



Knowledge Co-Creation Program (Group & Region Focus)

General information on

Non-Revenue Water Management (Leakage Control) (A)
課題別研修「上水道無収水量管理対策(漏水防止対策)(A)」
JFY 2024

Course No.202311684J001

Course Period in Japan: From October 8, 2024 to November 15, 2024

This information pertains to one of the JICA Knowledge Co-Creation Programs (Group & Region Focus) of the Japan International Cooperation Agency (JICA) implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

JICA Knowledge Co-Creation Program (KCCP)

The Japanese Cabinet released the Development Cooperation Charter in June 2023, which stated, *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

I. Concept

Background

The leakage rate through distribution facilities in water supply system is considerably high in many developing countries. Water delivered from a purification plant sometimes cannot fully reach the end of distribution network and, worse still, the shortage of water volume and water pressure even causes blockage of water supply or outbreak of diseases due to the contamination of water. Despite of those serious situations, countermeasures for it have not smoothly applied in daily maintenance work such as leakage detection and repair and in preventive measures in planning, designing, and constructing distribution facilities. There is an urgent and increasing demand for technical capacity development in non-revenue water management with the background that limited number of technical staffs has practical knowledge and experience in this sector.

For what?

This course aims to obtain and upgrade knowledge and technical skills on non-revenue water management focusing on leakage prevention work.

For whom?

This course is offered to technical staffs engaged in water supply works in the aspect of planning, design, construction, operation, maintenance.

How?

Participants have opportunities to learn non-revenue water management through lectures, site visits, practices, discussions and presentations. Participants will also propose an Action Plan describing what the participant will do through the use of the knowledge and ideas acquired and discussed in this course among other participants. Besides, this course will provide an opportunity for all participants to exchange the ideas and information of each country and to develop human networks among participants.

II. Description

1. Title (Course No.)

Non-Revenue Water Management (Leakage Control) (A) (202311684J001)

2. Course Duration in Japan

October 8 to November 15, 2024

3. Target Regions or Countries

Brazil, Honduras, Mozambique, Nicaragua, Sri Lanka, Sudan

4. Target Organization

- (1) Department of water supply of central/local government
- (2) Other public organizations in charge of water supply works

5. Capacity

6 participants

6. Language

English

7. Course Objective

Action Plans on Non-Revenue Water Management will be proposed for the respective countries.

8. Overall Goal

To be able to implement projects of Non-Revenue Water Management for aiming to conserve water resources and improve fiscal conditions of operating organizations in water supply sector.

9. Output and Contents

This course consists of the following components.

Expected Output

1. Participants can analyze current situation and challenges related to non-revenue water on each organization.
2. Participants can explain a comprehensive technique and knowledge on non-revenue water.
3. Participants can operate leakage detection equipment.
4. Participants can analyze distribution flow and leakage volume.
5. Participants can explain planning of leakage prevention.
6. Participants can explain practical knowledge and techniques of design and construction supervision.

Subjects/Agendas

(Methodology: Lecture, Site visit, Practice, Discussion, Presentation)

- Preparation and presentation of the Inception report
- Outline of water supply business and non-revenue water management of a local government in Japan
- Relationship between non-revenue water and water supply management
- Characteristics of leakage
- Mechanism and operation method of leakage detection equipment
- Analysis of distribution flow and leakage volume
- Planning of leakage prevention work
- Cost-effectiveness analysis
- Design and supervision of main facilities
- Rehabilitation and replacement of pipes

*This course focuses on leakage control, not on illegal water use.

Reference: List of countries participated in the past

		2020-21	2022	2023
		Online Program	In Japan Program	In Japan Program
Latin America	Brazil	1		2
	El Salvador			1
Africa	Algeria	1		
	Ethiopia	2		
	Nigeria	1		
	Rwanda	1		
	South Africa	1	1	
Middle East	Egypt		1	1
	Iraq		2	
	Jordan		1	1
	Palestine		1	
Asia	Bangladesh		2	
	Cambodia	2		1
	Philippines	3	1	1
Oceania	Fiji	2		
Total		14	9	7

Reference: Schedule in previous year (2023)

	Subject
	JICA Briefing, Orientation
Week 1	(L)Course orientation (L)Introduction on Japan's waterworks, Nagoya city and its waterworks bureau (L)The outline of Nagoya Waterworks (L)Identifying issues by Analysis table of distribution water (L)Water utility management in Japan (L/D)Project cycle management (P/D)Inception report presentation
Week 2	(L)Leakage control in Nagoya (L)Characteristics of leakage (L)Distributed&leaked volume analysis (L)Water distribution network O&M (V)Leakage repair work (L)Water system design (L)Supervising construction when laying water peipes (L)Quality assurance system in construction contract management (V)Pipe laying work (V)Sales operation center (L)Maintenance of water service installations
Week 3	(L)Water rate/water pressure measurement (L)Leakage control devices, Japan's way of leakage control, leakage sound case study (PT)Listening rod, acoustic rod/ Leak identifying correlator/ Metal detector (L)Water distribution pipelines replacement planning and asset management
Week 4	(V)Distrivution system (L)Water rate system (L)Public relations efforts (V)Water meter manufacturer (V)Waterworks museum (L)Central government role in waterworks policy-making (PT)Technical training center: Piping procedures/ GX type ductile iron pipe
Week 5	(PT)Technical training center: Service pipe joining/ Leakage fightiing (L)Complementary and outsourcing services entrusted by the Nagoya city waterworks&sewerage bureau (L)Business outside Nagoya (V)Joints manufacturer (V)Intake point (V)Valve manufacturer (L)Water quality control (P/D)Action plan presentation

