Knowledge Co-Creation Program
(Group & Region Focus)

GENERAL INFORMATION ON
SEWAGE AND URBAN DRAINAGE MANAGEMENT
課題別研修「下水道・都市排水マネージメント」
JFY 2019
NO. 201984795J002 / ID. 1984795
Course period in Japan: From September 23rd , 2019 to November 9th, 2019

This information pertains to one of the JICA Knowledge Co-Creation Program (Group & Region Focus) of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

'JICA Knowledge Co-Creation Program (KCCP)' as a New Start

In the Development Cooperation Charter which was released from the Japanese Cabinet on February 2015, it is clearly pointed out that *"In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together."* We believe that this 'Knowledge Co-Creation Program' will serve as a center of mutual learning process.

I. Concept

Background

Water quality management is urgently required in developing countries along with its population increase. Insufficient number of wastewater treatment facilities and the lack of capacity for its maintenance have caused serious water pollution, which also can affect human health. In addition, rapid urbanization which accelerates the reduction of stormwater permeable area has induced frequent flooding.

Therefore, water quality management is a fundamental issue for sustainable development. Also, providing safe water, access to public sanitation facilities and flood control are required globally. For this purpose, comprehensive sewerage systems and stormwater drainage systems are broadly required, as well as the integrated effective measures, rational planning, implementation and management of those sysytems.

For what?

This course aims at enhancement of capacity to improve public sanitation and reduce the damages from flooding.

*This course focuses on sewage management rather than drainage management. Please see the “Structure of the Core Phase in Japan”.

For whom?

This course targets the engineers of central/local governments, municipalities or public institutions engaged in wastewater treatment, sewage works, and stormwater drainage.

How?

The program provides participants with practical knowledge, techniques and experience through a series of lectures, exercises and site visits. Participants also have opportunities to share and deepen knowledge and experience with others from different countries.

II. Description

1. Title:
SEWAGE AND URBAN DRAINAGE MANAGEMENT (201984795J002)

2. Period of Program

Duration of whole Program:	July 2019 to March 2020
Preliminary Phase: (in participants' home countries)	July 2019 to September 2019
Core Phase in Japan:	23rd September 2019 to 9th November 2019
Follow Up Phase: (in participants' home countries)	November 2019 to March 2020

3. Target Countries:
Brazil, Egypt, Cambodia, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Viet Nam

4. Eligible / Target Organization:
Central/local governments or public institutions related to wastewater treatment, sewage works, and stormwater drainage.

5. Course capacity (Upper limit of Participants): 9

6. Language to be used in this project: English

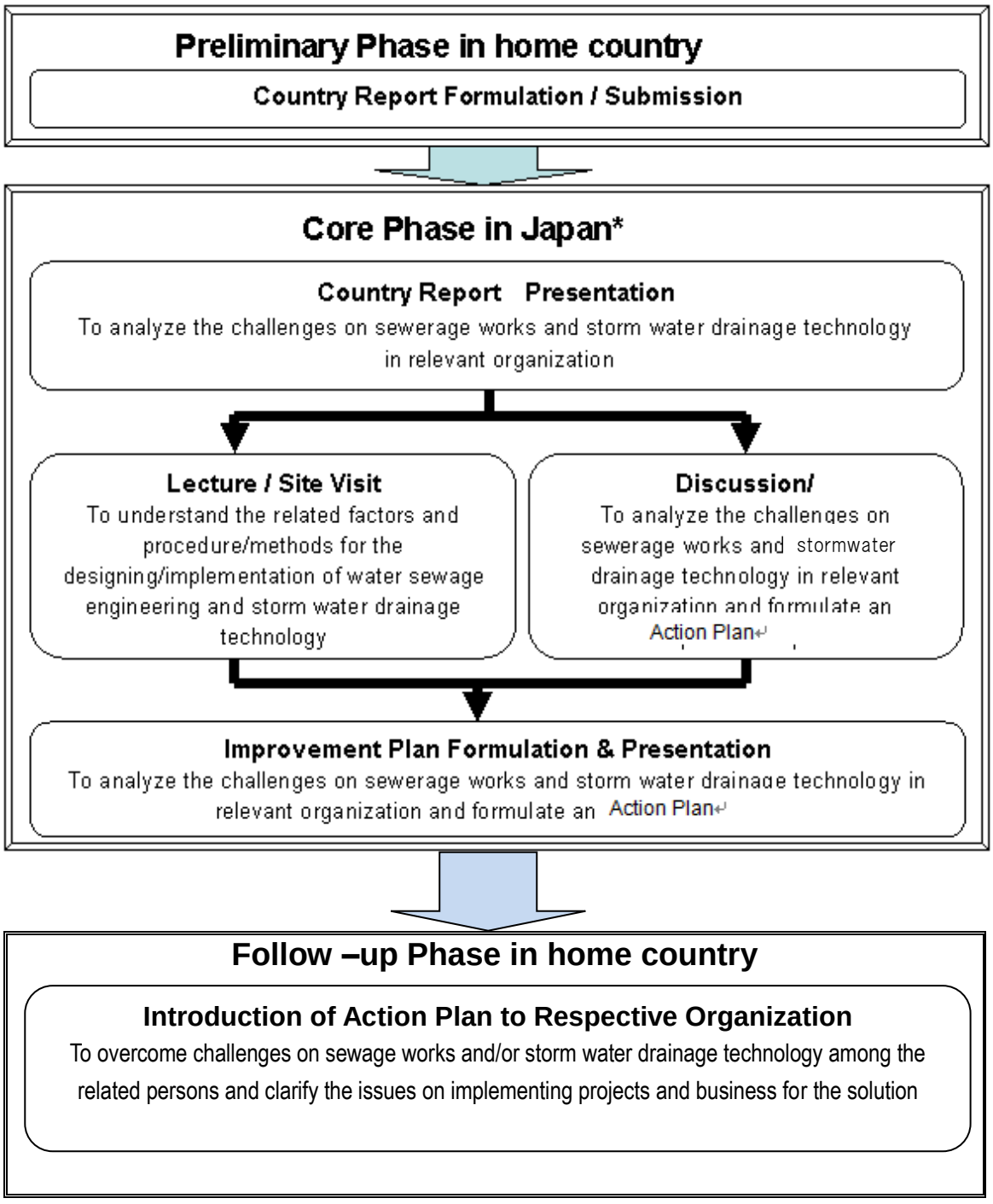
7. Overall Goal:
To enhance the capacity of engineers who are involved in planning, implementing and operating of sewerage and/or stormwater drainage system, and to contribute for the improvement of public sanitation and the reduction of damages from flooding.

