

Fiscal Year 2023 Activity Report

The activities of the Japan Sanitation Consortium (JSC) outlined below are as stipulated in Article 4 of JSC's Term of References.

- (1) Networking
- (2) Information gathering
- (3) Knowledge dissemination and information sharing
- (4) Support to international donor organizations

In FY 2023, the new coronavirus infection (COVID-19) was changed to a type 5 infectious disease. As a result, business activities requiring exchanges with countries and people overseas gradually resumed with composure.

1 . Networking

Cooperation with international organizations, creation of a network with sanitation-related organizations and bodies from each country.

1 - 1 Networking activities commissioned by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

The following activities were conducted for the work commissioned by the Ministry of Land, Infrastructure, Transport and Tourism, titled "*Study of measures to promote overseas expansion in the sewerage field*" (execution period: 13 April 2023 to 15 March 2024; joint venture between JSC and MRI Research Associates, Inc.).

Study on Sewerage Development Status Overseas

JSC members have conducted a study to gather the basic information needed to understand the water business market, focusing mainly in the Asian region (including sewerage market trends, status of policies and plans related to sewerage development, legal system development trends, technical standards and guidelines, implementation status of sewerage development projects, and technical needs). In addition, JSC examined the technologies in which Japan has an advantage and the possibilities for Japanese companies to enter the water business market.

Operational Support at Intergovernmental Conferences and Technical Seminars

JSC provided the necessary support for operations including the consideration of issues to be addressed at the following intergovernmental conferences and technical seminars based on

local conditions in the Asian region. JSC also contributed for the preparation of conferences and related materials, and brought operational assistance.

- 1 August 2023: 3rd Asia Wastewater Management Partnership (AWAP) General Meeting and Technical Seminar
- 3-4 August 2023: Viet Nam Study Tour

In addition, two JSC members joined the 2nd Stakeholder meeting of the 10th World Water Forum held in Bali, Indonesia, on 12 and 13 October 2023, to gather information and coordinate for the hosting of a session and for securing presentation slots in the Thematic and Regional Processes (Asia-Pacific region).

Examination of Measures for Overseas Expansion of Japanese Sewerage Technologies

The JSC secretariat has summarized and reviewed former activities to grasp the utilization status of Japan's sewerage technologies through the Wonder of Wastewater Technology of JAPAN Project (WOW TO JAPAN Project) conducted by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) in past years. Based on these results, the approaches and improvement measures for futures WOW TO JAPAN projects have been sorted out.

In addition, looking ahead to spread Japan's sewerage technologies overseas in the near future, the secretariat conducted a study to consider and find technologies that could replace pipe the jacking methods. The study was conducted from 2019 to 2022 at a time when exchanges with overseas countries was difficult due to the impact of COVID-19. Based on the study results and the state of overseas water business, the following perspectives regarding the discovery of Japanese sewerage technologies were identified: 1. consider technologies that have advantages, 2. technologies that allow collaboration with domestic companies, 3. technologies that are used on numerous locations in each city of Japan, and 4. technologies that are expected to be in need in the near future. Evaluation was made considering the following items: necessity, uniqueness, expectancy, continuity, collaborative creativity and strategy.

1 — 2 Networking with the Japan International Cooperation Agency (JICA)

On 28 July 2023, JICA's Global Environment Department (with Deputy Director General Akihiro Miyazaki and two of his colleagues) and JSC (with Director Masanori Hatada accompanied by five JSC members) exchanged opinions on the following topics.

- (1) Actions in the 10th World Water Forum
- (2) Improvement of decentralized wastewater management in India
- (3) JICA action plan for international wastewater management

First, JSC explained the status of (1), the exchange of information with the local JICA office and the arrangements made for the participation at the 10th World Water Forum scheduled in 2024.

Regarding (2), JSC provided information about the considered legislation on the reuse of treated effluent in Telangana State (Hyderabad City), with the aim of improving water management and solving shortages using the decentralized wastewater management system in Japan as a reference. At the request of the Asian Bank Development Bank Institute (ADBI), JSC dispatched members to conduct a study and field assessment in Telangana State. In line with this work, JSC members exchanged information on human resource development and inquired about the possibility of JICA's participation through a related project.

