

No.12040/26/2014-TRG(FTC/IR)
Government of India
Ministry of Personnel, Public Grievances and Pensions
Department of Personnel and Training
[Training Division]

Block-4, Old JNU Campus
New Mehrauli Road, New Delhi-67
Dated–May 26, 2014

TRAINING CIRCULAR

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Subject: Group Training Course in “Sewage Works Engineering and Storm Water Drainage Technology” to be held in Japan from September 23 to December 06, 2014 under the Technical Cooperation Programme of the Government of Japan.

The undersigned is directed to state that the Japan International Cooperation Agency (JICA) has invited applications for the above mentioned training programme to be held in Japan from September 23 to December 06, 2014 under the Technical Cooperation Programme of the Government of Japan.

2. This programme aims at achieving consensus for challenges on sewerage works engineering and stormwater drainage among the related persons, clarifying the points on implementing projects and business for the solution.
3. This programme is offered to those officials who are related to wastewater treatment, sewage works and stormwater drainage.
4. The applying organizations are expected to select the applicants in accordance with the procedures mentioned in point 4 ‘Procedure for Application and Selection’. The nominees should be a senior technical officer engaged in sewage works or stormwater drainage technology in central or local government with more than 3 years of experience in that field. The applicants should also be an university graduate or equivalent technical qualifications in the field of sewage works or stormwater drainage; should be under 40 years of age; should have competent command over spoken and written English; must be in good health (both physically and mentally); be proficient in MS Word, Excel & Power Point and must not be a part of military service.
5. In addition to above, the following information in respect of the nominated officers may please be mentioned while furnishing the nomination:-
 - a) Whether attended any foreign training programme in the past? If so, the duration/detail thereof;
 - b) Whether cleared from vigilance angle;
 - c) Age;
 - d) Whether working in North East State/J&K;
 - e) A brief in 50-100 words justifying the nomination.
6. The course covers the cost of a round-trip air ticket between international airport designated by JICA and Japan; travel insurance from the time of arrival in Japan to departure from Japan; allowances for (accommodation, living expenses, outfit and shipping); expenses for JICA study tours and free medical care for participants who may fall ill after reaching Japan (costs relating to pre-existing illness, pregnancy, or dental treatment are not included).

7. It is therefore requested that the nomination of suitable candidates may please be forwarded (in duplicate) in JICA's prescribed form (available in persmin.nic.in→DOPT→Training Wing→Circular→JICA) to this Department duly authenticated by the HOD of the concerned department in accordance with the eligibility criteria.

8. The applications should reach this Department through the Administrative Ministry/State Government not later than **July 15, 2014**. Nominations received after the prescribed date will not be considered. The details of the programme may be drawn from Ministry of Personnel, Public Grievances and Pensions' website (persmin.nic.in).



(N.K. Wadhwa)

Under Secretary to the Government of India

Tele.No.011-26165682

E-mail-ID naresh.wadhwa@nic.in

Copy to:

- a) The Secretary, M/o Water Resources, Shram Shakti Bhavan, Rafi Marg, New Delhi,
- b) The Secretary, Ministry of Urban Development, Nirman Bhawan, New Delhi,
- c) The Chief Secretaries to all the State Governments/Union Territories(with request to circulate the same amongst their related Departments/Organizations),
- d) NIC with request to post the circular along with the JICA's circular on this Department's website.



GROUP AND REGION-FOCUSED TRAINING

GENERAL INFORMATION ON
SEWAGE WORKS ENGINEERING AND
STORMWATER DRAINAGE TECHNOLOGY

課題別研修「下水道技術・都市排水」
JFY 2014

NO. J1404060 / ID. 1480779

Course period in Japan: From 23rd September 2014 to 6th December 2014

This information pertains to one of the Group and Region-Focused Training 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.

I. Concept

Background

Water quality management is urgently required, as the amount of water usage in the cities of economically developing countries, in parallel to its population, increases. Insufficient numbers of wastewater treatment facilities, as well as the lack of capacity for maintaining those facilities, have caused serious water pollution in those countries. In addition, rapid urbanization accelerating the reduction of stormwater permeable area due to the expansion of cities has induced frequent flooding. The importance of sewage works also as stormwater drainage system is widely recognized.

