



# **【Online】 Knowledge Co-Creation Program (Group & Region Focus)**

**General information on**

**Operation and Maintenance of Sewerage System (A)**

**課題別研修「下水道システム維持管理 (A)」**

**JFY 2021**

**Course No.: 202003236J001**

**Online Program Period: From January 17, 2022 to February 18, 2022**

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)

The Japanese Cabinet released the Development Cooperation Charter in February 2015, which stated, *“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.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

# I. Concept

## **Background**

A sewerage facility is one of the most fundamental factors of the urban infrastructure, and the setting up of sewerage and waste water treatment plants in developing countries has achieved certain degree of progress.

Along with the development of the facilities, demand for engineers specialized in maintenance of those facilities has become acute.

Since the appropriate maintenance of sewerage facilities is a vital part of providing a good sanitary environment, technicians who deal with sewerage works are required to have wide-ranging knowledge and techniques.

This course focuses on the appropriate maintenance management of sewerage facilities to prevent water pollution, which contributes to Agenda 21, the action plan proposed at the Earth Summit held in Rio de Janeiro in 1992.

Additionally, the course contributes to ease access to basic sanitary facilities and safe drinking water because of the nature of "water cycle". Ensure availability and sustainable management of water and sanitation for all is one of the goals in SDGs.

Through lectures, participants will acquire explicit /tacit knowledge in operation and maintenance of sewerage systems to be made good use of in their own countries.

## **For what?**

This program aims to promote the sewerage system and its management and maintenance techniques in participants' organizations.

## **For whom?**

This program is offered to senior technical staff directly engaged in sewerage system in governmental organizations.

## **How?**

Participants will learn techniques and know-how in the field through online lectures and discussions. In addition, participants are expected to formulate and present an Action Plan at the end of the training program, utilizing the contents in the program.

## II. Description

- 1. Title (Course-No.)**  
**Operation and Maintenance of Sewerage System (A)**  
**(202003236J001)**
- 2. Online Program Period**  
From January 17, 2022 to February 18, 2022
- 3. Target Regions or Countries**  
Brazil, Iraq, Kenya, Mongolia, Philippines and Zimbabwe
- 4. Eligible / Target Organization**  
This program is designed for the governmental or public organizations which are directly engaged in the maintenance and operation of the sewerage system.
- 5. Capacity (Upper limit of Participants)**  
6 participants
- 6. Language**  
English
- 7. Objective**  
The Action Plan drafted based on this training course is implemented and the sewerage condition is improved.
- 8. Overall Goal**  
Effective sewerage system and its management and maintenance techniques will be established in participants' organizations.
- 9. Output and Contents**  
This program consists of the following components. Details on each component are given below:

