

JESC NEWS

No.21
July. 2020

I. Message from New Director

Dear All,

It is with great honor that I join Japan Environmental Sanitation Center (hereinafter, referred to as "JESC") to assume the role of Director for the International Cooperation Department and the International Project Office in April. JESC recently reshuffled its international activities by establishing these branches in order to further strengthen them.

Before joining JESC, I was engaged in international development assistance with JICA for 33 years. My last overseas assignment was the Resident Representative in Mozambique from 2013 to 2017. At that time, the capital of Mozambique, Maputo, faced various



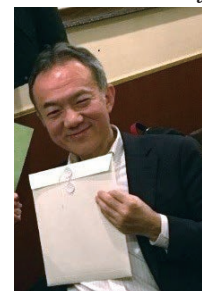
environmental problems caused by unorganized urban development and poor public services such as solid waste management (SWM). Although JICA had assisted the government of Maputo in promoting 3R activities among its citizens in order to reduce the volume of solid waste to be dumped in an already overloaded landfill site, huge garbage piles collapsed and killed 17 waste pickers at the site in February 2018. This clearly shows the complexity of SWM in developing countries that presents many challenges for local institutions and their international cooperation partners.

Addressing the challenges through international cooperation is JESC's mission and I will fully dedicate myself, with your valuable supports, to carry out it. If you have suggestions, ideas or questions, please contact me at katsuyoshi_sudo@jesc.or.jp.

With best regards,

Katsuyoshi SUDO

Director, Department of International Cooperation,
JESC



II. Report of JESC's Activities

The First Step toward Waste to Energy in Can Tho City, Vietnam

We conducted a site survey in Can Tho City, Vietnam. This was rooted in the story of Ms. Huang, who was a participant from Can Tho City in JICA Training Program "Enhancement of Solid Waste Management Capacity for Waste Power Generation (B)" in 2019 in Yokohama Center. According to her, the entire amount of municipal waste in the city has been incinerated now. It motivated us to conduct a site survey regarding the background of a new incineration plant (which generates electric power, WtE) and the current

situation of existing incineration plants in the city, taking into consideration an increase in new incineration plants (WtE) by municipal governments in Asia in the future. Ultimately we decided to visit the sites and hold a work shop with the people involved with SWM in the city.

Can Tho City is located at an estuary of the Mekong River. The population is approximately 12.3 million and will grow to 2 million by 2020. The city is the center of industry and urban areas in the Mekong basin.



While progressing to urbanization, there is a problem with SWM in Can Tho City. Therefore, Can Tho City sets a goal in which the collection coverage of municipal waste will be up to 93% by 2020. Now 1,409 km² in total administrative area, it is divided into 5 districts and 4 towns. In this area 600 to 605 tons of municipal waste, which comes from homes and commercial sectors such as hotels, restaurants and markets, is collected every day. However hazardous waste and industrial waste are not collected. There are 5 existing plants including WtE.

Following is a summary of our site survey in the city.

First of all, according to interviews with relevant people, it needs to learn how to deal with the existing plants in the future in fear of environmental impact. In addition to that, it is necessary to resolve the issue of treating bottom ash and fly ash immediately.

Secondly, the new WtE plant was built in 2017 by China Everbright International, in which the Asia Development Bank financed 47 billion yen. The treatment capacity is 400–500 tons/day. The tipping fee is 400,000 VND/t. This plant generates electricity of 7.5 MWh by incinerating, in which about 1 MWh is consumed in the plant and the remaining electricity is sold to a power plant. Moreover, we obtained information from the administrator of the plant. They think it important to efficiently collect and haul waste and appropriately separate it in order to keep a certain amount of waste and waste quality suitable for WtE.

In conclusion, we had a great experience that helped us realize the current situation of how existing plants are operating, the building process of the WtE plant and operation, and challenges going forward. It was only after we visited there that we obtained information from the people directly involved.



WtE Plant at Thoi Lai

Comments from the Person in Charge (PIC)

Our survey team consisted of 4 people. None of them had visited Can Tho City. During our visit, we really enjoyed Vietnamese cuisine. We were shocked how wonderful it was! We were impressed that we were able to eat wonderful food everywhere we visited such as casual dining rooms, fancy restaurants and cozy cafes. We had already heard how wonderful Vietnamese food was, but "seeing is believing." We found out there are many things we can't experience unless we visit there.

