



Knowledge Co-Creation Program (Group & Region Focus)

**GENERAL INFORMATION ON
CAPACITY BUILDING FOR NATIONAL FOREST MONITORING
SYSTEM TO PROMOTE REDD+ AND SUSTAINABLE FOREST
MANAGEMENT**

**課題別研修「持続的森林管理及び REDD+に向けた国家森林モニタリ
ングシステム整備のための人材育成」**

JFY 2016

NO. J1604132/ ID. 1684747

Course period in Japan: From 12th June 2016 to 6th August 2016

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

It is estimated that deforestation and forest degradation accounts for 20% of the worlds' greenhouse gas (GHG) emission. To promote REDD+ and Sustainable Forest Management for reducing GHG, it is essential to establish National Forest Monitoring System (NFMS) which obtains accurate information of the forest at national level in developing countries.

Data set of changes in forest area and forest carbon stocks collected by NFMS, is not sufficiently available in many developing countries. Moreover, the system of analyzing and reporting the data has not sufficiently been established. For this reason, Capacity building of human resources to formulate NFMS, including monitoring, analyzing and reporting system, based on technical knowledge is highly needed.

For what?

This program aims at enhancing capacity building of human resources to formulate NFMS for promoting REDD+ and Sustainable Forest Management based on the technical knowledge and institutional arrangement which are learned through the training course.

For whom?

Government officials or researchers of related institutions who are engaged in forest planning and monitoring, and climate change measures in forestry sector.

How?

Participants are required to take part in a variety of lectures and practices for REDD+, field survey, GIS (Geographic Information System), remote sensing technology. Participants will also formulate and present Action Plans describing the actions that participants will take after going back to home countries by putting together the knowledge and ideas acquired and discussed in Japan.

II. Description

1. Title (J-No.):

**CAPACITY BUILDING FOR NATIONAL FOREST MONITORING SYSTEM
TO PROMOTE REDD+ AND SUSTAINABLE FOREST MANAGEMENT
(J-1604132)**

2. Period of program

Duration of whole program:

April 2016 to December 2016

Preliminary Phase:

April 2016 to June 2016

(in participants' home countries)

Core Phase in Japan:

12th June 2016 to 6th August 2016

Finalization Phase:

August 2016 to December 2016

(in participants' home countries)

3. Target Countries: Indonesia, Cambodia, Kenya, Democratic Republic of the Congo, Panama, Papua New Guinea, Brazil, Peru, Botswana, Malawi, Myanmar, Mozambique

4. Objective:

Building capacity to be responsible for the development of NFMS based on the technical knowledge on how to collect the data for estimation of forest carbon stock change and GHG emissions/removals.

5. Eligible / Target Organization:

Central administrative bodies/offices that are in charge of NFMS or climate change (REDD+) in developing countries.

6. Course capacity (Upper limit of Participants): 13

7. Language to be used in this project: English

8. Overall Goal:

NFMS will be developed based on the technical knowledge and institutional arrangement which are learned through the training course. The NFMS shall be appropriate one considering the condition and situation of each country.

9. Expected Module Output and Contents

The program consists of the following components:

Preliminary Phase in a participants' home countries (April 2016 to June 2016) <i>Participants are required to prepare for the Program in the respective countries.</i>	
Module	Activities
*Country Report (ANNEX) for all applicants	Formulation and submission of Country Report with application form, preparation of Country Report Presentation

*Each participant is requested to present the Country Report in English at the beginning of the Program. (10-15 minutes per each)

Core Phase in Japan (12 th June 2016 to 6 th August 2016) <i>Participants attend the Program in Japan.</i> *Note: This course is not designed to acquire specific skills for GIS and Remote Sensing Analyzing, but to understand the approach to NFMS planning for SFM and REDD+. □ It is unexpected that the participants would master specific expertise such as GIS and Remote Sensing Analysis. The time for learning those skills is also limited during the training course.		
Structure of the program (The program is subject to minor changes.)		
Module output	Contents	Style
1. Participants will be able to understand international framework against climate change in forestry sector (REDD+, A/R CDM, Forest Certification etc.)	Basic rule of climate change measures in forestry sector, LULUCF (Land Use, Land Use Change and Forestry), A/R(Afforestation/Reforestation) CDM(Clean Development Mechanism), reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+).	Lecture, Workshop
2. Participants will be able to find out required NFMS in their own countries through the analysis of Japan and other countries' NFMS for the Sustainable Forest Management.	Japan's NFMS, measuring, estimating and reporting system of forest carbon stock change and GHG emissions/removals. Estimation methods using forest planning information database, yield table, GIS and field survey of Permanent Sample Plots.	Lecture, Workshop

