



Knowledge Co-Creation Program (Group & Region Focus)

General information on

**Quality Improvement of Primary Science Education
-"Teaching and Learning" at On-Site Education-
課題別研修
「小学校理科教育の質的向上～「教えと学び」の現場教育～」
JFY 2022**

Course No.: 202107740J001

Course Period in Japan: From October 27, 2022 to December 15, 2022

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 February 2015, which stated, *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

I. Concept

Background

In many developing countries, teaching methods which focus on imparting of knowledge to students, such as reading and memorizing textbooks, is the mainstream. Although the necessity for well-planned student-centered classes based on the school curriculum is recognized, curriculums and textbooks also tend to attach an importance to learning as many scientific knowledge as possible. Since teachers themselves lack experience in experiments, observations and discussions especially in science education, it is not easy to materialize such classes.

On the other hand, basic science and mathematics is a basis of a STEM (science, technology, engineering and mathematics) education and human resource development in the field, which eventually leads countries to industrial development. Therefore, quality improvement of science education is essential to promote for medium- and long-term economic growth.

In science education in Japan, through the process of scientific exploration and problem solving such as problem finding, hypothesis planning, experiment, observation, it is expected to acquire the necessary skills and attitudes for scientific thinking to draw conclusions based on discussions about the results of experiments and observations.

This program aims to provide participants with the opportunity to learn Japan's experience in establishing and improving primary science education.

For what?

Participants of this course are expected to be able to plan/practice lessons that promote learner's understanding of scientific concepts through scientific activities such as simple experiments, observations, and improvisation of simple apparatus after completing the course. In addition, this course aims to improve the ability of the participants to conduct primary science lessons by observing education sites in Japan and conducting mock lessons based on lesson plans to be developed by themselves.

For whom?

This program is offered to primary teachers and/or teachers' trainers who are involved in the field of primary science education.

How?

This course consists of lectures, workshops, site visits, and discussions with Japanese university professors and government officials. Participants will formulate an action plan including a lesson plan with simple experiments describing what the participant will do after this program.

II. Description

1. Title (Course No.)

Quality Improvement of Primary Science Education -"Teaching and Learning" at On-Site Education- (202107740J001)

2. Course Duration in Japan

October 27 to December 15, 2022

* In the context of the COVID-19 pandemic, please note that there is still a possibility the course period will be changed, shortened, or the course itself will be cancelled.

3. Target Regions or Countries

Bangladesh, Cambodia, Ethiopia, Laos, Pakistan, Palestinian Authority, Papua New Guinea, and Rwanda

4. Eligible / Target Organization

This program is designed for educational organizations, normal schools, and primary teachers' training institutions which have knowledge and experience on curriculum development, teaching method, education policy and system in charge of primary science education.

5. Capacity (Upper Limit of Participants)

12 participants

6. Language

English

7. Objective

By the end of the course in Japan, the participants should be able to develop science lesson plans with a problem-solving approach which introduce simple experiments using materials available in one's own country.

8. Overall Goal

By showing lessons to be conducted and sharing lesson plans to be developed by the participants, the importance and necessity of science education that emphasizes not only acquiring scientific knowledge but also developing scientific thinking and attitudes will be understood.

9. Area of primary science in Japan

Primary science education in Japan consists of four fields: physics, chemistry, biology, and geology (including astronomy, meteorology, and geological science), does not include mathematics and health.

10. Output and Contents

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

(1) Preliminary Phase in the participants' home countries	
October 2022 (before the core phase)	
Preparation	
<i>The participants make required preparation for the program in the respective countries.</i>	
Modules	Activities
Self-learning	- Study pre-training materials (references and videos) which will be provided
Inception Report	- Preparation of Inception Report (Please see VI. Annex)

(2) Core Phase in Japan	
Attending lectures, workshops, observations, discussions	
Expected Module Output	Subjects / Agenda
1. To understand science education in Japan and consider how to apply to your own countries	<ul style="list-style-type: none"> • Site visit to local primary/secondary/high schools and various museums • Introductions of Japanese education system, courses of study, etc.
2. To understand and experience a variety of simple experiments, observations, and improvising materials in primary science education, and to apply/implement to your own classes	<ul style="list-style-type: none"> • Introduction and development of simple science experiments on physics, chemistry, biology, and geology using materials available in their own countries
3. To be able to make a lesson plan which is appropriate for pupil's learning stage and includes basic elements such as objective, process and class evaluation	<ul style="list-style-type: none"> • Making lesson plan • Giving a mock lesson to Japanese students at a school • Developing an action plan

(3) Finalization Phase in the participants' home countries
The knowledge and skills acquired in Japan regarding teaching plan and simple science experiments are shared with the participants' organizations and stakeholders, and the action plan is expected to be implemented in your own country.