8. Objective:
(1)To acquire the basic knowledge which is necessary for planning sewage and urban stormwater drainage.
(2)To examine the necessary approaches and process to formulate master plans in the future.

9. Expected Module Outputs and Contents

This program consists of the following components. Details on each component are shown below:

<Structure of the program>



<*Structure of the Core Phase in Japan>

The curriculum of the course is as follows

Pre-course Program

- Briefing
- Program Orientation
- Courtesy Call at the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and Japan Sewage Works Agency (JS)

●*Lecture & Observation*

<Module I> Basic Concept

1. Introduction to Sewage Works Engineering
2. Water Supply in Japan
3. The Role of Sewage Treatment on Public Health
4. Research and Technology Development for Municipal Wastewater Treatment
5. Biosolids Recycle
6. On-site Treatment of Domestic Wastewater
7. On-site Night Soil Treatment and Septage Management

<Site Visit>
・Omiya Nambu Treatment Plant (Night Soil Treatment)

<Module-II> Administration

1. Special Lecture (Sewerage Administration in Japan)
2. Finance of Sewerage Works
3. Sewerage System Management by the Sewerage Act
4. House Connection and Citizen Awareness
5. Practical Public Announcement

<Module-III> Planning

1. Basic Planning for Sewage Works
2. Design Practice of Basic Planning
3. Comprehensive Basin-Wide Plans of Sewerage Systems
4. Urban Stormwater Drainage Planning

<Module-IV> Sewer

1. Design of Sewer
2. Design Practice of Storm and Sanitary Sewers
3. Sewer Construction
4. Pipe-laying Methods (Microtunneling (SUISHIN))

<Site Visit>
・Microtunneling (SUISHIN) Construction Site

<Module-V> Wastewater Treatment

1. Basics of Biological Wastewater Treatment
2. Design of Wastewater Treatment Facilities
3. Design of Sludge Treatment Process
4. Design Practice of Wastewater and Sludge Treatment Processes
5. Advanced Wastewater Treatment Process
6. Wastewater Reuse and Disinfection
7. Design of Sewage Treatment Facilities in Developing Countries (Lagoon)

<Site Visit>
・Wastewater Treatment Plants (Conventional Activated Sludge Process, Oxidation Ditch Process, Sequencing Batch Reactor, Sludge Treatment Facilities)

<Module-VI> Operation and Maintenance

1. Operation and Maintenance of Sewer Facilities
2. Operation and Maintenance of Wastewater Treatment Plant
3. Industrial Wastewater Regulation in Public Sewerage System
4. Water Quality Analysis (Practice)
5. Sewer Television Inspection Training

<Site Visit>

- Stormwater Storage Facility
- Industrial Wastewater Treatment Facility
- G&U (Ground and Underground) Technical Research Center
- Sewerage Technology Training Center

<Module-VII> Action Plan Preparation

1. Country Report Presentation
2. Workshop on Sewerage System Management
3. Tutorial and Group Discussion on Case Study by the Country
4. GCUS (Japan Global Center for Urban Sanitation) Seminar
5. Case Study Presentation

<Preliminary Phase in participants' home country>
(July 2019 to September 2019)
Participating organizations make required preparation for the Program in participants' home countries.