L :Lecture, V :Site Visit, PT :Practice, D :Discussion P :Presentation

III. Eligibility and Procedures

1. Expectations to the Applying Organizations

- (1) This course is designed primarily for organizations that intend to address specific issues or problems identified in their operation. Applying organizations are expected to use the program for those specific purposes.
- (2) This course is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the course to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

2. Nominee Qualifications

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

(1) Essential Qualifications

- 1) Current Duties: technical official or middle-class administrative official in charge of water supply works
- 2) Experience in the Relevant Field: have more than 5 years' experience in the field of water supply works
- 3) Educational Background: be a university graduate in engineering discipline or the equivalent
- 4) Language Proficiency: have a competent command of spoken and written English proficiency equivalent to TOEFL iBT 100 or above (This workshop includes active participation in discussions, which requires high competence in English. Please attach an official certificate for English ability such as TOEFL, TOEIC etc, if possible)
- 5) Health: must be in good health to participate in the program in Japan. To reduce the risk of worsening symptoms associated with respiratory tract infection, please be honest to declare in the Medical History (QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION of the application form) if you have been a patient of following illnesses; Hypertension / Diabetes / Cardiovascular illness / Heart failure / Chronic respiratory illness.

(2) Recommended Qualifications

- 1) Age: between the ages of twenty-eight (28) and fifty (50) years
- 2) Gender Equality and Women's Empowerment: <1>Women are encouraged to apply for the program. JICA is committed to promoting gender equality and women's empowerment, and provides equal opportunities for all applicants regardless of their sexual orientation or gender identity. / <2>JICA seeks more female applicants due to the past records of fewer applications from women. JICA is committed to promoting gender equality and women's empowerment,

and provides equal opportunities for all applicants regardless of their sexual orientation or gender identity.

- 3) PC Skills: having basic computer skills of MS-Word, Excel and Power Point is desirable, because this program have a lot of exercises to prepare the reports and presentation materials by laptop.

3. Required Documents for Application

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

(2) **Photocopy of Passport:** You should submit it 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.

*The following information should be included in the photocopy:

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

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

(4) **Questionnaire:** to be submitted with the application form. Fill in Annex of this General Information.

4. Procedures for Application and Selection

(1) Submission of the Application Documents

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

(All required material must arrive at **JICA Center in Japan** by **August 20th, 2024**)

(2) Selection

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

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

(3) Notice of Acceptance

The JICA overseas office (or the Embassy of Japan) will notify the results **not later than September 6th, 2024.**

5. Additional Document to Be Submitted by Accepted Candidates

Accepted candidates are required to prepare an Inception Report before their departure.

6. Conditions for Participation

The participants of KCCP are required

- (1)** to strictly observe the course schedule,
- (2)** not to change the air ticket (and flight class and flight schedule arranged by JICA) and lodging by the participants themselves,
- (3)** to understand that leaving Japan during the course period (to return to home country, etc.) is not allowed (except for programs longer than one year),
- (4)** not to bring or invite any family members (except for programs longer than one year),
- (5)** to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of the course,
- (6)** to observe the rules and regulations of the program implementing partners to provide the program or establishments,
- (7)** not to engage in political activities, or any form of employment for profit,
- (8)** to discontinue the program, should the participants violate the Japanese laws or JICA's regulations, or the participants commit illegal or immoral conduct, or get critical illness or serious injury and be considered unable to continue the course. The participants shall be responsible for paying any cost for treatment of the said health conditions except for the medical care stipulated in (3) of "5. Expenses", "IV. Administrative Arrangements",
- (9)** to return the total amount or a part of the expenditure for the KCCP depending on the severity of such violation, should the participants violate the laws and ordinances,
- (10)** not to drive a car or motorbike, regardless of an international driving license possessed,
- (11)** to observe the rules and regulations at the place of the participants' accommodation, and
- (12)** to refund allowances or other benefits paid by JICA in the case of a change in schedule.

IV. Administrative Arrangements

1. Organizer (JICA Center in Japan)

(1) **Center:** JICA Chubu Center

(2) **Program Officer:** Ms. SAITO Mihoko

(cbictp1@jica.go.jp, Saito.Mihoko@jica.go.jp)

*Please insert the course number “202311684J001” in the subject.