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:

- a) be a teachers' trainer of primary science education,
 - b) teachers who have practical teaching experience of science to pupils
- *It is preferable to nominate 1 person each from a) and b) in each country

2) Experience in the Relevant Field: have more than **five (5) years'** experience and understand the current situation in the above-mentioned field in principle.

3) Educational Background: be a graduate of university

4) Language Proficiency: have a competent command of spoken and written English proficiency equivalent to TOEFL iBT 72 or above. (This program 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, both physically and mentally, 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. Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus.

6) Attitude toward Participation: Participants are required to understand the contents of this program fully and have high motivation for learning.

(2) Recommended Qualifications

- 1) Age: between the ages of thirty (30) and fifty (50) years
- 2) Gender Equality and Women's Empowerment: Women are encouraged to apply

for the program. JICA makes a commitment to promote gender equality and women's empowerment, providing equal opportunity for all applicants regardless of sexual orientation and gender identity.

3. Required Documents for Application

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

* If you have any difficulties/disabilities which require assistance, please specify necessary assistances in the QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION (1-(c)) of the application form. Information will be reviewed and used for reasonable accommodation.

(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) If you do not have any official documentation of English ability, you must have an interview with JICA overseas office or the Embassy of Japan.

(4) Inception Report: to be submitted with the application form. Detailed information is provided in VI. Annex "2. Inception Report".

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 26, 2022**)

(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 9, 2022.**

5. 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 Hokkaido Center (Obihiro)

(2) **Program Officer:** Ms. NAKAKURI Yuka (obic_kccp@jica.go.jp)

2. Implementing Partners

Hokkaido University of Education

Obihiro City Board of Education

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

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

JICA Hokkaido Center (Obihiro) (JICA Obihiro) Address: 1-2, Minami 6, Nishi 20, Obihiro-city, Hokkaido, 080-2470, Japan TEL: +81-155-35-2001 FAX: +81-155-35-2213 (where "81" is the country code for Japan, and "155" is the local area code)

If there is no vacancy at JICA Obihiro, or when conducting program outside Obihiro region, JICA will arrange alternative accommodations for the participants.

5. Expenses

The following expenses in Japan will be provided by JICA

(1) Allowances for meals, living expenses, outfits, and shipping 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 "KENSHU-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 Embassy of Japan), 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
French ver.	https://www.youtube.com/watch?v=v2yU9ISYcTY
Spanish ver.	https://www.youtube.com/watch?v=m7l-WIQSDjl
Russian ver.	https://www.youtube.com/watch?v=P7_ujz37AQc
Arabic ver.	https://www.youtube.com/watch?v=1iBQqdpXQb4
Part II: Introduction of JICA Centers in Japan	
JICA Hokkaido (Obihiro)	https://www.jica.go.jp/obihiro/english/office/index.html

V. Other Information

1. Certificate

Participants who have successfully completed the training program will be awarded a certificate by JICA.

2. For Your Health

It is advisable for participants to bring the household medicine. Especially in case you have or have had malaria, you are requested to bring the medicine for malaria with you because it is quite difficult to obtain it in Japan. In addition, accepted participants are kindly requested to provide information the JICA center in advance, if you have the restriction of food for any reasons (illness or religion, etc.).

3. Quarantine Measures at Immigration in Japan

Based on the policy in preventing the spread of COVID-19, the participants entering into Japan from overseas might be requested for self-quarantine from the day following entry in Japan. During the period, orientation and lectures will be implemented online. The detailed information will be provided at the notice of acceptance.

4. Climate

The climate condition in Obihiro is given below. Participants are advised to prepare appropriate clothes.

		Winter		Spring			Summer			Autumn		Winter	
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	Maximum	4.2	7.7	14.4	24.3	38.8	31.2	34.6	36.3	33.1	24.6	15.4	8.9
	Average	-6.1	-5.0	-1.5	6.8	14.7	15.5	19.0	20.3	17.7	11.2	2.4	-3.2
	Minimum	-17.8	-24.5	-7.4	-6.0	0.3	9.4	12.1	12.8	5.0	-0.2	-9.4	-14.0
Humidity (%)		66	65	65	61	65	79	87	84	76	79	65	69
Precipitation (mm)		12.0	17.0	12.0	26.5	37.0	98.5	71.0	200.5	90.5	150.0	39.5	23.5

(Japan Meteorological Agency 2019)

5. Currency Exchange

Participants are advised to exchange local currency to Japanese currency on your arrival at Narita (or Haneda) Airport if it is needed, since there is not enough time for currency exchange during training program.