Expected Module Output	Activities
Country Report	i) Formulation and submission of the Country Report (including an executive summary) with the Application Form by **Friday 19th July, 2019** (**See ANNEX Ⅰ**) **ii) <Accepted Participants ONLY>** Preparation of presentation on Country Report (See ANNEX Ⅱ) iii) Understanding Sustainable Development Goals(Goal 6. See ANNEX Ⅲ)

<Core Phase in Japan>
(23rd September 2019 to 9th November 2019)
Participant dispatched by the organizations attend the Program in Japan.

Expected Module Output	Program	Method
(1) To understand the basic knowledge on sewage works and urban stormwater drainage, and be able to explain sewerage facility planning including the processes and methods for design, construction and management. (2) To be able to plan, design and analyze sewerage facilities through practical training.	(I)Basic Concepts	Lecture
	(II)Administration	Lecture
	(III)Planning	Lecture, Practice
	(IV)Design	Lecture, Site observation
	(V)Maintenance	Lecture, Site observation
(3) To identify issues and challenges in participants' own countries and formulate an improvement plan through guidance and discussions, and participants will also acquire presentation skill.	Country Report Presentation	Presentation
	Action Plan (Case Study)※ Formulation	Discussion
	Action Plan (Case Study) Presentation	Presentation

※Each participant is expected to make an Action Plan (Case Study) based on the knowledge/skill obtained through this training course. The plan should be focused on the contribution of the participant to promote better sewage works or stormwater drainage system in each organization.(See ANNEX Ⅱ)

※Tentative Schedule

(ATTENTION! : Activities in Japan are subject to change.)

※Please refer to <Structure of the Core Phase in Japan> on Page 4 for Module number.

Date		Lecture/ Observation	Module	Topic	Place
9/23 (Mon)	Arrival				
9/24 (Tue)	AM			Briefing	
	PM			Program Orientation	
9/25 (Wed)	AM	Lecture	I-1	Introduction to Sewage Works Engineering	
	PM			Courtesy Call (MLIT, JS)	
9/26 (Thu)	AM	Observation	I-7	Night Soil Treatment Plant	Saitama Pref.
	PM	Observation	V-2, V-3	Saitama City Wastewater Treatment Plant	
9/27 (Fri)	AM	Lecture	II-1	Special Lecture (Sewerage Administration in Japan)	
	PM	Presentation	VII-1	Country Report Presentation	
9/28 (Sat)		Holiday			
9/29 (Sun)		Holiday			
9/30 (Mon)	AM	Tutorial	VII-3	Tutorial for Theme Selection of Action Plan	
	PM	Lecture	I-3	Water Supply in Japan	
10/1 (Tue)	AM	Lecture	I-7	On-site Night Soil Treatment and Septage Management	TIC
	PM	Lecture/ Observation	I-6	On-site Treatment of Domestic Wastewater (Johkasou)	JECES
10/2 (Wed)	AM	Lecture	V-1	Basics of Biological Wastewater Treatment	
	PM	Lecture	III-1	Basic Planning for Sewage Works	
10/3 (Thu)	AM	Practice	III-2	Design Practice of Basic Planning	
	PM				
10/4 (Fri)	AM			Move to Sendai	
	PM	Observation	V-2	Akiu-onsen Wastewater Treatment Plant (Oxidation Ditch process)	Sendai City
	PM	Observation	V-2	Jougi Wastewater Treatment Plant (Sequencing Batch Reactor)	
10/5 (Sat)				Move to Tokyo	
10/6 (Sun)	Holiday				
10/7 (Mon)	AM	Lecture	V-2	Design of Wastewater Treatment Facilities	
	PM	Practice	V-4	Design Practice of Wastewater Treatment Processes	
10/8 (Tue)	AM	Practice	V-4	Design Practice of Wastewater Treatment Processes	
	PM				
10/9 (Wed)	AM	Lecture	V-3	Design of Sludge Treatment Process	
	PM	Practice	V-4	Design Practice of Sludge Treatment Processes	
10/10 (Thu)	PM	Lecture	I-5	Biosolids Recycle	
		Lecture	V-6	Wastewater Reuse and Disinfection	
10/11 (Fri)	AM	Practice	VII-2	Workshop on Sewerage System Management	
	PM	Practice	VII-2	Workshop on Sewerage System Management	
		Practice	VII-3	Tutorial and Group Discussion on Case Study by the Country (1)	
10/12 (Sat)	Holiday				
10/13 (Sun)	Holiday				
10/14 (Mon)	Holiday(National Holiday: Health and Sports Day),				

