



# Knowledge Co-Creation Program (Group & Region Focus)

## GENERAL INFORMATION ON

**Comprehensive Engineering on Water Supply Systems  
:Practical Training for Water Supply System (B)**

**課題別研修「上水道施設技術総合：水道実務者向け実践編 (B)」  
JFY 2018**

**Course No.J1804163/ID.1884475**

**Course Period in Japan: From May 31, 2018 to August 11, 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**

It is critically important to supply safe and drinkable water from the point of view of Basic Human Needs; however, its resource distribution is extremely skewed in respective countries.

United Nations estimates that one-thirds of world population has still limited access to proper water supply; forcing more than one billion people without safe drinking water due to insufficient management and technical capacity, financial arrangements, public awareness activities and so on.

The Sapporo City, where participants of this course will stay and locates northern metropolis of Japan with 1.9 million populations, 99.9% of residents can enjoy the provision of safe water supply for twenty-four (24) hours all year round. The water quality and continuous water supply in Sapporo are underpinned by Water Capacity 557,810m<sup>3</sup>/day, Effective Volume 96.4 %, Accounted- For Water 93.3%, and Water Leakage 2.6 %.

This course aims to improve the capacity for waterworks engineer to tackle your own bottlenecks to supply safe and continuous water to your people through making your own feasible “Action Plan” with close consultations by experienced Sapporo City’s experts or professional engineer.

The participant of this course will be able to learn various and valuable assets of waterworks experiences in Sapporo.

## **For what?**

To draw basic plan drawings for a purification facility and pipeline network of your own territory in charge, and to make a feasible action plan for continuous supply safe and drinkable water.

## **For whom?**

This program targets to waterworks expert, professional engineer and officer of central and local government organizations

## **How?**

The participants of this course will acquire practicable knowledge and techniques of waterworks engineering through lectures, site visits, discussions, and consultations with experienced Japanese experts and professional engineer.

## II. Description

**1. Title (J-No.): Comprehensive Engineering on Water Supply Systems : Practical Training for Water Supply System (B) (J1804163)**

**2. Period of program**

May 31 to August 11, 2018

**3. Target Regions or Countries:**

Morocco, Nepal, Nigeria, Sri Lanka, Sudan, Peru

**4. Eligible / Target Organization :**

This program is designed for governmental, semi-governmental, or corporate organizations in charge of public water supply with urban water supply system.

**5. Course Capacity (Upper limit of Participants)**

Six(6)

**6. Language to be used in this program :**

English

**7. Course Objective:**

To learn comprehensive measures and techniques for waterworks in supplying safe and drinkable water continuously.

**8. Overall Goal**

To improve the quality of water supply business and supply safe and pure potable water in participants' regions or countries.

**9. Expected Module Output and Contents:**

This program consists of the following components.

<b>(1) Preliminary Phase in a participant's home country</b> (Closing Date: May 30, 2018) <i>Participating organizations make required preparation for the Program in the respective country.</i>	
Modules	Activities
Job Report	-Preparation of YOUR Job Report under consultation within YOUR ORGANIZATION ※See Annex for Job Report Instruction

**(2) Core Phase in Japan** ※contents are subject to minor change

(May 31, 2018 to August 11, 2018)

*Participants dispatched by the organizations attend the Program implemented in Japan.*

Modules	Subjects	Methodology
1) Introduction to water supply planning, water resources and water intake	<b>Water source</b> -Water quality control -Visit to dam, lake and deep well-Water source development & water problems caused by algae -Design of pumping facilities for water well -Drilling technology for water well -Water quality assessment with Aquatic Organisms	Lectures Practice Site visits Group work
2) Water quality management and water purification technologies	-Water purification plant -Sludge treatment plant -Integrated Operation of water purification plant (Control Room, back washing of filter, start up & finishing of water treatment plant, jar-test, injection of chemicals) -Mechanism of water purification process -Maintenance of water purification plant -Design of water purification plant -Advanced water purification (Ozonation and UF membrane)	

