

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 2020

Course No.201905849J001 Course Period in Japan: From May 20, 2020 to August 1, 2020

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 835,200m³/day, Effective Volume 96.0 %, Accounted- For Water 92.9%, and Water Leakage 2.7 %.

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 including junior 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 (No.): Comprehensive Engineering on Water Supply Systems : Practical Training for Water Supply System (B) (201905849J001)

2. Period of program

May 20 to August 1, 2020

3. Target Regions or Countries:

Afghanistan, Cambodia, Ethiopia, Nepal, 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.

(1) Preliminary Phase (Closing Date: May 20, 2 Participating organizations country.	e in a participant's home country 020) s make required preparation for the Program in the respective
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 20, 2020 to July 31, 2020) 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	Water source -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
2) Water quality management and water purification technologies	 -Water purification plant -Sludge treatment plant -Integrated Operation of water purification plant (SCADA System,Control Room, back washing of filter, startup & 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 MF membrane) 	Site visits Group work

3) Water delivery and distribution, and countermeasure against water leakage	-Water supply & distribution in Sapporo -Distribution reservoir, pumping station, flow meter -Pipeline maintenance -Distribution pipe laying plan -Design & quantity calculations for new installation of distribution pipes -Field survey -Construction site of distribution/service pipes -Network analysis of distribution pipes (EPANET) -Pipe manufacturing plant (ductile & PE) -Metering, settlement, charge collection, call center, metering site -Leak prevention planning -Detection of leak prevention	
4) Case study, effective water supply mechanism - roles of public administration, regulations, management body, tariff system and human resource development	-Outline of water supplies in Japan and Sapporo -Sustainable Water Management Waterworks in the world -Planning and demand projection -Eco-friendly water supply business -Human resource development in waterworks organization. -Water Safety Plan	
5) Presentation of Action Plan *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.	 Problem Identification -Job Report presentation -Problem Analysis -Group discussion -Review discussion Action Plan -Lecture for the importance -Mid-term consultation -Finalizing consultation -Presentation ※ For proposing Action Plan, it is recommended that participants bring relevant data, map, pictures, laws and regulations of your country. 	Discussions Consultation Presentation

(3)Post-Core Course Phase in a participant's home country (August 2020 to July 2021) 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 tentative program in 2020. Some modifications may be given depending upon the availability of lectures, etc.

DATE	TIME	T YPE OF T RAINING	SUBJECT
2020/05/20			Arrival in Japan
			Briefing
2020/05/21			Program Orientation
	9:30 ~		General Orientation (Economy)
2020/05/22	13:00 ~		General Orientation (Education)
	15:30 ~		General Orientation (Politics)
2020/05/23			
2020/05/24			

2020/05/25	АМ	Presentation	Water Supply in Sapporo Job Report Presentation
2020/05/25	РМ	Presentation	Job Report Presentation
2020/05/26	АМ	Practice	Issue Analysis (See separate sheet)
2020/05/20	РМ	Practice	"
2020/05/27	АМ	Practice	Issue Analysis (See separate sheet)
	РМ	Lecture	Water Supply Pannning
2020/05/28	AM	Practice	Action Plan Workshop
	РМ	Practice	11
		Other events	Courtesy Call to Director General of Sapooro Waterworks Bureou (SWB) Greetings to Each Section of SWB
2020/05/29	АМ	Lecture	Design,Construction,Operation and Maintanance of Water Well
	РМ	Lecture	11
2020/05/30			
2020/05/31			

2020/06/01	AM	Lecture	Theory of Water Treatment
2020/06/01	PM	Lecture	"
	АМ	Lecture	Operation and Maintenance of Purification Plant (PP)
2020/06/02	PM	Site visit	Facility Tour of PP
2020/06/02	AM	Lecture	Design of Pumping Facilities for Water Well
2020/06/05	PM	Lecture & Practice	"
	АМ	Lecture	Maintanance of High-Zone Transmission and Distribution Facilities
2020/06/04		Lecture	Water Quality Control
	РМ	Practice	Water Source Patrol
2020/06/05	AM	Lecture	Design of Water Treatment Facilities(Including intake facility)
2020/00/03	PM	Practice	11
2020/06/06			
2020/06/07			
2020/06/08	АМ	Lecture	Laying Plan of Distribution Pipes
	РМ	Lecture	Pipeline Maintenance (Mapping and Filling system)
2020/06/00	AM	Lecture & Practice	Casestudy on Efforts Made by Fukuoka Waterworks Bureau
2020/00/09	PM	Practice	Project Arrangemant workshop
	AM	Site visit	Field survey/Construction Sites of Distribution Pipe
2020/06/10	РМ	Lecture	Design and Estimate for New Installation of Distribution Pipes

