



Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON

**Biomass Utilization Technology
課題別研修「バイオマス利用技術」
JFY 2019**

NO. 201984922J002

Course Period in Japan: From January 5th 2020 to February 8th 2020

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

Problems of natural resources depletion and climate change are two major issues which the earth is currently going through in the field of energy and global environment. To face the problems, immediate measure must be taken, such as promoting utilization of sustainable energy resources.

Especially, utilization of biomass resources is required to be introduced and disseminated due to the following reason:

- Effectively utilizing local biomass resources which can easily be found in developing countries can lead to reduction of usage of fossil fuel.
- It can contribute to solving the above two major issues, as well as it can provide positive effects on income increase of rural areas, improvement of quality of life, foreign exchange saving etc..

However, what is pointed out at the same time is that utilizing biomass resources without sufficient and appropriate knowledge regarding resources, technology and systems could cause destruction of environment and more creation of greenhouse gases.

In conjunction with the above situations, this program which aims to realize the effective utilization of biomass resources is implemented.

For what?

This program is implemented aiming to provide training participants with deeper understanding on biomass resources, technology and system, and necessary knowledge for introducing biomass in developing countries..

For whom?

This program is offered to staff of administrative organization in charge of planning/promoting/implementing utilization of biomass and/or researchers in public researching institutes or universities.

How?

Participants shall have opportunities in Japan to identify approaches, methods and technologies regarding utilization of biomass resources as well as to formulate the plan for biomass utilization systems through lectures, discussion, observation, and report making.

II. Description

- 1. Title (J-No.): Biomass Utilization Technology (201984922J002)**
- 2. Course Period in JAPAN:**
January 5th 2020 to February 8th 2020
- 3. Target Regions or Countries:**
Argentina, Brazil ,Cuba, Eswatini, Serbia
- 4. Eligible / Target Organization:**
Utilization plan of sustainable biomass resources will be formulated and adopted in participants' respective countries, thus contribute to build pro-environmental society.
- 5. Course Capacity (Upper limit of Participants) :**5 participants
- 6. Language to be used in this program:** English
- 7. Program Objective:**
Participants will acquire necessary methodology to formulate effective and efficient utilization plan of biomass resources through grasping quantity of reserves and availability of biomass resources in respective countries/area.
- 8. Overall Goal**
Utilization plan of sustainable biomass resources will be formulated and adopted in participants' respective countries, thus contribute to build pro-environmental society.

9. Expected Module Output and Contents:

This program consists of the following components. Details on each component are given below:

<p>(1) Before arriving at Japan <i>Participating organizations make required preparation for the program in the respective country.</i></p>	
Expected Output	Activities
Job / Country Report	<ul style="list-style-type: none"> - Formulation and submission of Job / Country Report - Preparation of Presentation materials
Reading Material (For your reference)	<ul style="list-style-type: none"> - Read a provided material in prior to the training course for your reference.

<p>(2) Training in Japan (January 5th to February 8th, 2020) <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i></p>	
Expected Output	Subjects/Agendas and Methodology
1) Participants will be able to explain types and composition /classification/ characteristics / collection of available biomass resources.	Through lectures, observation and practical works, the participants will learn types of biomass resources and understand composition / classification / characteristics/collection of available biomass resources.
2) Participants will be able to explain utilization technology of various biomass resources.	Through lectures, observation and practical works, the participants will learn and understand principal, characteristics, efficiency and technology of each energy conversion; physical, thermochemical, and biochemical conversion.
3) Participants will be able to implement formulating biomass utilization system.	Through lectures, observation and practical works, the participants will learn and understand how to formulate and evaluate system design utilizing biomass resources by conducting system design based on mass balance and energy balance.

<p>4) Participants will prepare Action Plan based on the skills and knowledge gained in Japan.</p>	<p>At the end of this program, participants will make an action plan on how to share and promote skills and knowledge gained from this program. Through this program, participants are expected not only to understand the experiences of Japan but also to implement the skills and knowledge gained in Japan after returning home.</p>
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(Subject to partial alteration)

<Structure of the program>

1. Preliminary phase (activities in your home country)

Preparation of the Job/ Country report, Reading Material

2. Core Phase (activities in Japan): Topic outline (subject to changes)

1st week (6th Jan - 10th Jan) :

Briefing & Orientation, Job / Country Report Presentation, Lectures, discussion

- (1) Arriving Japan on January 5th
- (2) Briefing and Program Orientation
- (3) Job/Country Report Presentation
- (4) Lectures on Basic concept of biomass utilization,
Guidance on Biomass Conference

2nd week (14th Jan – 17th Jan) : Attending Conference, etc.

