



# **【Online】 Knowledge Co-Creation Program (Group & Region Focus)**

**GENERAL INFORMATION ON**

**Soil Diagnosis and Improvement Technology  
for Sustainable Agricultural Production  
課題別研修「持続的農業生産のための土壌診断と土壌改良技術」  
JFY 2021**

**NO. 202003067J001 / ID. 202003067**

**Online Program Period : From September 22, 2021 to November 16, 2021**

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**

Proper agricultural practices require the improvement and dissemination of soil analysis and diagnosis techniques in order to achieve appropriate farmland fertilization control and higher unit crop yields. Efforts toward the practice of sustainable agriculture are also needed. Countries where fertilizers are not sufficient require the introduction of simple fertility management techniques such as the effective use of livestock excreta and crop residue, as realized by cooperation between crop farmers and livestock farmers.

This training program aims to enhance soil diagnosis ability by conducting soil survey and soil sampling in the field, as well as by analyzing the soil from physical, chemical and biological aspects. Participants also learn knowledge and skills of farm management for sustainable agricultural production, with fertilizer application based on soil diagnosis and evaluation of composts and its effective use.

## **For what?**

This program is designed to disseminate and instruct soil survey, soil diagnosis (physical, chemical and biological), and soil improvement techniques for sustainable agriculture.

## **For whom?**

This program is offered to researchers, engineers and extension officers related to soil analysis and diagnosis in the agricultural organizations.

## **How?**

Participants will have the opportunities to have 1) lectures, 2) practices, 3) discussions focused on the agricultural characteristic of this field, crops and upland farming, in order to achieve the program objective. Participants will also formulate an activity plan describing what the participants will do after the program applying the knowledge and techniques acquired and discussed in the program.

The program will be conducted by online session which includes online guidance and on-demand lectures and discussions.

## II. Description

1. **Title (J-No.):**  
Soil Diagnosis and Improvement Technology for Sustainable Agricultural Production (202003067J001)
2. **Online Program Period :** From September 22, 2021 to November 16, 2021
3. **Target Regions or Countries**  
Burkina Faso, Gabon, Rwanda, Timor-Leste, Viet Nam, Yemen, Zambia
4. **Eligible / Target Organization**  
This program is designed for an agriculture related organization which is implementing / will implement soil analysis and diagnosis.
5. **Course Capacity (Upper limit of Participants)**  
8 participants
6. **Language to be used in this program:**  
English
7. **Course Objective:**  
Soil survey, soil diagnosis (physical, chemical, and biological), soil improvement techniques and its application for farm management are shared in the target organizations
8. **Overall Goal**  
Soil analysis, diagnosis, and improvement techniques used by the target agricultural organizations are to be improved.
9. **Expected Module Output and Contents:**  
This program consists of the following components: Details on each component are given below.

<b>(1) Preliminary phase</b>	
Inception Report is formulated. Please refer to VI. ANNEX: Attachment-1.	

<b>(2) Core phase: online session</b>	
Expected Modules Outputs	Subjects/Agendas
i) To be able to explain the natural and man-caused conditions influencing soil formation and productivity.	<ul style="list-style-type: none"> <li>•Agriculture and soil in Tokachi and the world</li> <li>•Characteristic and problem of tropical soil</li> <li>•Discussion on each country's agriculture</li> </ul>

ii) To be able to explain the concepts and methods of soil diagnosis to achieve the quality and yield improvement of agricultural products.	<ul style="list-style-type: none"> <li>▪ Basic of soil diagnosis and its utilization</li> <li>▪ Soil survey, soil analysis (including the introduction of non-destructive analysis)</li> <li>▪ Introduction of soil analysis with airborne imagery</li> <li>▪ Physical, chemical and biological properties and analysis method</li> </ul>
iii) To be able to explain proper farm management for sustainable agriculture, with fertilizer application and usage of organic matter for sustainable agriculture.	<ul style="list-style-type: none"> <li>▪ Soil improvement techniques and material</li> <li>▪ Water quality analysis</li> <li>▪ Effective compost production and utilization</li> <li>▪ Linkage of crop cultivation or control technique</li> </ul>
iv) To make activity plan with knowledge and skills acquired in order to solve the problems faced.	<ul style="list-style-type: none"> <li>▪ Discussion on Activity Plan</li> <li>▪ Presentation of Activity Plan</li> </ul>

The schedule is subject to change due to the coordination of curriculum.

<p><b>(3) Finalization phase</b></p> <ol style="list-style-type: none"> <li>1. Knowledge and techniques acquired in the program is shared in participant's supervisor, colleague and persons concerned.</li> <li>2. Activity Plan will be discussed within the organization of participants, then modified and implemented.</li> </ol>
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### ***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.

#### **2. Nominee Qualifications:**

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

### **(1) Essential Qualifications**

- 1) Current Duties: be engaged in soil analysis, soil diagnosis or extension work based on soil diagnosis techniques
- 2) Experience in the relevant field: have more than 3 years' experience in the fields of soil analysis and technical guidance of cultivation for farmers.
- 3) Educational background: be a university graduates or equivalent, however not be a doctor's degree holder in the relevant field
- 4) Language: have a competent command of spoken and written English which is equal to TOEFL iBT\* 72 (CBT\*\* 200/PBT\*\*\* 533) or more (The program is commanded by English, therefore participants are requested to have sufficient English ability).  
\*iBT: Internet-Based Testing/ \*\*CBT: Computer-Based Testing/  
\*\*\*PBT: Paper-Based Testing,
- 5) Health: must be in good health, both physically and mentally, to participate in the Program.
- 6) Attitude toward participation: Nominees who shall be regarded that they understand the contents of this program fully and have high motivation for learning through their Application form, Questionnaire and Inception report.