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 consensus for challenges on sewerage works engineering and stormwater drainage among the related persons, clarifying the points on implementing projects and business for the solution.

For whom?

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

II. Description

1. Title (J-No.):

SEWAGE WORKS ENGINEERING AND STORMWATER DRAINAGE TECHNOLOGY (J-1404060)

2. Period of program

Duration of whole program: July 2014 to June 2015

Preliminary Phase: July 2014 to September 2014

(in participants' home countries)

Core Phase in Japan: 23rd September 2014 to 6th December 2014

Finalization Phase: December 2014 to June 2015

(in participants' home countries)

3. Target Countries:

Indonesia, Philippines, Myanmar, India, Pakistan, Fiji, Brazil, Algeria, Morocco, Sudan, Kenya, Liberia, South Africa, Zimbabwe, Turkey

4. Eligible / Target Organization:

Central or local governments, municipalities or public institutions related to wastewater treatment, sewage works, and stormwater drainage

5. Course capacity (Upper limit of Participants): 16

6. Language to be used in this project: English

7. Overall Goal:

Capacity of engineers 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 achieve consensus on issues related to sewerage technology and urban stormwater drainage among the countries participating in the training course, and clarify the essential points to solve these issues.

10. Expected Module Outputs and Contents

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

<Preliminary Phase in a participant's home country>
 (July 2014 to September 2014)
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 25th July, 2014 (See ANNEX 1) ii) Preparation of presentation on Country Report by the date of arrival in Japan

<Core Phase in Japan^{※1}>
 (23rd September 2014 to 6th December 2014)
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.	Basic knowledge	Lecture
	Planning and Designing	Lecture, Practice
	Operation and Maintenance	Lecture, Site observation
	Urban Stormwater Drainage System	Lecture, Site observation
	Environmental Protection Measures	Lecture
(2) To be able to plan, design and analyze sewerage facilities through practical training.	Sewage System Management	Lecture, Site observation
	Country Report Presentation	Presentation
(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.	Improvement Plan (Case Study) ^{※2} Formulation	Discussion
	Improvement Plan (Case Study) Presentation	Presentation

※1 Detail of the contents during the Core Phase is shown in ANNEX 2.

※2 Each participant is expected to make an Improvement Plan (Case Study) based on the knowledge/skill which each participant has 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.

Schedule of JFY2013 (Note: Activities in Japan might be slightly changed in this year)

Date		Lecture/ Visit etc.	Topic	Place
09/23 (Mon)			Arrival	TIC
09/24 (Tue)	09:30~ 12:00		Briefing	TIC
	13:00~ 14:00		Return flight meeting	
09/25 (Wed)	09:30~ 11:30	Lecture	General Orientation	TIC
	12:45~ 17:00			
09/26 (Thu)	10:00~ 12:00	Lecture	Program Orientation	TIC
	14:00~ 17:00		Courtesy Call	MLIT, JS
09/27 (Fri)	09:30~ 12:00	Lecture	Green and Water in Urban Planning	TIC
	13:30~ 16:00	Lecture	Special Lecture: Sewage Works in Japan	
09/28 (Sat)			holiday	
09/29 (Sun)			holiday	
09/30 (Mon)	09:30~ 12:30	Lecture	Introduction to Sewage Works Engineering	TIC
	13:30~ 16:00	Lecture	Basic Planning for Sewage Works	
10/01 (Tue)	09:30~ 12:00	Practice	Design Practice of Basic Planning	TIC
	13:30~ 16:00			
10/02 (Wed)	09:30~ 12:30	Presentation	Country Report	TIC
	13:30~ 16:30			
10/03 (Thu)	09:30~ 12:00	Presentation	Country Report	TIC
	13:30~ 16:30			
10/04 (Fri)	09:30~ 12:00	Visit	Omiya Nambu TP, Saitama City, Saitama City WWTP	Saitama prefecture
	14:00~ 16:00	Visit	Johkasou Manufacture Plant	
10/05			holiday	