3) Water delivery and distribution, and countermeasure against water leakage	<ul style="list-style-type: none"> <li>-Water supply &amp; distribution in Sapporo</li> <li>-Distribution reservoir, pumping station, flow meter</li> <li>-Pipeline maintenance</li> <li>-Distribution pipe laying plan</li> <li>-Design &amp; quantity calculations for new installation of distribution pipes</li> <li>-Field survey</li> <li>-Construction site of distribution/service pipes</li> <li>-Network analysis of distribution pipes (EPANET)</li> <li>-Pipe manufacturing plant (ductile &amp; PE)</li> <li>-Metering, settlement, charge collection, call center, metering site</li> <li>-Leak prevention planning</li> <li>-Detection of leak prevention</li> </ul>	
4) Case study, effective water supply mechanism - roles of public administration, regulations, management body, tariff system and human resource development	<ul style="list-style-type: none"> <li>-Outline of water supplies in Japan and Sapporo</li> <li>-Sustainable Water Management</li> <li>Waterworks in the world</li> <li>-Planning and demand projection</li> <li>-Eco-friendly water supply business</li> <li>-Human resource development in waterworks organization.</li> </ul>	
<p>5) Presentation of Action Plan</p> <p>*You will be able to make a feasible action plan that solves challenges in your division (section, unit, team, etc.) by the end of this course referring to the above modules.</p>	<p><b>Problem Identification</b></p> <ul style="list-style-type: none"> <li>-Job Report presentation</li> <li>-Problem Analysis</li> <li>-Group discussion</li> <li>-Review discussion</li> </ul> <p><b>Action Plan</b></p> <ul style="list-style-type: none"> <li>-Lecture for the importance</li> <li>-Mid-term consultation</li> <li>-Finalizing consultation</li> <li>-Presentation</li> </ul> <p>※ For proposing Action Plan, it is recommended that participants bring relevant data, map, pictures, laws and regulations of your country.</p>	Discussions Consultation Presentation

### **(3)Post-Core Course Phase in a participant's home country**

(August 2018 to March 2019)

*Participating organizations get feedback and recommendations from the participants through sharing the Action Plan*

## 10. Follow-up Cooperation by JICA:

In this training and dialogue programs, JICA might extend follow-up support to participating organizations that intend to develop the result of the project further. Please note that the support shall be extended selectively based on proposals from the participating organizations.

### <Structure of the program>

Following is the program in 2017. Although the contents of the year 2018 program will be similar to that of 2017, some modification may be given depending upon the availability of lectures, etc.

DATE	TIME		TYPE OF TRAINING	SUBJECT	LECTURER OR ORGANIZATION IN CHARGE	TRAINING VENUE
					POSITION & ORGANIZATION	
5/31(木)				Arrival in Japan		
6/1(金)	9:30 ~ 12:00			Briefing	Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
	14:00 ~ 16:00			Program Orientation	Training Program Division, JICA Hokkaido Technical Training Personnel, Policy Division, Sapporo Waterworks Department	JICA Hokkaido (Sapporo)
6/2(土)						
6/3(日)						
6/4(月)	9:30 ~ 11:30			General Orientation (Economy)		JICA Hokkaido (Sapporo)
	13:00 ~ 15:00			General Orientation (Education)		JICA Hokkaido (Sapporo)
	15:30 ~ 17:30			General Orientation (Politics, Administration)		JICA Hokkaido (Sapporo)
6/5(火)	10:00 ~ 11:00	~ 12:00	Other Presentation	Courtesy Visit to the Administrator Courtesy Visits at the Department Building Job Report Presentation	Assistant Manager of Technical Training, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	Sapporo Waterworks Department 4th Floor Main Conference Room
	13:30 ~ 16:00		Presentation	Job Report Presentation	Sendai City Waterworks Bureau Assistant Manager of Technical Training, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	Sapporo Waterworks Department 4th Floor Main Conference Room
	18:00 ~			Opinion Exchange Meeting	Sendai City Waterworks Bureau JICA, Sapporo Waterworks Department, Sendai City Waterworks Bureau	
6/6(水)	9:30 ~ 12:00		Practice	Problem Analysis Training (Individual interviews for training participants)	Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
	13:30 ~ 16:00		Practice	"	Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
6/7(木)	9:30 ~ 12:00		Lecture	Water Supply in Sapporo City	Technical Training Personnel, Policy Division, Sapporo Waterworks Department	Sapporo Waterworks Department
	13:30 ~ 16:00		Lecture	Introduction to Water Supply Plan	Planning personnel, Planning Division, Sapporo Waterworks Department	Sapporo Waterworks Department
6/8(金)	9:30 ~ 12:00		Lecture	Water Pumping Facilities Design for Wells	Director of Hokkaido Branch Office, Nihon Suido Consultants Co., Ltd.	JICA Hokkaido (Sapporo)
	13:30 ~ 16:00		Lecture Practice	Water Pumping Facilities Design for Wells (Pump Selection Practice)	"	JICA Hokkaido (Sapporo)
	19:00 ~ 21:00			Welcome Party		