10/15 (Tue)	AM	Lecture	IV-1	Design of Sewer	
	PM				
10/16 (Wed)	AM	Practice	IV-2	Design Practice of Storm and Sanitary Sewers	
	PM				
10/17 (Thu)	AM	Observation	VI-1	G&U (Ground and Underground) Technical Research Center	Kawashima Town, Saitama Pref.
	PM	Practice	VI-5	Sewer Television Inspection Training	Asaka City, Saitama Pref.
10/18 (Fri)	AM	Lecture	III-3	Comprehensive Basin-Wide Plans of Sewerage Systems	
	PM	Practice	VII-4	GCUS (Japan Global Center for Urban Sanitation) Seminar	
10/19 (Sat)	Holiday				
10/20 (Sun)	Holiday				
10/21 (Mon)	AM	Lecture	VI-3	Industrial Wastewater Regulation in Public Sewerage System	
	PM	Lecture	III-4	Urban Stormwater Drainage Planning	
10/22 (Tue)	Holiday				
10/23 (Wed)	AM	Lecture	II-2	Finance of Sewerage Works	
	PM	Lecture	II-4	House Connection and Citizen Awareness	
10/24 (Thu)	AM	Practice	VI-4	Water Quality Analysis	JS Toda Training Center
	PM				
10/25 (Fri)	AM	Practice	VI-4	Water Quality Analysis	JS Toda Training Center
	PM				
10/26 (Sat)	Holiday				
10/27 (Sun)	Holiday				
10/28 (Mon)	AM	Practice	VII-3	Tutorial and Group Discussion on Case Study by the Country (2)	
	PM	Lecture	IV-3	Sewer Construction	
10/29 (Tue)	AM	Lecture	IV-4	Pipe-laying Methods (Microtunneling (SUISHIN))	
	PM	Observation	IV-4	Microtunneling (SUISHIN) Construction Site	
10/30 (Wed)	AM	Lecture	VI-1	Operation and Maintenance of Sewer Facilities	
	PM	Observation	III-4, VI-1	Stormwater Storage Facility (Wada-Yayoi Sewer Main)	Tokyo Metro.
10/31 (Thu)	AM	Lecture	VI-2	Operation and Maintenance of Wastewater Treatment Plant	
	PM	Practice	VI-1, VI-2	Sewerage Technology Training Center	Tokyo Metro.
11/1 (Fri)	AM	Lecture	I-3	The Role of Sewage Treatment on Public Health	
	PM	Lecture	V-5	Advanced Wastewater Treatment Process	
11/2 (Sat)	Holiday				
11/3 (Sun)	Holiday(Culture Day)				
11/4 (Mon)	Holiday(a substitute holiday of Culture Day)				
11/5 (Tue)	AM	Observation	VI-3	Industrial Wastewater Treatment Facility	Tokyo Metro.
	PM	Lecture	II-4	Practical Public Announcement	
11/6 (Wed)	AM	Lecture	V-7	Design of Sewage Treatment Facilities in Developing Countries (Lagoon)	
	PM	Lecture	II-4	Research and Technology Development for Municipal Wastewater Treatment	
11/7 (Thu)	AM	Lecture	II-3	Sewerage System Management by the Sewerage Act	
	PM	Presentation	VII-5	Case Study Presentation	

11/8 (Fri)	AM			Evaluation Meeting	
				Closing Ceremony	
11/9 (Sat)	Departure				

TIC: JICA Tokyo Center (JICA Tokyo)

MLIT: Ministry of Land, Infrastructure, Transport and Tourism /JS: Japan Sewage Works Agency

<Follow Up Phase in a participant's home country>
(November 2019 – March 2020)
Participants will present their Action Plan to their organizations.
This phase marks the end of the Program.

Expected Module Output	Activities
(1) To share what you have learned in the course and your Action Plan in your organization.	i) Each participant is required to deliver a presentation of his/her Action Plan in his/her organization and to clarify the issues on implementing the Plan and business for the solution.

III. Conditions and Procedures for Application

1. Expectations for the Participating Organizations

(1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operations. Participating organizations are expected to use the project for those specific purposes.

(2) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the project to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

(3) As this program is designed to facilitate organizations to come up with concrete solutions for their issues, participating organizations are expected to make due preparation before dispatching their participants to Japan by carrying out the activities of the Preliminary Phase described in the section Ⅱ-9 .

(4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan by carrying out the activities of the Finalization Phase described in the section Ⅱ-9.

2. Nominee Qualifications

Applying Organizations are expected to select nominees who meet the following qualifications.

(1) Essential Qualifications

1) Nomination:
be nominated by their government in accordance with the procedures mentioned in 4. "Procedure for Application and Selection" below.

