual ground water treatment and supply system of the hospital.

Extremely high concentration of nitrate was detected from the tap water. It was concluded that methemoglobinemia was caused by nitrate in the tap water.

The drinking water system of the hospital is an authorized individual water system, used in only the hospital, using ground water with disinfection and roof tank. As the result of surveillance after the trouble, cross connection of water pipeline for air conditioner to drinking water pipeline was found. It had been connected through a check valve since the hospital was newly constructed. It seemed the check valve did not work correctly and water for air conditioner flew into drinking water pipeline. The water for air conditioner was circulated in pipeline system by pumping and contained chemical including nitrate to prevent

corrosion of pipe. No other probable contamination point was found.

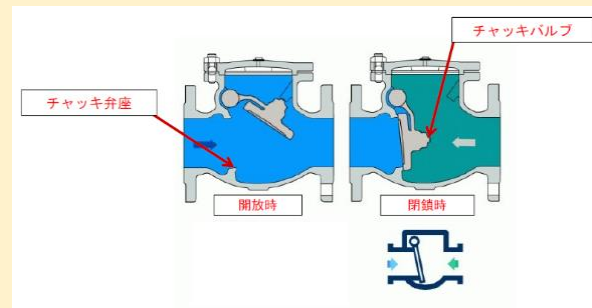


Figure: Mechanism of a check valve (Left: opened. Right: closed)

2. Methemoglobinemia by nitrate and nitrite

Nitrate and nitrite are important parameters to confirm the safe of drinking water quality.

In Japan, standard of drinking water quality, less than 10mg/L as total of nitrate nitrogen and nitrite nitrogen, is legislated.

In 2014, standard value of nitrite, less than 0.04 mg/L, was added independently because its toxicity evaluation was changed.

Nitrite combines with hemoglobin which carry oxygen in human blood to form methemoglobin. Methemoglobin cannot carry oxygen and cells in human body will be in shortage of oxygen. It is methemoglobinemia. The influence of nitrite is severer to babies and infants than adults. When water used for baby formula contains rich nitrite or nitrate, nitrate can be changed to nitrite in stomach of babies and infants because their stomach secretes less gastric juice and more nitrite is formed. Then they get much methemoglobin and finally reach to cyanosis, a symptom that skin or mucous membrane color

seems blue by lack of oxygen in blood. It is also called as blue baby syndrome and might cause serious damage on human health.

3. Countermeasures

The hospital separated drinking water pipeline and air conditioner pipeline and washed inside of drinking pipelines.

Fundamental cause of the trouble is the connection between drinking water pipeline and air conditioner pipeline. Though a check valve is installed at the connection point, such connection can contaminate drinking water when the valve malfunctions. Water line for air conditioner of other facilities must be independent from drinking water pipeline.

Introduction of new members

- Shailaja Adhikari (Nepal)
- Toshiyuki Hiroe (Japan)
- Kazunori Nakai (Japan)

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

WaQuAC-NET Newsletter Vol.53

Issued on May 30, 2022,

WaQuAC-Net Office

E-Mail; waquac_net@yahoo.co.jp

(Yariuchi, Yamamoto)

URL: <https://www.waquac.net/english/index.html>

Next Activity

June: The 11th Webinar

July 15: Newsletter vol.54 (in Japanese)

August 5: Newsletter vol. 54 (in English)

August: The 12 Webinar