



Face-to-Face (in Japan)

Knowledge Co-Creation Program (Group and Region Focus)

# Mining (Environmental Sustainable Mining and Recycling)



Course Number: 202411686J001


Course Period: October 1- November 20, 2025



NOTE: If there are any difficulties in reading this document, please contact JICA Office in your country or JICA Center in Japan.

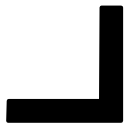
NOTE: Depending on the circumstances, some or all of the program periods may be changed or cancelled after the application has been accepted.

鉱業（環境調和型持続的鉱業とリサイクリング）



How can we  
minimize  
environmental  
negative impact  
and optimizing the  
use of limited  
mineral resources ?

Learn from various experience of related  
ministries, agencies and universities in Japan.



# Outline

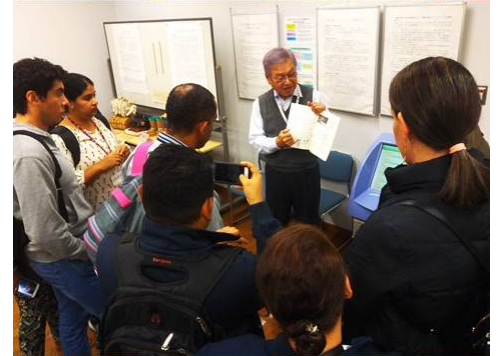
This program is designed for governmental organizations or universities in the field of mineral resources to learn technologies from the basics to the latest practical use for development of mineral resources utilization, processing, waste disposal, recycling, and environmental conservation and rehabilitation .

The sessions will be held in Japan.

All sessions are carried out in English.

The period of the program is from October 1 to November 20, 2025.

Course Capacity: 8 participants



## **JICA Knowledge Co-Creation Program (KCCP)**

The Japanese Cabinet released the Development Cooperation Charter in February 2015, stated 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 foundation of mutual learning process.

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# For What?

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## Background

Mining industry is an important industry for national economic development including resource-rich countries. It is also worthwhile to promote mining industry for gaining foreign currency revenue to develop their economies and thereby reducing poverty.

However, minimizing environmental negative impact and optimizing the use of limited mineral resources is essential in mineral resources development.

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## Objectives

Participants learn technologies from the basics to the latest practical use for development of mineral resources utilization, processing, waste disposal, recycling, and environmental conservation and rehabilitation and rehabilitation. Then, to enhance capability and acquire knowledge regarding sustainable mineral resources development and utilization.

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# To Whom?

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## Job Areas and Organizations

This program targets to government officers, university researchers in the field of mineral resources development or mining environment..

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## Targeted Countries

KAZAKHSTAN,  
DEMOCRATIC REPUBLIC OF THE CONGO,  
ZIMBABWE,  
TAJIKISTAN,  
CHILE,  
BRAZIL,  
BOTSWANA,  
MALAWI

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

# When?

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## 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.

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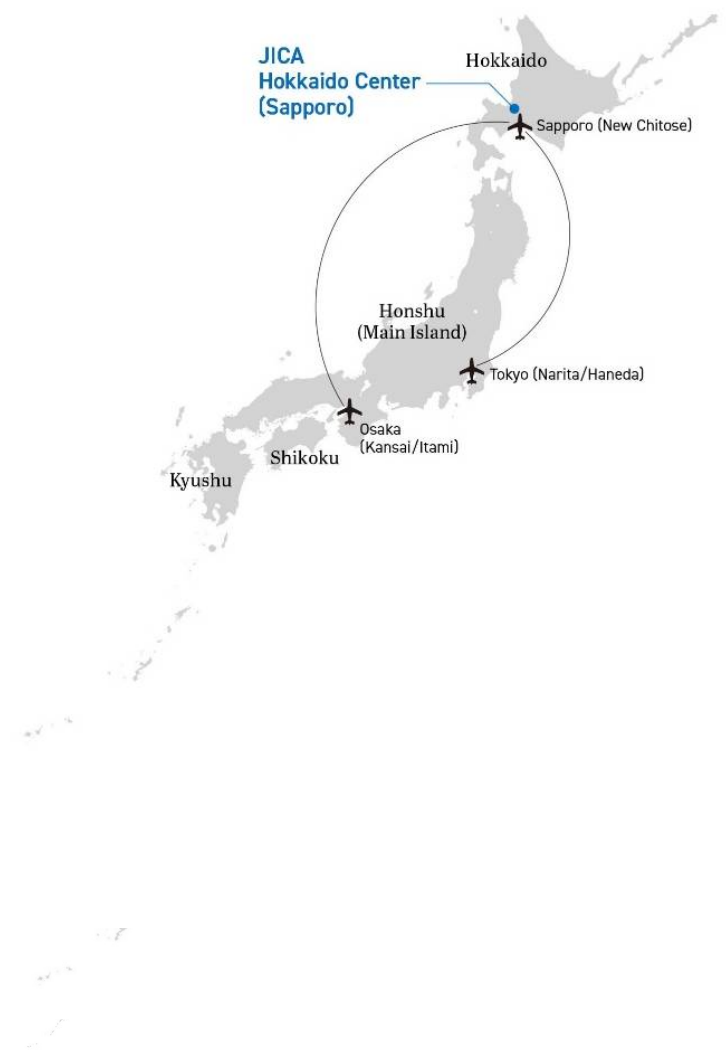
## Programme In Japan

October 1 to November 20, 2025

# Where?

This course is carried in Hokkaido, Japan, organized by JICA Hokkaido Center.

