Knowledge Co-Creation Program
(Group & Region Focus)

GENERAL INFORMATION ON

TROPICAL FOREST MANAGEMENT USING THE JJ-FAST, AN ALOS-2 BASED FOREST MONITORING SYSTEM, AND OTHER SATELLITE TECHNOLOGIES
課題別研修「JJ-FAST と衛星技術を活用した熱帯林管理（森林ガバナンスイニシアティブ付帯研修）」
JFY 2022
NO. 202107961J001

Online Course Period (Tentative):
From August 22, 2022 to September 8, 2022

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)'

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

Forests are vital for all lives on earth. The role of forests in terms of climate change has been highlighted worldwide as the forestry sector including deforestation accounts for more than 10 percent of total CO_2 emissions. Everyone affirms the importance of forests: however, enormous forest net loss has been seen on a global level. The loss of tropical forests continues unabated due to agricultural expansion, wood extraction, infrastructure expansion, illegal logging and other drivers; measures to stop such losses is a global priority. Satellite technology has been effective and indispensable for forest monitoring in recent years, and several countries and international organizations have developed systems and tools to monitor forests.

JICA and Japan Aerospace Exploration Agency (JAXA) launched the **Forest Governance Initiative** in 2016. Under this initiative, the two organizations have been operating **JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)** that tracks deforestation and forest loss of 78 countries with JAXA's Advanced Land Observing Satellite-2 (ALOS-2) (please see Annex VI for the details). JJ-FAST constantly watches for deforestation and forest loss in tropical regions of the globe and provide open access to its findings. The system using ALOS-2 can monitor changes to forest cover in tropical forests despite cloud cover that is typically found in such areas. With a resolution of up to 50 meters, the JJ-FAST findings will be updated approximately every six weeks on average on the JJ-FAST website (https://www.eorc.jaxa.jp/jjfast/).

The initiative also promotes the capacity development of personnel for sustainable forest monitoring / management in developing countries through training programs in Japan and regional seminars on JJ-FAST. The initiative also spreads knowledge about good practices on forest conservation around the world through the JJ-FAST website and international conferences. It is expected that global efforts, including those through the Forest Governance Initiative, will help countries to conserve forests and fight against climate change.

This Knowledge Co-Creation Program is conducted as a part of a capacity building program of the Forest Governance Initiative.

For what?

This program shall contribute to the participating countries to promote sustainable forest management by using the ALOS-2-based early warning system; JJ-FAST for monitoring deforestation. Each Government is supposed to have system(s) for forest monitoring. The data from JJ-FAST is expected to strengthen participating countries' existing forest monitoring system(s) to monitor the forest situation more effectively. See more in the Annex-3.

For whom?

This program is offered to head or deputy head level governmental officials of sections in charge of managing tropical forest using remote sensing / GIS technology. This course is not for technical officials of agencies related to aerospace or remote sensing. More than 5 years working experience in the relevant area is required.

How?

The aim of this program is to contribute to the capacity development of governmental officers who are responsible for tropical forest management by remote sensing / GIS by providing information about JJ-FAST and opportunities to discuss how their countries can promote forest management using JJ-FAST and other remote sensing technologies.

II. Description

1. Title (J-No.):
Tropical Forest Management using the JJ-FAST, an ALOS-2 Based Forest Monitoring System, and Other Satellite Technologies (202107961J001)

2. Course Period (Tentative)
August 22, 2022 to September 8, 2022

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

3. Target Regions or Countries
Brazil, Gabon, Cambodia, Democratic Republic of the Congo, Indonesia, Malaysia, Sri Lanka, Solomon Islands, Bangladesh

4. Eligible / Target Organization
This program is designed for governmental agencies in charge of managing tropical forests using remote sensing / GIS technology.
(This course is **not** for aerospace and/or remote sensing technical agencies.)

5. Course Capacity (Upper limit of Participants)
9 participants

6. Language to be used in this program
English

7. Course Objective:
To acquire knowledge and skills to utilize the ALOS-2-based deforestation early warning system; JJ-FAST (intensively) and other satellite-based tools to gain basic knowledge about satellite technology for forest monitoring. Finally, to develop an action plan for effective tropical forest monitoring / management using JJ-FAST and satellite technologies in the participants' countries.

