

# JESC NEWS

No. 22  
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## I. Report of JESC's Activities

### JESC further contributes to evolving Sino-Japanese Environmental Cooperation

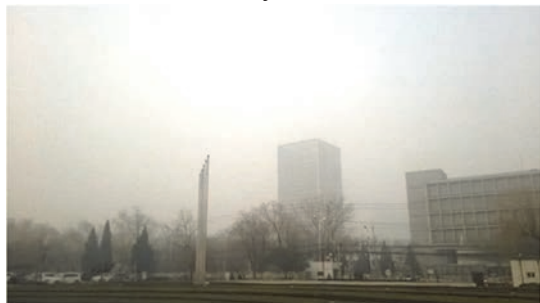
In June 2018, JESC signed an agreement with the Sino-Japan Friendship Center for Environmental Protection (hereinafter referred to as “the Center”) on enhancing cooperation activities in the environmental sector.

The Center was established in 1996 based on the agreement made by the Prime Ministers of both countries and has played a central role in the environmental cooperation between China and Japan, including human resource development in the field of environmental observation and analysis.

As Japan's Official Development Assistance (ODA) to China was terminated at the end of 2021, it has been agreed that the two countries will develop new environmental cooperation as equal partners.

Under these circumstances, in 2021, JESC started to support the China Ecological and Environmental Technology Transformation Platform (CEETT) that was established at the Center in 2019.

CEETT is a platform that provides environmental technology information in response to the needs of Chinese local government and companies. It publishes more than 4,700 registered environmental technologies in China that are evaluated by third parties such as universities and research institutes. More than 2.5 million accesses have already been made.



Air pollution in China due to PM 2.5 etc.

JESC is developing content to be posted on the CEETT website, including material on Japanese companies' technology information, Japan's environmental policy and environmental technical cooperation between the two countries.

Furthermore, in March 2022, JESC, together with the Center, held a webinar to introduce the website and its contents to Chinese companies.

JESC hopes that technology exchanges and collaborative businesses conducted between Chinese and Japanese companies will be promoted through the CEETT website.

Support for CEETT is only part of JESC's contribution to Sino-Japanese environmental cooperation.

Mr. Hideki Minamikawa, the President of JESC, has been a member of the China Council for International Cooperation on Environment and Development (CCICED) since 2017.

In addition, since 2015, JESC has been promoting joint research and demonstration projects in China for air pollution control through the co-benefits of environmental pollution control and reduction of greenhouse gas emission.

Furthermore, JESC is promoting environmental improvement through business matching by introducing the VOC reduction technology of Japanese companies to Chinese companies.



Chinese delegation's visit to a Japanese plant equipped with VOC reduction technology

### Comments from Person in Charge (PIC)



The Sino-Japan Friendship Center for Environmental Protection is a symbol of environmental cooperation between Japan and China. It is a great honor for JESC to continue and further strengthen cooperation with the Center even after the termination of Japan's ODA to China.

(Katsuyoshi SUDO)

### Data Collection Survey on Municipal Solid Waste Management, and Sewerage and Fecal Sludge Management in African Cities

JESC formed a joint venture with Yachiyo Engineering Co., Ltd. and implemented Data Collection Surveys on Municipal Solid Waste Management (SWM), Urban Sanitation, and Sewerage and Fecal Sludge Management in Africa from February 2021 to March 2022, commissioned by JICA.

In the SWM survey, the JICA Study Team (hereinafter referred to as the JST) conducted an investigation into the current situation regarding municipal solid waste management in African cities with the aim of understanding 1) priority issues, support requirements and possibilities for collaboration among cities, and 2) the feasibility of waste-to-energy projects.

Furthermore, it aimed to suggest cooperation policies through the “African Clean Cities Platform (ACCP),” based on the results of the survey.

The JST implemented a field survey in Cote d’Ivoire, Angola and Uganda, and implemented a remote survey utilizing local partners and a web meeting system for South Africa, Botswana, Ethiopia, and Guinea, etc. Through this survey, JST found many issues, mainly regarding collection, transportation and final disposal of waste in African cities. In addition, some African countries including South Africa are proactively considering the introduction of advanced technology such as waste-to-energy.

