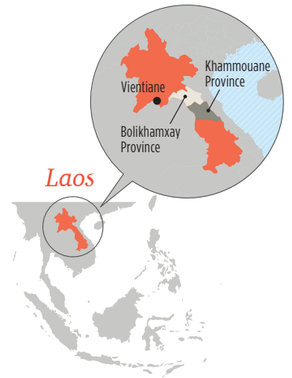
Workers digging a ditch on the roadside for laying a water pipe in a village of Thakhek District, Khammouane Province. It is planned to extend the pipeline 33km in the district.

Transmitting the 'Mindset' that Supported Japan's Waterworks

In Laos, located in Southeast Asia, 80% of the population does not have access to tap water. Expansion and renewal of waterworks facilities are matters of the highest urgency.
To support establishing a system in which waterworks can be operated in a planned way, Japan's local governments decided to offer their expertise. In a heartfelt cooperation between the trainers and trainees, they share a common pride as waterworks professionals.



TOGETHER WITH THE WATERWORKS IN LAOS MORE THAN 20 YEARS OF COOPERATION

Late March in Laos is the hottest season in the year. In the oppressive heat, the workers are digging the roadside ground, with sweat on their foreheads. In the narrow, elongated ditch extending at their feet, a brand new water pipe will soon be installed, and tap water shall be distributed to each household in this village for the very first time.

This is a small village in Thakhek District, Khammouane Province, about a five-hour drive from the Laotian capital of Vientiane. A woman who secures her daily water from a well says, "What troubles us is that we have no water during the dry season. If we have tap water, I expect our lives will be more convenient."

The coverage of water supply system in the urban area of Thakhek District as a whole is as low as 50%. The existing water treatment plants are getting decrepit. In such circumstances, a new water treatment plant which was built with the help of Japan's grant aid, started operating in January 2016. The supply capacity increased from 6,500 tons per day to 17,000 tons. In the near future, tap water is planned to become newly available to 25,000 inhabitants of the district.

"The staff members are vibrant at work, since the completion of the new water plant," says Khanngeun Sengiem, General Manager of Khammouane Province Water Supply State Enterprise (WSSE). He has a Japanese work partner, Masahiro Shimomura, a JICA expert who retired from the Saitama City Waterworks Bureau last year. They say they consider each other like a 'brother.'

The Saitama City Waterworks Bureau and Laos have a deep connection. The beginning of cooperation dates back to 1992, and many of the bureau's staff members including Shimomura have been involved in various initiatives such as a project to extend a water treatment plant and a mutual trainee-dispatching program. "Mr. Shimomura and I met for the first time in 1994, when he was working here as a short-term expert. We have known each other for more than 20 years. He taught me how to collect waterworks-related data, how to plan, and many other things," explains Khanngeun.

Under a Prime Minister's decree, Laos aims to achieve the 80% water supply coverage in urban areas by 2020. However, the rate as of 2010 was merely 55%, and even the recent acceleration of urbanization is pushing up the demands for water. For further extension and renewal of waterworks facilities and securing investment funds to make it possible, it is indispensable that each of the WSSEs in all of the 18 capital and provincial governments operates in accordance with the business plans made by themselves, and tries streamlining by analyzing and evaluating the project results.

In order to meet such needs, a Japanese technical cooperation project called 'MaWaSU Project' was launched in 2012, focusing on human resource training for the staff of WSSE. With Shimomura as a chief advisor, this five-year project is proceeding, with WSSEs of Vientiane Capital, Luang Prabang and Khammouane Provinces as three pilot WSSEs.

Left: A new water treatment plant in Thakhek District. It was completed three years after construction had started.
Right: Even in the Vientiane Capital where the availability rate of tap water is relatively high, water supply often gets cut during the daytime. Therefore, many households have large tanks to store water during the night.

Shimomura (second from left) giving an OJT at Vientiane Capital WSSE. He shows the trainees in the sessions that it is possible to secure some funds by streamlining the project.

Saiki explaining how a digital map is built. For making the facility management more efficient, he introduces digital mapping and work on improvement of its accuracy.

WITH PASSION FOR INTERNATIONAL COOPERATION IN MIND THE CIRCLE OF COOPERATION EXTENDS

The project delivers, through on-the-job-training (OJT), a wide range of techniques and know-how from the water source to tap such as planning, designing, maintenance and water quality management. At the Vientiane Capital WSSE where 20 of their staff members participate in the project, Shimomura was giving some instructions.

"Why did the amount of water supply drop sharply only for this month? It's important to seek the reasons, rather than just collecting figures." During the OJT, a staff member in charge reported the data of the amount of water that was sent out from the treatment plant to distributing pipes, as well as the amount that was actually provided to users and was subject to being charged a fee. The difference between the two figures is called 'Non-Revenue Water,' namely the water that is lost before reaching users due to leakage and other reasons. The training held a discussion on reduction target and measures to be taken for the non-revenue water. "Waterworks is not something one can operate with feelings; data management is important more than anything. In addition to an improvement of data collection and analysis capacities, I put emphasis on change in the consciousness as to why these are necessary," stresses Shimomura.

Khampheuy Vongsakhamphoui, General Manager of the Vientiane Capital WSSE. "Although we are now the recipient of assistance from Japan, I hope one day we will become mutual supporters."