Regarding (3), opinions were exchanged on the expectation of JSC's participation and support in JICA events. JICA introduced examples of wastewater treatment in Fiji and information on the formulation of a master plan for wastewater treatment in Pokhara, Nepal's second largest city. Finally, JSC provided information on the 3rd AWaP General Meeting and the latest information on the overseas expansion of Johkasou.

2. Information gathering

Creation of a sanitation database for the Asia-Pacific Region and execution of country assessments for sanitation improvement in each country of the region.

2 — 1 The 31th Governing Council Meeting of the Asia-Pacific Water Forum (APWF)

The 31th Governing Council Meeting of the Asia-Pacific Water Forum was held in Singapore on 18 January 2024. In this meeting Ms. Changua WU was officially appointed as the new chairperson of the Governing Council.

The meeting agenda consisted of the following items:

1. actions and program of the Asia-Pacific region at the 10th World Water Forum,
2. review of the United Nations Framework Convention on Climate Change at COP 28, and the activities of the Asia-Pacific Water Forum network, and
3. plan for the 2024 Stockholm World Water Week.

In relation to the meeting agenda 2, the Asia-Pacific region is divided into five sub-regions (Pacific Islands, West Asia and the Caucasus, Northeast Asia, Southeast Asia, and South Asia). For JSC, Dr. Pierre FLAMAND and Mr. Kazuki UEMATSU (Sewerage Business Management Centre) attended to secure the organization of a session or presentation slots in the sessions of the Southeast Asia and South Asia sub-regions, which are of high interest for Japan.

2 — 2 Participation at the Quick-off Meeting (2st Stakeholder Consultation Meeting) of the 10th World Water Forum

The 10th World Water Forum (WWF) organized by the World Water Council (WWC) is planned to be held in Bali, Indonesia from 18 to 24 May 2024. To proceed with the preparation of this event, the 2nd Stakeholder Consultation Meeting took place in Bali, Indonesia on 12 and 13 October 2023. Dr. Pierre FLAMAND and Mr. Kazuki UEMATSU participated at this meeting for JSC.

The Thematic Process of the 10th World Water Forum has been divided into 6 sub-themes and JSC selected sub-theme T2: *“Water for Humans and Nature”*. More specifically, there are 5 topics in T2 and JSC chose to participate in topic 2D: *“Access to water sanitation and hygiene (WASH) for all”*. For this topic, three sessions have been created and the JSC secretariat expressed interest as session organizer for the session T2D3, titled: *“Toward a circular economy transition through safe collection, treatment and resource recovery of wastewater and fecal sludge”*.

Following the Stakeholder Consultation Meeting, the T2D topic group coordinator contacted JSC for the hosting of session T2D3 with ONAS (Office National de l’Assainissement du Sénégal) and SNV (Stichting Nederlandse Vrijwilligers) as co-hosts. Furthermore, UN Habitat (The United Nations Human Settlement Programme) and pS-Eau (Programme Solidarité Eau) were added as session member organizations.

3 . Dissemination of knowledge and information sharing

Diffusion of knowledge in sanitation and experiences from developed countries; organization of international seminars to exchange information and share knowledge with developing countries.

3 — 1 Participation and role in the Asia Focus Theme, Stockholm World Water Week

The Stockholm World Water Week 2023 was held from 20 to 23 August under the theme of *“Seeds of Change: Innovative Solutions for a Water-Wise World”*, focusing on innovations in the face of unprecedented challenges. 15,000 people, of whom 52% were women and 42% were under 35 years of age, from 193 countries and different regions of the world registered to this event, which aimed at encouraging the rethinking of the way water is managed.

JSC, in collaboration with the Asian Development Bank (ADB), the Bill and Melinda Gates Foundation (BMGF) and the Asia-Pacific Water Forum (APWF), held a 90-minute session on 23 August. The session, titled *“Breaking with Business as Usual: Sanitation Innovations in the Asia-Pacific”*, was attended in-person by 30 persons and online by 45 persons.