(Michiyo SHIMAMURA)

Challenge of Source Separation of Organic Waste in Bandung City (JICA Grassroots Project)

Bandung City is the capital of West Java Province in Indonesia. With a population of about 2.5 million people, it is the third biggest city in Indonesia.

Recently, SWM has become a serious topic in accordance with the economic growth due to an increase in the population. The lack of awareness among the local residents regarding waste disposal is a problem. There is also a problem with no regulations regarding SWM in the central and local governments, having been established now.

In order to resolve these problems, Kawasaki Environment Research Institute (KERI), Institute for Global Environmental Strategies (IGES) and JESC formed a single team and supported SWM in Bandung City with the relevant people.

This support aimed to improve separation and collection of organic and non-organic waste through involving citizens and commercial sectors. We thought that the appropriate separation and collection provided 3R (Reduce, Reuse and Recycle) concept for the people in the city and promoted 3R from the field of waste as much as possible. Ultimately, our goal was to create a sustainable recycling-based society in Bandung City.

Our activities consisted of 4 activities (Outputs 1 to 4). We, JESC, were in charge of “Output 2”, which was to promote the separation and collection of organic waste in commercial sectors such as restaurants, hotels and traditional markets.

Output 2 activities were to make a manual for separation and collection and to conduct training programs. First of all, we conducted interviews and sampling surveys. These surveys were helpful to know the current situation on site, make the manual and plan the contents of the training programs.

After that, we successfully held them 4 times in total. After finishing each training program, we revised the next training content based on the result of previous training program and feedback from the participants.

Each training program had at least 20 participants and a test to check their understanding was given at the end of the program. However, it happened that the number of participants was under 20 unexpectedly, because they came from commercial sectors in which they were busy with their own work. At that time, we visited the participants’ workplace to meet them, explain our activities and ask for their cooperation. We held a training program especially for workers who collect and haul waste (known as kart men in Bandung City) from commercial sectors. This activity went really well because this was the first time such a training program was held in Bandung.

In the end, we held 4 training programs and created the manual for separating and collecting waste. We were able to complete our activities by distributing the manual to the relevant people. We believe that our activities involving many people through surveys and training programs could make more people aware of the importance of SWM and help to create the first SWM system in Bandung City.



Comments from the Person in Charge (PIC)



Bandung City is recognized as one of the resort areas in Indonesia because the climate is cool and moderate throughout the year even though it is located in a tropical area. In the city center, there are some historical buildings that were built in the era when Indonesia was under Dutch rule. Conversely, you can go to a mountainous area in the suburbs to enjoy vast amounts of nature. Therefore, many tourists come to the city on weekends from Jakarta and other cities. (Takashi MIYAGAWA, Michiyo SHIMAMURA)

Improving Solid Waste Management in Bhutan

In June 2019, JESC formed a joint venture with Yachiyo Engineering Co., Ltd. (hereinafter referred to as “YEC”) and participated in a preparatory survey for improving solid waste management in Bhutan. The purpose of this survey was to confirm the necessity of procuring equipment for solid waste management in order to improve the current situation of solid waste management in Bhutan. In this survey, JESC has stayed for about 2 months in total between August and October 2019 and has mainly conducted the survey with organizations and institutions related to solid waste management through interviews and site visits in Bhutan.

In Bhutan, in addition to the gross national product (GNP), gross national happiness (GNH) is emphasized and various kinds of efforts are being undertaken to achieve a national policy of maximizing GNH. 4 key challenges have been established for improving GNH and “environmental preservation and its sustainable utilization” is one of them related to solid waste management. The 4Rs (Reduce, Reuse, Recycle, Responsibility) are defined as a solid waste management policy and are expected to increase national happiness through improving living conditions and public health by properly managing solid waste. In 4 major cities, Thimphu, Puntsuoling, Gelephu and Samdrup Jongkhra, establishing a proper waste collection system is regarded as the most important challenge and the lack and deterioration of waste collection equipment has been a bottleneck to overcoming this challenge.