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# How?

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## How to Learn



- Q&A Session
- Lectures
- Field Visits
- Workshops
- Discussions
- Presentations

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## Language

English

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## Commitment to the SDGs



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## Program Structure

### (1) Preliminary Phase in a participant's home country

Participating organizations make required preparation for the Program in the respective country.

- 1) Job Report: to be submitted with the application form  
-Preparation of Country Report under consultation within YOUR ORGANIZATION  
  
※See Annex for Country Report Instruction

**(2) Core Phase in Japan** ※contents are subject to minor change  
(October 1 to November 20, 2025)

- 1) Introduction : To learn the current situation and issues of mining sector in each country and to understand the roles of geology, mining, mineral processing, metallurgy, and mine environment for sustainable development
  - To make a discussion on current situation and issues of mining sector in each country
  - To understand the flow diagram of resource/energy production (metals, coal, limestone and fluid energy) and the roles of each step (geology, mining, mineral processing, metallurgy, and mine environment)
  
- 2) Basics : To learn the basic theories and techniques of geology, mining, mineral processing, metallurgy, and mine environment for sustainable development
  - Basic theories of geology, mining, mineral processing, metallurgy, and mine environment
  - Details of each technology:
    - + mineralogy & environmental geology
    - + mining methods of metals, coal, limestone, and fluid energy resources
    - + mineral processing and resource recycling techniques, and smelting & refining techniques for resource circulating communities
    - + mine wastes and waste water treatments for mine environment and environmental management
  - Details of each mines
    - + coal mine
    - + metal mine
    - + limestone mine
  
- 3) Practice : To learn the knowledge and technique for practical utilization
  - Laboratory scale experiments in selected areas from the under areas.
    - +characterization analysis of ores
    - +rock mechanics
    - +separation methods
    - +dry and wet smelting
    - +waste water treatments
  
- 4) Presentation of Action Plan

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

((December 2025 to November 2026)

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

# Eligibility and Procedures

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## 1. Expectations to the Applying Organizations

- (1) This program 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.
- (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 having their participants attend by carrying out the activities of the Preliminary Phase described in Program Structure.
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants by carrying out the activities of the Finalization Phase described in Program Structure.

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## 2. Nominee Qualifications

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

**【Remarks】 Each Organization is requested to strongly encourage female candidates to apply for the course to accelerate the realization of gender equality and women’s empowerment.**

### (1) Essential Qualifications

- 1) Current Duties: be geologists and scientists working for the Government or governmental organization or universities, engaging on mineral exploration

and research.

\*The training is for solid mineral

- 2) Experience: have at least three (3) years of practical experience for those university graduate or equivalent; OR at least 3 years' work experience in mineral exploration and research in the Government, governmental organization or universities
- 3) Educational Background: be a bachelor/master of science or engineering in geology, mining, or engineering related to mining industry.
- 4) Language: have a competent command of spoken and written English, especially reading comprehension, workshop includes active participation in discussions and writing final report, thus requires high competence of English ability. 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: Less than forty (40) years old is desirable
- 2) Gender Equality and Women's Empowerment : 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.

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## **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: 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

\*Photocopy should include the followings:



Name, Date of birth, Nationality, Sex, Passport number and Expire date.

\*It is recommended that your passport be valid for more than 6 months after the last day of the program.

- (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) Country Report (ANNEX): to be submitted with the application form.

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## 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 22, 2025**)

### (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 1 2025**.



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## 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 "3.Expenses", "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.

# Administrative Arrangements

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## 1. Organizer (JICA Center in Japan)

- (1) Center: JICA Hokkaido (Sapporo)
  - (2) Program Officer: Mr. MATSUMOTO Kenichi (Matsumoto.Kenichi@jica.go.jp)
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## 2. Implementing Partner

- (1) Japan Carbon Frontier Organization  
URL: <http://www.jcoal.or.jp/eng/>
  - (2) Hokkaido University (Faculty of Engineering)  
URL: <http://www.eng.hokudai.ac.jp/english/division/>
  - (3) Akita University (Faculty of International Resource Sciences)  
URL: <https://www.akita-u.ac.jp/shigen/eng/index.html>
  - (4) Kyushu University (Faculty of Engineering)  
URL: <https://www.eng.kyushu-u.ac.jp/e/graduate/earth/index.html>
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## 3. 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/accept](https://www.jica.go.jp/english/our_work/types_of_assistance/tech/accept)

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## 4. 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.

| Part I: Knowledge Co-Creation Program and Life in Japan |   |
|---|---|
| English ver.  | <a href="https://www.youtube.com/watch?v=SLurfKugrEw">https://www.youtube.com/watch?v=SLurfKugrEw</a>                           |
| Part II: Introduction of JICA Centers in Japan          |   |
| JICA Hokkaido (Sapporo)                                 | <a href="https://www.jica.go.jp/sapporo/english/office/index.html">https://www.jica.go.jp/sapporo/english/office/index.html</a> |

If the link of these URLs has expired, please access the URL below and search the necessary information from the key word.