(Sat)				
10/06 (Sun)			holiday	
10/07 (Mon)	09:30~ 12:00	Practice	GCUS Seminar	TIC
	13:30~ 16:00			
10/08 (Tue)	09:30~ 12:00	Tutorial	Case Study by the Country	TIC
	13:30~ 16:30	Lecture	Water Supply in Japan	
10/09 (Wed)	09:30~ 12:00	Lecture	Toilet and Disaster Business Continuity Plan	TIC
	13:30~ 16:00	Lecture	Night Soil Treatment and Disposal (Septage Management)	
10/10 (Thu)	09:30~ 12:00	Lecture	Basics of Biological Wastewater Treatment	TIC
	13:30~ 16:00	Lecture	Biosolids Recycle	
10/11 (Fri)	09:30~ 12:00	Lecture	Comprehensive Basin Wide Planning of Sewerage Systems	TIC
	13:30~ 16:00	Lecture	On-site Treatment of Domestic Wastewater	
10/12 (Sat)			holiday	
10/13 (Sun)			holiday	
10/14 (Mon)			Move to Kansai Region	
10/15 (Tue)		Filed trip	Biwako-konanchubu Wastewater Reclamation Plant (Ultra Advanced Treatment)	Shiga Prefecture
			Sekisui Chemical Co. Ritto factory (Polyvinyl chloride pipe manufacturing facility)	
10/16 (Wed)		Filed Trip	Shidugawa WWTP (Community Plant, OD Process)	Kyoto Prefecture
			Northern Underground River, River Basin Regulating Reservoir, Hanazono Multi-purpose Flood Control Basin	Osaka Prefecture
10/17 (Thu)		Filed Trip (Lecture)	Sewage Works in Osaka City	Osaka Prefecture
		Filed Trip	Osaka City Sewerage Science Museums, Ebie WWTP (Multi-layer facility)	
10/18 (Fri)		Filed Trip	Higashinada WWTP (Bio Gass)	Hyogo Prefecture

		Filed Trip	Eastern Sludge Center	Hyogo Prefecture
10/19 (Sat)			Move back to Tokyo	
10/20 (Sun)			holiday	
10/21 (Mon)	09:30~12:00	Lecture	Design of Wastewater Treatment Facilities	TIC
	13:30~16:00			
10/22 (Tue)	09:30~12:00	Practice	Design Practice in Wastewater Treatment Process	TIC
	13:30~16:00			
10/23 (Wed)	09:30~12:00	Lecture	Sludge Treatment Process	TIC
	13:30~16:00	Practice	Design Practice in Sludge Process	
10/24 (Thu)	09:30~12:00	Lecture	Design of Sewers	TIC
	13:30~16:00			
10/25 (Fri)	09:30~12:00	Practice	Design Practice of Storm and Sanitary Sewers	TIC
	13:30~16:00			
10/26 (Sat)			holiday	
10/27 (Sun)			holiday	
10/28 (Mon)	09:30~12:00	Lecture	Operation and Maintenance of Sewage Treatment Plant	TIC
	14:30~16:00	Visit	Shibaura Wastewater Reclamation Center	Tokyo
10/29 (Tue)	09:30~12:00	Tutorial	Case Study by the Country	TIC
	13:30~16:00	Lecture	Finance of Sewerage Works	
10/30 (Wed)	09:30~12:00	Lecture	Urban Storm Water Drainage Planning	JICA Yokohama
	13:30~16:00	Visit	Hiranuma Stormwater Pumping Station	Kanagawa prefecture
10/31 (Thu)	09:30~12:00	Lecture	Operation and Maintenance of Sewer facilities	Tokyo Metro.Govern. Office
	13:30~	Visit	Wada-yayoi Sewer Main	Tokyo