6/9(土)							
6/10(日)							
6/11(月)	9:30	~	12:00	Lecture	Human Resource Cultivation in Water Supply Projects	President of GEN-TECH, INC.	Sapporo Waterworks Department
	13:30	~	16:00	Lecture Site visit	Overview of Water Charge Operation Site Visits to a Call Center and a Water Meter Reading Site	Sales personnel, Sales Division, Sapporo Waterworks Department	Sapporo Waterworks Department
6/12(火)	9:30	~	12:00	Practice	Action Planning Model for Problem Analysis Training (Workshop)	Mr. Totani, IC Net Limited	JICA Hokkaido (Sapporo)
	13:30	~	16:00	Practice	"	"	JICA Hokkaido (Sapporo)
6/13(水)	9:30	~	12:00	Lecture Practice	Water Distribution Facilities in Upland Areas	Division Chief and 3 personnel of Sapporo Water Service Association (Upland Area Team, Facility Management Division)	Central Water Center
	13:30	~	14:30	Lecture Practice	Water Quality Control	Water Quality Management Section 2, Water Quality Management Center	Shiraikawa Water Treatment Plant
	15:00	~	16:00	Practice	Water Resource Patrol and Simplified Measurement of Water Quality	Sapporo Water Service Association	Toyama Dam Automatic Water Quality Monitoring Station
6/14(木)	9:30	~	12:00	Lecture	Design of Facilities such as Water Treatment Plants	Hokkaido branch office, Nihon Suido Consultants Co., Ltd.	JICA Hokkaido (Sapporo)
	13:30	~	16:00	Lecture	"	"	JICA Hokkaido (Sapporo)
	9:30	~	12:00	Lecture	Operation and Maintenance of Water Treatment Plants	Water treatment personnel, Shiraikawa Water Treatment Plant	Shiraikawa Water Treatment Plant Conference Room
6/15(金)	13:30	~	16:00	Site visit	Visit each facility at Shiraikawa Water Treatment Plant(including the sludge treatment facility)	Ditto (Assistant lecturer, Sapporo Water Service Association)	Shiraikawa No.3 Water Treatment Plant, Shiraikawa Water Treatment Plant Conference Room
6/16(土)				Other	(Transfer: Sapporo-Tokyo)		
6/17(日)				Other	Bus Tour		
6/18(月)	9:30	~	12:00	Site visit	Tokyo Waterworks Historical Museum		Tokyo Waterworks Historical Museum 2-7-1, Hongo, Bunkyo-ku
	13:30	~	16:00	Lecture	Water Supply in Japan	CEO of W&E Research Institute	JICA Tokyo
6/19(火)	9:30	~	12:00	Lecture	Discussions with Course A Participants	Senior International Specialist, Japan Water Works Association	Japan Water Works Association
	13:30	~	16:00	Practice	Countermeasures against Water Resource Contamination and Pathogenic Microbes	Research Specialist, Water Technology Research Institute, Japan Water Works Association	
	15:30	~	16:30	Site visit	Grey Water Facility of the Japan Water Hall	DAIKO BUILDING SERVICE CO., Ltd.	Japan Water Works Association
6/20(水)	9:30	~	12:00	Lecture	Excavation of Wells/Improvement Techniques and Overseas Case Study	Overseas Construction Works, TONE ENGINEERING CORPORATION	Japan Water Works Association
	13:00	~	16:00	Practice	Practice for Well Excavation Techniques	Overseas Construction Works, TONE ENGINEERING CORPORATION	Japan Water Works Association
6/21(木)	9:30	~	12:00	Lecture	The Improvement of Facilities by Merger and Abolition of Water Treatment Plants	Chiba Prefectural Waterworks Bureau	Chiba Nogikuno Sato Water Treatment Plant 478-1, Kuriyama, Matsudo City
	13:30	~	15:30	Site visit	Site Visit at Design and Improvement Facilities such as Water Treatment Plants	Chiba Prefectural Waterworks Bureau	Chiba Nogikuno Sato Water Treatment Plant 478-1, Kuriyama, Matsudo City
6/22(金)	9:30	~	12:00	Practice	Preparation of Water Safety Plan	National Institute of Public Health	Japan Water Works Association
	13:30	~	16:00	Practice	Preparation of Water Safety Plan		Japan Water Works Association
					(Transfer: Tokyo-Sapporo)		