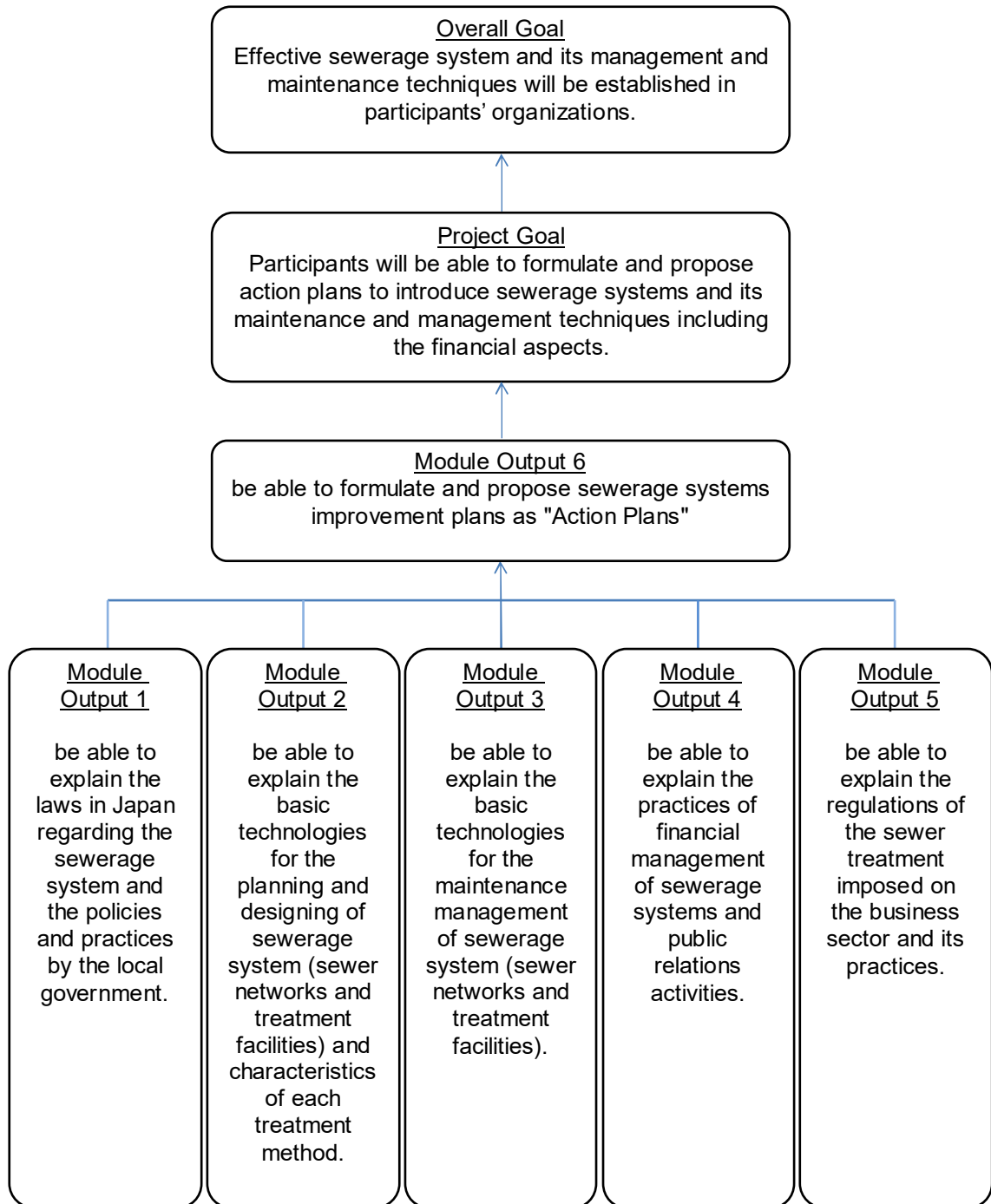
Expected Module Output	Subjects/Agendas	Methodology
1. be able to explain the laws in Japan regarding the sewerage system and the policies and practices by the local government.	(1) Outline of Sewerage System in Japan (2) Summary of Sewerage Systems of Kitakyushu-City	Lecture

2. be able to explain the basic technologies for the planning and designing of sewerage system (sewer networks and treatment facilities) and characteristics of each treatment method.	(1) Basic Planning of Sewerage System (2) Outline of Sewage Treatment & Sludge Treatment (3) Outline of Johkasou	Lecture
3. be able to explain the basic technologies for the maintenance management of sewerage system (sewer networks and treatment facilities).	(1) Practice of Sewer Maintenance (2) Visit to Sewage Treatment Plant, Outline of Operation & Maintenance (3) Sewer Maintenance in Kitakyushu-City (4) Safety Measures in a Sewage Treatment Plant	Lecture
4. be able to explain the practices of financial management of sewerage systems and public relations activities.	(1) Finance, Management & Publicity of Sewerage Business in Kitakyushu-City (2) Finance & Publicity of Sewerage Business in a Small City	Lecture
5. be able to explain the regulations of the sewer treatment imposed on the business sector and its practices.	(1) Pre-Treatment Facilities (:SS) at Sanitary Ware Plant (2) Regulation of the Sewerage Inflow of Industrial Effluents in Kitakyushu City (3) Structure & Maintenance of Oil-Interceptor (4) Pre-Treatment Facilities (oil)	Lecture
6. be able to formulate and propose sewerage systems improvement plans as "Action Plans".	(1) Discussion on Action Plan (2) Submission of Action Plan Report	Discussion Report

\* Please note that “Waste Water (sewage) Treatment Technique” in this training course refers “Activated Sludge Method” which is widely used in Japan. Therefore, the techniques introduced in this training course will be mainly "Activated Sludge Method" and methods of the equivalent level, as well as some advanced methods.