However, the purpose of the Urban

Sanitation survey is to collect basic information on the current situation regarding sewerage and management of sludge generated in on-site sanitation facilities, and identify issues in order to strengthen JICA’s cooperation on sanitation in Sub-Saharan Africa. In addition to a literature review, the JV also conducted field surveys in Rwanda and Mozambique.

Studies show that it is extremely difficult to install sewers in the slums where most of the population lives in the large cities, so there is no option but to rely on on-site sanitation facilities such as pit latrines and septic tanks. It is necessary to have services to collect the sludge from these, and properly transport and dispose of it, but it was found that adequate services are barely provided due to difficulty of access and lack of the ability of the residents to pay.

In order to align with the current global trend of “Citywide Inclusive Sanitation (CWIS),” it is of the utmost importance for Fecal Sludge Management (FSM) to be strengthened in parallel for the low-income population that constitutes the overwhelming majority.



In Kigali, the capital of Rwanda, sludge collected from on-site sanitation facilities is open dumped in an untreated state.

### Comments from PIC



Though it was a very serious issue for us how to implement a survey in Africa under the travel restrictions imposed due to COVID-19, we finally succeeded in reaching our goal by utilizing local partners and a web meeting system. We hope that the results of this survey will lead to support in the field of solid waste management in African cities. In particular, we should pay attention to the trend towards waste-to-energy, in which Japanese private companies have advanced capabilities.

(Makoto YAMAMOTO)

### Online Study Program on Waste Management by MOEJ

JESC conducted the “Online Study Program on Waste Management” in FY 2021. This program was organized by the Ministry of the Environment Japan (MOEJ), and JESC conducted it as the implementing organization.

As shown in the title, in the current fiscal year, all courses in the program were conducted online, as was the case in the previous fiscal year.

In total, 114 participants from 17 countries including Asia, Africa, the Middle East, and Pacific Island regions participated in the 11 courses of the program.

The program was conducted as live sessions in the languages of participating countries, not only in English.

At online site visits to facilities, such as a recycling facility, WtE facility, eco town, and final disposal site, live videos and DVDs, etc., were relayed from the facility, and a QA Session was

conducted with the PIC of the facility. Although the participants could not visit the facilities on-site, they participated very actively in the online sessions.

In addition, a new program workshop was conducted this FY with related local governments and Japanese plant manufacturers. This has allowed creation of a favorable network for future cooperation.

Participants commented that the program was a good opportunity to learn about waste management in Japan and gain more knowledge, and that it would be useful in our ongoing collaboration.

We are also going to conduct this study program in the current fiscal year (FY 2022) in order to continue good relations and networking in the waste management and recycling industry!



Participants in Vietnam Program through Online



Online program connected with Mozambique

### Comments from PIC



This fiscal year, the study program is in its 12th year. Although we have not been able to conduct the program face to face due to the ongoing COVID-19 situation, many people participated online and experienced the new style of study program. We are going to conduct this updated and fruitful study program in the current fiscal year, too!

(Kana NAKAMURA)



### JICA Knowledge Co-Creation Program conducted by JESC in FY2021

In FY2021, JESC conducted four JICA programs: “Basics of Solid Waste Management (A)” (14 participants from 6 countries), “Enhancement of Solid Waste Management Capacity for Waste Power Generation” (15 participants from 7 countries), “Strategic Utilization of Solid Waste Management Data” (6 participants from 5 countries) and “Capacity Building towards Air Quality Management” (8 participants from 6 countries).

These training programs had been conducted in-person in Japan up till FY 2019, but we have switched them online since FY 2020 due to the COVID-19 pandemic.

In order to maximize the effectiveness of the online program, we prepared it for online use by changing the training style and subjects.

The most difficult part was hands-on training, which we tried to make as interactive as possible. For the onsite visit program, we set up a Q&A session at the end of the program. Even so, we realized that it would be difficult to get better results than those obtained by

actually visiting Japan.

We received the following comments from participants.

