



Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON
SEWAGE AND URBAN DRAINAGE MANAGEMENT
課題別研修「下水道・都市排水マネジメント」
JFY 2018

NO. J1804223 / ID. 1884795

Course period in Japan: From October 3rd, 2018 to November 17th, 2018

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 economically developing countries along with its population increase. Insufficient numbers of wastewater treatment facilities, as well as the lack of capacity for maintaining those facilities, have caused serious water pollution, which also can affect human health, in those countries. 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, and providing safe water, access to public sanitation facilities and flood control is globally required. 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 the project.

For what?

This course aims at achieving sustainable development through developing capacity for improving public sanitation and the reduction of damages from flooding.

For whom?

This course is offered to the departments of central/local governments, municipalities or public institutions related to wastewater treatment, sewage works, and stormwater drainage.

II. Description

1. Title (J-No.):

SEWAGE AND URBAN DRAINAGE MANAGEMENT (J- 1804223)

2. Period of Program

Duration of whole Program: August 2018 to March 2019
Preliminary Phase: August 2018 to September 2018
(in participants' home countries)
Core Phase in Japan: 3rd October 2018 to 17th November 2018
Follow Up Phase: December 2018 to March 2019
(in participants' home countries)

3. Target Countries:

Argentina, India, Ethiopia, Cambodia, Serbia, Tanzania, Philippines, Brazil, Peru, Bosnia and Herzegovina, Malaysia, Mongolia, Laos, and Liberia

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): 14

6. Language to be used in this project: English

7. Overall Goal:

Capacity of engineers who are involved in planning, implementing and operating of sewerage and/or stormwater drainage system to be enhanced, and to contribute for the improvement of public sanitation and the reduction of damages from flooding.

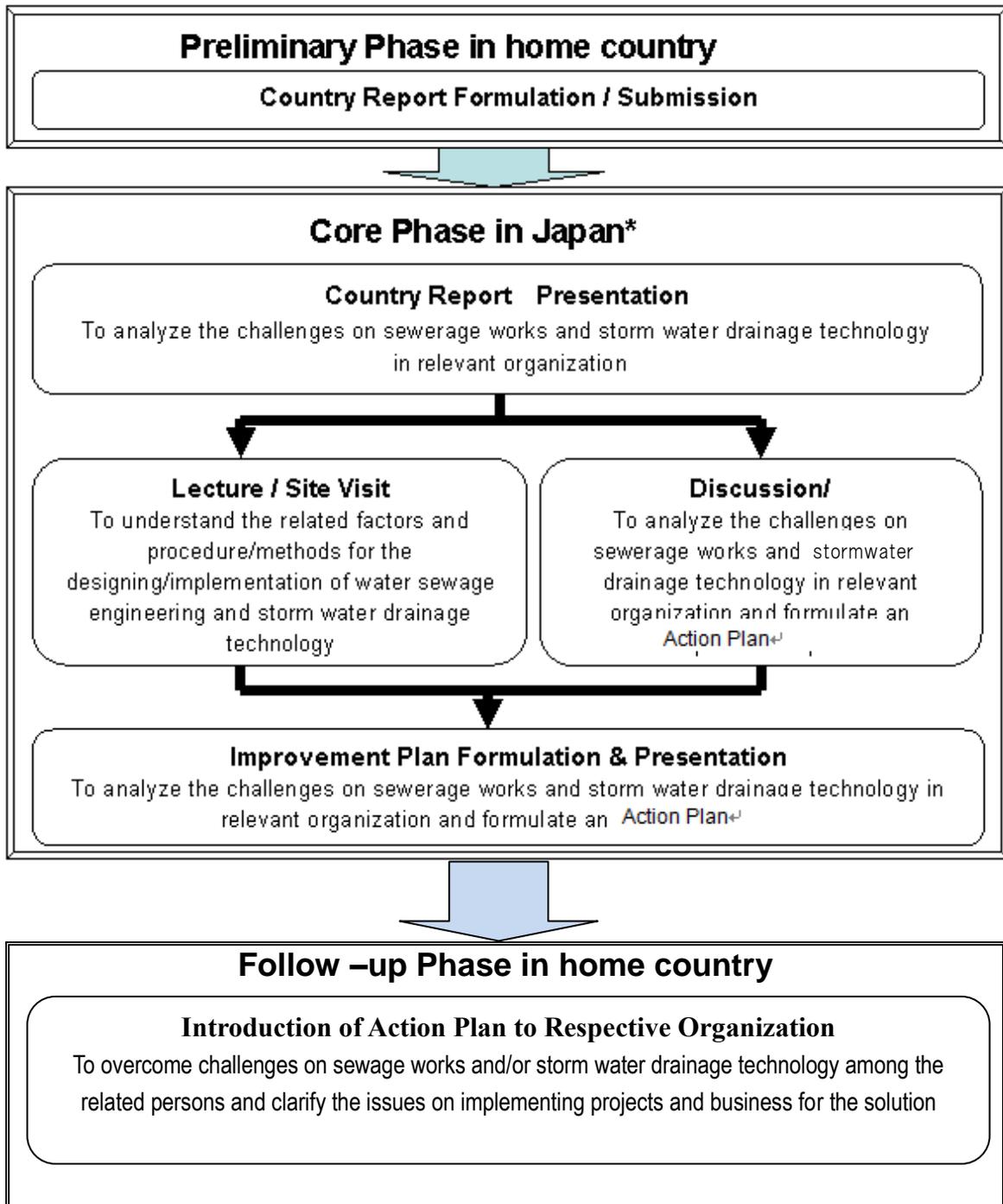
8. Objective:

To clarify the essential points of issues related to sewerage technology and urban stormwater drainage, and prepare Action Plan for improving these issues through acquiring related skills and knowledge.

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. Practical Public Announcement
5. Preparatory Studies and Technical Cooperation Programs for the Project

<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))
5. Planning, Design, Operation and Maintenance of Pumping Station

<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>

- Industrial Wastewater Treatment Facility
- Stormwater Storage 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 a participant's home country>
 (August 2018 to September 2018)
Participating organizations make required preparation for the Program in the respective 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 27th July, 2018 (See ANNEX I) ii) Preparation of presentation on Country Report by the date of arrival in Japan iii) Understanding Sustainable Development Goals(Goal 6. See ANNEX III)

<Core Phase in Japan>
 (3rd October 2018 to 17th November 2018)
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.	(I)Basic Concepts	Lecture
	(II)Administration	Lecture
	(III)Planning	Lecture, Practice
	(IV)Design	Lecture, Site observation
	(V)Maintenance	Lecture, Site observation
(2) To be able to plan, design and analyze sewerage facilities through practical training.		
(3) To identify issues and challenges in participants' own countries and formulate an improvement plan through guidance and discussions, in which 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
10/3 (Wed)	Arrival			
10/4 (Thu)	AM		Briefing	
	PM		Program Orientation	
10/5 (Fri)	AM	Lecture	I-1	Introduction to Sewage Works Engineering
	PM			Courtesy Call (MLIT, JS)
10/6 (Sat)	Holiday			
10/7 (Sun)	Holiday			
10/8 (Mon)	Holiday			
10/9 (Tue)	AM	Observation	I-8	Night Soil Treatment Plant
	PM	Observation	V-2, V-3	Saitama City Wastewater Treatment Plant
10/10 (Wed)	AM	Lecture	II-1	Special Lecture (Sewerage Administration in Japan)
	PM	Presentation	VII-1	Country Report Presentation
10/11 (Thu)	AM	Tutorial	VII-3	Tutorial for Theme Selection of Action Plan
	PM	Lecture	I-3	Water Supply in Japan
10/12 (Fri)	AM	Lecture	I-7	On-site Night Soil Treatment and Septage Management
	PM	Lecture/ Observation	I-6	On-site Treatment of Domestic Wastewater (Johkasou)
10/13 (Sat)	Holiday			
10/14 (Sun)	Holiday			
10/15 (Mon)	AM	Lecture	V-1	Basics of Biological Wastewater Treatment
	PM	Lecture	III-1	Basic Planning for Sewage Works
10/16 (Tue)	AM	Practice	III-2	Design Practice of Basic Planning
	PM			
10/17 (Wed)	AM	Lecture	V-2	Design of Wastewater Treatment Facilities
	PM	Practice	V-4	Design Practice of Wastewater Treatment Processes
10/18 (Thu)	AM	Practice	V-4	Design Practice of Wastewater Treatment Processes
	PM			
10/19 (Fri)	AM			Move to Sendai
	PM	Observation	V-2	Akiu-onsen Wastewater Treatment Plant (Oxidation Ditch process)
		Observation	V-2	Jougi Wastewater Treatment Plant (Sequencing Batch Reactor)
10/20 (Sat)	Move to Tokyo			
10/21 (Sun)	Holiday			
10/22 (Mon)	AM	Practice	VII-2	Workshop on Sewerage System Management
	PM	Practice	VII-3	Tutorial and Group Discussion on Case Study by the Country (1)
10/23 (Tue)	AM	Lecture	V-3	Design of Sludge Treatment Process
	PM	Practice	V-4	Design Practice of Sludge Treatment Processes
10/24 (Wed)	AM	Lecture	I-5	Biosolids Recycle
	PM	Lecture	II-5	Preparatory Studies and Technical Cooperation Programs for the Project