2) Current Duties:
be technical officers engaged in sewerage works in central or local governments, or government related organizations.

3) Practical Experience:
have more than three (3) years of experiences in sewage works and/or stormwater drainage technology.

4) Educational Background:
be university graduates or persons who have equivalent technical qualifications in the field of sewage works and/or stormwater drainage

5) Age:
be preferably under forty nine(49) years of age(Thirties is recommended).

6) Language:
have sufficient command of English. (During the program, participants are requested to give presentation and actively participate in discussions. Communication skill in English is highly important.).

7) Health:
be in good health, both physically and mentally, to undergo the course of training including many site visits. Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus.

8) Computer Skill:
be proficient in MS Word, Excel and Power Point.

9) Others
Applicants are required to have understanding about following points.

i) Learning about both sewage and urban drainage
Although this program focuses more on sewage rather than urban drainage, having the motivation to learn both fields in view of its importance is necessary.

ii) Mutual Learning
This program is “Knowledge Co-creation Program”. Thus, it is expected to be personnel who can learn from other participants with respect and to contribute to learning of other participants.

(2) Recommendable Qualification

1) To be engaged in any Japanese ODA project regarding sewerage or storm water drainage.

2) Gender Consideration: JICA is promoting Gender equality. Women are encouraged to apply for the program

3. Required Documents for Application

(1) Application Form

The Application Form is available at the JICA office (or the Embassy of Japan).
Note: All the information should be clearly stated including your current email address.
* If you have any difficulties/disabilities which require assistance, please specify necessary assistances in the Medical History (1-(d)) of the application forms. It may allow us (people concerned in this course) to prepare better logistics or alternatives.

(2) Attachments: to be submitted with the Application Form

1)Photocopy of Passport

If you possess your passport which you will carry when entering Japan for this program. If not, you are requested to submit its photocopy as soon as you obtain it.

＊Photocopy should include the followings:

Name, Date of birth, Nationality, Sex, Passport number and Expire date.

2)Country Report

Please see ANNEX Ⅰ for the details.

Note: Country report will be assessed for the applicants' screening.

3)Nominee's English Score Sheet

If you have any official documentation of English ability (e.g. TOEFL, TOEIC, IELTS).

4. Procedures for Application and Selection

(1) Submission of the Application Documents

Closing date for applications: Please inquire to the JICA office (or the Embassy of Japan).

(After receiving applications, the JICA office (or the Embassy of Japan) will send them to JICA Tokyo **by Friday, July 19th 2019**.)

(2) Selection

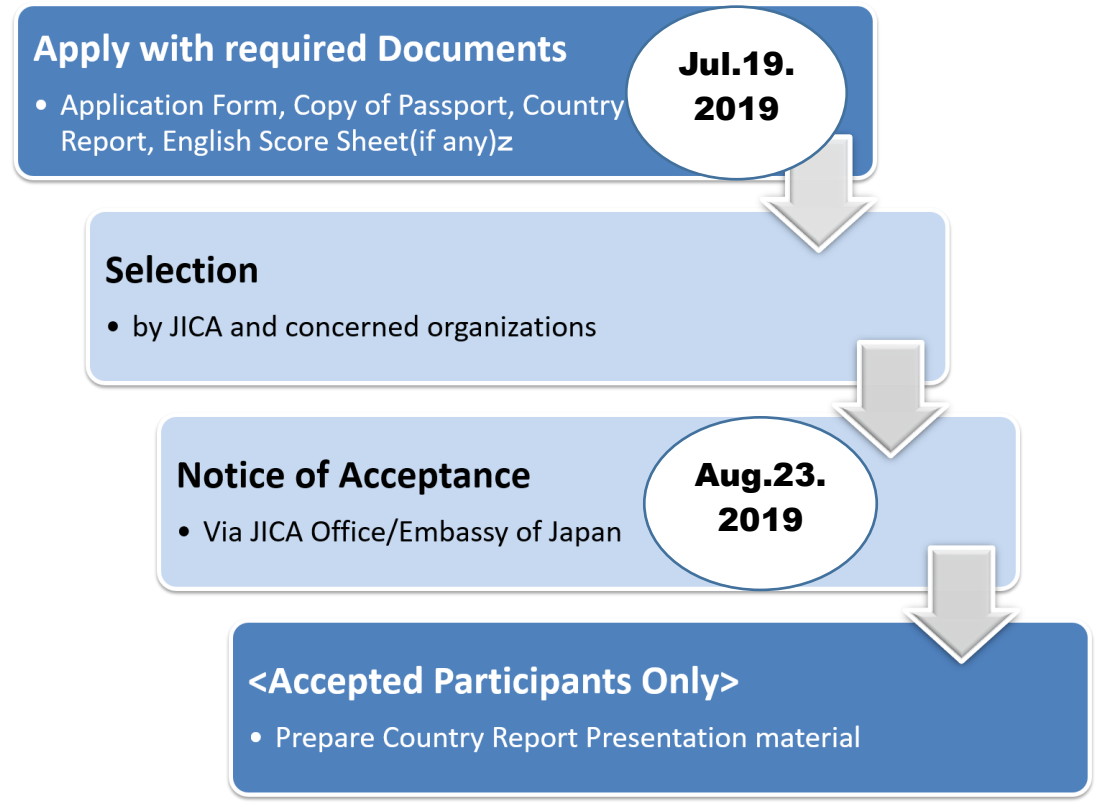
After receiving the documents through proper channels from your government, the JICA office (or the Embassy of Japan) will conduct screenings, and then forward the documents to JICA Tokyo. Selection will be made by JICA Tokyo in consultation with concerned organizations in Japan. The applying organization with best intention to utilize the opportunity of this program will be highly valued in the selection. Qualifications of applicants who belong to the military or other military-related organizations and/or who are enlisted in the military will be examined by the Government of Japan on a case-by-case basis, consistent with the Development Cooperation Charter of Japan, taking into consideration their duties, positions in the organization, and other relevant information in a comprehensive manner.