Through the site survey, the JICA survey team ascertained the current situation and major challenges of solid waste management and proposed to procure 31 waste collection vehicles including 3 container carriers, 24 containers and 4 pieces of heavy equipment for landfill sites as necessary equipment for solid waste management. At the same time, we proposed implementing instructions for vehicle maintenance, safety and sanitation management as soft component activities and built a consensus between the Bhutanese and Japanese governments.

As the result, both governments exchanged diplomatic notes on March 9, 2020 and arranged a grant agreement on March 26, 2020. In this agreement, the Japanese government has promised to provide aid for improving solid waste management in Bhutan.

JESC intends to form a joint venture with YEC again and to participate in implementing this project on an ongoing basis aiming to improve solid waste management in Bhutan.



Comments from the Person in Charge (PIC)



JESC has been aggressively involved with the efforts for improving solid waste management in Bhutan with grass-roots technical cooperation after it had been asked to assist in improving landfill sites in Bhutan by JICA senior volunteers in 2012. Bhutan is a very beautiful country located in the Himalayas with a lush natural environment. I feel we should be involved with the efforts to improve solid waste management on an ongoing basis with the Bhutanese people for preserving their precious nature. (Makoto YAMAMOTO)

Survey for Solid Waste Management (SWM) in Europe

JESC has conducted a survey for understanding the present SWM situation in Europe as a project provided by Japan's Ministry of the Environment. Currently in Japan, local governments are mainly responsible for SWM. Under such circumstances, Public Private Partnerships (PPP) such as Design Build Operate (DBO) has been adopted in some incineration plant operations, but unfortunately the vitality of the private sector is still not drawn on sufficiently. This survey was conducted for the purpose of recognizing the great efforts for SWM in Europe and utilizing them as reference for SWM policies in Japan going forward.

In this survey, JESC analyzed information on websites and interviewed some SWM organizations in Europe. Moreover, thanks to cooperation from the International Solid Waste Association (ISWA: The Netherlands (Headquarters)), Confederation of European Waste-to-Energy Plants (CEWEP) and 2 consulting firms, Ramboll (Denmark) and I.C.E. AG (Switzerland), we have successfully obtained information regarding SWM trends in Europe.

As a result, we found that each SWM organization has been struggling to promote material recycling and decarbonizing and to maintain a balance of reliability and efficiency in public works. Even though some organizations are wholly owned by local governments, they strive to maximize the value of their business on a financial independence. For instance, some organizations leverage know-

how of the private sector in their business and others receive some advice from experienced consulting firms for implementing new policy for material recycling and a low carbon society. The survey also found that the investment ratio from the private sector to organizations tends to increase as the scope of business grows. Although in the U.K. it is known that Private Finance Initiative (PFI) schemes are implemented in Energy from Waste (EfW) generally, nowadays the "Merchant" method, in which the private sector shoulders more responsibility of organizing and operating the business, is positively adopted.

JESC would be glad to support the improvement of SWM systems in Japan by researching the efforts of SWM in Europe. It is vital to more deeply and precisely understand the present situation based on the historical background.



Comments from the Person in Charge (PIC)



Through this survey, I realized that “economy and efficiency” is more valued in incineration plant operations in Europe. Some organizations try to expand their business economy by receiving industrial waste and incinerating it together with municipal waste in case of insufficient amount of municipal waste. Others try to boost the efficiency by wide-area waste treatment through utilizing an existing union that consists of multiple local governments and is organized for water supply, heat supply and relevant utilities. In the field of SWM, historical background in Europe is completely different than that of Japan developing SWM policies as public health measures. I would be pleased if this survey could contribute to future Japanese SWM policies. (Hideaki FUJIYOSHI, Makoto YAMAMOTO, Mitsuyo SUGIMOTO)

The 12th 3R Conference for Asian Local Governments



“The 12th 3R Conference for Asian Local Governments” was held in City of Kitakyushu on January 23rd, 2020, under the theme, “Local Governments’ Actions against Plastic Waste Issues and their Challenges.” Presenters consisted of an international organization, national governments, local governments and private enterprises from Asian countries (Japan, Malaysia, Nepal, the Philippines, Russian Federation and Thailand). We are pleased that over 170 people attended the conference.

Recently, single-use plastic waste has been a serious problem on a global scale, so we have

determined Plastic Waste as the theme of this year’s conference.