10/25 (Thu)	AM	Lecture	III-3	Comprehensive Basin-Wide Plans of Sewerage Systems	
	PM	Lecture	V-6	Wastewater Reuse and Disinfection	
10/26 (Fri)	AM	Lecture	II-2	Finance of Sewerage Works	
	PM	Practice	VII-4	GCUS (Japan Global Center for Urban Sanitation) Seminar	
10/27 (Sat)	Holiday				
10/28 (Sun)	Holiday				
10/29 (Mon)	AM	Lecture	VI-3	Industrial Wastewater Regulation in Public Sewerage System	
	PM	Lecture	III-4	Urban Stormwater Drainage Planning	
10/30 (Tue)	AM	Practice	VI-4	Water Quality Analysis	JS Toda Training Center
	PM				
10/31 (Wed)	AM	Practice	VI-4	Water Quality Analysis	JS Toda Training Center
	PM				
11/1 (Thu)	AM	Lecture	IV-1	Design of Sewer	
	PM				
11/2 (Fri)	AM	Practice	IV-2	Design Practice of Storm and Sanitary Sewers	
	PM				
11/3 (Sat)	Holiday				
11/4 (Sun)	Holiday				
11/5 (Mon)	AM	Practice	VII-3	Tutorial and Group Discussion on Case Study by the Country (2)	
	PM	Lecture	IV-3	Sewer Construction	
11/6 (Tue)	AM	Lecture	IV-4	Pipe-laying Methods (Microtunneling (SUISHIN))	
	PM	Observation	IV-4	Microtunneling (SUISHIN) Construction Site	
11/7 (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.
11/8 (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.
11/9 (Fri)	AM	Lecture	VI-2	Operation and Maintenance of Wastewater Treatment Plant	
	PM	Practice	VI-1, VI-2	Sewerage Technology Training Center	Tokyo Metro.
11/10 (Sat)	Holiday				
11/11 (Sun)	Holiday				
11/12 (Mon)	AM	Lecture	I-3	The Role of Sewage Treatment on Public Health	
	PM	Lecture	V-5	Advanced Wastewater Treatment Process	
11/13 (Tue)	AM	Observation	VI-3	Industrial Wastewater Treatment Facility	Tokyo Metro.
	PM	Lecture	II-4	Practical Public Announcement	
11/14 (Wed)	AM	Lecture	V-7	Design of Sewage Treatment Facilities in Developing Countries (Lagoon)	
	PM	Lecture	I-4	Research and Technology Development for Municipal Wastewater Treatment	
11/15 (Thu)	AM	Lecture	II-3	Sewerage System Management by the Sewerage Act	
	PM	Presentation	VII-5	Case Study Presentation	
11/16 (Fri)	AM			Evaluation Meeting	
				Closing Ceremony	
11/17 (Sat)	Departure				

TIC: JICA Tokyo International Center (JICA Tokyo)

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

<p><Final Phase in a participant's home country> (November 2018 – March 2019) <i>Participants will present their Action Plan to their organizations. This phase marks the end of the Program.</i></p>	
Expected Module Output	Activities
<p>(1) To share what you have learned in the course and your Action Plan in your organization.</p>	<p>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.</p>

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 senior 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 (40) years of age.

- 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) Motivation:
be personnel who is highly motivated to learn about BOTH sewage works and urban drainage. (Learning knowledge and skills for BOTH fields are important for better management of sewerage works.),
- 8) 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.
- 9) Computer Skill:
be proficient in MS Word, Excel and Power Point.

※This program is “Knowledge Co-creation Program”. Thus, to be personnel who can learn from other participants with respect and to contribute to learning of other participants are necessary.

(2) Recommendable Qualification

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

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.

(2) Photocopy of Passport

To be submitted with the application form, 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.

(3) Country Report

To be submitted with application form.

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

(4) Nominee's English Score Sheet

To be submitted with the application form. 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 27th 2018.**)

(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 the 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 31st 2018.**



5. 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 International Center (JICA TOKYO)

Economic Infrastructure Development and Environment Division

(2) Contact: (Ms) Satoko TSUNODA (ticttee@jica.go.jp)

*Please include the course title and number (J1804223) 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 International 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 the link below,

- JICA Tokyo : <https://www.jica.go.jp/tokyo/english/office/index.html>
- JICA Tokyo facility guide:

https://www.jica.go.jp/tokyo/english/office/c8h0vm00009uld4m-att/facilities_service_guide.pdf

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 “KENSU-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 country’s JICA office (or Japanese Embassy), to provide participants with details on travel to Japan, conditions of the program, and other matters.

7. Things 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

ANNEX I : Information on Country Report

Notice: This report contains very important information and will be used for the selection of participants. Therefore, this Country Report must be submitted with the Application Form. 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 27th 2018 (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 "O"
(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 applicant's organization and circle the section in which the applicant is 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.
- Sources of pollution and its standard value
 - Monitoring system of water pollution of rivers and situation (BOD, SS, etc.)
 - Monitoring system of water pollution of lakes and situation (BOD, SS, etc.)
 - 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.

- Estimated population with water supply
- Estimated population with sewers
- 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 Equivalent

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. 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. 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)

※ 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. Action Plan

(1) Purpose of presentation

All the participants will formulate "Action Plan" at the end of the course and will deliver a presentation. Purpose of this presentation is showing and sharing your achievement of the course and getting feedback for your future action from other participants and experts of sewerage.

(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)

※ Details of Action Plan presentation will be provided during the course.

ANNEX III: Pre-study Material

Following information will be helpful for your pre-study. Please take a look 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.



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