3. Participants will be able to estimate forest carbon stock change and GHG emissions/removals through the field work to survey forest resources.	Forest resources survey technique: field measurements, number and location of measurement plots, destructive sampling of tree biomass, creating biomass regression equations, estimation methods of forest carbon stock change and GHG emissions/removals.	Lecture, Practice
4. Participants will be able to understand the overview of GPS, GIS and remote sensing technology and its application to estimate forest carbon stock change and GHG removals.	Remote Sensing using aerial photos and satellite imagery, GIS in Forest: from survey to spatial analyses, GPS survey, land use and land use change, application to estimate forest carbon stock change and GHG removals.	Lecture, Practice
5. Participants will be able to make draft plan of NFMS and its action plan for the home countries.	Case study of NFMS in developed countries approaches to develop NFMP in measuring, estimation and reporting of forest carbon stock change and GHG removals. Draft plan of NFMS and its Action Plan. Presentation and Discussion in open seminar.	Action Plan presentation

Draft schedule (Note: Activities in Japan might be slightly changed.)

Date		Lecture/ Visit etc.	Topic	Module No.
6/12 (Sun)			Arrival	
6/13 (Mon)	am		Briefing for registration	
	pm		Program orientation	
6/14 (Tue)			General orientation	
6/15 (Wed)	am	Lecture	Outline of REDD+	Module 1
	pm	Lecture	Outline of UNFCCC and Kyoto Protocol	
6/16 (Thu)	am	Lecture	Preparation of Country Report and orientation of the Final Report on NFMS	
	pm	Lecture	Case studies of REDD+ project initiated by JICA	

6/17 (Fri)	am	Lecture	UNFCCC discussion and case studies regarding societal safeguard in REDD+	Module 1
	pm	Practice	Exercise of analysis for business solution in reference to the case introduced in the morning	
6/18 (Sat)			Holiday	
6/19 (Sun)			Holiday	
6/20 (Mon)	am	Lecture	Forest Planning System of Japan	Module 2
	pm	Present ation	CR presentation by participants	
6/21 (Tue)		Practice	Flora of Japan	
6/22 (Wed)	am	Lecture	Introduction of Remote Sensing Technology	Module 4
	pm	Lecture	Process and method of analysis with Remote Sensing Technology	
6/23 (Thu)	am	Practice	Confirmation of the status quo for remote sensing technology usage for map in your respective country	
	pm		Consider challenge for the application of remote sensing technology in your respective country	
6/24 (Fri)	am	Practice	Basics of GIS Technology 1 (GIS Software and Operation of GPS)	
	pm		Basics of GIS Technology 2 (GIS Software and Operation of GPS)	
6/25 (Sat)			Holiday	
6/26 (Sun)			Holiday	
6/27 (Mon)	am	Lecture	Activities of Japan Aerospace Exploration Agency (JAXA)	Module 2
	pm	Lecture	REDD+ activities conducted by Forestry and Forest Product Research Institute (FFPRI), Environmental safeguard	
6/28 (Tue)	am		*TBD	Module 3
	pm	Lecture	Estimation Methods of Forest Carbon Stocks	
6/29 (Wed)	am	Lecture	Basics of survey on forest resources	
	pm	Practice	Plot Sampling using measuring device in a park near TIC	

6/30 (Thu)	am	Practice	Analysis data of Plot sampling	Module 3
	pm			
7/1 (Fri)	am	Lecture	Feasible Study toward establishment of bilateral credit system(JCM): Mangrove in Indonesia	Module 2
	pm	Lecture	Trend of UNFCCC discussion in regard to REDD + and Voluntary Carbon Markets (VCS/bilateral countries)	
7/2 (Sat)			Holiday	
7/3 (Sun)	am		Move to Hokkaido	
	pm	Lecture	Briefing of the field work, Sampling to Estimate the Rate of Dry weight and Fresh Weight of a standing Tree Plot Sampling	
7/4 (Mon)	am	Lecture	Natural forest management, Introduction of and the experimental forest	Module 2
	pm	Lecture	Management and monitoring of private forest in Hokkaido and the role of the local government	
7/5 (Tue)		Practice	Plot sampling (round shape)	
7/6 (Wed)	am	Lecture	Introduction of the University of Tokyo Hokkaido Forest (UTHF)	Module 3
	pm	Practice	Data analysis	
7/7 (Thu)	am	Practice	Plot sampling (square shape)	
7/8 (Fri)		Practice	Biomass Destructive Sampling, creation of allometric equation	
7/9 (Sat)	am	Lecture	Biomass Destructive Sampling, creation of allometric equation	
	pm		Back to Tokyo	
7/10 (Sun)			Holiday	
7/11 (Mon)		Practice	Compilation of data based on the survey	Module 3
7/12 (Tue)		Practice	Analysis of data of the survey at UTHF	Module 4
7/13 (Wed)		Practice	Analysis of data of the survey at UTHF	
7/14 (Thu)		Practice	Analysis of data of the survey at UTHF	