6/23(土)						
6/24(日)						
6/25(月)	9:30	~	12:00	Lecture	Project Management	Sapporo Waterworks Department
	13:30	~	16:00	Lecture	Water Asset Management	Sapporo Waterworks Department
6/26(火)	9:30	~	12:00	Lecture	Research Design and Cost Estimation for a New Water Distribution Line Construction	Construction Team, ○○Water Distribution Management Division
	13:30	~	16:00	Practice	Practice for Site Survey	"
6/27(水)	9:30	~	11:00	Site visit	Visit at Construction Site of Water Supply and Distribution Lines	Construction Team, ○○Water Distribution Management Division
	13:30	~	16:00	Lecture	Observe Construction Management and Cost Estimation System of Water Facilities	Technical Survey Team, Planning Division, Sapporo Waterworks Department
6/28(木)	10:00	~	12:00	Site visit	Visit Membrane Filtration Facility(UF) of Private Water Supply System	Assistant Manager, Water Team and Construction Team, Akaigawa Village Construction Division
		~			Transfer (Akaigawa Village ⇒ Accommodation)	
6/29(金)	10:00	~	11:00	Lecture		Director, Date City Construction Department
	11:00	~	12:00	Site visit	Site Visit at a Deep Well Facility	"
	13:30	~	15:00	Site visit	Site Visit at a Slow Filter	
	15:00	~	16:30	Transfer	(Transfer: Date-Sapporo)	
6/30(土)						
7/1(日)						
7/2(月)	9:30	~	12:00	Lecture	Installation Plan of Water Distribution Lines	Water Distribution Management Team, Water Distribution Division, Sapporo Waterworks Department
	13:30	~	16:00	Lecture	Operation and Maintenance of Pipe Lines(Mapping/Filing System)	Maintenance and Coordination Team, Water Distribution Division, Sapporo Waterworks Department
7/3(火)	9:30	~	12:00	Lecture	Block Water Distribution Improvement Plan	Maintenance and Coordination Team, Water Distribution Division, Sapporo Waterworks Department
	13:30	~	16:00	Lecture	"	"
7/4(水)	9:30	~	12:00	Lecture	Water Demand Forecast	Policy Coordination Team, Policy Division, Sapporo Waterworks Department
	13:30	~	16:00	Practice	Water Distribution Piping System Analysis (EPANET)	Water Distribution Division, Sapporo Waterworks Department
7/5(木)	9:30	~	12:00	Practice	Water Distribution Piping System Analysis (EPANET)	Water Distribution Division, Sapporo Waterworks Department
	13:30	~	16:00	Practice	"	Water Distribution Division, Sapporo Waterworks Department
7/6(金)	9:30	~	12:00	Practice	Water Distribution Piping System Analysis (EPANET)	Water Distribution Division, Sapporo Waterworks Department
	13:30	~	16:00	Practice	"	Water Distribution Division, Sapporo Waterworks Department
7/7(土)						
7/8(日)						