	16:00			
11/01 (Fri)	09:30~ 12:00	Lecture	Planning, Design, Operation and Maintenance of Pumping Station	TIC
	13:30~ 16:00	Practice	Practical Public Announcement	
11/02 (Sat)			holiday	
11/03 (Sun)			holiday	
11/04 (Mon)			holiday	
11/05 (Tue)		Filed Trip	Move to Kyusyu Region	Fukuoka prefecture
			Chubu WWTP	
11/06 (Wed)		Filed Trip	Murasakigawa Environmental Museum of Water	Fukuoka prefecture
			Shintake Pumping Station	
			Water Plaza	
11/07 (Thu)		Filed Trip	Fukuoka Seawater Desalting Facility	Fukuoka prefecture
			Move to Saga prefecture	
			Hinode Co. (Manhole Production Factory)	Saga prefecture
11/08 (Fri)		Filed Trip	Nagasaki Nambu WWTP	Nagasaki prefecture
			Nagasaki Peace Park	
11/09 (Sat)			Move back to Tokyo	
11/10 (Sun)			holiday	
11/11 (Mon)	09:30~ 12:00	Lecture	Preparatory Studies and Technical Cooperation Programs for the Project	TIC
	13:30~ 16:00	Lecture	International Cooperation by the Ministry of Land, Infrastructure, Transport and Tourism	
11/12 (Tue)	09:30~ 12:00	Lecture	Workshop on Sewerage System Management	TIC
	13:30~ 16:00			
11/13 (Wed)	09:30~ 12:00	Lecture	Sewer Construction	TIC
	13:30~ 16:00	Lecture	Special Pipe-laying Methods (Shield Tunneling)	
11/14 (Thu)	09:30~ 12:00	Lecture	Special Pipe-laying Methods (Pipe jacking method)	TIC
	13:30~ 16:00			

11/15 (Fri)	09:30~ 12:00	Tutorial	Case Study by the Country	TIC
	13:30~ 16:00	Visit	Shield Tunneling Construction site	Tokyo
11/16 (Sat)			holiday	
11/17 (Sun)			holiday	
11/18 (Mon)	09:30~ 12:00	Lecture	Outline of Water Resources Management in Japan	TIC
	13:30~ 16:00	Lecture	The Role of Sewage Treatment on Public Health	
11/19 (Tue)	09:30~ 12:00	Practice	Water Quality Analysis	Saitama prefecture
	13:30~ 16:00			
11/20 (Wed)	09:30~ 12:00	Practice	Water Quality Analysis	Saitama prefecture
	13:30~ 16:00			
11/21 (Thu)	09:30~ 12:00	Lecture	Wastewater Reuse and Disinfection	TIC
	13:30~ 16:00	Lecture	Advanced Wastewater Treatment Process	
11/22 (Fri)	09:30~ 12:00	Lecture	Industrial Wastewater Regulation in Public Sewerage System	JICA Yokohama
	13:30~ 16:00	Visit	Industrial Wastewater Treatment Facility	Kanagawa prefecture
11/23 (Sat)			holiday	
11/24 (Sun)			holiday	
11/25 (Mon)	10:30~ 12:00	Visit	Life Safety Learning Center	Tokyo
	14:30~ 16:00	Visit	Kyu-Mikawashima Pumping Station	Tokyo
11/26 (Tue)	09:30~ 12:00	Lecture	Lagoon and Aquaculture	TIC
	13:30~ 16:00	Lecture	Design of Sewage Treatment Facilities in Developing Countries (Lagoon)	
11/27 (Wed)	09:30~ 12:00	Tutorial	Case Study by the Country	TIC
	13:30~ 16:00			
11/28 (Thu)		Filed Trip	Move to Tohoku Region	

		Filed Trip	Ishinomaki-tobu WWTP (Oxygen aeration activated sludge)	Miyagi prefecture
11/29 (Fri)		Filed Trip	Minami-gamou WWTP (Contact aeration process)	Miyagi prefecture
			Akiu-onsen WWTP	
			Move back to Tokyo	
11/30 (Sat)			holiday	
12/01 (Sun)			holiday	
12/02 (Mon)	09:30~ 12:00	Lecture	Operation and Maintenance of Oxidation Ditch, and Lagoon Processes Compared with Conventional Activated Sludge Process	TIC
	13:30~ 16:00			
12/03 (Tue)	09:30~ 12:00	Lecture	Research and Technology Development for Municipal Wastewater Treatment in Japan	TIC
	13:30~ 16:00	Lecture	Sewerage System Management by the Sewerage Law	
12/04 (Wed)	09:30~ 12:00	Presentation	Case Study by the Country	TIC
	13:30~ 16:00			
12/05 (Thu)	09:30~ 12:00	Presentation	Case Study by the Country	TIC
	13:30~ 16:00			
12/06 (Fri)	10:00~ 11:00		Evaluation Meeting	TIC
	11:15~ 11:45		Closing Ceremony	TIC
12/07 (Sat)			Departure	

