

Fiscal Year 2022 Activity Report

The activities of 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 2022, as in previous years, travel to and from overseas continued to be difficult due to the impact of the new coronavirus infection (COVID-19). As a result, several scheduled meetings and events have been cancelled or changed to web meetings.

1 . Networking

Cooperation with international organizations, creation of a network of 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: April 2, 2022 to March 17, 2023; joint venture between JSC and the MRI Research Associates, Inc.).

① Survey on Sewerage Development Status Overseas

Basic information (development status of sewerage systems, current issues, technical needs, market competition, etc.) focusing on the participating countries of the Asia Wastewater Management Partnership (AWaP), which are mainly located in Southeast Asia (Cambodia, Indonesia, Myanmar, the Philippines and Vietnam), were sorted out and a questionnaire survey was carried out to understand the challenges for the utilization and spread of Japan's sewerage demonstration technologies (WOW TO JAPAN) in foreign countries.

② Operational Support for Intergovernmental Conferences

Necessary support was provided for the examination of issues to be addressed in the following bilateral intergovernmental seminars based on the local conditions in the targeted

foreign countries (2 countries/cities, mainly in Asia), for the preparation of conference materials and the holding of these conferences, and for operational assistance, etc.

- August 25, 2022 Japan-Vietnam Intergovernmental Conference, Japan-Vietnam Technical Seminar
- October 25, 2022 Japan-Canadian intergovernmental conference, Japan-Canada Technical Seminar

In addition, the 4th APWS (Asia-Pacific Water Summit) took place in Kumamoto City on April 23, 2022. The parallel thematic session No. 5 (Water and Sanitation/Wastewater Management) was held in-person and online.

③ **Examination of Measures for Overseas Expansion of Japanese Sewerage Technologies**

In addition to clarifying the linkage between the sustainable development goals (SDGs), the goals set by countries around the world for realizing carbon neutrality, the trends in international standardization in the sewerage field, and Japanese sewerage technologies, the knowledge and platform to be utilized based on Japan's achievements were sorted out by time periods, and a roadmap was compiled.

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

On June 16, 2022, JICA's Global Environment Department (with Deputy Director General Akihiro Miyazaki and three of his colleagues) and JSC (with Director Masanori Hatada accompanied by five JSC members) exchanged opinions on the following topics.

- ① Expectations of JSC in relation to the promotion of CWIS (Citywide Inclusive Sanitation) and JCCI (JICA Clean City Initiative); areas in which JICA is working on,
- ② Concretization of water and sanitation-related investments in relation to the support of 500 billion yen over the next five years – which the Japanese Government committed to provide in the Kumamoto Declaration of the 4th Asia-Pacific Water Summit – and coordination and collaboration with related ministries and agencies
- ③ Discussion on the prospect of JICA future activities as international travel is expected to return to better conditions with the expected weakening impact of the Covid-19 crisis.

First, JICA and JSC explained the status of their respective projects. Regarding (1), JICA has decided through the JICA Clean City Initiative (JCCI) to raise the priority of policies in the field of environmental management and infrastructure development in developing regions based on the judgment of senior administrative officials, and to promote concrete initiatives aiming at the realization of “clean cities”. Among this, JSC is expected to provide advice as an expert organization on wastewater, especially sludge management for the CWIS initiative. (2) is achievable in light of the scale of JICA's current assistance in the water sector. Regarding (3), it

was explained that activities have resumed overseas, and that overseas participants are being invited to Japan for training.

Finally, the meeting was concluded with the decision to deepen cooperation between JICA and JSC through the exchange of information and opinions in the near future.

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 29th Governing Council Meeting of the Asia-Pacific Water Forum

The 29th Governing Council Meeting of the Asia-Pacific Water Forum was held in Singapore on July 27, 2022. The meeting was held both in-person and online with the participation of the Asian Development Bank (ADB), the Japan Water Forum (Secretariat of APWF), the International Water Center (IWC), the Global Water Partnership (GWP), the World Toilet Organization, representatives of Kumamoto City among other participants. For JSC, Dr. Pierre Flamand (Manager of International Affairs) attended the meeting, which included the following topics.

- ① Report on the 4th Asia-Pacific Water Summit (held in Kumamoto City) and feedback for improvement,
- ② Action plan of the Asia-Pacific Water Forum for the next three years,
- ③ Implementation of the action plan and future steps (discussion),
- ④ Information exchange with members of the Asia-Pacific Water Forum.