<https://www.youtube.com/user/JICAChannel02>

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## 5. Reference

### PDF: KENSHU-IN GUIDE BOOK

For more detailed terms and conditions

[https://www.jica.go.jp/english/our\\_work/types\\_of\\_assistance/tech/acceptance/training/index.html](https://www.jica.go.jp/english/our_work/types_of_assistance/tech/acceptance/training/index.html)

### Video: JICA Predeparture Briefing

For more information on life in Japan and KCCP

<https://www.youtube.com/watch?v=SLurfKugrEw>



### Website: JICA

English/French/Spanish/Russian

[https://www.jica.go.jp/english/our\\_work/types\\_of\\_assistance/tech/acceptance/training/index.html](https://www.jica.go.jp/english/our_work/types_of_assistance/tech/acceptance/training/index.html)





**PDF: Facility Guide for JICA Hokkaido Center**  
English/French/Spanish/Russian

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



**Video: Welcome to JICA Hokkaido**  
Introduction of JICA Hokkaido

<https://youtu.be/ZTw5Dtcu8o4>



# Annex

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## Q/N & Country Report

### Part A. Q/N(Questionnaire)

Participants are requested to submit a questionnaire with the application form which is screening the participants. This Questionnaire should be typewritten in English (A4 size paper) in accordance with the format indicated as follows.

Note: Applications that aren't accompanied with complete questionnaires can't be considered.

- (1) Name of participant
- (2) Country
- (3) E-mail (in Block Letter)
- (4) Course you graduated from
  - A) Mining Technology
  - B) Technology of exploration
  - C) Processing Technology
  - D) Technology of Metallurgy
  - E) Others
- (5) Describe your graduation thesis briefly. If your description has large volume, add Appendix (within 500 words—Title, Introduction and Conclusion)
- (6) State of fields you're interested and the reason (within 100 words)
- (7) If you have studied abroad, inform its country(ies), course name and periods
  - Country :
  - Course Name :
  - Period :From to

(8) Inform any other information (food restriction due to health/religious reasons – if you have)

(9) Inform your body size for your uniform during the program

Height (cm)

Weight (kg)

Shoe size (cm)

(if you are not familiar with centimeter size, please write your size with a note of “American” or “European” measures)

## **Part B. Country Report**

Participants are requested to prepare a country report on the following issues and submit it along with the Application Form. The report should be typewritten in English on A4 size paper (21 cm x 29.5 cm) by MS Word data. In addition to this, participants are requested to prepare economic and social statistics or development plans of their country. You may also utilize these information for making your final report at the end of the course. Country report and its information (data) will be utilized to have discussions with other participants for mutual understanding among other countries situation.

### 1. Background information

(1) Name of participant and country

(2) Overview of organization which participants belong to

### 2. Topics : (please prepare your report for all of the following topics)

#### Topic 1: Economic statistics

a) The role of mining industry in the overall economy of your country

#### Topic 2: Mining statistics

a) Ore reserves and the amount of production, domestic consumption and export

b) The activities of major mines (place, the kind of minerals, the amount of production, etc.)

c) The capacity of mineral processing and smelting

#### Topic 3: Mining policy

a) The name and structure of mining organizations



- b) Domestic taxation system concerning foreign investment
- c) Domestic policies concerning mining industry
- d) Environmental protection

Topic 4: Technical and financial cooperation from foreign countries in the field of mining industry

- a) The name of countries/agencies
- b) The type of cooperation, period and budget

Topic 5: Challenges and issues for the mineral resource exploration

Please describe your challenges and topics in your field that you want to discuss and solve, which will be considered among advisors.

### **Part C. Expected Study Report**

- 1) Problems/Theme in your exploration work
- 2) What do you expect to get skills or knowledge

### **Part D. Preparation for Discovery Report**

Please write what could you get from training and how could you solve your problem or issues in your work.

# 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.



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.



## **Correspondence**

For enquiries and further information, please contact the JICA office or Embassy of Japan.

**Further, address correspondence to:**

### **JICA Hokkaido Center (JICA Hokkaido (Sapporo))**

Address: Minami 4-25, Hondori 16-chome, Shiroishi-ku , Sapporo,Hokkaido, 003-0026, Japan

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

("81" is the country code for Japan, and "78" is the local area code