6. Ceremony

The program includes some ceremonies, for which it is recommended to bring appropriate clothes.

7. Electronic Devices

Participants are strongly recommended to bring your own laptop computer, USB flash memory, and suitable conversion plug for Japanese one. During the program, participants are required to work on the computers to create lesson plans, reports, action plan, and so on. Most of accommodations have internet access.

8. Items to be Lent to Participants by JICA

JICA provides participants with the following necessary items during the training period;

- 1) warm jackets
- 2) laboratory coat
- 3) indoor shoes

*Therefore, participants do not need to bring own items above.

9. Things to Bring with You Coming to Japan

(1) National Curriculums (Grade 1-6)

National Curriculums are requested to bring for making lesson plans.

(2) Items Introducing Your Country

For the purpose of introducing your country at local Japanese schools, it is advisable for participants to bring;

- 1) small art crafts, musical instruments, popular music CDs, traditional costume
- 2) digital photo data (e.g. foods, traditional dresses, houses, animals, tourist spot)

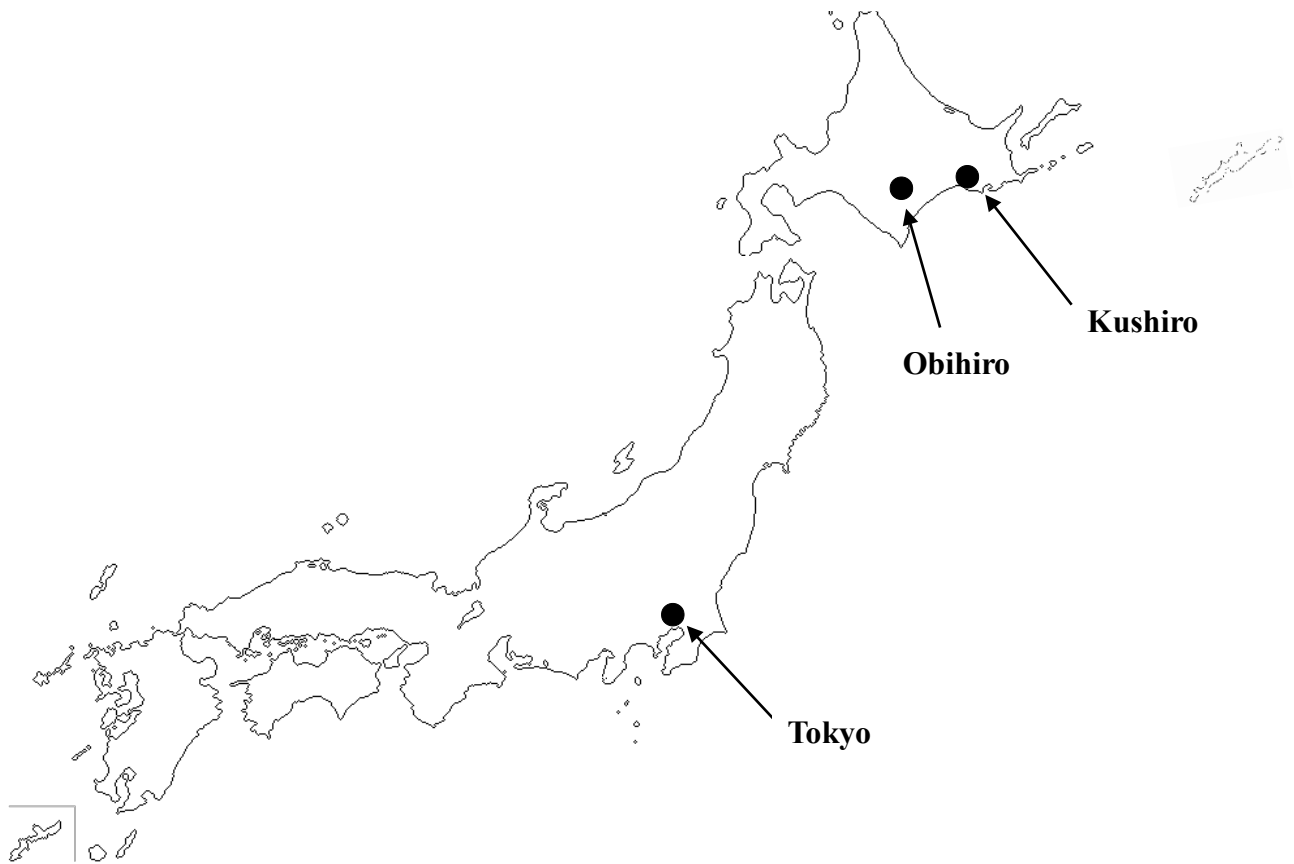
(3) Short Video of a Science Class

The accepted participants are requested to take a short video of a science class and share it during the program. The video should be edited within 5 minutes in advance. If you are currently a science teacher in active service at school, please take your own science class.