Through presentations and a panel discussion at this conference, we shared the following 3 items as important topics.

- 1) Local governments need to make a community-based policy for plastic waste and raise the awareness of citizens to achieve the national plastic recycling goal.
 - 2) Under the serious circumstances of recent marine littering issues, cooperation between local governments and citizens in the same area is vital to prevent plastic waste from entering rivers and bays.
 - 3) For establishing proper recycling and disposal treatment, each company’s advanced technology should be transferred with city to city cooperation.
- At the closing session, Kitakyushu Declaration was adopted as common understanding for the future. Please visit the website below to see program, presentation data and the declaration in details.
<https://www.jesc.or.jp/training/tabid/356/Default.aspx>

Comments from the Person in Charge (PIC)



Although City of Kitakyushu, the venue, had suffered from serious environmental issues for a long term, bounced it back, and now the local government and enterprises in the city are addressing environmental measures actively. It is very significant for me to hold the conference in such city. Besides, many Asian foreign students studying environmental issues in universities in the city, joined the conference, and I reconfirmed that the plastic waste management was an urgent issue which should be tackled seriously, not only for Japan but also for Asian countries. We will keep doing our best to make the conference could contribute to promote 3R in Asian countries and regions. (Mitsuyo SUGIMOTO)

Solid Waste Management Study Tour, FY 2019, organized by Ministry of the Environment Japan

JESC implemented “Solid Waste Management Study Tour, FY 2019” as a program organized by Ministry of the Environment, Japan (MOEJ).

JESC has conducted this study tour since 2012. It aims to contribute to reducing environmental impact on a global scale, and also to promote expanding the Japanese waste management and recycling industry overseas.

In FY 2019, we held 6 study tours from October 2019 to February 2020. 49 participants from 16 countries in various regions including Pacific islands, Africa and the Middle East countries participated in this total. Participants are in charge of Solid Waste Management (SWM) and 3R promotion at local and central governments. We established a theme and elaborated every program according to each country's situation regarding SWM.

We held lectures on the outline of SWM in Japan, the current situation of SWM in Japan and its technology, etc.

And we conducted site visits to facilities such as incineration plants (WtE facilities), recycling facilities and final disposal sites. In FY 2019, we also visited Eco Town in Kawasaki. Some local

governments were interested in introducing Eco Town in their country, so I suspect that it was useful for them.

And as a feature of FY 2019, we conducted one of the programs jointly with the 12th 3R Conference for Asian Local Governments. Detailed information on the Contents of this conference is introduced in previous article of this newsletter. The conference was held in Kitakyushu on January 23. The program was held in the Kyushu region (mainly in Fukuoka Prefecture).

During the program for one week, participants joined the conference and some of them gave presentations.

Although each program was short, we feel that this study tour could support the promotion of each country's SWM system as well as bolster the network of each country, not only with Japan.



Comments from the Person in Charge (PIC)



Many officers in local and central governments have been participating in this Study Tour since 2012. As indicated in the article, this program aims to contribute to reducing environmental impact on a global scale, by sharing Japanese recycling technology. Many participants shared their impressions that Japanese recycling technology can be helpful for promoting 3R and SWM in their countries.

(Kana NAKAMURA)

JICA Knowledge Co-creation Programs in FY 2019

JESC conducted 4 JICA Knowledge Co-creation Programs in FY 2019, all of which were group and region focused programs. We introduce one of them, which focuses on introducing WtE plants, and show an outline of all programs as below.

(Please see the list below regarding the outline of 4 courses.)

JESC has been conducting this program for more than 40 years. 1,976 people from 125 countries have participated in this program conducted by JESC. The number of participants will reach 2,000

this year! Here, I introduce one program, named “Enhancement of Solid Waste Management

Capacity for Waste Power Generation” which was held from July to August, 2019.

Enhancement of Solid Waste Management Capacity for Waste Power Generation

In FY 2019, 8 people from 7 countries (Chile, Indonesia, Iran, the Philippines, Serbia, Thailand, and Ukraine) participated in this program. Although they have different cultural backgrounds, they were a very good team and proactively participated in the program!