During the 4th APWS, Kumamoto City gathered 5,488 participants (as of April 27, 2022), nine parallel sessions, in which were presented successful cases produced by the participating organizations. APWF proposed the creation of an action plan based on the Kumamoto Declaration, which calls for "Transformation towards a quality-oriented society." ADB reported that the Asia-Pacific region is the most affected by climate change in the world, and has prepared an investment of 132 billion yen for countermeasures. It was explained that a hub for recovery (Asia and the Pacific Water Resilience Hub) would be established. In addition, there were announcements from UNESCO, UN ESCAP, GWP (Global Water Partnership), and Tajikistan, which is the co-host of the UN 2023 Water Conference.

JSC introduced the activities of the WES-Hub and AWaP (Asia Wastewater Management Partnership) as a support organization, as well as the contribution of JSC in the planning and implementation of training courses based on the concept of CWIS (Citywide Inclusive Sanitation) for human resource development, in collaboration with the Asian Development Bank Institute (ADBI) and Toyo University.

2 — 2 ADBI-Stanford University Country Policy Dialogue on Innovative Solutions for Achieving City-wide Inclusive Sanitation (CWIS)

The event is part of a Bill and Melinda Gates Foundation (BMGF)-funded policy research on sanitation at the Asian Development Bank Institute (ADBI) and Stanford University.

The policy dialogue was held on April 6, 2022. First, Professor Naohiro Kitano of Waseda University made a presentation on "Sewerage development in China with Japanese ODA", followed by presentations by Indonesia, the Philippines, Bangladesh, Pakistan, and Nepal. The one-day virtual policy dialogue session was held with the participation of relevant parties such as Ms. Megumi Muto, Senior Deputy Director of the Japan International Cooperation Agency (JICA), as the chairperson; Mr. Jun Tsumori, Director of Sewerage Department, Ministry of Land, Infrastructure, Transport and Tourism; Mr. Kazushi Hashimoto, Advisor of JSC, and Dr. Pierre Flamand attended. Recommendations based on this dialogue were reported at the 4th Asia-Pacific Water Summit (4th APWS).

2 — 3 Participation at the Quick-off Meeting (1st preparatory meeting) of the 10th World Water Forum

The 10th World Water Forum (WWF), organized by the World Water Council (WWC), will be held in Bali, Indonesia from May 18 to 24, 2024. The Quick-off Meeting (1st preparatory meeting) was held in Jakarta, Indonesia on February 15 and 16, 2023, with the participation from JSC of Dr. Pierre Flamand and Mr. Hirokazu Iwasaki (Director of the International Affairs Department of the Japan Sewage Works Agency, JS). In addition to participating in the preparatory meeting, Mr. Iwasaki was guided by Mr. Matsuo Tanaka, a JICA expert deployed to Indonesia from JS, to inspect the Jakarta Sewerage Project Area and hold meetings with the country's relevant parties.

The Quick-off Meeting was attended by about 1,300 participants (90% of whom were from Indonesia) from 56 countries. Sessions for the thematic, regional, and political processes and their preparatory steps were introduced and discussed. Themes such as "Integrated Water Resources Management", "Safe Drinking Water", "Integrated Sanitation Management", and "Water Quality Conservation and Restoration" were selected for the thematic process, and JSC representatives volunteered to serve as theme or session coordinator. The influence of France as the leader of the World Water Council was palpable during the Quick-off Meeting, while the Asia Water Council from Korea showed interest in leading the Asia-Pacific Regional Process by strengthening its presence with the presentation of its activities during the plenary session of the Regional Process.

In the near future, other related countries and organizations will most likely join the discussion, and the selection of coordinators and presenters for the Thematic and Regional Processes will be decided through events such as the Stockholm World Water Week in August 2023, and the 2nd

preparatory meeting scheduled to be held in September or October. The selection of theme and session coordinators is expected to be finalized around January 2024.

3 . Dissemination of knowledge and information sharing

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

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

During the Stockholm World Water Week (August 23-September 1, 2022), JSC, represented by Dr. Pierre Flamand, participated in one of the Asia Focus sessions hosted online by the Asia-Pacific Water Forum (APWF), giving a presentation titled "Wastewater Treatment and Reuse in Japan: The Case of Sakai City". During the questions and answers session, Dr. Flamand reminded that water reuse is one option to deal with the problem of water shortages (especially for agricultural use) in developing countries but, to safely do so, that wastewater treatment needs to be given higher priority.