8. Overall Goal
Sustainable forest management is promoted using remote sensing / GIS technologies including JJ-FAST.

9. Expected Module Output and Contents:
This program consists of the following components.

Expected Module Output	Subjects/Agendas	Methodology
To acquire knowledge and skills on remote sensing including the JJ-FAST To develop an action plan to manage forest effectively using JJ-FAST	(1) JICA's cooperation in the forestry sector (2) ALOS-2 and L-band Synthetic Aperture Radar (SAR) (3) Introduction of JJ-FAST and its utilization (4) Possible usage of JJ-FAST in countries with tropical forests	Lectures
	(1) Discussion on good practices and challenges on forest conservation and forest management in participants' countries (2) Possible utilization of JJ-FAST and other available tools	Discussion
To acquire knowledge and skills on remote sensing including the JJ-FAST	(3) Developing an action plan and its presentation	Presentation

10. Inception Report

The participants are required to prepare an inception report including the following topics and present it, for each participating country, on the first day of the program. The expected time for the presentation is 10 minutes. The participants shall prepare their presentations considering that this program is focused on forest monitoring / management using early warning systems / satellite technologies. The contents of the presentation should be concise and clear, and should contain the following issues:

(1) Basic information about forest monitoring / management in the country (forest area, management structure (involved agencies), used satellites and existing systems for forest monitoring / management (if applicable) etc.)

(2) Challenges of forest monitoring and forest management, and

(3) Expectations of the Knowledge Co-Creation Program and JJ-FAST (Please also refer the image in Annex-3 to know what functions does JJ-FAST have to strengthen existing forest monitoring system(s) in each country.)

※The participants can write the Inception Report in any format, however, it is expected to be prepared in the form of Power Point slides.

12. Program Schedule (Tentative)

※The program subject to change.

Day	Date	Program
1-2	Aug. 22 (Mon) - 23 (Tue)	10:00 – 12:00 (UTC) Live Session by Zoom: Program Orientation, Inception Report Presentation
3-5	Aug. 24 (Wed) - 26 (Fri)	Video lectures on: JICA's cooperation in the forestry sector Satellite Remote Sensing for beginners JJ-FAST lecture JAXA lecture ITTO lecture (TBC) Other
6-8	Aug. 29 (Mon) - 31 (Wed)	1 hour Live Session by Zoom (time to be determined): Brainstorming for Action Plan by country
9-10	Sep. 1 (Thu) - 2 (Fri)	10:00 – 12:00 (UTC) Live Session by Zoom: Draft Action Plan Presentation by country
11-12	Sep. 5 (Mon) - 6 (Tue)	10:00 – 12:00 (UTC) Live Session by Zoom: Follow up discussions for Action Plan Presentation
13	Sep. 7 (Wed)	10:00 – 12:30 (UTC) Live Session by Zoom: Action Plan Presentation by country
14	Sep. 8 (Thu)	10:00 – 11:00 (UTC) Live Session by Zoom: Evaluation Meeting Closing Ceremony

III. Conditions and Procedures for Application

1. Expectations from the Participating Organizations:

(1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operations. Applying organizations are expected to use the program for those specific purposes. This course is not for the technical officials of aerospace or remote sensing agencies.

(2) In this connection, applying organizations are expected to nominate the most qualified candidates to address said issues or problems based on the qualifications described in section III 2. below.

(3) In addition, before the program starts, applying organizations are also expected to support participants to select possible topics or ideas for Action Plans which address the issues or the problems mentioned in section III 1. (1) above.

(4) Applying organizations are also expected to hold knowledge-sharing sessions within the organization and support implementation of the Action Plan after the program in order to make the best use of knowledge to be acquired through the program.

2. Nominee Qualifications:

(1) Applying Organizations are expected to select nominees who meet the following essential qualifications.

1) Current Duties: be head or deputy head level governmental officials of a section in charge of managing tropical forest using remote sensing / GIS technology.
2) Experience in the relevant field: have more than 5 years' experience in the field of forest monitoring / management using remote sensing / GIS.
3) Educational Background: be a graduate of university
4) Language: have a competent command of spoken and written English.
5) Age: between the ages of thirty (30) and fifty (50) years old
6) Health: must be in good health, both physically and mentally, to participate in the Program.

(2) Recommendable qualification

1) **Gender Consideration:** JICA is promoting Gender equality. Female applicants are encouraged to apply for the program.
2) **Network Environment:** stable enough to use Zoom, YouTube, JJ-FAST, and QGIS, for the online program. If there are any concerns of Network Environment, please contact the JICA office in each country.
3) **Hardware:** PC, Tablets, or Smartphones to use Zoom and YouTube. Another PC to access and use JJ-FAST and GIS software (QGIS) for the online program.