\*\* Please refer to the attached schedule (Annex IV). The schedule is subject to change.

**<Structure of the program>**



## III. Eligibility and Procedures

### 1. Expectations to the Applying Organizations

- (1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operations. Applying organizations are expected to use the Program for those specific purposes.
- (2) In this connection, applying organizations are expected to nominate the most qualified candidates to address the said issues or problems, carefully referring to the qualifications described in section III-2 below.
- (3) 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.

### 2. Nominee Qualifications

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

#### (1) Essential Qualifications

- 1) Current Duties: be senior technical staffs who deal with sewerage system and wastewater treatment.
- 2) Experience in the relevant field: have more than 5 years' experience in the field mentioned above, and be willing to work for your organization in the future (at least 5 years).
- 3) Educational Background: be a graduate of university or equivalent level.
- 4) Language Proficiency: have a competent command of spoken and written English proficiency equivalent to TOEFL iBT 100 or above.
- 5) Health: must be in good health to participate in the program.
- 6) Online training implementation requirements: have PC, microphone and webcam as well as stable internet environment, and participate in live session.

#### (2) Recommendable Qualifications

- 1) Expectations for the Participants: preferably be in relation with past or on-going JICA projects focusing on sewerage treatment.
- 2) Age: 25-50 years of age
- 3) Educational background: since majority of the curriculums are based on engineering, participants are preferable to own backgrounds in civil engineering or mechanical engineering.
- 4) Others: Participants are expected to be familiar with PC operation.
- 5) 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 overseas office (or the Embassy of Japan)**.

(2) **Photocopy of Passport/ID document:** You should submit it with the application form if you possess your passport. If not, you are requested to submit a photocopy of your ID document for ID purposes.

\*The following information should be included in the photocopy:

Name, Date of Birth, Nationality, Sex (and Passport Number and Expiry Date)

(3) **English Score Sheet:** to be submitted with the application form, if the nominees have any official English examination scores. (e.g., TOEFL, TOEIC, IELTS)

(4) **Job Report and Issue Analysis Sheet (IAS):** to be submitted with the application form. Fill in Annex I and II of this General Information, and submit them along with the Application Form. Job Report and IAS are necessary documents for screening of applicants.

### 4. Procedures for Application and Selection

#### (1) Submission of the Application Documents

Closing date for applications: **Please confirm the local deadline with the JICA overseas office (or the Embassy of Japan)**.

(All required material must arrive at **the JICA Center in Japan** by December 1, 2021.)

#### (2) Selection

Primary screening is conducted at the JICA overseas office (or the embassy of Japan) after receiving official documents from your government. JICA Center will consult with concerned organizations in Japan in the process of final selection. Applying organizations with the best intentions to utilize the opportunity will be highly valued.

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development Cooperation Charter of Japan.

#### (3) Notice of Acceptance

The JICA overseas office (or the Embassy of Japan) will notify the results not later than **December 27, 2021**.

### 5. Conditions for Participation

(1) to strictly observe the course schedule and

(2) to prepare required terminals (PC, microphone and webcam) as well as stable internet environment for participation in online program.

## IV. Administrative Arrangements

### 1. Organizer (JICA Center in Japan)

(1) **Center:** JICA Kyuhu Center (JICA KYUSHU)

(2) **Program Officer :** Ms. Yoko NAKATSUKA, Training program Division  
(email: [kictp@jica.go.jp](mailto:kictp@jica.go.jp))

### 2. Implementing Partner

(1) **Name:** Kitakyushu International Techno-cooperative Association (KITA)

(2) **URL:** <http://www.kita.or.jp/english/index.html>

### 3. Information

YouTube of “Knowledge Co-Creation Program and Life in Japan” and “Introduction of JICA Center” are viewable from the link below.

Part I: Knowledge Co-Creation Program and Life in Japan	
English ver.	<a href="https://www.youtube.com/watch?v=SLurfKugrEw">https://www.youtube.com/watch?v=SLurfKugrEw</a>
Part II: Introduction of JICA Center in Japan	
JICA Kyushu	<a href="https://www.jica.go.jp/kyushu/english/office/index.html">https://www.jica.go.jp/kyushu/english/office/index.html</a>



## V. Other Information

### 1. Reports

#### (1) Job Report & Issue Analysis Sheet (IAS)

Each applicant is required to submit his/her own Job Report & Issue Analysis Sheet following the instruction.