- It was very interesting to share the good practices of other countries, and it was also a good opportunity to learn that they are facing the same challenges, and that there are different ways to deal with them. (Ecuador)
- I found that online training was not sufficient for learning more about solid waste management, especially the WtE facility which is not well known in Southeast Asia. (Malaysia)
- All the topics were useful, such as the experts' and other participants' comments on the action plan. I look forward to future cooperation. (Moldova)



Participants from all over the world connected through online training

### Comments from PIC



The participants took part in an earnest manner despite being busy with their daily work. We are grateful for their enthusiasm for the programs, and are motivated to provide even better training programs based on these experiences. We look forward to welcoming the participants in Japan again in the near future!

(Takashi MIYAGAWA/Masako MORINO)

## Introduction to the Sanitation Improvement Project in Varanasi city, India



Varanasi city, located in the Ganges river basin in northern India, is a medium-sized city of 1.2 million people, known as a sacred place for Hindu pilgrims.

Although around 50% of the city's urban area is served by a sewerage system, the surrounding areas that do not have a sewerage system still rely on individual or decentralized on-site water treatment facilities (septic tanks) for human waste treatment. Because of improper management, the septage generated from these facilities is causing pollution of the Ganges river.



Visitors on the banks of the Ganges river

JESC has been providing technical assistance to strengthen the city's septage management since 2020 and is in the process of conducting a decentralized on-site water treatment facility survey and demonstration test of a pilot plant in order to improve decentralized sewage treatment facilities. There are a wide variety of stakeholders, including the state and city governments, private sector, and NGOs, and it is important for the government to take the lead.

In implementing the project, it is hoped that sludge management will be carried out independently in cooperation with the government, and that the project will contribute to the purification of the Ganges river.



Cattle roaming in a domestic drainage channel

### Comments from PIC



Varanasi is Prime Minister Modi's electoral district, and all stakeholder's have strong enthusiasm for purification of the Ganges river. I would like to cooperate with them so that water quality suitable for bathing in this holy place is achieved as soon as possible.

(Akira MORITA)

### EU Taxonomy & Future Waste Treatment System

The EU is discussing EU taxonomy for the certification of eco-friendly economic activities. JESC considered that the evaluation of waste treatment systems in this taxonomy would govern the future trends for waste treatment, and launched a study group in March 2023.

The taxonomy establishes six environmental objectives ((1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to a circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems). It marks activities as green if they contribute to at least one of these six environmental objectives, while “doing no significant harm” to any of the others.

Although WtE facilities are currently under assessment, they contribute to objective (4), and introduction of a high-efficiency energy recovery facility and CCU/CCS would be an important point for evaluation.

We also conducted an interview with the Confederation of European WtE Plants (CEWEP), an association of operators of WtE facilities in Europe, regarding the status of the EU taxonomy study and their opinions on the evaluation of WtE facilities.

According to the latest information from CEWEP, the European Commission is considering a “traffic light taxonomy,” under which activities would either be sustainable “green,” potentially sustainable and not harmful “yellow,” or potentially sustainable but harmful “red.” There are no clear criteria for WtE facilities, but CEWEP shared their idea that the facilities which meet the EU energy recovery standard could be “yellow,” and facilities which have further outputs (CCU/CCS, and H<sub>2</sub> and bottom ash recovery facilities) could be “Green.” The EU taxonomy is at the stage of formulation, so we will follow any updates relating to waste treatment and release the relevant information.



Study group



Meeting with CEWEP

### Comment from PIC



The EU taxonomy has been created to achieve carbon neutrality by 2050, and I believe that such environmental finance methods will become indispensable to realizing a decarbonized society and circular economy. However, it is difficult to judge whether investment criteria are eco-friendly, and vital to consider the benefits of this judgment to the whole of society. We will keep a close eye on how these investment criteria affect the formulation of an eco-friendly society.