Later at the 2nd Stakeholder Consultation Meeting of the 10th World Water Forum (12-13 October 2023), the JSC secretariat gathered preliminary information and exchanged opinions regarding the expression of interest in the forum’s sessions by the participating members.

3 — 2 11th Workshop on Decentralized Wastewater Treatment in Asia

Continuing from the previous years, the Ministry of the Environment of Japan supported and hosted the “11th International Workshop on Decentralized Wastewater Treatment in Asia” on 28 November 2023 to share information and build networks among Asian countries, and also to promote the spread of decentralized wastewater treatment systems in Asia. From JSC, Dr. Shinhi KUMOKAWA (Japan Education Center of Environmental Sanitation, JECES: a member organization of JSC) and Dr. Yurie SHIRAKAWA (JECES) participated at the event, while Dr. Pierre FLAMAND moderated the seminar.

234 people from 33 countries registered for this workshop, while being attended by 146 people from 23 countries with the majority of participants being from India. Registrants were provided a 12-item questionnaire survey, including questions such as: “Do you know Johkasou?”, “What is the most popular decentralized wastewater treatment facility in your country?”, and “Are you interested in reusing treated effluents, including for drinking water purpose?”.

The result of this survey indicated that approximately 70% (163/234) of the people knew about Johkasou, that at about 50% (119/234) the most prevalent decentralized wastewater facility in their country is the septic tank followed by the Johkasou at about 20% (51/234). Approximately 85% (198/234) responded that they were interested in reusing treated effluents and about 25% (59/234) participants were positive at the idea of using it as drinking water.

4. Support to international aid organizations

Organization of training courses on sanitation, execution of assessments for projects, advice for the selection of appropriate technologies, and provision of experts to international donor organizations, such as ADB and JICA.

4 — 1 Study for the Improvement of Decentralized Wastewater Treatment in Telangana State (Hyderabad City), India, by Strengthening Collaboration with the Bill & Melinda Gates Foundation (BMGF) and the Asian Development Bank Institute (ADBI)

The sewerage system of Hyderabad City, capital of the state of Telangana in India, was developed with the assistance of Japan. The current study, for which JSC was requested support from the Asian Development Bank Institute (ADBI), was conducted in response to a movement for the improvement of on-site wastewater management and the promotion of water reuse based on the legal and institutional system of Japan’s on-site wastewater treatment system, targeting commercial buildings on the city outskirts where the municipal sewerage system is not available. To ensure that JICA and ADBI provide a suitable support in line with this movement, JSC conducted a preparatory study taking advantage of the consortium’s characteristics, which

comprises organizations specialized in centralized wastewater and decentralized wastewater management. This cost of the study was borne by ADBI.

The study was planned and coordinated by Mr. Kazuki HASHIMOTO, and consisted of the four following items. The study was conducted in January 2024 and assigned to the following JSC members with the specific and needed knowledge for each of the study items: Dr. Pierre FLAMAND and Mr. Katsuyoshi SUDO for item (3), Dr. Shinhi KUMOKAWA and Dr. Yurie SHIRAKAWA for item (2), and Dr. Yurie SHIRAKAWA and Ms. Ayako SUZUKI for item (4). In addition, Mr. Takashi SAKAKIBARA (Yachiyo Engineering Co., Ltd.), who is familiar with sewerage in India, and Mr. Anil KUMAR (Nippon Koei India), who has good knowledge on the situation in Hyderabad City, were added to the study team for item (1).

(1) Wastewater reuse in Hyderabad Metropolitan Region and the effluent regulations in Japan and India

(2) Regulation and monitoring of the design and the installation works of on-site sanitation and wastewater treatment plants in Japan

(3) Sludge management of on-site sanitation systems and on-site wastewater treatment systems in Hyderabad Metropolitan Region

(4) Improvement of the operation and maintenance and performance monitoring of on-site wastewater treatment systems in India

Study (1) involved the verification of the situation and the effects of the water environment restoration through the supply of treated effluent to the lake (20,000 m³/day from membrane treatment), which was carried out for 3 years starting in 2005 as part of the Yen Loan Project, titled: *“Hussain Sagar Lake and Catchment Area Improvement Project”*. As a result, it was found that facility management was being conducted appropriately and that water quality had greatly improved, while having a positive effect on the citizens' awareness. From the observed situation, JSC has made arrangements to ensure a presentation slot for the Indian side at the session on circular water management of the 10th World Water Forum.