In the program, they observed incineration plants, recycling centers and final disposal sites mainly in Tokyo and Kanagawa Prefecture. For introducing WtE facilities, the consent of local residents is a very important issue, so we held lectures and discussions on this issue. Also, some Japanese manufacturers gave lectures and exchanged information with participants regarding the actual situation in Japan and the other countries. On the final day, each participant presented their action plan. They successfully shared information on the actual situation regarding the construction of Waste to Energy facilities. Some participants came

from local governments, while others came from central governments. And each participant discussed their situation from their perspective.

Participants provided feedback that lectures on “Incineration plants and WtE facilities”, “JICA Waste to Energy Guidelines” and site visits to incineration plants were especially useful. These programs are very significant contents for bolstering WtE facilities, so it is great that they could understand these concepts well.

On the other hand, they expected to learn more about the economic background for PPP projects, consensus building for PPP projects, guidelines for PPP projects, sampling and monitoring of dioxin and 3E (Environment, Energy security & Economic efficiency).

We would like to utilize their feedback in the future programs.

Course	Dates	Participating countries
Comprehensive Waste Management (A)	May 21–June 27, 2019	Ecuador, Guatemala, Costa Rica, Colombia, the Dominican Republic, Peru, Honduras (7 people from 7 countries)
Enhancement of Solid Waste Management Capacity for Waste Power Generation	July 22–Aug. 9, 2019	Chile, Indonesia, Iran, the Philippines, Serbia, Thailand, Ukraine (8 people from 7 countries)
Capacity Building towards Air Quality Management	Aug. 22–Sep. 17, 2019	Bosnia and Herzegovina, Brazil, Mongolia, Pakistan, Iran, Kosovo, Myanmar, Mexico, Vietnam (10 people from 9 countries)
Strategic Utilization of Solid Waste Management Data	Oct. 3–25, 2019	Kenya, Kiribati, Micronesia, Nigeria, Palestinian Authority, Sri Lanka, Sudan, Vietnam (8 people from 8 countries)

Comments from the Person in Charge (PIC)



“The Enhancement of Solid Waste Management Capacity for Waste Power Generation” course was held during the very hot summer season. All participants proactively participated in the program despite the extreme Japanese heat. We talked about the Olympic Game being held in Tokyo just one year from now. Although the Olympic Games have been postponed a year, I sincerely hope all people in the world can enjoy the Olympic Games next summer!
(Kana NAKAMURA)

Activities of Japan Sanitation Consortium (JSC)

JSC launched in October 2009 as a knowledge hub on sanitation among the Water Knowledge Hub Network, which was established under the Asia Pacific Water Forum (APWF), in order to resolve water problems in the Asia-Pacific region.

JSC consists of 5 organizations: 1. JESC, 2. the Sewerage Business Management Centre (SBMC), 3. the Japan Sewage Works Association (JSWA), 4. the Japan Education Center of Environmental Sanitation (JECES) and 5. the Japan Sewage Works Agency (JS).

The mission of JSC covers a wide range in the sanitation field from on-site sewage treatment systems to central sewage treatment. JSC has formed a network with international organizations to collect, share and disseminate relevant knowledge for the purpose of boosting capacity in policy-making and technical expertise on sanitation in the Asia-Pacific region, and for developing sewage treatment systems.

In order to achieve the mission, JSC organizes international seminars by networking with other countries, investigates how to improve sanitation, provides advice and assistance for sanitation related operations carried out by the Asian Development Bank (ADB) or the Japan International Cooperation Agency (JICA) and collaborates with international organizations, NGOs and NPOs.

JSC has been collecting information on sanitary issues in the Asia-Pacific region, surveying sites and holding international conferences. Please see our information at the website below.

<http://www.jsanic.org/news/fromjscx.html>

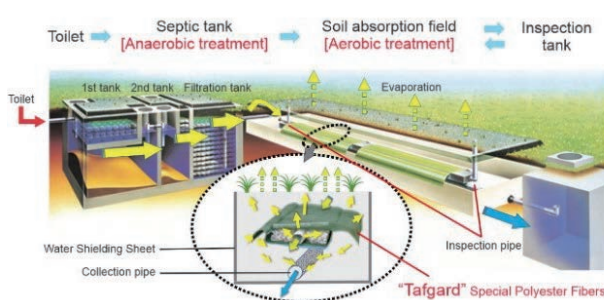
Overseas activities carried out by JESC

Outline of the project deploying eco-friendly toilets in India

It is said that India does not have sufficient treatment of waste water. Rivers and ground water are polluted from untreated waste water and human waste. For instance, septic tank systems have a limited capacity for treating waste water from toilets. Moreover, sludge is not properly managed.