(3) Notice of Acceptance

Notification of results will be made by the JICA office (or the Embassy of Japan) **not later than Friday, August 23rd 2019.**

5. <Accepted Participants Only>Preparation for the Course

Accepted participants need to prepare for the program including material for Country Report presentation. Please see ANNEX II for more details.



6. Conditions for Attendance:

(1) To strictly adhere to the program schedule.
(2) Not to change the program topics.
(3) Not to extend the period of stay in Japan.
(4) Not to be accompanied by family members during the program.
(5) To return to home countries at the end of the program in accordance with the travel schedule designated by JICA.
(6) To refrain from engaging in any political activities, or any form of employment for profit or gain.
(7) To observe Japanese laws and ordinances. If there is any violation of said laws and ordinances, participants may be required to return part or all of the training expenditure depending on the severity of said violation.
(8) To observe the rules and regulations of the accommodation and not to change the accommodation designated by JICA.

IV. Administrative Arrangements

1. Organizer

(1) Name: JICA Tokyo Center (JICA TOKYO)
Economic Infrastructure Development and Environment Division

(2) Contact: (Ms) Satoko TSUNODA (tictee@jica.go.jp)
*Please include the course title and number (**201984795J002**) in the e-mail title.

2. Implementing Partner: Sewerage Business Management Centre(SBMC)

3. Travel to Japan

(1) Air Ticket

The cost of a round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.

(2) Travel Insurance

Coverage is from time of arrival up to departure in Japan. Thus traveling time outside Japan will not be covered.

4. Accommodation in Japan

JICA will arrange the following accommodations for the participants in Japan:

JICA Tokyo Center (JICA TOKYO) Address: 2-49-5 Nishihara, Shibuya-ku, Tokyo 151-0066, Japan TEL: +81-3-3485-7051 FAX: +81-3-3485-7904 (where “81” is the country code for Japan, and “3” is the local area code)

If there is no vacancy at JICA TOKYO, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of JICA Tokyo at its URL, https://www.youtube.com/watch?v=jWyCOMj3IjE (YouTube)

5. Expenses

The following expenses will be provided for the participants by JICA:

(1) Allowances for accommodation, meals, living expenses, outfit, and shipping.
(2) Expenses for study tours (basically in the form of train tickets.).
(3) Free medical care for participants who become ill after arriving in Japan (costs related to pre-existing illness, pregnancy, or dental treatment are not included)
(4) Expenses for program implementation, including materials.

For more details, please see “III. ALLOWANCES” of the brochure for participants titled “KENSHU-IN GUIDE BOOK,” which will be given before departure for Japan.

6. Pre-departure Orientation

A pre-departure orientation will be held at the respective countries' JICA offices (or Japanese Embassies), to provide participants with details on travel to Japan, conditions of the program, and other matters.

7. Items to Bring to Japan:

(1) a scientific calculator and a ruler
(2) suitable shoes and clothes for site-visit
(3) small travel bag for overnight trip

V. Other Information

Message from Past Participant

"Through this program, I am equipped with knowledge, skills and experiences that will allow me to steer and lead/facilitate the preparation of Wastewater and Septage Management Plan to be implemented by my organization in coordination with the City Government. The course also helps me prepare for possible new assignment related to sewerage when my organization takes more active steps in fulfilling its mandate relative to sanitation which for a long time have been sidetracked."

Participants from the Philippines, 2017

Message from JICA Officer

"What is precious about this course is you can learn not only about Japanese knowledge and skills, but also you can jump into the sewerage network constructed among the professionals of wastewater management from all over the world including Japan. I hope you can join us and work together as one of JICA wastewater network!"