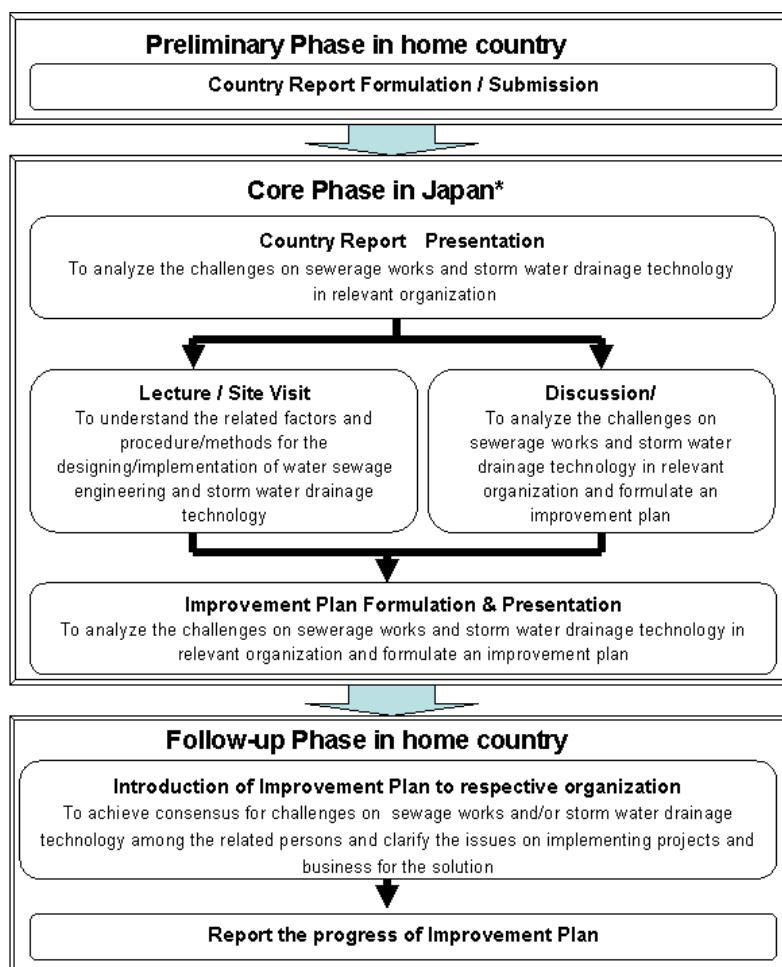
*TIC: Tokyo International Center (JICA Tokyo)

*MLIT: Ministry of Land, Infrastructure, Transport and Tourism

*JS: Japan Sewerage Works Agency

<Finalization Phase in a participant's home country> (December 2014 – June 2015) <i>Participants will present their Improvement Plan to their organizations, and revise the Plan <u>with the feedback comment.</u></i> <i>This phase marks the end of the Program.</i>	
Expected Module Output	Activities
(4) To achieve consensus for challenges on sewage and/or stormwater drainage works among the related persons by presentation of the improvement plan. (5) To finalize the Improvement Plan and submit.	i) Each participant is required to make a presentation of his/her Improvement Plan in his/her organization and to clarify the issues on implementing the Plan and business for the solution. ii) Each participant is required to add any information based on his/her organization's comments/feedback, to revise the Plan and to submit it <u>by the end of June 2015.</u>

<Structure of the program>



III. Conditions and Procedures for Application

1. Expectations from the Participating Organizations

- (1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operation. 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 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 section II -9.