(Mitsuyo SUGIMOTO)



## II. Contribution from Participants in JESC's Activities

### Efforts in Reducing Household Waste Delivered to Landfill in Tangerang Selatan, Indonesia

Tangerang Selatan is a city with more than 1.3 million inhabitants. Solid waste generated in the city is over 900 tonnes per day and most of it is put in a landfill (TPA Cipeucang) whose capacity is predicted to be exceeded soon. The city is making an effort for using certain technology to be put in waste handling in the landfill to make it more efficient, such as Waste-to-Energy implementation since it is one of the cities stipulated by



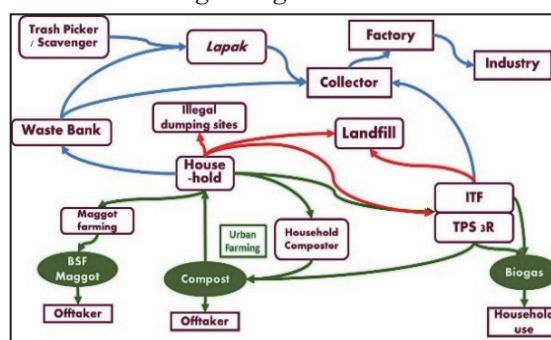
Weighing day of a Waste Bank

**Inorganic waste.** Valuable inorganic waste (cardboard, plastic, glass, metal, etc.) from households is put into a waste bank who sells it to Lapak. A Waste bank is a community-based institution where people can exchange waste for money and deposit it to their accounts. Lapak is a small business who buys waste from trash pickers/scavengers. Lapak sells the waste to collectors who then sell it to factories, who will turn it into more valuable forms such as plastic pellets and sells it to other factories/industries.

**Organic waste.** There are three alternatives for organic waste handling: 1) Households composting; 2) Community-level composting at Intermediate Treatment Facility (ITF) or community-based 3R waste treatment sites (TPS3R). A TPS3R is managed by a non-governmental organization, while an ITF by the city government. There is one TPS3R having a kind of simple small biogas installation; 3) Organic waste

central government in implementing WtE. On the other side, reducing the amount of the waste generated and delivered to the site is still crucial.

To reduce the waste, proper waste handling, especially sorting, is needed. Some initiatives have been taken by the city government such as setting up waste banks and intermediate facilities. Below is the general schematic diagram of waste handling in South Tangerang.



Red lines: mixed waste, Blue lines: inorganic waste,  
Green lines: organic waste

processing using black soldier fly larvae at household and small community levels. The compost produced could be used by households for gardening, farmers or other users. The biogas produced is used by households for cooking. The maggot produced could be used as fertilizer or livestock feed.

**Mixed waste.** Waste from households is transported to ITF/TPS3R, or directly to landfill. Residual waste from ITF or TPS3R is also put into the landfill. Illegal dumping is still a problem.

The mixed waste track to the landfill is the most common since the intermediate facilities are not always available in the neighborhood and most inhabitants do not sort their waste. Another cause is the connections between the actors on inorganic and organic tracks are not well established which can damage their sustainability. Therefore, more efforts to provide facilities, to raise awareness, and to create or to smoothen connections between the links/actors are crucial

## Comments from PIC



In February this year, I had a chance to take part in Online Study Program on Waste Management organized by the Ministry of the Environment of Japan and JESC as the implementing partner. It was an excellent opportunity to gain knowledge on waste management in Japan shared by government officials and resource persons from JESC. I found this JESC news to be a good medium for further knowledge exchange.

(Siti Irma SURYANI)

### III. Editorial Note

This Newsletter was created with a focus on the international activities conducted by JESC. Ms. Sugimoto's article on taxonomy in the EU introduces innovative economic methods for creating a sustainable society.

Huge quantities of investment money travel around the world, and, for better or worse, investment is concentrated in places where profits are made. The movement of financial speculation is causing the market to fluctuate significantly. Japan issues a huge amount of government bonds, which the Bank of Japan buys to finance the national budget. That total debt is now huge.

In Japan, the significance of this issuing of operational money is under discussion. Opinions are divided, with some claiming that Japan will go bankrupt soon, and others saying that this is a wonderful example of successful investment in society. I do not know which opinion is correct, but I do not want to simply pass on the problem to future generations.

(Hideaki FUJIYOSHI)

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