During the OJT, a man was fervently taking notes. It is Takashi Saiki, an expert of the project, who has worked for the Matsuyama City Municipal Enterprise for more than 20 years. He joined the project in February 2016 and is supposed to gradually take over the OJTs at the pilot WSSEs from Shimomura.

Saiki had long dreamed of taking part in international cooperation in the field of waterworks. "My turning point was when I participated in the Japan Overseas Cooperation Volunteer (JOCV) program about 10 years ago, while belonging to the city government. As I had been involved in making digital maps for managing waterworks facilities and pipe networks for a long time, I trained the staff in charge of managing the Angkor archaeological sites in Cambodia and taught them how to utilize digital maps." Saiki says he took pleasure in building up something from scratch together with local people. This time round, he volunteered to participate in this project, wishing to contribute using more of his expertise.

For Laos, this project which encompasses the entire waterworks industry is of unprecedented scale. For this reason, in addition to Shimomura and Saiki, the project involves staff members as short-term experts from the Public Enterprise Bureau, Saitama Prefectural Government, Kawasaki City Waterworks Bureau, and Yokohama Waterworks Bureau, City of Yokohama, bringing in knowledge and expertise of each municipality. Saiki says enthusiastically, "Like any other municipal government, Matsuyama City is not well-staffed. Nonetheless, my superior gladly agreed with my participation, saying 'your experience on a world stage will bring in some fresh air to the rest of the staff members here.' I am hoping to contribute to the achievement of the project objectives even a little."

"ONCE IMPURE OBJECTS SINK, HERE IS DRINKING WATER" REALITY OBSERVED IN RURAL VILLAGES

Shimomura guided to Thonami Village in Bolikhamxay Province, which is in the vicinity of the Vientiane Capital, saying "I would like to show the water situation in rural areas too."

A well used in the Thonami Village in Bolikhamxay Province. Livestock roaming around the well pose a sanitation problem.

In the case of a villager, his family shares one well with four other families. "We leave the water from the well in a container for a while. Then, once the dirt and other substances sink, we take the supernatant and use it for cooking and drinking," he explains. During the period of the dry season when there is no more water in the well, he goes to a nearby river for laundry. "Tap water is expensive and unnecessary. We have clean ground water and that's enough," another villager says; however, on the surface of the water she was using, there were some white impure substances floating. It seems difficult for them to imagine what it is like to have tap water. It is not an easy task to spread the use of tap water in such an environment.

The Lao government has also started to strengthen their efforts. In December 2015, the Department of Water Supply (DWS) was newly established within the Ministry of Public Works and Transport (MPWT), and 'water supply development in the rural areas' was set as one of the policy issues. Phomma Veoravanh, Director General of DWS, says, "First of all, it is necessary to increase capacities of the WSSEs to raise funds by themselves. At the same time, we plan to consider the establishment of investment funds for WSSEs development."

In order to spread the achievement of the pilot WSSEs to all the other parts of the country including rural areas, in the MaWaSU project, guidelines are being made and a training system is being constructed. However, providing water service in rural areas has difficult issues that are different from that of urban areas: it is inefficient because users are few and spread apart, and they are economically poor. Shimomura says, "Many people live without tap water. I always try to be mindful that we are working for those people."

"IT'S OUR TURN TO SPREAD IT NATIONWIDE" SHIFT IN CONSCIOUSNESS OF THE STAFF

"Initially, when asked if Laotian tap water was potable, local WSSE staff said 'no.' That was the point of departure, but now, they answer 'we will make it potable,' to the same question." Three and a half years since the project started, Yusuke Kinoshita, an expert in charge of project coordinator, says that he finds the consciousness of the staff is shifting.

A system to make a business plan based on estimated water demand and prospect of financial balance, and to do monitoring is being developed. Khamla Vongphachanh who takes care of managing water meters in the Vientiane Capital WSSE, says, "I learned the importance of managing data and renewing meters in a planned manner. The OJT-based training helps me understand better the situation in the field."

There are newly introduced activities, too. One of them is a water user survey. Ongxiong Tongnammavong, a customer service official, explains, "We learned about what the customers think of the price, and the reasons why they feel expensive, for those who answered so. This is a good reference for improving our work." In addition, they launched a waterworks education class to teach the importance of tap water to primary school pupils, which obtained favorable reputation from children as well as their parents.

The training center attached to Chinaimo Water Treatment Plant. The wide-ranging techniques and methods such as the mechanism of water meter, how to connect and repair water pipes, using the real equipment are taught here.

Now, the staff members of the pilot WSSEs have already begun to think about extending the work nationwide. What they often say is "It is our turn to pass on what we learned from the Japanese experts to the colleagues in other provinces." In a training center in Vientiane, the textbooks which were created with the help of Japan in the past are carefully stored. There, the staff of the pilot WSSEs are expected to be trainers, and provide younger staff with training.

To make potable water available out of tap for everybody is Shimomura's ultimate dream. "This time, I came here, determined to leave everything I had learned at Saitama City Waterworks Bureau for over 40 years. This is also to conclude my life as a waterworks specialist. I intend to keep offering my support to people of Laos, which is my second home."

The water supply colleagues, 'Water Family,' come together from Laos and Japan with a common mission. The way they work together, bonded with mutual trust, makes us feel hopeful.

A waterworks education class held at a primary school in Vientiane. The pupils learned how to treat water to make it potable.