



Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON

TROPICAL FOREST CONSERVATION USING THE FOREST MONITORING SYSTEM WITH ALOS-2 SATELLITE

課題別研修「森林ガバナンス改善イニシアティブ:

熱帯林監視システムを活用した熱帯雨林保全」

JFY 2017

NO. J1704439 / ID. 1784912

Course Period in Japan: From October 15th to November 1st 2017

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

‘JICA Knowledge Co-Creation Program (KCCP)’ as a New Start

In the Development Cooperation Charter which was released from the Japanese Cabinet on February 2015, it is clearly pointed out that *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* We believe that this ‘Knowledge Co-Creation Program’ will serve as a center of mutual learning process.

I. Concept

Background

Forests are vital for all life 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 CO2 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 factors; implementing 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. The initiative has been creating a new **JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)** that tracks deforestation and forest loss of 77 countries with JAXA's Advanced Land Observing Satellite-2 (ALOS-2) (please see Annex VI for the details). JJ-FAST will constantly watch for any 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 the 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 (<http://www.eorc.jaxa.jp/jjfast/>).

The initiative also promotes the capacity development of personnel for sustainable forest monitoring / management in developing countries through training courses 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 web-site and international conferences. It is expected that global efforts, including those through the Forest Governance Initiative, will help countries with serious deforestation issues, and in the long term help control the reduction of forests as an effective measure 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 participating countries to promote forest conservation by using the ALOS-2-based early warning system; JJ-FAST for detecting illegal logging and deforestation.

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 in the relevant area is desirable.

How?

This program aims to contribute to the capacity development of governmental officers who are responsible for tropical forest conservation by remote sensing / GIS by providing information about JJ-FAST and giving them an opportunity to discuss how their countries can promote forest conservation using JJ-FAST and remote sensing technologies. The participants of the training course shall also have an opportunity to attend the “International Conference of the Forest Governance Initiative - Forest Conservation using Forest Early Warning System (Tentative Title) – “ held on October 24-26 in Tokyo, where effective measures to improve forest governance by promoting forest conservation using remote sensing and GIS technologies will be discussed.

II. Description

1. Title (J-No.):

Tropical Forest Conservation using the Forest Monitoring System with ALOS-2 Satellite (J1704439)

2. Course Period in JAPAN

October 15th to November 1st 2017

3. Target Regions or Countries

Philippines, Malaysia, Colombia, Democratic Republic of the Congo, Mozambique

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)

20 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 and about JJ-FAST, to gain basic knowledge about satellite technology for forest monitoring, and to finally develop an action plan for effective tropical forest monitoring / management in the participants' home countries.

8. Overall Goal

Forest conservation is promoted through sustainable forest management 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 about forest monitoring using remote sensing and Japan's experience	(1) Forest conservation in Japan (2) JICA's cooperation in the forestry sector and REDD+	Lectures
	(1) The various satellites in the world available for forest monitoring (2) ALOS-2 and L-band Synthetic Aperture Radar (SAR) (3) Field visit to Tsukuba Space Center, JAXA	Lectures and Field visit

To acquire knowledge and skills on remote sensing including the ALOS-2-based JJ-FAST	(1) Introduction of JJ-FAST and its utilization (2) Possible usage of JJ-FAST in countries with tropical forests	Lectures and Exercise
	(3) Attendance of the “International Conference of the Forest Governance Initiative”	Conference
To develop an action plan to conserve forest using JJ-FAST	(1) Discussion on good practices and challenges on forest conservation and forest management in participants’ countries (2) Possible utilization of JJ-FAST in participant’s countries	Discussion
	(3) Developing an action plan and its presentation	Presentation

10. Inception Report

The participants are requested to prepare an inception report including the following topics and present it on the second day after arrival. The expected timeframe for the presentation is 10 minutes. The participants shall prepare their presentations considering the fact that this program is focused on forest monitoring / management using an early warning system. The contents of the presentation should be concise and clear, and should contain:

- (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 conservation
- (3) Expectations of the Knowledge Co-Creation Program.

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

<Structure of the program> Tentative

※The program subject to change.