2020/06/11	AM	Lecture	Development Plan of Block Distributiuon System for Water Supply
	PM	Lecture	Asset Management
2020/06/12	AM	Practice	Pre-hearing of Action Plan idea
2020/00/12	PM	Practice	11
2020/06/13			(Transfer: Sapporo-Tokyo)
2020/06/14			
2020/06/15	AM	Site visit	Tokyo Waterworks Historical Museum
2020/06/15	PM	Lecture	Water Supply in Japan
	AM	Practice	Discussions with Participants of the Course(A)
2020/06/16	DM	Lecture	Water Pollution and Pathogenic Mycrooraganism in Water sources
PM	F IVI	Site visit	Grey Water Facility in Nippon Suido Kaikan
2020/06/17	AM	Lecture	Non Revenue Water Management Developing Countries
2020/00/17	PM	Site visit	Efforts Made Raising Revenue Water
2020/06/19	AM	Lecture	Water Safety Plan
2020/00/18	PM	Practice	11
2020/06/10	AM	Site visit	Waterworks valve factory
2020/00/19	PM	Site visit	11
2020/06/20			transfer(Tokyo→Sapporo)
2020/06/21			
2020/06/22	AM	Practice	Preparation of Action Plan Outlines
2020/00/22	PM	Practice	11
	AM	Lecture & Site visit	MF Membrance Facilities for Small-scall Water Supply System
2020/06/23	DN/	Lecture & Site visit	11
	PM		Transfer(Yoichi city Accommodation)

		Lecture	Overview of Water Supply in Date city
2020/06/24	AM	Site visit	Deep Well Facility
2020/00/24	0/24	Site visit	Slow Sand Filtration Facility
	PM	Transfer	(Transfer: Date city-Sapporo)
2020/06/25	AM	Practice	Distribution Network Analysis with EPANET
2020/00/23	PM	Practice	11
2020/06/26	AM	Practice	Distribution Network Analysis with EPANET
2020/00/20	PM	Practice	11
2020/06/27			
2020/06/28			
	9:00~10:00	Practice	Distribution Network Analysis with EPANET
2020/06/29	10:00~12:00	Lecture & Site visit	Services Concerning Water Charge Call Center/Metering Sites
	14:00~15:30	Practice	Piping Works of Service Pipes
2020/06/20	AM	Lecture	Demand Projection
2020/06/30	PM	Other events	transfer(HKIC→Hiroshima)
2020/07/01	AM	Lecture	Designated Management System in Water Supply
2020/07/01	PM	Site visit	Hiroshima Peace Memorial Museum
2020/07/02	АМ	Other events	transfer(Hiroshima→Osaka)
	PM	Site visit	Special Fittings Manufacturing Plant
	AM	Site visit	Ductile Iron Pipe Manufacturing Plant
2020/07/03	DIM	Site visit	Ozonation-applied Plant
	PM	Other events	(Transfer: Osaka-Shin Chitose-HKIC)
2020/07/04			
2020/07/05			

2020/07/06	AM	Other events	Elementary School Visit
2020/07/06	PM	Other events	11
2020/07/07	AM	Practice	Piping & Leak Repair Works of Distribution Pipes
2020/07/07	PM	Practice	11
2020/07/08	AM	Lecture & Site visit	PE Pipe Manufacturing Plant
2020/07/00	РМ	Practice	PE Pipe Joining Method
2020/07/09	AM	Lecture	Human Resource Development for Water Utilities
2020/01/09	РМ	Practice	Action Plan Consultation
2020/07/10	AM	Practice	Action Plan Consultation
2020/07/10	PM	Practice	11
2020/07/11			(Transfer: Sapporo-Sendai) Site visit to Matsushima Sea Coast
2020/07/12	AM	Lecture	Water environmental Education
2020/07/12	PM	Lecture	11
2020/07/13	АМ	Other events Lecture	Courtesy Call to Director General of Sendai Waterworks Bureau Orientation Water Supply in Sendai
	PM	Site visit	Water Resource/Ruins of Aoba Castle, etc.
2020/07/14	AM	Practice	Total Operation(Administration Works/Filter Basin Cleaning)
	PM	Practice	Jar Test Practice
2020/07/15	АМ	Practice	Total Operation(PP Start-up Works/Jar Test/Manual Chemicals Injection/Filter Basin Cleaning/Closing of Water Purification Operation)
	PM	Practice	11
2020/07/16	AM	Practice	Water Purification Practice
2020/07/10	PM	Practice	11
	AM	Lecture	Water-resource Development and Problems Caused by Algae
2020/07/17	РМ	Presentation Other events	Presentation of Feedback on the Training Disaster Affected Area (Transfer: Sendai-Sapporo)