(The detailed instruction of the video preparation will be provided at notification of acceptance.)

10. Study Trip

Short study trips to Kushiro are included in the training program.



VI. Annex

1. Tentative Schedule

DATE	CONTENT	ACCOMMODATION
10/27 (Thu)	Arrival	Hotel around Tokyo for Self-Quarantine
10/28 (Fri)	Briefing	
10/29 (Sat)		
10/30 (Sun)		
10/31 (Mon)	Orientation, Presentation	
11/1 (Tue)	Lecture	
11/2 (Wed)	Lecture	
11/3 (Thu)	National Holiday	
11/4 (Fri)	Move to Obihiro City, Hokkaido	JICA Hokkaido Center (Obihiro)
11/5 (Sat)		
11/6 (Sun)		
11/7 (Mon)	Practice, Observation	
11/8 (Tue)	Observation, Workshop	
11/9 (Wed)	Observation, Workshop	
11/10 (Thu)	Observation, Workshop	
11/11 (Fri)	Workshop	
11/12 (Sat)		
11/13 (Sun)		
11/14 (Mon)	Workshop	
11/15 (Tue)	Workshop	
11/16 (Wed)	Observation, Workshop	
11/17 (Thu)	Workshop	
11/18 (Fri)	Workshop	
11/19 (Sat)		
11/20 (Sun)		
11/21 (Mon)	Study Trip	Hotel in Kushiro City
11/22 (Tue)	Study Trip	
11/23 (Wed)	National Holiday	JICA Hokkaido Center (Obihiro)
11/24 (Thu)	Discussion, Workshop	
11/25 (Fri)	Workshop	
11/26 (Sat)		
11/27 (Sun)		
11/28 (Mon)	Observation	
11/29 (Tue)	Workshop	
11/30 (Wed)	Workshop	

12/1 (Thu)	Workshop	
12/2 (Fri)	Workshop	
12/3 (Sat)		
12/4 (Sun)		
12/5 (Mon)	Workshop	
12/6 (Tue)	Workshop	
12/7 (Wed)	Workshop	
12/8 (Thu)	Workshop	
12/9 (Fri)	Workshop, Practice	
12/10 (Sat)		
12/11 (Sun)		
12/12 (Mon)	Practice, Discussion	
12/13 (Tue)	Practice, Discussion	
12/14 (Wed)	Presentation, Closing Ceremony	
12/15 (Thu)	Departure	

※In the context of the COVID-19 pandemic, please note that there is still a possibility the details will be changed without notice.

2. Inception Report

Applicants are required to submit an Inception Report on the following issues. The Report will be used for the screening of successful applicants as well as for the selection of the most suitable training subject for the participants. Applicants should submit it to JICA overseas office (or the Embassy of Japan) in respective country with the Application Form **by August 26th, 2022.**

(1) Contents

- 1) General Information (your name / country / organization)
- 2) Organization chart and the applicant's position
- 3) Roles of the organization and the department to which the applicant belongs
- 4) Introduction of the work of which the applicant has been in charge for the last one year
- 5) Issues/Problems with which you are facing in your present job and approaches which you will tackle these issues/problems
- 6) Brief introduction of National Curriculums and its problem in terms of science education for primary education.
- 7) Your expectation for the program and the reasons
- 8) Attachment (Photos of education environment such as school building, students, classroom, and any other related to school and students)

(2) Layout

Typewritten in English, 3 to 5 pages (12-point font, double spaced, A4 size paper)

(3) Presentation

Since the accepted participants are requested to deliver a presentation of their Inception Report about 10 minutes at the beginning of the Core Phase in Japan, a presentation file using visual material such as MS PowerPoint should be additionally created. (The presentation file must be a presentation regarding the report submitted with the Application Form.)

The detailed instruction of the presentation will be provided at notification of acceptance.

*It is advisable to use some materials such as photos or other visual aids to show your country's situation.

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 Hokkaido Center (Obihiro)

Address: 1-2, Minami 6, Nishi 20, Obihiro-City, Hokkaido, 080-2470, Japan

TEL: +81-155-35-1210 FAX: +81-155-35-1250

E-mail: obic_kccp@jica.go.jp

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