7/9(月)	10:00	~	12:00	Lecture Site visit	Construction, Operation and Maintenance of Chloroethene Pipes	Kubota ChemiX	
	13:30	~	15:30	Practice	"	Kubota ChemiX	
7/10(火)	9:30	~	12:00	Practice	Preparation of Action Plan Outlines	Former JICA Expert	JICA Hokkaido (Sapporo)
	13:30	~	16:00	Practice	"	"	JICA Hokkaido (Sapporo)
	17:00	~	20:00	Other	(Transfer: HKIC-Shin Chitose-Hiroshima)	HIECC	
7/11(水)	9:30	~	12:00	Transfer	Operation and Maintenance of Water Facility by Designated Administrator	MIZU MIRAI HIROSHIMA CORPORATION	
	13:00	~	16:00	Transfer	Hiroshima Peace Memorial Museum	HIECC	Hiroshima Peace Memorial Museum
7/12(木)	9:00	~	12:00	Transfer	(Transfer: Hiroshima-Osaka)	HIECC	
	10:00	~	12:00	Site visit	Site Visit to Water Supply Pipes Manufacturing Plant	Division Chief, KUBOTA Corporation	KUBOTA Corporation Hanshin Factory
7/13(金)	10:00	~	12:00	Site visit	Site Visit to Ozonation Plant	Hanshin Water Supply Authority	Amagasaki Water Treatment Plant
	13:30	~	16:00	Site visit	Site Visit to Special Water Joint Factory	Division Chief, TAISEI KIKO Co., Ltd.	TAISEI KIKO Co., Ltd.
	17:00	~	19:00	Transfer	(Transfer: Osaka-Shin Chitose-HKIC)	HIECC	
7/14(土)							
7/15(日)							
7/16(月)	Marine Day (National Holiday)						
7/17(火)	9:00	~	14:30		School Visit		
7/18(水)	10:00	~	12:00	Site visit	Site Visit to Water Supply Pipes (polyethylene pipes for water distribution) Manufacturing Plant	SEKISUI CHEMICAL Hokkaido Co., LTD.	SEKISUI CHEMICAL Hokkaido Co., LTD. Iwamizawa Factory
	13:30	~	16:00	Practice	Water Supply Pipes (polyethylene pipes for water distribution) Jointing Practice	SEKISUI CHEMICAL Hokkaido Co., LTD.	
7/19(木)	9:30	~	12:00	Lecture	Toward Healthy Management of Water Supply Business	Senior International Professional, International Division, Training and International Department, Japan Water Works Association	Hokkaido Government Annex HIECC Conference Room
	13:30	~	16:00	Lecture	"	"	Hokkaido Government Annex HIECC Conference Room
7/20(金)	9:30	~	12:00	Practice	Guidance on Action Plan Preparation	Sapporo Waterworks Department	Sapporo Waterworks Department
	13:00	~	15:30	Presentation	Guidance on Action Plan Preparation		or JICA Hokkaido Sapporo Waterworks Department
	18:00	~	21:00		Mid-term Party		or JICA Hokkaido
7/21(土)							
7/22(日)				Transfer Site visit	(Transfer: Sapporo-Sendai) Site visit to Matsushima Sea Coast		
				Site visit	Matsushima Sea Coast		
7/23(月)	9:00	~	12:00	Other Lecture	Courtesy Visit to the Administrator/Lecture Opening Orientation/Outline of Sendai City Water Supply Project	Training Team, General Affairs Division/Water Operation Team, Water Distribution Management Division, General Affairs Department, Sendai City Waterworks Bureau	Sendai City Waterworks Bureau
	13:00	~	16:30	Site visit	Site Visit to Water Resource/Ruins of Aoba Castle, etc.	Sendai City Waterworks Bureau	Kamafusa Dam, Kamioizawa Sand Basin
7/24(火)	9:00	~	12:00	Practice	Total Operation (Administration Works/Filter Basin Cleaning)	Sendai City Waterworks Bureau	Sendai City Moniwa Water Treatment Plant
	13:00	~	16:00	Lecture	Jar Test Practice	"	
7/25(水)	9:30	~	12:00	Practice	Total Operation (Water Treatment Plant Start-up Works/Jar Test/Manual Chemicals Injection/Filter Basin Cleaning/Closing of Water Treatment Operation)	Sendai City Waterworks Bureau	Sendai City Kumagane Water Treatment Plant
	13:00	~	16:00	Practice	"	"	