2020/07/18			
2020/07/19			
	AM	Lecture	Construction Management for Water Facilities
2020/07/20	РМ	Lecture	Leak Prevention
2020/07/21	AM	Practice	Leak Detection
	PM	Practice	11
	9:30~11:30	Lecture	SCADA (Computer Monitoring/Control System)
	11:30~12:00	Lecture	Promotion of Environment-conscious Business Management
2020/07/22	13:00~13:30	Site visit	Hydropower Generation in Purification Plant for Effective Use of Energy
	13:30~14:30	Site visit	Sapporo Water Works Museum
	15:00~16:00	Other events	Knowledge Sharing
2020/07/23			National holiday
2020/07/24			National holiday
2020/07/25			
2020/07/26			
2020/07/27	AM	Lecture	Advanced Water Treatment
2020/07/27	PM	Lecture	11
2020/07/28	AM	Lecture	Sustainable Water Management
2020/07/28	PM	Lecture	11
2020/07/20	AM	Lecture	Water Quality Assessment with Aquatic Organism
2020/07/29	PM	Practice	11

2020/07/20	АМ	Presentation	Action Plan Presentation
2020/07/30	РМ	Presentation	11
	AM	Other events	Farewell Call
		Other events	Evaluation Meeting
2020/07/31	РМ	Other events	Closing Ceremony
		Other events	Closing Party
2020/08/01			Returning to their home country

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

- 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
- 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.

5) 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: <u>April 1, 2020</u>. <u>Note: Please confirm the closing date set by the respective country's JICA</u> <u>office or Embassy of Japan of your country to meet the final date in Japan</u>.

(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 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.

(3) 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** <u>April 15.</u> <u>2020</u>.

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

Organizer:

 Name: JICA Hokkaido(Sapporo)
 Contact: <u>Sunazaki.Kohji@jica.go.jp</u>

2. Implementing Partner:

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

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 (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

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

If there is no vacancy at <u>JICA Hokkaido(Sapporo)</u>, 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



Facility images at JICA Hokkaido(Sapporo) Center



JICA HOKKAIDO IS A NON-SMOKING FACILITY

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 preexisting illness, pregnancy, or dental treatment are <u>not</u> included)
- (4) Expenses for program implementation, including materials For more details, please see "III. ALLOWANCES" of the brochure for participants titled "KENSHU-IN GUIDE BOOK," which will be given 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.





V. ANNEX:

<u>JOB REPORT</u>

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 <u>English</u> by using such as Microsoft PowerPoint" etc. Hand writing is unacceptable.

- 2) Should cover <u>ALL</u> "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, <u>every participant</u> 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 Strategies 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

<u>NOTE:</u> 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.

Please fill in the form briefly.

A. Basic Information	
Population of the area	

Population of the		
(i) Water Supply Area (km ² and %)	km^2 (% of total area)	
(ii) Number of the taps : Total		
: Private taps		
· Public taps		
(iii)Persons per household (average)	persons/household	
(iv)24 hours supply or not ?	Yes / No	
If not, how long suspension	If no \rightarrow water suspension () hours/day	
per day?		
(v)Maximum supply amount /day	m ³ /day	
(vi)Average supply amount /day	m³/dav	
Water supply system and its current status		
Is your organization carrying out the	tasks as below?	
Planning of facilities	Yes / No (Private Sector□ Others□)	
Constructing of facilities	Yes / No (Private Sector□ Others□)	
Maintaining of facilities	Yes / No (Private Sector□ Others□)	
Reading water meter	Yes / No (Private Sector□ Others□)	
Collecting the payment	Yes / No (Private Sector□ Others□)	
B. Management		
Budget of the year	(<u>Unit: US \$</u>)	
* Please attach your budget table, ar	nd fulfill the blanks as below	
Expense Total	US\$	
Income Total	US\$	
Payment / Water Tariff		
* Please attach your tariff, and fulfill	the blanks as below	
(vii)Price (per m ³)	US\$/m ³	
(viii)Amount of unpaid charge	%	
(ix)Non-Revenue Water (NRW)	0/	
ratio	%	
(x)Leakage ratio	%	
C. Water Resource		
What is your water resource?		
* Please attach the map from the water resource to the water treatment plant		
Is quantity of water enough? Please mention the reason.		
Locality		
Main problem of water resource		
	21/24	

D. Water Quality			
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			
* Please attach design drawing of your water treatment plant			
What is the main problem on			
maintaining the plant?			
F. Distribution			
* Please attach your design drawing	of distribution network		
What is the main problem of			
distribution network system?			
Total length of distribution pipe	km	١	
: 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		
G. General Information of the Facil	ities		
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 instrumen-			
tations, such as flow meter, water			
made in?			
H. User's Area			
Water pressure at terminal of the distribution network?			

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

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!





24/24

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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