7/15 (Fri)	am	Lecture	Explanation of technical terms in UNFCCC (Uncertainty,QA/QC,Consistency, Transparency, Tier)	Module 5
	pm	Lecture	Focus on 1 or 2 challenges for establishing your respective NFMS/implementing REDD	
7/16 (Sat)			Holiday	
7/17 (Sun)			Holiday	
7/18 (Mon)			National Holiday (Marine Day)	
7/19 (Tue)		Practice	Basics of statistics for formulating sample survey project	Module 3
7/20 (Wed)	am	Lecture	Calculation of necessary samples and plot assignment method (Simple System, Stratification)	
	pm	Practice		
7/21 (Thu)	am	Lecture	Calculation for LULUCF in developed countries	
	pm	Lecture/ Visit	Calculation for LULUCF in Japan and visiting Forestry Agency	
7/22 (Fri)	am	Lecture	Case Study of a Project for Establishment of National Forest Inventory System	Module 5
	pm	Practice	Designing of National Forest Inventory System for your respective countries(Consultation)	
7/23 (Sat)			Holiday	
7/24 (Sun)			Holiday	
7/25 (Mon)	am	Lecture	Soil Inventory and model	Module 2
	pm	Lecture	Harvested Wood Products (HWP)	
7/26 (Tue)	am	Practice	Image Analysis 1 of Your Country's Forests (Supervised classification)	Module 4
	pm	Practice	Image Analysis 2 of Your Country's Forests (Supervised classification)	
7/27 (Wed)	am	Practice	Image Analysis 3 of Your Country's Forests (Unsupervised Classification)	
	pm	Practice	Image Analysis 4 of Your Country's Forests (Unsupervised Classification)	
7/28 (Thu)	am	Practice	Image Analysis 5 of Your Country's Forests (Verification of Accuracy of Classification)	
	pm	Practice	Image Analysis 6 of Your Country's Forests (Verification of Accuracy of Classification)	

7/29 (Fri)	am	Practice	Designing a Data Base for your respective NFMS 1	Module 4
	pm	Practice	Designing a Data Base for your respective NFMS 2	
7/30 (Sat)			Holiday	
7/31 (Sun)			Holiday	
8/1 (Mon)	am	Lecture	Procedure to development of Forestry monitoring method	Module 5
	pm	Practice	Action Plan Creation for Forestry Monitoring	
8/2 (Tue)		Practice	Preparation for Action Plan Presentation	
8/3 (Wed)	am	Practice	Presentation Mock-up	
	pm	Practice	Preparation for Action Plan Presentation	
8/4 (Thu)		Practice	Modification of your respective Action Plan based on the comment given by lecturers and Trainees	
8/5 (Fri)	am	Present ation	Action Plan Presentation	
	pm		Evaluation meeting and closing ceremony	
8/6 (Sat)			Departure	

Finalization phase in a participants' home countries

(August 2016 to December 2016)

Participating organizations produce final outputs by making use of results brought back by participants.

Modules	Activities
Presentation and Lecture	<ul style="list-style-type: none"> • Give lectures or presentation of the outcomes and lessons learnt through the course to diffuse his/her knowledge and experiences. • Present action plan in his/her organization to improve, or establish, National Forest Monitoring System.
Questionnaire	Answer questionnaire from JICA to report the progress. (After 3 months of his/her return)

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 operation. Participating organizations are expected to use the project for those specific purposes.
- (2) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the project 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 before dispatching their participants to Japan by carrying out the activities of the Preliminary Phase described in section II -9 .
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan by carrying out the activities of the Finalization Phase described in section II -9.