2. Nominee Qualifications

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

(1) Essential Qualifications: Applicants should

1. be nominated by their government in accordance with the procedures mentioned in 4. "Procedure for Application and Selection" below.
2. To be senior technical officers engaged in sewage works and/or stormwater drainage in central or local governments, or government related organizations.
3. To have more than three (3) years of experience in sewage works and/or stormwater drainage technology.
4. To be university graduates or persons who have equivalent technical qualifications in the field of sewage works and/or stormwater drainage.
5. To be under forty (40) years of age, in principle.
6. **have sufficient command of English,**
(During the course program, participants are requested to give presentation and actively participate in discussions. Communication skill in English is highly important.)
7. **be in good health, both physically and mentally, to undergo the course of training including many site visits.** This program includes many site visits outside Tokyo, which may be a heavy burden to a pregnant woman.
8. **be proficient in MS Word, Excel and Power Point.**
9. not be serving in the military.

(2) Recommendable Qualification

To be engaged in any 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**

***Pregnancy**

Pregnant participants are strictly requested to attach the following documents in order to minimize the risk for their health.

- ① letter of the participant's consent to bear economic and physical risks
- ② letter of consent from the participant's supervisor
- ③ doctor's letter with permission of her training participation.

Please ask JICA Staffs for the details.

(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 (Annex-1)

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 the JICA Center in Japan **by 25th July 2014.**)

(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 Center in Japan. Selection will be made by the JICA Center 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.

(3) Notice of Acceptance

Notification of results will be made by the JICA office (or the Embassy of Japan) **not later than 15th August 2014**

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: JICA Tokyo International Center (JICA TOKYO)**
Economic Infrastructure Development and Environment Division
Contact: (Ms) Aiko INOUE
tictree@jica.go.jp

*Please include the course title and number (J1404060) 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 to facility guide of TIC at its URL,
<http://www.jica.go.jp/english/contact/domestic/pdf/welcome.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. What to bring:

- (1) Scientific calculator and ruler
- (2) Suitable shoes and clothes for site-visiting.
- (3) Small travel bag for field trip.

V. ANNEX:

1. Country Report (ANNEX 1)
2. Contents of the Program in Japan (ANNEX 2)

Country Report SEWAGE WORKS ENGINEERING AND STORMWATER DRAINAGE TECHNOLOGY (JFY 2014)

- 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. Organization Chart**
Attach an organizational chart of applicant's organization, and circle the section in which the applicant is working.
- 7. 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) 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.)

8. 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 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 supply water

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) 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.

9. 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

10. 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.

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

Please describe 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.)