		Program
1	Oct. 15 (Sun)	Arrival
2	Oct. 16 (Mon)	JICA Briefing, General Orientation, Program Orientation
3	Oct. 17 (Tue)	AM Lecture: JICA's cooperation in the forestry sector and REDD+, Introduction of JJ-FAST and its utilization PM Inception Report Presentation
4	Oct. 18 (Wed)	Lecture: Forest conservation in Japan, The various satellites in the world available for forest monitoring, ALOS-2 and L-band Synthetic Aperture Radar (SAR)
5	Oct. 19 (Thu)	Practice of JJ-FAST
6	Oct. 20 (Fri)	Observation trip (TBC)
7	Oct. 21 (Sat)	day-off
8	Oct. 22 (Sun)	day-off
9	Oct. 23 (Mon)	Discussion: Good practices and challenges on forest conservation and forest management in participants' countries, Possible utilization of JJ-FAST in participant's countries
10	Oct. 24 (Tue)	Attendance of the "International Conference of the Forest Governance Initiative" (the first day)
11	Oct. 25 (Wed)	as above (the second day)
12	Oct. 26 (Thu)	as above (the third day) Observation: Tsukuba Space Center, JAXA etc.
13	Oct. 27 (Fri)	Lecture: Under planning
14	Oct. 28 (Sat)	day-off
15	Oct. 29 (Sun)	day-off
16	Oct. 30 (Mon)	Discussion: Reflection of International Conference, Preparation for Action Plan Presentation
17	Oct. 31 (Tue)	AM Action Plan Presentation PM Evaluation Meeting / Closing Ceremony
18	Nov. 1 (Wed)	Departure

III. Conditions and Procedures for Application

1. Expectations from the Participating Organizations:

- (1) This program is designed for organizations that are in charge of managing tropical forest areas using remote sensing / GIS technology. The participating organizations are expected to use the project for those specific purposes. This course is not for the technical officials of aerospace or remote sensing agencies.
- (2) In this connection, applicant organizations are expected to nominate the most qualified candidates to address said issues or problems by carefully adhering to the qualifications described in section III-2 below.
- (3) Applying organizations are also expected to be prepared to make use of any knowledge acquired by the nominees for said purposes.

2. Nominee Qualifications:

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

(1) 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) Health: must be in good health, both physically and mentally, to participate in the Program in Japan. Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus.

(2) Recommendable Qualifications

- 1) Age: between the ages of thirty (30) and fifty (50) years

3. Required Documents for Application

- (1) **Application Form:** The Application Form is available at **the JICA office (or the Embassy of Japan)**.
- (2) **Photocopy of passport:** to be submitted with the application form, if you possess your passport which you will carry when entering Japan for this program. If not, you are requested to submit its photocopy as soon as you obtain it.

*Photocopy should include the followings:

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

(3) Nominee's English Score Sheet: to be submitted with the application form. If you have any official documentation of English ability. (e.g., TOEFL, TOEIC, IELTS)

(4) Questionnaire: to be submitted with the application form. Fill in Attachment-3 of this General Information.

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 **August 18, 2017**)

(2) Selection:

After receiving the documents through proper channels from your government, the JICA office (or the embassy of Japan) will conduct screenings, and then forward the documents to the JICA Center in Japan. Selection will be made by the JICA Center in consultation with concerned organizations in Japan. *The applying organization with the best intention to utilize the opportunity of this program will be highly valued in the selection.* Qualifications of applicants who belong to the military or other military-related organizations and/or who are enlisted in the military will be examined by the Government of Japan on a case-by-case basis, consistent with the Development Cooperation Charter of Japan, taking into consideration their duties, positions in the organization, and other relevant information in a comprehensive manner.

(3) Notice of Acceptance

Notification of results will be made by the JICA office (or the Embassy of Japan) **not later than September 8, 2017.**

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

Inception Report -- to be submitted by **September 29, 2017**

Before coming to Japan, only accepted candidates are required to prepare an Inception Report (detailed information is provided in II. Description "Inception Report".) The Inception Report should be submitted to a respective JICA office (or the Embassy of Japan) and should be sent preferably by e-mail to JICA Yokohama (yictt1@jica.go.jp) by September 29, 2017.

6. Conditions for Attendance:

- (1) to strictly adhere to the program schedule.
- (2) not to change the program topics.
- (3) not to extend the period of stay in Japan.
- (4) not to be accompanied by family members during the program.
- (5) to return to home countries at the end of the program in accordance with the travel schedule designated by JICA.
- (6) to refrain from engaging in any political activities, or any form of employment for profit or gain.
- (7) to observe Japanese laws and ordinances. If there is any violation of said laws and ordinances, participants may be required to return part or all of the training expenditure depending on the severity of said violation.
- (8) to observe the rules and regulations of the accommodation and not to change the accommodation designated by JICA.

IV. Administrative Arrangements

1. Organizer:

- (1) **Name:** JICA Yokohama International Center (JICA Yokohama)
(2) **Address:** 2-3-1 Shinkou, Naka-ku, Yokohama-shi, Kanagawa-ken,
231-0001 Japan
TEL: +81-45-663-3251
FAX: +81-45-663-3265
(81: country code for Japan, 45: local area code)
(3) **Contact:** Ms. IKEDA Hisae (yictt1@jica.go.jp)

2. Implementing Partner:

Under planning

3. Travel to Japan:

- (1) **Air Ticket:** The cost of a round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.
(2) **Travel Insurance:** Coverage is from time of arrival up to departure in Japan. Thus traveling time outside Japan will not be covered.