3 – 2 Hosting of Parallel Thematic Session 5 at 4th Asia-Pacific Water Summit

The 4th Asia-Pacific Water Summit was held in Kumamoto City in April 23 and 24, 2022. The theme of this summit was " Water for Sustainable Development: Best Practices and the Next Generation ". The Ministry of Land, Infrastructure, Transport and Tourism, and the Ministry of the Environment jointly hosted a session, titled "Toward the Realization of Appropriate Wastewater Management to Contribute to Sustainable Development".

The conference began with opening remarks from Mr. Nobuhiro Nakayama, State Minister of Land, Infrastructure, Transport and Tourism, and Mr. Yasushi Hosaka, Parliamentary Vice-Minister of the Environment. State Minister Nakayama emphasized that central and local governments should commit to strong governance for wastewater management, while Parliamentary Vice-Minister Hosaka said that appropriate wastewater treatment facilities need to be developed and partnerships between countries strengthened.

In the first half of the session, Mr. Seiichi Onodera of the Japan International Cooperation Agency (JICA) gave a keynote speech on sustainable sanitation improvement, titled "Development of Wastewater Treatment Facilities that Contribute to Sustainable Development, Operation, Maintenance and Cooperation with Stakeholders". Next, Dr. Avi Sarkar of UN-Habitat gave a lecture on the achievement of the SDGs titled "Access to Adequate and Equitable Sanitation and Hygiene Facilities and Improvement of Water Quality".

In the second half of the session, Professor Taku Fujiwara (Department of Urban Environmental Engineering, Graduate School of Engineering, Kyoto University), moderator of

the session, chaired the discussion with the panelists. He presented various experiences and challenges faced for accelerating the progress of SDG 6.3 as well as promotion measures.

In conclusion, Prof. Fujiwara summarized the three integrated sessions on governance, finance, and science and technology and made a proposal containing the key messages mentioned above.

For this session, Dr. Pierre Flamand of JSC was in charge of the overall proceedings. The number of participants reached 27 at the venue and 96 online.

3 – 3 10th Workshop on Decentralized Wastewater Treatment in Asia

Continuing from previous years, the Ministry of the Environment of Japan supported and hosted on November 4, 2022 the “10th International Workshop on Decentralized Wastewater Treatment in Asia” to share information and build networks among Asian countries, and promote the spread of decentralized wastewater treatment systems in Asia. For JSC, Dr. Shinhi Kumokawa (from the Japan Education Center of Environmental Sanitation, JECES; a member organization of JSC) and Dr. Yurie Shirakawa (JECES) participated to the event, while Dr. Pierre Flamand served as the moderator. Up until now, workshops have mainly set themes that highlighted “the superiority of Johkasou as a product” and “the importance of related structures such as the Johkasou Law”. For this event, it was thought necessary to clearly show the difference between Johkasou and septic tanks or similar systems, which are widely disseminated in developing countries, and the social benefits of introducing Johkasou – i.e., the extent to which the investment in Johkasou is meaningful (showing the kind of benefits it can bring to society and to what extent). Accordingly, the theme of the workshop was “Graywater Treatment by Johkasou and its Social Benefit” and discussions around this theme were held. The workshop consisted of two sessions. In the latter half of Session B, titled “Graywater Treatment and Approaches from the Public Entities” focused on how a good river environment can be used by local governments. Presentations were made on the benefits brought by gray water treatment, the legal system and government subsidy system at national level for treating gray water, the applicability of a PPP scheme in Vietnam's sewerage business, and the expected challenges. In Japan, the Building Standards Act and Johkasou Act mandate the installation of Johkasou with guaranteed performances, and operation and maintenance that include regular desludging, as well as maintenance and legal inspections. However, it is a challenge that knowledge on the benefits of gray water treatment and the usefulness of installing Johkasou, treating both gray and black water, have not been widely spread. This is partly because of the low necessity of providing explanations on this topic, and also because of the limited availability of information and evidences. Regarding the attendance of the workshop, there were 128 connections from 25 countries.

3 — 4 Participation at ASCI Online Training Course

As in FY 2020 and FY 2021, the “On-line Course on Leadership Development for Citywide Inclusive Sanitation” conducted by the Administrative Staff College of India (ASCI) with the support of the Asian Development Bank Institute (ADBI), was held from September 10 to November 19, 2022. Mr. Kazushi Hashimoto, JSC Advisor, participated as a lecturer and gave explanations about the institutional framework for on-site wastewater and septage management in Japan.