3. Required Documents for Application

(1) Application Form: The Application Form is available at **the JICA office (or the Embassy of Japan).** The Application Form should be typewritten in English
Note: Please be sure to fill in the "e-mail" address in the Application Form (Part B. "contact information").

(2) Nominee's English Score Sheet: To be submitted with the Application Form if any official documentation of English ability are available. (e.g., TOEFL, TOEIC, IELTS)

4. Procedures for Application and Selection:

(1) Submission of the Application Documents:

Closing date for applications: **Please inquire to the JICA office (or the Embassy of Japan).**
(After receiving applications, the JICA office (or the Embassy of Japan) will send them to **the JICA Center in JAPAN** by **July 15, 2022**)
Note: The Application Form should be typewritten in English in Microsoft Word format.

(2) Selection:

After receiving the documents through proper channels from the participant's 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 will be made by the JICA office (or the Embassy of Japan) **not later than July 22, 2022.**

5. Document(s) to be submitted by accepted candidates:

Inception Report; only accepted candidates are required to prepare an Inception Report. Detailed information is provided in “10. Inception Report” of “II. Description”. The Inception Report should be submitted to JICA Yokohama (yictt1@jica.go.jp) by August 12, 2022.

＊Please be sure to type the e-mail title adding “202107961J001,ICR” at the beginning.

6. Conditions for Attendance:

The Participants attending this program are requested;

(1) to strictly adhere to the program schedule.
(2) not to change the program topics.
(3) not to record or share the online contents without permission.

IV. Administrative Arrangements

1. Organizer:

(1) Name: JICA Yokohama Center (JICA Yokohama)

(2) Address: 2-3-1 Shinkou, Naka-ku, Yokohama-shi, Kanagawa-ken, 231-0001 Japan

TEL: +81-45-663-3220

FAX: +81-45-663-3265

(81: country code for Japan, 45: local area code)

(3) Contact: Ms. HORIKOSHI Kyoko (yictt1@jica.go.jp)

2. Implementing Partner:

(1) Name: Remote Sensing Technology Center

(2) URL: https://www.restec.or.jp/en/

V. Other Information

1. Tools expected to use in the course:

(1) Zoom:

Main Use: An application developed to hold online seminars (Webinars) and meetings using a computer or smartphone.

Preparation: Camera, speaker and microphone are required to participate to Webinars by Zoom. Please download and install the Zoom application from the website prior to attendance.

Zoom can be used with camera, speaker, and microphone built into PC and smartphone. However, it is preferable to use a headset because the built-in microphone easily picks up noise and environmental sounds and causes howling.

(2) YouTube:

Main Use: To watch various uploaded video contents and materials.

Preparation: Log in to the dedicated YouTube website according to the information provided by JICA.

(3) QGIS

Main Use: QGIS is a user friendly Open Source Geographic Information System (GIS) licensed under the GNU General Public License and will be used to help analyze data. Please be sure to download and install the software into participant's PCs beforehand.

Preparation: Please download the software prior to attendance.

https://qgis.org/en/site/forusers/download.html

(Note: Please choose "QGIS Standalone Installer Version 3.1")

VI. ANNEX:

Annex-1

JICA-JAXA Forest Early Warning System in the Tropics: JJ-FAST

Monitor global tropical forests with ALOS-2

JICA and JAXA launched the JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST) in November 2016 as their commitment under the Forest Governance Initiative, which was announced at UNFCCC COP21 in Paris in 2015. JJ-FAST is a web-based system using JAXA's ALOS-2 to monitor tropical forests in 77 countries every 1.5 months and release deforestation data, even in the rainy season. Uses can easily access the data for deforested areas from PCs and mobile devices and download the data.

Advantage of the PALSAR-2 aboard ALOS-2

The state-of-the-art L-band Synthetic Aperture Radar-2 (PALSAR-2) aboard ALOS-2, which is active microwave radar using the 1.2GHz frequency range, have enhanced performance compared to the DAICHI/PALSAR in responding to society's needs. The PALSAR-2 can observe day and night around the clock.