2. Nominee Qualifications

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

(1) Essential Qualifications: Applicants should

- 1 be nominated by their government in accordance with the procedures mentioned in 4. "Procedure for Application and Selection" below,
- 2 be government official or researcher of related institutions who is engaged in the climate change measures in forestry sector.
- 3 have working experience in national forestry policy or climate change measures more than 3 years.
- 4 be motivated, and able to diffuse his/her knowledge to improve the NFMS of home country after completing this course.
- 5 be university graduate.
- 6 **have sufficient command of English,**
(During the course program, participants are requested to give presentations and actively participate in discussions. Communication and presentation Skills in English are essentially important.)
- 7 **be in good health, both physically and mentally, to undergo the course of training including many field works in forest area.** Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus.
- 8 **be proficient in MS Word, Excel and Power Point.**

- (2) **Recommendable Qualifications:** Applicants would be not over forty five (45) years of age.

3. Required Documents for Application

(1) Application Form

The Application Form is available at the JICA office (or the Embassy of Japan).

Note: All the information should be **clearly stated including your current email address**

(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) Country Report (Annex)

to be submitted with application form

Note: Country Report will be assessed for the applicants' screening. -----

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 8th April 2016.**)

(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 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 9th May 2016.**

5. 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 Tokyo International Center (JICA Tokyo)

Economic Infrastructure Development and Environment Division

(2) Contact: (Ms) Satoko TSUNODA (ticttee@jica.go.jp)

*Please include the course title and number (J1604123) in the e-mail title.

2. Implementing Partner:

(1) Name: Japan International Forestry Promotion & Cooperation Center (JIFPRO)

(2) URL: http://www.jifpro.or.jp/Top_J.html (Japanese Website)

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 Tokyo International Center (JICA TOKYO)

Address: 2-49-5 Nishihara, Shibuya-ku, Tokyo 151-0066, Japan

TEL: 81-3-3485-7051 FAX: 81-3-3485-7904

(where "81" is the country code for Japan, and "3" is the local area code)

If there is no vacancy at JICA TOKYO, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of TIC at its URL, <http://www.jica.go.jp/english/contact/domestic/pdf/welcome.pdf>

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 program, and other matters.

7. What to bring:

- (1) Suitable shoes, cap, and clothes for practical training conducted in forests area.
- (2) Small travel bag for field trip.
- (3) A notebook computer (if you have one)

V. Annex

Country Report

Please make the report in **A4 size paper** covering the following items as much as possible, including tables and charts if necessary. Please send the Country Report by **8th April 2016** with application form.

Outline of Country Report

Name of applicant

Name of organization and country

1. Introduction: Brief explanation of your country
 - (1) Geographical location of your country
 - (2) Climate & Topography
 - (3) Economy (main industry. etc.)
 - (4) General description of the forest (Area, Volume, Forest types, Plantation area, Cause of deforestation etc.)
2. Brief Explanation of Organizational Framework and scope of your job
 - (1) Name of the Organization
 - (2) Missions of the Organization
 - (3) Organization chart
 - (4) Outline of the duties of your department/division
 - (5) Description of your job (responsibilities, main assignments, etc.)
 - (6) Past experiences;

Have you ever conducted forest plot sampling?	(Yes/ No)
Have you ever conducted destructive sampling of forest?	(Yes/No)
Have you ever classified forest according to types by analyzing satellite imagery?	(Yes/No)
Have you ever operated GIS software?	(Yes/No)
3. Current status of National Forest Monitoring system in your country
 - (1) Current status of National Forest Monitoring System (NFMS) / National Forest Inventory (NFI)
 - (2) Availability of satellite image and Cover ratio of forest (Vegetation) map
 - (3) National REDD+ Strategy (if any)
 - (4) Description of demonstration project for REDD+ (if any)
 - (5) Challenges and difficulties in establishing NFMS in your country or your engaged project (as in detail as possible, in terms of not only cost but also technical matter)
 - (6) Your personal idea to improve the situation and to overcome the challenges mentioned above.

Country Report Presentation

At the beginning of the core phase in Japan, each participant is requested to make an approximately **10-15minites** presentation based on the Country Report. Purpose of the presentation is sharing each country's situation of forest and NFMS/NFI among participants, implementing partner (JIFPRO) and JICA, which is one of the important elements of this course. Therefore, presentation should be well prepared in advance and effectively conducted to share the essential information.

Presentation style– Microsoft PowerPoint recommended

It is recommended to use PowerPoint (if possible) to present your Country Report. Upon formulating the presentation material, please make slides simple, limiting text as much as possible and utilize graphics (photos, maps, tables or charts) instead. Too much information (especially text) in one slide might give weaker impression to the audience, and interrupt better understanding of the presentation.

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 Tokyo International Center (JICA TOKYO)

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TEL: +81-3-3485-7051 FAX: +81-3-3485-7904