Satoko TSUNODA, JICA Officer

ANNEX Ⅰ: Information on Country Report

Notice: This report contains very important information and will be used for the selection of participants. Therefore, <u>this Country Report must be submitted with the Application Form</u>. Please follow the direction below.

1. Format
   A4 size paper (Microsoft Word is preferable)

2. Contents
   For contents to be included, please refer “Contents” below.

3. Submission deadline
   Friday, July 19h 2019 (with Application Form)

==========

【Contents】

1. **Name of the applicant and the country**
2. **Name of the applicant’s organization**
3. **Address of the applicant’s organization**
4. **Roles and Responsibilities of the applicant’s organization**
5. **Applicant’s Job and Responsibility in the organization**
6. **Your practical work experiences**

Please write ○ in the chart if you have practical work experience listed below.

		Please write “○”
(1) Sewage	Planning	
	Design	
	Operation and Management	
(2) Urban Drainage	Planning	
	Design	
	Operation and Management	
(3) Water Supply	Planning	
	Design	
	Operation and Management	
(4) River Water	Planning	
	Design	
	Operation and Management	
(5) Solids Waste	Planning	
	Design	
	Operation and Management	

7. Organization Chart

Attach an organizational chart of your organization and circle the section in which the you are working.

8. Overview of the Country in terms of Water Environment

(1) General Information

a) Brief description of geography (1 page)

b) Total population of the country

(2) Please provide the following information on the climate in your city/town/village.

a) Average annual rainfall ( ) mm/year
b) Average frequency of rainfall ( ) times/year
c) Maximum hourly rainfall ( ) mm/hour (in year of)
d) Maximum 10-minute rainfall ( ) mm/10 min. (in year of)

(3) Water Quality Preservation Principle and/or Strategy in your country

(Master Plan, Laws and Regulation, Related organization, Role and Responsibility of Federal Government, State Government, Municipality, and Other Related Organizations, etc.)

(4) Please provide the following information on the status of the water pollution of rivers, lakes and bays, including the names of sources, rivers, lakes and bays.

a) Sources of pollution and its standard value
b) Monitoring system of water pollution of rivers and situation (BOD, SS, etc.)
c) Monitoring system of water pollution of lakes and situation (BOD, SS, etc.)
d) Monitoring system of water pollution of bays and situation (BOD, SS, etc.)

9. Overview of Sewerage and Drainage Works

(1) The name of related national and local organizations is responsible for sewerage and drainage works in your country. Please also describe laws and regulations which state their responsibilities.

Sewerage:

Drainage:

(2) Is there any Master plan of sewerage and drainage works in your country? If so, please describe it briefly.

(3) Drainage system for night soil, gray water, and stormwater in your country.

(4) Please provide the following information.

a) Estimated population with water supply

b) Estimated population with sewers

c) Total population and estimated population with sewers of the five (5) largest cities

Name of City	Total Population	Estimated Population with Sewers

(5) Financial system regarding sewerage works (Subsidy from central or state government, general-account budget in the city, construction cost, maintenance cost, user charge, etc.)

(6) Situation of public awareness for sewerage and drainage systems in your country

(7) Present status of industrial wastewater, type of industry, regulation, industrial wastewater treatment

(8) Please describe issues and challenges of sewerage and drainage systems in your country.

10. Stormwater Drainage Condition in the Capital, or the City in which you are working

(1) Frequent flooding region/area and frequency of inundation (Please attach the maps)

(2) Drainage area where stormwater runoff is collected and discharged to stormwater sewers and channels.

(3) Total length of sewers
Less than 600 mm dia. ( ) km
600-1,500 mm dia. ( ) km
Larger than 1,500 mm dia. ( ) km

(4) Number of pumping station

(5) Financial System Regarding Stormwater Drainage (Construction Cost, Maintenance Cost, Subsidy from Central or State Government, General-account Budget in the City, etc.)

(6) Main countermeasures for flood prevention in your country

11. Present status of sewerage systems

(1) Total number of Sewage Treatment Plant (STP) in your country

(2) Adopted Wastewater Treatment Process (Lagoon, Aerated Lagoon, Oxidation ditch, Trickling Filter, Activated sludge process, etc.) and the number of STP in each process

(3) Please describe five (5) largest (or typical) treatment plants in your country.

a) Name and location of the plants
Please attach the maps.

b) Size
i) Daily Wastewater Flow (m3/d)
ii) Domestic Wastewater Flow (m3/d)
iii) Pollution Equivalents
iv) Industrial Wastewater Flow (m3/d) and Its Main Industry

c) Sewage Collection System
i) Combined system
ii) Separate system (including the case where open channels are used for stormwater runoff drainage)
iii) Others

d) Wastewater Treatment Process
Please attach the flow diagram for sewage treatment.

e) Sludge Treatment Process including final disposal

f) Influent and Effluent Water Quality (BOD, COD, SS, T-N, T-P, etc.)

g) Regulation of Effluent Water Quality
(pH, BOD, S-BOD,COD, SS, T-N, T-P, Fecal coliform, Heavy Metal, etc.)

h) Where is the effluent discharged to (after treatment)?
i) Is treated effluent reclaimed and reused? Please answer Yes or No.
ii) If "yes," describe the details as well as purposes.