Consequently, this project aims to improve treatment performance by attaching a solid absorption field to the latter part of septic tanks. JICA supports the feasibility study to be carried out as follows:

Study site: the public toilets in Varanasi City and Muzaffarnagar City in Uttar Pradesh State, Counterparts: local governments involved and local NGOs, Japanese team: joint ventures involved with JESC. This project's goal is to improve sanitation and develop business opportunities in India by deploying Japanese on-site treatment technology.



Comments from the Person in Charge (PIC)



When I look back on the 10 year history of JSC, I find it is very significant that 5 different organizations have been carrying out international cooperation activities together. Although the Japanese government organization is becoming increasingly differentiated, having an organization like JSC that can gather technical knowledge and work together is valuable. I would be pleased to continue contributing to international sanitation through this organization.

(Akira MORITA)

III. Contribution from Overseas Participants in JESC's Activities

Waste Management Data Survey in Western Province, Sri Lanka

As a result of the rapid urbanization and the economic growth in the Western Province, Sri Lanka, Municipal solid waste generation in the province has been increasing significantly. But, In parallel, as mass scale final disposal and intermediate treatment facilities have not been established in terms of the planed time target, there are serious environmental and social issues raised in the province.

Currently, around 2000 MT of municipal solid waste is collected daily by 49 Local Authorities in the province. Around 10% of the total collection is treated through the 27 compost plants and nearly 0.5% of total collection is disposed in Dompes sanitary landfill. Though the accurate data for the recycling is not available, it is assumed that recycling amount is as around 5% of the total collection. Accordingly, 85% of the total collection is still disposed in the open dumps.

But most data is generated by the compost plants and dumping sites are not reliable since those are estimated data due to lack of weigh bridges.

According to the data collected so far, Density of the perishable waste is varied in the Local authority to Local authority. The reason behind this is, mixing ratio between the garden waste and the food waste is changed in

Therefore, acquisition of accurate Waste Management data is very essential to understand the current situation of the waste issues in the province. Accordingly, technical staff of the Waste Management Authority of Western Province has initiated a project to obtain waste incoming data from the compost plants and dump sites which do not have weigh bridges. Main objective of this task is to calculate the total incoming waste amount for the treatment and disposal by obtaining waste density of the both perishable and mixed waste, and no of vehicle loads with the volumes.



Weight of perishable waste is measured by using standard wooden box

L. As. it is depend on the nature of the collection area.

There are some calculated densities of perishable waste mentioned below to easy understand.

Compost plant (Local Authority)	Density (kg/Cu. m)	Nature of the collection area
Negombo MC	329	Garden waste very high
Jaela UC	435	Garden waste high
Katana PS	781	Food waste with very little garden waste
Kelaniya PS	540	Food waste and garden waste nearly equal

As per the above data, estimating of incoming waste amount for the compost plant is very crucial, so, WMA is planning to obtain such data for at least 2, 3 weeks continuously to get average

density of perishable waste in each Compost plant. At the same time, WMA is expecting to purchase mobile weigh bridge to obtain such data very accurately after this critical time period.

Comments from the Contributor



The “Solid Waste” problem has become one of the most significant acute issues in the Western Province (WP) of Sri Lanka. The Province contributes around 60% of the total national quantity of solid waste generation. So, Waste Management Authority of Western province is looking for solutions to overcome the situation. Hence, existing of reliable data on this sector is a very vital factor for proper planning. I realized it further during the training program on Strategic Utilization of Solid Waste Management Data which is conducted by JICA Yokohama center, Japan with the technical guidance of the JESC from 2nd October to 26th October 2019. (Nimal SILVA)

A Winding Step Toward the Establishment of Waste to Energy in West Java Province, Indonesia

As the largest population in Indonesia, West Java Province has approximately more than 49.5 million people. Comparing to other nations, it's nearly closed to the South Korea population. It is expected that most of the population will occupy in the urban areas. Similar to other provinces, West Java has to deal with urbanization, economic growth, and increasing population and this eventually leads to environmental deterioration.