Uniqueness of the JJ-FAST

- Any time of day or night: Since other sources of light such as the sun are unnecessary, SAR present the advantage of providing satellite images regardless day or night.
- All-weather: The L-band frequency for transmitting and receiving microwaves is less affected by cloud cover and rain.
- Land surface observation: L-band microwave can reach to the ground partially penetrating through vegetation to obtain information about the current vegetation and ground surface.

■ **Target Countries**

Area		Country
Latin America	South America 9 countries	Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Venezuela
	Central America and the Caribbean 9 countries	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Trinidad and Tobago
Africa	West Africa 12 countries	Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Nigeria, Senegal, Sierra Leone, Togo
	East Africa 12 countries	Burundi, Djibouti, Ethiopia, Kenya, Madagascar, Rwanda, Seychelles, Somalia, Sudan, South Sudan, Tanzania, Uganda
	Central Africa 8 countries	Cameroon, Central African Republic, Chad, Republic of Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Sao Tome and Principe
	South Africa 11 countries	Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Republic of South Africa, Swaziland, Zambia, Zimbabwe
Asia	14 countries	Bangladesh, Bhutan, Brunei, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Viet Nam
Oceania	2 countries	Papua New Guinea, Solomon

■ **JJ-FAST Web-site**

http://www.eorc.jaxa.jp/jjfast/