### **(2) Recommendable Qualifications**

- 1) Age: preferably less than fifty (50) years
- 2) Gender Consideration: JICA is promoting Gender equality. Women are encouraged to apply for the program.

### **(3) Expected requirements\* specific for the online course;**

- 1) Hardware: PC or tablet with speaker/microphone and web camera
- 2) Software: Zoom, YouTube, GIGAPOD, Google workspace, Google Chrome/ Microsoft Edge/ Internet Explorer, Microsoft Excel/ Word/ Power Point, PDF, E-mail.
- 3) Internet Connection: speed enough to use as shown in 2) software above
- 4) Time availability: willingness to join the live session from 16:00 to 19:00 pm JST of September 22nd and November 16th.  
\*If you need any assistance for preparation of the learning environment, please consult the local JICA office. Please note that the JICA office may not be able to assist with all requirements.

## **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. If you do not have a passport, please submit photocopy

of alternative official identification.

\*Photocopy should include the followings:

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

**(3) Inception Report and Questionnaire:** to be submitted with the application Form. Detailed information is provided in Attachment-1 and Attachment-2.

**(4) 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. 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 20, 2021**)

##### **(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 1, 2021**.

#### **5. Conditions for Attendance:**

**(1)** to strictly adhere to the program schedule.

**(2)** not to change the program topics.

**(3)** not to share videos, textbooks, materials, etc. used in this training or use them for any other purpose.

**(4)** to refrain from engaging in any political activities

**(5)** to observe Japanese laws and ordinances.

- (6) to observe the rules and regulations of the accommodation and not to change the accommodation designated by JICA. If you cannot use stable internet connection at your office or home, JICA Office will arrange an accommodation.

## ***IV. Administrative Arrangements***

### **1. Organizer:**

(1) **Name:** JICA Hokkaido (Obihiro)

(2) **Contact:** Program Division for Eastern Hokkaido (jicaobic@jica.go.jp)

### **2. Implementing Partner:**

Obihiro University of Agriculture and Veterinary Medicine

### **3. Expenses:**

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

#### **Online Program**

- (1) Expenses related to the online program will be paid according to the regulations of JICA Office, if necessary.
- (2) Details will be provided at the time of notification of acceptance.

## ***V. Other Information***

### **1. Certificate**

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

## **VI. ANNEX:**

### **Attachment-1**

#### **Inception Report**

With the Application Form, the applicants should submit an Inception Report on their current job.

**This Report will be used for the screening of successful applicants as well as for the selection of the most suitable training subject for the participants. Applicants who do not attach their Inception Reports and Questionnaires to the Application Form will not be duly considered.**

##### **a. Purpose**

- (1) To clarify issues and problems presently faced in their work in order to facilitate the acquisition of knowledge and ideas leading to solutions during the training program.
- (2) To provide advance information regarding issues and problems faced by participants to lecturers and organizations concerned with the program as a point of reference in finding solutions.

##### **b. Contents**

- (1) Name of applicant
- (2) Name of country
- (3) Name of organization
- (4) Organization chart
- (5) Roles of the organization and the department to which the applicant belongs
- (6) Introduction of work that the applicant has been in charge of for the last one year
- (7) Problems with which the applicant is facing in their present job in terms of soil management
- (8) Subjects in which the applicant is particularly interested on this program and the reasons

##### **c. Layout**

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

##### **d. Presentation**

The Inception Report is presented by each participant using MS PowerPoint at the beginning of the program.

- (1) The time allocation for each presentation of the Inception Report will be about 8-10 minutes.
- (2) It is advisable to bring some materials such as pictures or other visual aids to show your country's agricultural situation.



**Questionnaire about Basic Agricultural Information of your responsible area**

Country: \_\_\_\_\_

Name: \_\_\_\_\_

Please answer following questions within 5 pages' report and submit it with the Application Form.

- (1) Monthly average of temperature, precipitation and evaporation for a year
- (2) Topographic condition of agricultural land :area and its ratio of flat land (less than 3°), gentle slope land (3°-8°), and slope land(8°-15°)
- (3) Category of cultivation and its ratio: rice, upland crops, fruits, vegetables, etc.,
- (4) Species of upland crops, cropping sequence, yield per 0.1 hectares
- (5) Size of farm land per farm household
- (6) Amount of fertilizer applied for farm land per 0.1 hectares
- (7) Provide the distribution map and classification table of the main soils in your country, as well as analytical values for your physical and chemical properties, if available
- (8) Name of official methods of soil physical and chemical analysis used at your institution(or in your country)
- (9) Method and criteria of soil diagnosis used in your country, provide also examples for them
- (10) Soil improvement technology used in your country
- (11) The way of dissemination in agricultural techniques especially related to soil diagnosis in your country

## *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:

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