#### (2) Action Plan Report

Participants are required to submit Action Plan Report at the end of the training, reflecting the knowledge and method acquired from the course.

### 2. Remarks

JICA training is implemented for the purpose of development of human resources who will promote the advancement of the countries, but not for the enrichment of individuals or private companies. Matters of a trade secret and patent techniques will remain confidential and inaccessible during the training.

## **ANNEX- I**

### **Operation and Maintenance of Sewerage System (A) (JFY 2021) Job Report**

Name: \_\_\_\_\_  
Country: \_\_\_\_\_  
Organization and present post: \_\_\_\_\_  
E-mail: \_\_\_\_\_  
FAX: \_\_\_\_\_

Remarks 1: The Report should be typewritten in English (12-point font, A4 size paper), and total pages of the report should be limited to 3 pages (not including organization chart).

Remarks 2: Please itemize your answer and make them specific.

#### **1. Situation of Sewerage Treatment Systems in assigned area**

- (1) Sewer coverage
- (2) Brief description on sewage treatment facilities (existence, number, type, etc.)
- (3) Method applied for sewage treatment
- (4) Brief description on legal frameworks (numerical standards, fee, restrictions etc.)

#### **2. Organization and main tasks (up to 1 page)**

- (1) Brief description of your organization
- (2) Organization chart:  
Please draw a chart of your organization including the department (section) names with the number of staffs in it and mark where you are positioned. (The chart should be attached and not be counted in this page limit.)
- (3) Brief description of your assignments.

#### **3. Existing problems in your section (up to 1 page)**

- (1) Challenges you are facing
- (2) Countermeasures for these challenges
- (3) Obstacles in the process of solving those challenges

#### **4. Expectations for the training course (up to 1 page)**

- (1) Most interesting subjects or topics in the training course
- (2) How do you expect to apply skills and knowledge for overcoming challenges according to listed items in curriculum (in the previous section) after you return to your home country?
- (3) Other matters you are expecting for this course



**ANNEX- II**

**Issue Analysis Sheet (IAS)**

Country \_\_\_\_\_

Name \_\_\_\_\_

No.	<b>【A】* Issues that you confront.</b>	<b>【B】 Actions that you are taking.</b>	
1			
	<b>【 I 】 Task or The information that I need.</b>	<b>【 II 】 Useful information that I obtained /found.</b>	<b>【 III 】 Lecturer</b>

No.	<b>【A】Issues that you confront.</b>	<b>【B】 Actions that you are taking.</b>	
2			
	<b>【 I 】 Task or The information that I need.</b>	<b>【 II 】 Useful information that I obtained /found.</b>	<b>【 III 】 Lecturer</b>

No.	<b>【A】Issues that you confront.</b>	<b>【B】 Actions that you are taking.</b>	
3			
	<b>【 I 】 Task or The information that I need.</b>	<b>【 II 】 Useful information that I obtained /found.</b>	<b>【 III 】 Lecturer</b>

**【 I 】,【 II 】,【 III 】** These columns will be filled during the training course.

**\*You shall describe challenges you are facing in your department also in the Job Report. Among them, in column A, please describe only those issues you expect to solve utilizing information and knowledge that will be delivered in this training course.**

## ANNEX- III

### **Issue Analysis Sheet (IAS) Guidelines**

#### **1. What is IAS?**

- (1) IAS is a tool to logically organize relationships between issues and contents of the training program in Japan.
- (2) IAS will help the nominee to clarify his/her challenges to be covered in each expected module output and to formulate solutions to them.
- (3) The sheet is to be utilized as a logical process control sheet to draw up improvement plans for the issues by filling out the sheet in phases from prior to the nominee's participation through to the end of the training.
- (4) In addition, it is used for the course leader and lecturers to understand the issues that each participant is confronting, and provide him/her with technical advice, useful references and solutions through the training program.