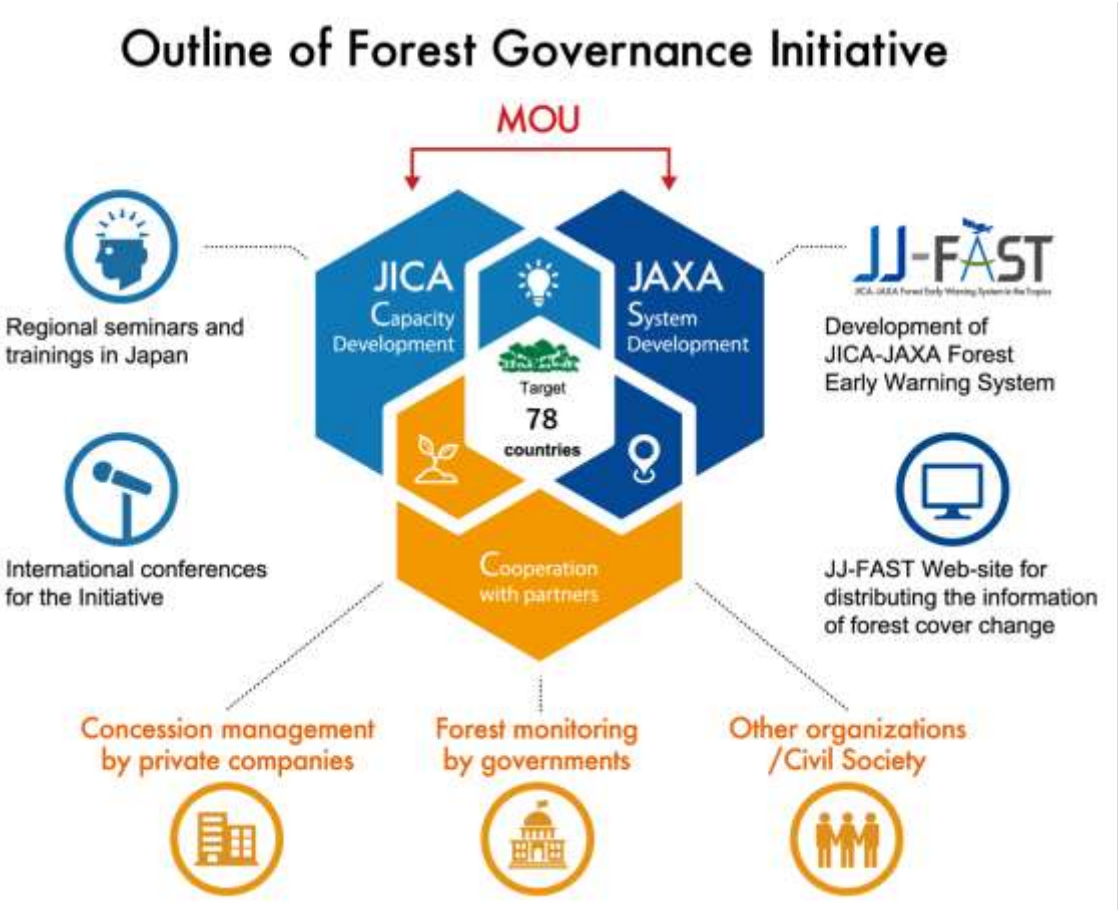
Annex-2

Forest Governance Initiative

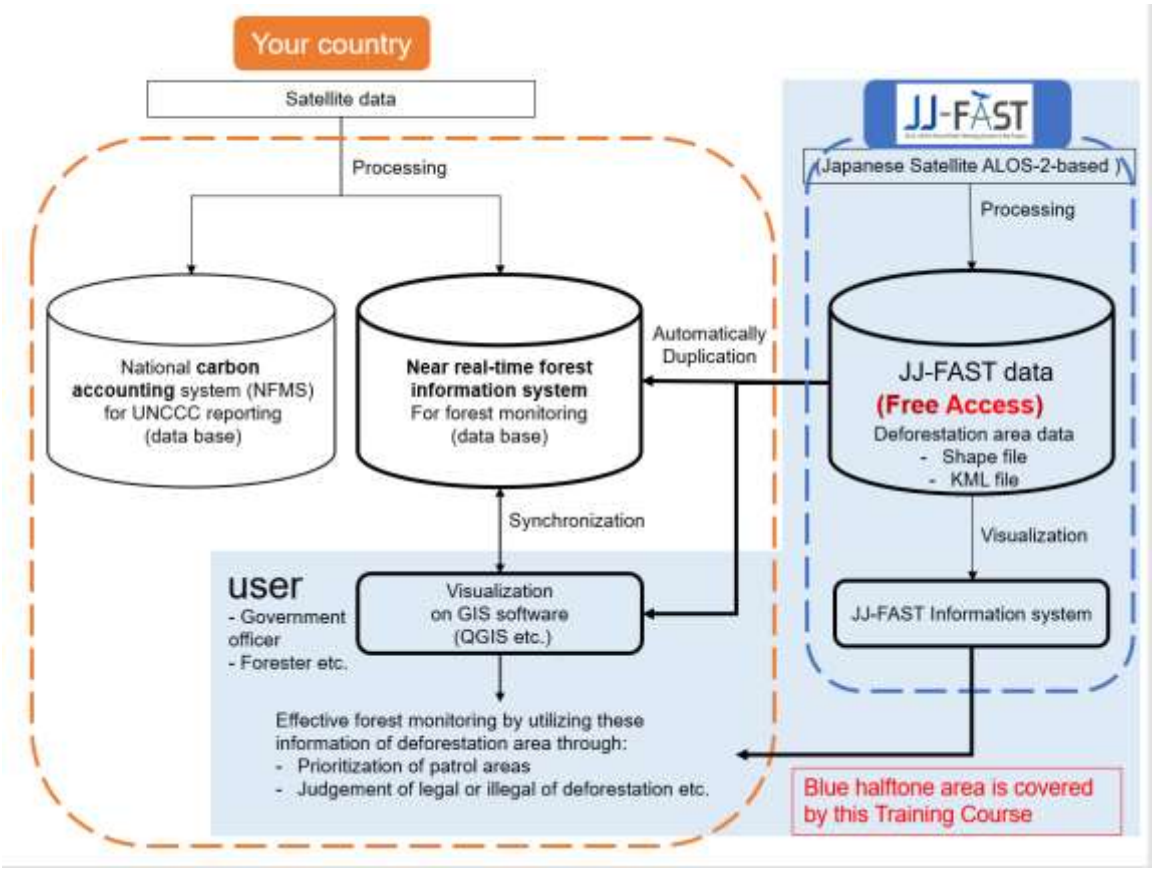
Forest can change the world – The Forest Governance Initiative aims to encourage better use of satellite technology and multi-stakeholder partnerships to contribute to global tropical forest and biodiversity conservation and climate change mitigation.

JICA and JAXA launched the Forest Governance Initiative at UNFCCC COP 21 in Paris in 2015. JICA and JAXA have committed to the initiative through developing "JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)", promoting capacity development and spreading good practices on forest conservation to fight against deforestation in developing countries and global climate change.

JICA and JAXA call development partners and private companies to join the initiative to work together to change the world for the better.



Area of JJ-FAST KCCP course offer



For Your Reference

JICA and Capacity Development

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

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

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

Japanese Development Experience

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

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

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

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

CORRESPONDENCE

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

JICA Yokohama Center (JICA YOKOHAMA)

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