7/26(木)	9:30	~	12:00	Practice	Water Treatment Practice	Sendai City Waterworks Bureau	Sendai City Water Quality Investigation Center
	13:00	~	17:00	Practice Site visit	Water Treatment Practice Visit to Reconstruction Site in Disaster Affected Area	"	
7/27(金)	9:30	~	12:00	Lecture	Water-resource Development and Problems Caused by Algae	Sendai City Waterworks Bureau President, Tohoku Institute of Technology	Sendai City Waterworks Bureau
	13:00	~	14:00	Presentation Other	Presentation of Feedback on the Training	Technology training personnel, Policy Division, Sendai City Waterworks Bureau	Sendai City Waterworks Bureau
	16:20	~	17:35		(Transfer: Sendai-Sapporo)		
7/28(土)							
7/29(日)							
7/30(月)	9:30	~	12:00	Lecture Practice	Plumbing and Leakage Repair of Water Distribution Pipes	Assistant Lecturer, Operation and Maintenance Team, ○○Water Distribution Management Division, Sapporo City Plumbing Business Cooperative	Sapporo City Water Distribution Technology Research Institute
	13:30	~	16:00	Practice	"		Sapporo City Water Distribution Technology Research Institute
7/31(火)	9:30	~	11:30	Lecture Site visit	Hydropower Generation in Sapporo City Promotion of Environmentally Responsible Management	Water Treatment Team/Management Team, Moirai Water Treatment Plant Policy and Coordination personnel, Policy Division	Moirai Water Treatment Plant, etc.
	11:30	~	12:30	Practice	Site Visit to Sapporo Water Works Museum	Sapporo Water Service Association	Sapporo Water Works Museum
	14:00	~	16:30	Practice	Review		Hokkaido Government Annex HIECC Conference Room
8/1(水)	9:30	~	12:00	Lecture	Water Leakage Prevention Orientation Water Leakage Prevention (Water Leakage Prevention/Block Measurement)	Sapporo Water Service Association	Sapporo City Water Distribution Technology Research Institute
	13:30	~	16:00	Practice	Water Supply Pipe Plumbing Practice	Administrative Director, Sapporo City Plumbing Business Cooperative Association	Sapporo City Water Distribution Technology Research Institute
8/2(木)	9:30	~	12:00	Practice	Water Leakage Detection Practice	Sapporo Water Service Association	Sapporo City Water Distribution Technology Research Institute
	13:30	~	16:00	Practice	Water Leakage Detection Practice	"	Sapporo City Water Distribution Technology Research Institute
8/3(金)	9:30	~	12:00	Practice	Final Confirmation of Action Plans	Sapporo Waterworks Department	Sapporo Waterworks Department or JICA Hokkaido
	13:30	~	16:00	Practice	"		Sapporo Waterworks Department or JICA Hokkaido
8/3(金)							
8/4(土)							
8/5(日)	9:30	~	12:00	Lecture	Water Cycle/Risk	Specially Appointed Professor, Integrated Research Group, Division of Research Innovation and Cooperation, Research Faculty of Agriculture, Hokkaido University	Hokkaido Government Annex HIECC Conference Room
	13:30	~	16:00	Lecture	"	"	Hokkaido Government Annex HIECC Conference Room
8/6(月)	9:30	~	12:00	Lecture	Advanced Water Treatment	Professor, Faculty of Engineering, Graduate School, Hokkaido University	Hokkaido Government Annex HIECC Conference Room
	13:30	~	16:00	Lecture	"	"	Hokkaido Government Annex HIECC Conference Room
8/7(火)	9:30	~	12:00	Lecture	Water Quality Determination by Aquatic Organism	Chair of the Board, Wildlife Research Institute Co. Ltd.	JICA Hokkaido (Sapporo)
	13:30	~	16:00	Practice	"	"	Kotoni Hassamu River
8/8(水)	9:30	~	12:00	Presentation	Presentations on Action Plans	Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	Kaderu 2.7
	13:30	~	16:00	Presentation	"	Sendai City Waterworks Bureau Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	Kaderu 2.7
						Sendai City Waterworks Bureau	

8/9(木)	9:30	~	12:00	Other	End of the Course Courtesy Visit to the Administrator	Assistant Manager of Technical Training, Policy Division, Sapporo Waterworks Department	Sapporo Waterworks Department
	14:00	~	15:30	Other	Final Evaluation Meeting	Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
	16:00	~	17:00		Course Closing Ceremony	Sendai City Waterworks Bureau Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
	17:00	~	18:00		Closing Party	Sendai City Waterworks Bureau Technical Training Personnel, Policy Division, Sapporo Waterworks Department Training Program Division, JICA Hokkaido	JICA Hokkaido (Sapporo)
8/10(金)					Returning to their home country	Sendai City Waterworks Bureau	

### **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 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**

- 1) Current Duties: waterworks engineers
- 2) Experience: have at least three (3) years of practical experience for those university graduate or equivalent; OR at least seven (7) years of practical experience for those polytechnic graduates or equivalent
- 3) Educational Background: be university graduates or have equivalent :technical qualifications in waterworks engineering.
- 4) Language: have a good command of spoken and written English which is equivalent to TOEFL CBT 200 or more (This programs includes active participation in discussions, an action plan development. Thus requires good competence of English ability. Please attach an official certificate for English ability such as TOEFL, TOEIC etc, if possible).