Solid waste management (SWM) becoming an issue that still appears in West Java. This condition also similar to other regions. Waste problems will remain a concern that needs to be resolved in the future. Thus, the program developed by JESC regarding Waste to Energy (WTE) is appropriate to develop shortly for Southeast Asia. As a provincial role, solid waste management at least has to develop in 3 regional areas. In terms of WTE, West Java Province already planned and developed 2 areas in Bandung Metropolitan and Bogor Metropolitan. The Bandung Metropolitan (Legok Nangka Project) will be built as the WTE for electricity whilst the Bogor Metropolitan (Lulut Nambo Project) will develop as the Refused-derived fuel (RDF). The operational capacity of the Legok Nangka Project is around 1,850-2,000 t/d and the capacity in Lulut Nambo project is approximately around 1,500 t/d. These projects planned to reduce of 18.8% of total waste generated in West Java Province.

SWM strategy in West Java is following the national strategy is to reduce 30% of waste by 2025 and waste handling of 70% by 2025. The WTE is part of the waste handling at the landfills. The provincial-level is responsible for the landfill process at the regional scope. We acknowledge that to manage the waste not only in the end-of-pipe strategy but the strategy has also to deal with the waste in the source (household).

To date, the SWM in the source until the intermediate phase is on the hand of the local government. Most of the waste still in the mixed process. This condition will burden the WTE project because there have several specific wastes that will interrupt the WTE plant. The transportation of the waste from the source generally conducted by the urban village leader. The finance system will only be handling the waste from the household to the intermediate process (TPS). This condition will be burdening the financing by the government if the waste will be treated in the WTE.

To illustrate, in the Legok Nangka project which planned to use the Public-Private Partnership (PPP) scheme, the discussion and meeting between stakeholders occur in dealing with this project. Different alternatives to finalize the business case has been voiced by the central government such as low-carbon strategy option, to postpone electricity by the electricity state-owned company, and other schemes which show the precautionary step has been used. The

viability gap fund (VGF) as the government support in the form of contribution to the finalizes the project still going a long way in completing this activity.

Examining from this condition, the local and provincial government have to reassess the strategy in handling the SWM from the source. There is a bright side in the development of SWM in the reduction phase in West Java. After the Presidential decree regarding SWM in the household is enacted, the local government and provincial government are trying to make several scenarios in reducing the waste at the source and

intermediate process. The local and provincial government open for cooperation and collaboration regarding these activities. The intermediate process that in the past function as the waste collector from the household, nowadays is tried to handling and reduce the waste with the introduction of appropriate technology.

To sum up, the SWM in West Java will have to integrate all of the activities in handling and reducing sustainably. The community involvement and other stakeholders in dealing with SWM will ease waste reduction and handling.

Comments from the Contributor



The strengthening of the governance quality in SWM, particularly incorporating the WTE activities in Indonesia found many obstacles. The enhancement of the government capacity in Indonesia by the JESC – JICA program has improved the foundation to establish the SWM in a sustainable manner. The leapfrogging strategy which generally adopted by less-developed cities –whose socio-technical system is not yet established need continuous capacity building, especially in the West Java area, which covers 60% of the population in Indonesia. It is therefore, we will appreciate further programs to improve these activities. (Helmi GUNAWAN)

JESC NEWS No.21 / July. 2020

- | | |
|--------------------------------------|-----------------------------------|
| • Publisher : Hideki MINAMIKAWA | • Address : 10-6 Yotsuyakami-cho, |
| • Editor : Katsuyoshi SUDO | Kawasaki-ku, Kawasaki-city, |
| • Staff :T. MIYAGAWA, A. MORITA, | 210-0828 JAPAN |
| M. YAMAMOTO, K.NAKAMURA, | • TEL : +81-44-288-4937 |
| M.SUGIMOTO, M. SHIMAMURA | • FAX : +81-44-288-5217 |
| • Published by : Japan Environmental | • E-mail : kokusai@jesc.or.jp |
| Sanitation Center (JESC) | |