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 Bill & Melinda Gates Foundation (BMGF) / Asian Development Bank Institute (ADBI) Cooperation Strengthening

Continuing from previous years through the partnership that the Bill and Melinda Gates Foundation (BMGF) and the Asian Development Bank Institute (ADBI) have formed to contribute improving sanitation conditions in developing countries, ADBI, Toyo University and JSC (represented by the Japan Education Center of Environmental Sanitation, JECES; a member organization of JSC) have collaborated in designing and conducting training courses on Citywide Inclusive Sanitation (CWIS), sanitation related matters in developing countries and decentralized wastewater treatment systems such as Johkasou. These in-person training courses, in which Toyo University students could attend as part of their learning, were held from August 22 to September 3, 2022 for the second cohort, and February 13 to 24, 2023 for the third cohort. Dr. Flamand from JSC acted as both moderator and lecturer, while Mr. Hashimoto, Mr. Morita, Mr. Iwasaki, Mr. Imajima, Dr. Kumokawa, and Dr. Shirakawa participated as lecturers. A total of 24 participants from 6 countries – including 13 participants in the second cohort and 11 participants in the third cohort – from central government agencies related to wastewater treatment in India, Indonesia, Cambodia, Bangladesh, the Philippines and Nepal attended the courses.

5. Other activities

5 – 1 Participation in Activities of ISO/TC224/WG8 (On-site Domestic Wastewater Management)

In ISO/TC 224 “Drinking water, wastewater and stormwater systems and services”, Working Group (WG) 8 was proposed by Kenya and Austria under the theme of “On-site domestic wastewater management using low technologies” (now titled: “On-site domestic wastewater management”). WG 8 gathers experts from 17 countries conducting activities for ISO focusing on on-site domestic wastewater systems. These activities include the development of the ISO standard 24525 “Operation and maintenance of on-site domestic wastewater services” and the revision of ISO 24521 “Activities relating to drinking water and wastewater services – Guidelines for the management of basic on-site domestic wastewater services”, originally published in 2016. The Japanese experts aim at reflecting in the standards the knowledge and good practices on operation and maintenance from the Johkasou system in Japan. From JSC, Dr. Kumokawa and Dr. Flamand attended the 13th ISO/TC 224/WG 8 Online Expert Meeting on June 20, 2022 and the 14th ISO/TC 224/WG 8 Online Expert Meeting held on November 7, 2022. With the participating experts, they engaged in the development activities of these standards.

5 – 2 Participation in Activities of ISO / TC 282 / SC 2 / JWG 1 (Cost Analysis in Planning of Decentralized Wastewater Treatment for Reuse in Urban Areas)

As part of the work commissioned by the Ministry of the Environment, Japanese experts engaged in the development activities of ISO 24575 (titled: “General principles and guidelines for cost analysis in planning of decentralized wastewater treatment and/or reuse”) in the Joint Working Group (JWG) 1 gathering experts from ISO TC 224/WG 8 and ISO/TC 282/SC 2, with the aim of sharing knowledge with other countries about Japan's decentralized wastewater treatment technology (Johkasou). From JSC, Dr. Kumokawa, Dr. Shirakawa and Dr. Flamand attended the 4th ISO/TC 282/SC 2/JWG 1 Online Experts Meeting on November 15, 2022. The standard is now in the final stage of preparation for publication.

5–3 Creation of Training Materials and Lecturing for Easy Wastewater and Sludge Treatment Development Procedures in Regions and Communities

As an independent activity, JSC have compiled training materials that can be used as a reference for sewerage development, not only in urban areas but also in regional areas, targeting the Southeast Asian region. These training materials provide information on Japan's sewerage policy and its background, technologies specific to small-scale sewerage systems, rapid

development methods, financial support for local sewerage development, and the development of human resources.

In addition, these materials provide information about the human resource development system for which the Japan Sewage Works Agency was established to train sewerage engineers and technicians for the large cities where sewerage was well developing, and for commissioned sewerage projects in rural areas.

Using this teaching material, JSC Director Hatada gave a lecture to 9 people from 5 Southeast Asian countries in the JICA Thematic Training Course on "Sewerage Management" held from November 14 to 29, 2022.