#### **2. How to fill out IAS?**

- (1) Please describe the issues you confront in column "**A: Issues that you confront**".  
You shall describe challenges you are facing in your section also in the Job Report. Among them, in column A, please describe only those issues you expect to solve utilizing information and knowledge being delivered in this training course. Prepare the separate rows for each problem; if necessary, please add new rows.
- (2) In column "**B: Actions that you are taking**", please describe actions that you are taking to solve the issues shown in "**Column A**".  
This information is very important to carry out the training course and also to make Action Plan as a fruit of the training.
- (3) It's not necessary to fill in column "**I : Task or the information that I need**", column "**II : Useful information that I obtained/found**" and column "**III : Lecturer**". These columns shall be filled out during the training.
- (4) "**Column I**" shall be clarified and filled out in the subject "**Task extraction using IAS**" implemented at the earlier time in the training.
- (5) "**Column II**" and "**Column III**" shall be filled out during the training.

**ANNEX- IV****Tentative Schedule**

\*The schedule is subject to change.

Date	Time (in Japan)	Topic	Methodology
Jan. 17 - Jan. 21	-	Course Guidance	On-demand Lecture (YouTube)
		Outline of Sewerage System in Japan	On-demand Lecture (YouTube)
		Summary of Sewerage Systems of Kitakyushu City	On-demand Lecture (YouTube)
		Basic Planning of Sewerage System	On-demand Lecture (YouTube)
Jan. 17	16:30-18:00	Orientation (Group A)	Live (Zoom)
Jan. 20	10:00-11:30	Orientation (Group B)	Live (Zoom)
Jan. 24 - Feb. 2	-	Outline & Operation & Maintenance of Sewage Treatment Plant & Pumping Station	On-demand Lecture (YouTube)
		Outline of Sewage & Sludge Treatment	On-demand Lecture (YouTube)
		Sewer Maintenance in Kitakyushu City	On-demand Lecture (YouTube)
		Outline of Private Sewers	On-demand Lecture (YouTube)
Feb. 3	16:30-18:00	Q&A Session 1 (Group A)	Live (Zoom)
Feb. 4	10:00-11:30	Q&A Session 1 (Group B)	Live (Zoom)
Feb. 7-16	-	Outline of Johkaso	On-demand Lecture (YouTube)
		Dojou-jouka (Soil Treatment Using Trench) Method	On-demand Lecture (YouTube)
		Introduction of METAWATER	On-demand Lecture (YouTube)
		Advanced Energy Saving Wastewater Treatment System (Pre-treated Trickling Filter System)	On-demand Lecture (YouTube)
Feb. 17	16:30-18:00	Q&A Session 2 (Group A)	Live (Zoom)
Feb. 18	10:00-11:30	Q&A Session 2 (Group B)	Live (Zoom)
Feb. 18	-	Test	Email

Group A: Iraq, Kenya and Zimbabwe

Group B: Brazil, Mongolia and the Philippines

Note: Live sessions will be jointly conducted with Operation and Maintenance of Sewerage System (B) 2020FY (201905745J001).

## **For Your Reference**

### **JICA and Capacity Development**

Technical cooperation is people-to-people cooperation that supports partner countries in enhancing their comprehensive capacities to address development challenges by their own efforts. Instead of applying Japanese technology per se to partner countries, JICA's technical cooperation provides solutions that best fit their needs by working with people living there. In the process, consideration is given to factors such as their regional characteristics, historical background, and languages. JICA does not limit its technical cooperation to human resources development; it offers multi-tiered assistance that also involves organizational strengthening, policy formulation, and institution building.

Implementation methods of JICA's technical cooperation can be divided into two approaches. One is overseas cooperation by dispatching experts and volunteers in various development sectors to partner countries; the other is domestic cooperation by inviting participants from developing countries to Japan. The latter method is the Knowledge Co-Creation Program, formerly called Training Program, and it is one of the core programs carried out in Japan. By inviting officials from partner countries and with cooperation from domestic partners, the Knowledge Co-Creation Program provides technical knowledge and practical solutions for development issues in participating countries.

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized courses 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 is being customized by the different target organizations to address the specific needs, 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, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving its tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

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 a process of adoption, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

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.





**Contact Information for Inquiries**

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

**JICA Kyushu**

**Address: 2-2-1 Hirano, Yahatahigashi-ku, Kitakyushu-shi, Fukuoka 805-8505 Japan**

TEL: +81-93-671-6311 FAX: +81-93-671-0979