※Past programs have shown that participants without a functional command of English find themselves unable to make progress in this training program.

Health: must be in good health, both physically and mentally, to participate in the Program in Japan. Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus.

Note: i) Applicants are requested to submit the Medical History Questionnaire included in the Application Form mentioned in 4-(1) below.

## **(2) Recommendable Qualifications**

Age: Less than forty (40) years old is desirable.

## **3. Required Documents for Application**

**(1) Application Form:** The Application Form is available at **the JICA office (or the Embassy of Japan).**

**(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) 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), please attach it (or a copy) to the application form.

**(4) Job Report and Questionnaire (ANNEX):** to be submitted with the application form.

## **4. Procedure for Application and Selection :**

### **(1) Submitting the Application Documents:**

Deadline for application to the JICA Center in charge in JAPAN: **April 11, 2018.**

**Note: Please confirm the closing date set by the respective country's JICA office or Embassy of Japan of your country to meet the final date in Japan.**

### **(2) Selection:**

- 5.** 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 the 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.

### **(1) Notice of Acceptance**

Notification of results shall be made by the respective country's JICA office (or Embassy of Japan) to the respective Government by **not later than May 2, 2018.**

## **6. Conditions for Attendance:**

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

## IV. Administrative Arrangements

### 1. Organizer:

- (1) **Name:** JICA Hokkaido
- (2) **Contact:** [Kimura.Eri@jica.go.jp](mailto:Kimura.Eri@jica.go.jp),



### 2. Implementing Partner:

- (1) Waterworks Bureau, City of Sapporo  
<http://www.city.sapporo.jp/suido> (Japanese Only)
- (2) HIECC(Hokkaido International Exchange and Cooperation Center)  
<http://www.hiecc.or.jp/index.asp>

### 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:** Term of Insurance: From arrival to departure in Japan. The traveling time outside Japan shall not be covered.

### 4. Accommodation in Japan:

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

#### **JICA Hokkaido International Center (JICA HOKKAIDO)**

Address: Minami 4-25, Hondori 16-chome, Shiroishi-ku,  
Sapporo, Hokkaido, 003-8668, Japan

TEL: 81-11-866-8393 FAX: 81-11-866-8382

(where "81" is the country code for Japan, and "11" is the local area code)

If there is no vacancy at JICA Hokkaido, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of HKIC at its URL,

[http://www.jica.go.jp/english/about/organization/domestic/pdf/sapporo\\_facilities\\_01.pdf](http://www.jica.go.jp/english/about/organization/domestic/pdf/sapporo_facilities_01.pdf)

### Facility images at JICA Hokkaido International Center



#### 5. Expenses:

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

- (1) Allowances for accommodation, 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 to the selected participants before (or at the time of) the pre-departure orientation.

#### 6. Pre-departure Orientation:

A pre-departure orientation will be held at the respective country’s JICA office (or Embassy of Japan), to provide participants with details on travel to Japan, conditions of the training and dialogue program, and other matters.



Map of Japan and Hokkaido



## V. ANNEX:

### JOB REPORT

Applicants are required to prepare and submit a “**Job Report**” with **Application Form**.

The report should be prepared in **English** and in the format of **Microsoft Power Point**, since all the participants are expected to make a presentation on it after they arrive in Japan. In addition, since all the reports will be translated into Japanese in advance, your prompt submission of the report will be highly appreciated. Expected contents of the report are given below:

#### 1. Purpose

To introduce, and share information about your situation and issues of waterworks management with lecturers and participants.

#### 2. INSTRUCTIONS:

1) Should be written in **English** by using such as Microsoft PowerPoint” etc. Hand writing is unacceptable.

2) Should cover **ALL** “Items” below

3) If applicant’s organization does not have water supply system, such as Ministry of Water and/or its branch office in region, please select one city water company where applicant’s office is located or which applicant try to improve.