2. Implementing Partner

Name: Nagoya City Waterworks and Sewerage Bureau
Nagoya Water and Sewage General Service Co., Ltd

3. Travel to Japan

(1) **Air Ticket:** In principle, JICA will arrange an economy-class round-trip ticket between an international airport designated by JICA and Japan.

(2) **Travel Insurance:** Coverage is from time of arrival up to departure in Japan. Thus traveling time outside Japan (include damaged baggage during the arrival flight to Japan) will not be covered.

4. Accommodation in Japan

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

JICA Chubu Center (JICA CHUBU) Address: 4-60-7 Hiraike-cho, Nakamura-ku, Nagoya, Aichi 453-0872, Japan TEL: +81-52-533-0220 FAX: +81-52-564-3751 (where “81” is the country code for Japan, and “52” is the local area code)

If there is no vacancy at JICA CHUBU, JICA will arrange alternative accommodation for the participants.

5. Expenses

The following expenses in Japan will be provided by JICA

- (1) Allowances for meals, living expenses, and stopover.
- (2) Expenses for study tours (basically in the form of train tickets).
- (3) Medical care for participants who become ill after arriving in Japan (the costs related to pre-existing illness, pregnancy, or dental treatment are not included).
- (4) Expenses for program implementation, including materials.
- (5) 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.

*Link to JICA HP (English/French/Spanish/Russian):

https://www.jica.go.jp/english/our_work/types_of_assistance/tech/acceptance/training/index.html

6. Pre-departure Orientation*

A pre-departure orientation will be held at respective country’s JICA office (or the

Japanese Embassy), to provide Participants with details on travel to Japan, conditions of the course, and other matters.

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

Image videos of 'Introduction of JICA Center (YouTube)' show the following information of JICA Centers: Location, Building, Entrance, Reception(Front desk), Lobby, Office, Accommodation(Room), Amenities(Hand dryer), Bathroom(Shower and Toilet), Toiletries, Restaurant, Laundry Room(Washing machine, Iron), ICT Room(Computer for participants), Clinic, Cash dispenser, Gym, Neighborhood

Part I: Knowledge Co-Creation Program and Life in Japan	
English ver.	https://www.youtube.com/watch?v=SLurfKugrEw
Part II: Introduction of JICA Centers in Japan	
JICA Chubu	https://www.jica.go.jp/chubu/english/office/index.html

V. Other Information

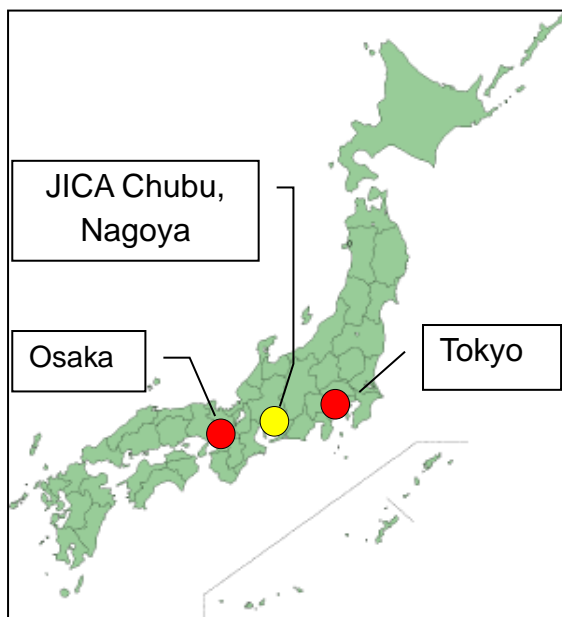
About JICA Chubu Center:

<Location>

- It is located at the center of Nagoya-city. The Nagoya main station, the regional hub of various transports, is 15mins walk from JICA Chubu Center.

<Facilities/Equipment>

- Cafe/Restaurant: International Foods, including vegetarian and halal meals, are available.
- Private Room: Single size Bed, Private Bathroom, Desk, Refrigerator, Hot pot, Bookshelf, Air Conditioning, In-room Safe, TV, Internet connection (LAN)



<Climate>

Monthly Average Temperature in Nagoya

	Oct	Nov
Daytime (°C)	23.3	17.3
Nighttime (°C)	14.8	8.6

VI. Annex

Non-Revenue Water Management (Leakage Control) (A) Questionnaire

This Questionnaire should be typed in English, and be (A4 size) 2 pages.

1. Basic Information

Name of Nominee	
Country	
Organization	
Position	
E-mail	

2. Organization Chart

*Attach your organization chart and indicate your department/ division.

3. Job Description

- (1) Your Duties in the organization
- (2) Water supply works you've been tasked
- (3) Main problems currently faced
- (4) On going projects on non-revenue water management in your area of responsibility

4. Subjects you're interested in the course in Japan

5. Message to JICA Chubu (if any)

END

For Your Reference

JICA and Capacity Development

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

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

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized courses cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs is being customized by the different target organizations to address the specific needs, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

Japanese Development Experience

Japan, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving its tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from a process of adoption and adaptation, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has

developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

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



Contact Information for Inquiries

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

JICA Chubu Center (JICA CHUBU)