Study (2), (3) and (4) targeted areas outside the city of Hyderabad that are not connected to the municipal sewerage system.

In the targeted areas where office buildings such as IT parks and large-scale housing complexes have been constructed, wastewater is treated by on-site wastewater treatment plants and all the treated effluent is reused. In order to promote such practice, there is a movement for developing regulations for on-site wastewater management based on water quality standards for treated effluent, structural and performance evaluation standards for on-site wastewater treatment systems (OWTS) in Japan. The team also conducted an assessment and discussed about the registration of Johkasou businesses, the structure for the maintenance inspection qualification, and the treatment and disposal of sludge.

5. Other activities

5 – 1 Participation at ISO/TC224 General Meeting and Working Group (WG) 8 (On-site Domestic Wastewater Management) and WG 10 (Flushable Products)

The general meeting of ISO/TC 224 “*Drinking Water, Wastewater and Stormwater Systems and Services*”, the Coordinating Group (CG) meeting, WG 8 and WG10 meetings were held at the French Standardization Association (AFNOR) in Paris from 26 to 30 June 2023. Dr. Pierre FLAMAND joined the general meeting and all the other mentioned meetings, while Dr. Shinhi KUMOKAWA participated at the WG 8 meeting. The WG 10 meeting was also joined online by Mr. Nobuyuki HORIE (ISO/TC 224 Sewerage Domestic Task Force Committee Chair) and in-person by Mr. Kenzo SATO (Technical Division Director at the Japan Sewage Works Association). WG 8 held a two-day meeting on 19 and 20 March 2024 to revise ISO 24521 and proceed with the registration of this document as DIS (Draft International Standard).

At the two-day meeting of WG 10 was discussed the table of contents, the label description, the test methods assessing the products that can be flushed down the domestic toilet. The following WG 10 meeting was held on 10 and 11 January 2024 in the United States. Discussions included a change of title, addressing the received comments for the Working Draft (WD), the handling of the test methods, and the change to a Committee Draft (CD). In addition, the WG members made adjustments for future schedules and many expressed interest in having the next WG meeting in Japan.

5 – 2 Lectures and Support for JICA Thematic Training Courses

5 – 2 –1 JICA Thematic Training Course (Sewerage and Urban Drainage Management)

In recent years during the pandemic the JICA thematic training course (Sewerage and Urban Drainage Management), has been conducted online to prevent the spread of Covid-19. It was restarted in-person and held in Japan from 26 September to 25 October 2023 with the participation of 9 trainees from 9 countries.

This course received great support from the Japan Sewage Works Agency for lectures and practical training on sewerage planning and wastewater treatment. In addition, Mr. Kazushi HASHIMOTO, Mr. Akira MORITA, Dr. Shinhi KUMOKAWA and Dr. Pierre FLAMAND gave lectures and Mr. Kazuki UEMATSU from the Sewerage Business Management Centre made a presentation using the original training material made by JSC on local sewerage development support in Japan and human resource development.

Furthermore, JICA and JSC held a “*GCUS Company Seminar*” which introduced Japan’s sewerage technologies with a focus on demonstrations technologies from WOW TO JAPAN

delivered by 6 GCUS members companies. After the seminar, an opinion exchange meeting was held to secure business matching opportunities.

5 – 2 – 2 JICA Thematic Training Course (Introduction and Dissemination of Decentralized Wastewater Treatment Systems)

This course was held at the JICA Kyushu Center from 24 August and 15 September 2023 with 11 trainees from 10 countries. From JSC Mr. Kazushi HASHIMOTO and Dr. Pierre FLAMAND gave lectures and advised the trainees for their action plan.