12. Tentative Theme of Improvement Plan (within 3 pages)

Please describe the following items regarding your tentative theme of the Improvement Plan.

a) Title

b) Current Situation and Background
(Necessity and justification, reasons why you chose the topic as priority, etc.)

c) Objectives and goal
(Please describe the before and after (expected situation) by implementation of improvement plan).

d) What you expect in this course

ANNEX Ⅱ: For Accepted Participants

Once you are accepted, please check the information below for your better preparation.

1. Preparation for Country Report Presentation

(1) Purpose of presentation

At the beginning of the core phase in Japan, each participant is requested to deliver a presentation about Country Report. The purpose of the presentation is to share each country's situation of sewerage among participants, implementing partner (SBMC), other experts of sewerage, and JICA.

(2) Instruction for the preparation

Length of presentation: 20 minutes (including Q & A for 5 minutes)
Data format: Microsoft Powerpoint
Font size: 18 point as the minimum size (preferably)
Submission: Bring the data in USB at the program orientation (24th September)
Contents to be included: Announced with Acceptance Notification.

※Please make slides simple, limiting text as much as possible and utilize graphics (photos, maps, tables or charts) instead. It will help the audience for better understanding of your presentation.

2. Preparation for Action Plan Formulation

(1) Purpose of Action Plan

All the participants will formulate "Action Plan" at the end of the course and will deliver a presentation. The purpose of formulation Action Plan is to summarize your study in Japan and consider how to contribute to solve the issues you are facing in your country with the knowledge and skills you acquire during the course.

(2) Preparation

In order to make your Action Plan more applicable and realistic, please consult with your organization about what topic you would like to take up.

3. Studying about SDGs(Goal6)

Please study SDGs (especially Goal 6) by referring to the material shown next page.

ANNEX Ⅲ: Pre-study Material

Sewerage management is one of the important components to achieve the Sustainable Development Goals (SDGs). Please read the following material about the SDGs Goal6 before the program.

●Sustainable Development Goals(SDGs)

Goal 6: Ensure access to water and sanitation for all
https://www.un.org/sustainabledevelopment/water-and-sanitation/

※You can access to the link above with this QR code.

For Your Reference

JICA and Capacity Development

The key concept underpinning JICA operations since its establishment in 1974 has been the conviction that "capacity development" is central to the socioeconomic development of any country, regardless of the specific operational scheme one may be undertaking, i.e. expert assignments, development projects, development study projects, training programs, JOCV programs, etc.

Within this wide range of programs, Training Programs have long occupied an important place in JICA operations. Conducted in Japan, they provide partner countries with opportunities to acquire practical knowledge accumulated in Japanese society. Participants dispatched by partner countries might find useful knowledge and re-create their own knowledge for enhancement of their own capacity or that of the organization and society to which they belong.

About 460 pre-organized programs cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs and are being customized to address the specific needs of different target organizations, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

Japanese Development Experience

Japan was the first non-Western country to successfully modernize its society and industrialize its economy. At the core of this process, which started more than 140 years ago, was the *"adopt and adapt"* concept by which a wide range of appropriate skills and knowledge have been imported from developed countries; these skills and knowledge have been adapted and/or improved using local skills, knowledge and initiatives. They finally became internalized in Japanese society to suit its local needs and conditions.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from this "*adoption and adaptation*" process, which, of course, has been accompanied by countless failures and errors behind the success stories. We presume that such experiences, both successful and unsuccessful, will be useful to our partners who are trying to address the challenges currently faced by developing countries.

However, it is rather challenging to share with our partners this whole body of Japan's developmental experience. This difficulty has to do, in part, with the challenge of explaining a body of "tacit knowledge," a type of knowledge that cannot fully be expressed in words or numbers. Adding to this difficulty are the social and cultural systems of Japan that vastly differ from those of other Western industrialized countries, and hence still remain unfamiliar to many partner countries. Simply stated, coming to Japan might be one way of overcoming such a cultural gap.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.

CORRESPONDENCE

For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:

JICA Tokyo Center (JICA TOKYO)
Address: 2-49-5 Nishihara, Shibuya-ku, Tokyo 151-0066, Japan
TEL: +81-3-3485-7051 FAX: +81-3-3485-7904