4) Based on the Job Report, **every participant** will have around 10 minutes to give an oral presentation at the beginning of the course.

#### 3. Items of should be included on your Job Report using such as Microsoft PowerPoint

1) Your country, name and present position

2) Current issue related to the water supply system in your targeting area and the main ategies to overcome it

3) Most critical issue which your division (section, unit, team, etc.) aims to find the solutions

4) The mandate/The duty which you are engaged in for a solution to above mentioned issue

5) Future project/plan which participants are likely to be involved.

6) Your expectation from this training program specifically

**NOTE:** It is highly recommendable for participants to send PHOTOS (especially those which clearly show the problems in water supply system). Please be advised to include the detailed “PHOTOS” which clearly show the water supply system or relevant materials, which will be highly useful to know the situation of water system you’re in charge area.

⑥ Please fill in the form briefly.

#### A. Basic Information

Population of the area	
------------------------	--



<b>D. Water Quality</b>	
Do you have water quality problem?	
* Please attach water quality analysis data, and fulfill the blanks as below	
Raw water problem	
Supplied water problem	
Major diseases which (might) be caused by water quality	
<b>E. Purification (Water treatment)</b>	
* Please attach design drawing of your water treatment plant	
What is the main problem on maintaining the plant?	
<b>F. Distribution</b>	
* Please attach your design drawing of distribution network	
What is the main problem of distribution network system?	
Total length of distribution pipe	km
: DIP / CIP (Ductile / Cast Iron)	km (    %)
: SP (Steel Pipe)	km (    %)
: PVC (Poly-Vinyl Chloride)	km (    %)
: PEP (Poly-Ethylene Pipe)	km (    %)
: ACP (Asbestos Cement Pipe)	km (    %)
: Others	km (    %)
Length of annual new install pipe, and its expense	km (    US \$)
Length of annual new replacement pipe, and its expense	km (    US \$)
Pipes are distributed mainly from ...	Name of the company _____ Nationality of the products _____
<b>G. General Information of the Facilities</b>	
What equipments do you have for the repair?	
What equipments or facilities are easy to break down?	
Are you maintaining the facilities directly, or outsourcing?	
What countries are the instrumentations, such as flow meter, water level gauge and pressure gauge made in?	
<b>H. User's Area</b>	
Water pressure at terminal of the distribution network?	

Do you have the problem of illegal connection?	
Main complaint of the users	

⑦ Please choose the main issues from A-H of the above and explain the reasons why.

Select one from A~H	
Reason	

## Appendix

<https://www.jica.go.jp/sapporo/english/office/index.html>

Please check our website written by English!

The screenshot shows the JICA website's page for the Hokkaido International Center (Sapporo). The header includes the JICA logo and navigation links like Site Map, FAQ, and Contact Us. The main navigation bar lists Home, About JICA, News & Features, Countries & Regions, Our Work, Publications, and Investor Relations. The breadcrumb trail reads: Home > About JICA > Organization > Domestic Offices > Hokkaido International Center (Sapporo). The left sidebar contains a menu with links to Mission Statement, President's Desk, Organization (with sub-links for JICA Headquarters and Overseas Offices), Domestic Offices (with a link to Library), ODA and JICA, and History. The main content area features a large photo of the center's building and a text block stating: "JICA Hokkaido International Center (Sapporo) was established in 1996, located in Sapporo City, the largest city in Hokkaido Prefecture. Hokkaido is famous for beautiful nature, fresh foods, snowy winter and indigenous Ainu culture, attracting both domestic and international tourists." Below this, it mentions training programs in agriculture, forestry, fisheries, environment, and tourism, receiving about 900 participants annually. A right sidebar titled "Office Information" provides the address: 4-25, Minami, Hondori 16-chome, Shiroishi-ku, Sapporo City, Hokkaido 003-0026, and a "More" link.



## ***For Your Reference***

### **JICA and Capacity Development**

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

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

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

### **Japanese Development Experience**

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

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

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

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



***CORRESPONDENCE***

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

**JICA Hokkaido International Center (JICA Hokkaido, Sapporo)**

**Address: Minami 4-25, Hondori 16 chome, Shiroishi-ku  
Sapporo, Hokkaido 003-8668 Japan**

**TEL: +81-11-866-8393 FAX: +81-11-866-8382**