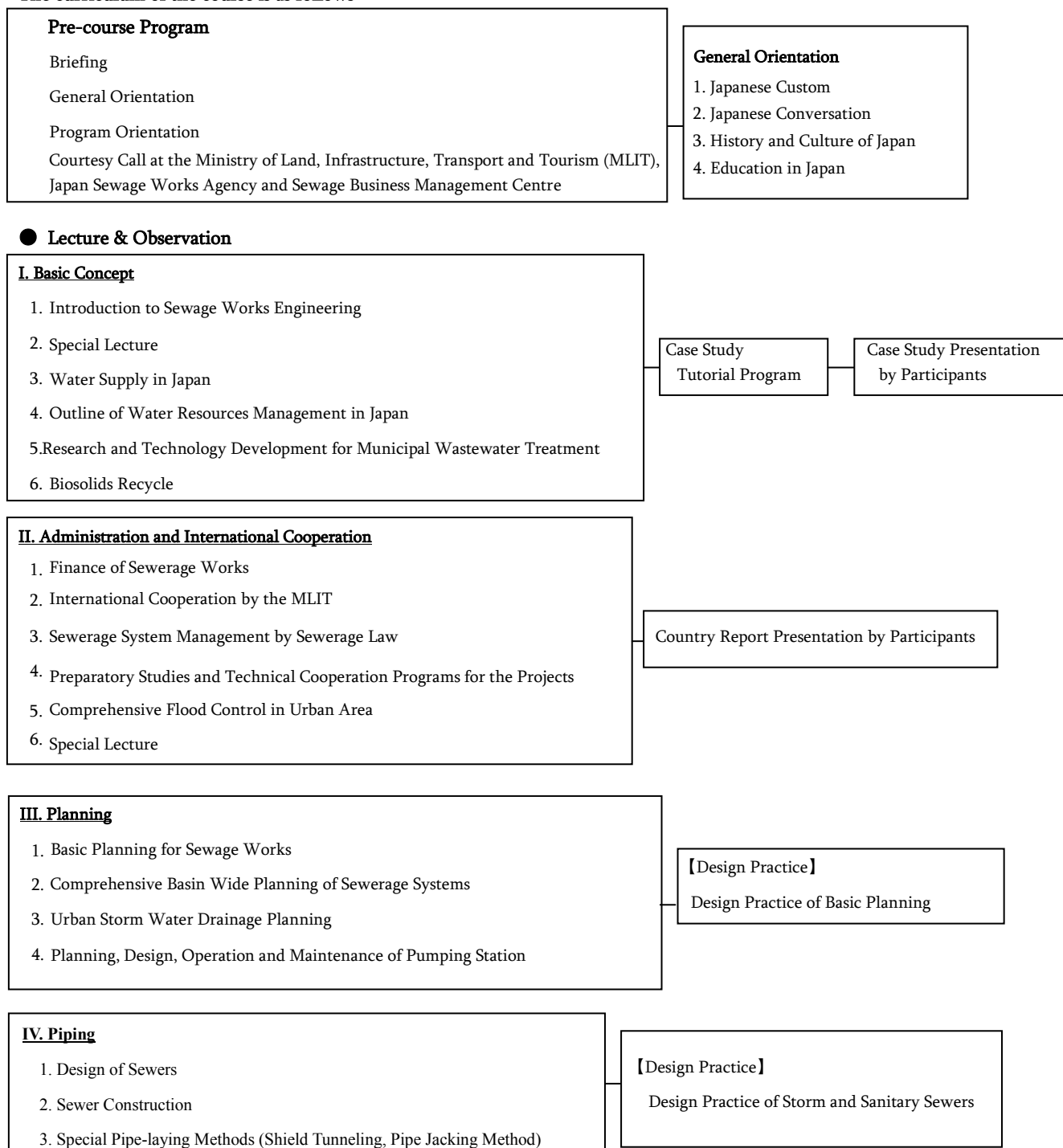
c) Objectives and goal

(Describe the before and after (expected situation) by implementation of improvement plan).

d) What you expect in this course

Contents of the Program in Japan

The curriculum of the course is as follows



V. Treatment Plant

1. Basics of Biological Wastewater Treatment
2. Design of Wastewater Treatment Facilities
3. Sludge Treatment Process

【Design Practice】

Design Practice in Wastewater and Sludge Treatment Process

VI. Advanced Wastewater Treatment

1. Advanced Wastewater Treatment Process
2. Wastewater Reuse and Disinfection

VII. Industrial Wastewater

1. Industrial Wastewater Regulation in Public Sewerage System

VIII. Maintenance

1. Operation and Maintenance of Sewer Facilities
2. Operation and Maintenance of Sewage Treatment Plant
3. Operation and Maintenance of Oxidation Ditch and Lagoon Processes
Compared with Conventional Activated Sludge Process

【Observation/Practice】

1. Water Quality Analysis

IX. Others

1. Lagoon and Aquaculture
2. Design of Sewage Treatment Facilities in Developing Countries (Lagoon)
3. The Roles of Sewage Treatment on Public Health
4. On Site Treatment of Domestic Wastewater
5. Practical Public Announcement

【Study Tour : Kyusyu】

1. Munakata Treatment Center
2. Fukuoka Treatment Plant
3. Hinode-Suidou Kiki Co.,Ltd
4. Park Wastewater Treatment Plant

【Field Trip : Saitama】

1. Saitama City Wastewater Treatment Plant
2. Johkasou Manufacture Plant/ NIKKO Co.,

● Closing Program

1. Evaluation of the Training
2. Closing Ceremony

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

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