4. Accommodation in Japan:

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

JICA Yokohama International Center (JICA YOKOHAMA)
Address: 2-3-1 Shinkou, Naka-ku, Yokohama-shi, Kanagawa-ken
231-0001, Japan
TEL: 81-45-663-3251 FAX: 81-45-663-3265
(where "81" is the country code for Japan, and "45" is the local area code)
Map: <http://www.jica.go.jp/english/about/organization/domestic/map/yokohama.html>

If there is no vacancy at JICA YOKOHAMA, JICA will arrange alternative accommodations for the participants.

5. Expenses:

The following expenses will be provided for the participants by JICA:

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

6. Pre-departure Orientation:

A pre-departure orientation will be held at the respective country's JICA office (or Japanese Embassy), to provide participants with details on travel to Japan, conditions of the workshop, and other matters.

V. Other Information

1. Traditional clothing and items

There are a few occasions like closing ceremonies, when the participants may wear formal clothing. It is recommended to bring your national or traditional dress for closing ceremonies or other events.

Additionally, bringing along any visual materials like photos or donations of any handicrafts and/or folk crafts items that can be exhibited in order to share your culture is welcomed.

VI. ANNEX:

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

Japan International Cooperation Agency (JICA) and Japan Aerospace Exploration Agency (JAXA) launched a new initiative for Improvement of Forest Governance in June 2016. In this initiative, JICA and JAXA develop an early warning system for deforestation of tropical forest: JICA-JAXA Forest Early Warning System in the Tropics by using JAXA's Advanced Land Observing Satellite (ALOS-2).



JAXA's Advanced Land Observing Satellite (ALOS-2)



An example of how the data will be provided on the JAXA website

Features of this System

- Point 1** ALOS-2 is able to transmit through the cloud;
- Point 2** The system monitors tropical forests every 1.5 months basis for 61 countries with 50m resolution;
- Point 3** The system allows free access from PCs and mobile devices from anywhere in the world.

JJ-Fast Website <http://www.eorc.jaxa.jp/jjfast/>



The endangered Pied Tamarin (*Saguinus bicolor*) (Brazil)

Forest can change the world - Initiative for Improvement of Forest Governance will contribute to global tropical forest and biodiversity conservation and climate change mitigation by using Japan's advanced satellite technology and multi-stakeholder partnerships

The initiative for Forest Governance is conducted by a partnership between JICA and JAXA, and supporting private corporations and any other organizations are expected to join the initiative to contribute to the conservation of the world's tropical forests.

Target Countries under the System

JJ-FAST monitors 61 countries!!

Area	Country
South America	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela
Central America	Mexico, Guatemala, Belize, EL Salvador, Honduras, Nicaragua, Panama, Costa Rica
Sub-Saharan Africa	Burundi, Cameroon, Chad, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, Rwanda, Sao Tome and Principe, Tanzania, Zambia, Botswana, Mozambique, Angola, Zimbabwe, Lesotho, Swaziland, Malawi, Namibia, Republic of South Africa, Mauritius, Madagascar, Seychelles, Ethiopia, Kenya, Uganda, Nigeria, Benin, Togo, Ghana, Ivory Coast, Liberia, Sierra Leone
Asia	Indonesia, Malaysia, Thailand, Philippines, Viet Nam, Laos, Cambodia, Myanmar, Papua New Guinea, Solomon, India

Activities

- Development of the JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST);
- Human resources trainings for related personnel (approximately 500 trainees by 2020);
- Diffusion of successful forest conservation knowledge and skills;
- Holding international conferences/seminars to promote the initiative.

Achievements of the Brazilian Amazon Forest and Combat against Illegal Deforestation Project (2009-2012)

The Utilization of ALOS images impressively supported the project to identify deforestation and illegal logging by using the ALOS images in Brazil. ALOS is suitable to detect deforestation and illegal logging of tropical forests. The project contributed to detect more than 1,000 deforestation and 150 illegal logging cases respectively from 2010 to 2011. The extent of forest decline in 2014 was 500,000 hectares, which was about 80 % less than the 2004 level.



Forestry and Nature Conservation Group, Global Environment Department,
Japan International Cooperation Agency (JICA)
 Tel. +81-3-5226-6660 URL : <http://www.jica.go.jp/english/>



Issued in August 2016

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 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 International Center (JICA YOKOHAMA)

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