- (1) Lectures on Biomass Resources
- (2) Site Visits

3rd week (20th Jan – 24th Jan) : Lectures, discussion and site visits

- (1) Lectures on biomass energy conversion methodology
(thermochemical, biochemical conversions)
- (2) Lectures on Biomethanation and Ethanol Fermentation

4th week (27th Jan. – 31st Jan.) : Lectures, discussion and site visits

- (1) Lectures on Biomass Utilization System
- (2) Lectures on Energy Balance for the Income and Expense
- (3) Lectures on Economical Evaluation of Bioenergy
- (4) Lectures on Life Cycle Assessment

5th week (3rd Feb – 7th Feb) : Practical work and report making

- (1) Practical works on designing and evaluating of biomass utilization system
- (2) Final report making
- (3) Final report presentation

*Leaving Japan on 8th February

The program will include following site visits:

- Biomass related research center and plant
- Wood pellet production and utilization systems
- Supercritical water gasification pilot plant
- Food Waste Fermentation and Gasification
- Biodiesel production plant, etc.

(Subject to minor changes)

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 this program by carrying out the activities of the Post-Program Phase described in section II -9.

2. Nominee Qualifications:

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

(1) Essential Qualifications

1) Current Duties: be administrative officials presently engaged in planning of biomass utilization / research officials involved in planning process of biomass utilization / presently work as an adviser to planning and promoting biomass utilization.

*Continuation of Current Duties: Five or more years of continued future service at the current organization.

2) Those who have a sufficient command of English for understanding lectures, reading textbooks, discussions, presentations and preparing the country action/improvement plan.

3) Those in good health, both mentally and physically; 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) Educational Background: be Bachelor's or Master's degree holders;
- 2) Experience in the relative field: have more than three (3) years' experience in the field of above mentioned;

3) Age: between the ages of twenty-five (25) 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) Job/Country Report for Selection

Respective applicants are required to submit his/her own **Job/Country Report** using the form attached to this General Information as ANNEX. Please fill and submit it together with the Application Form mentioned above.

(*Applicants are strongly required to typewrite the Application Form and Job/Country Report. There are many applicants disqualified from the selection because of the illegible handwriting in the Application Form.)

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 December 6th, 2019)

(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 December 11th, 2019.**

5. Reading Materials for your reference:

Before coming to Japan, only accepted candidates are provided with reading materials which will support your study during the training course in Japan. It will be provided with the Notice of Acceptance.

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 Chugoku (JICA Chugoku Center)

*"Chugoku" is the name of the region consisting of five (5) prefectures in western part of Japan's main island. JICA Chugoku is in charge of implementing JICA's projects and programs in the region.

(2) **Contact:** Mr. Tomohiro SUZUKI (cicctp@jica.go.jp)

2. Implementing Partner:

(1) **Name:** The Graduate School of Engineering, Hiroshima University/
Biomass Project Research Center (BTRC)

(2) **URL:** <https://home.hiroshima-u.ac.jp/bprc/index.html>

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 Chugoku Center (JICA Chugoku)

Address: 3-3-1 Kagamiyama, Higashi-hiroshima, Hiroshima
739-0046 Japan

TEL: 81-82-421-6310 FAX: 81-82-420-8082

(where "81" is the country code for Japan, and "82" is the local area code)

If there is no vacancy at JICA Chugoku, 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) Preparation for the program

- 1) During the Job / Country Report Presentation Session (using PowerPoint) in Japan, each representative will be given 10 minutes for his/her presentation and 10 minutes for questions and answers. It is highly recommended to bring your own PC for this training course. If not, rental PC is available to assist your study upon your request.

2. It would be appreciated if participants could bring materials, in addition to the reports, which shows the situation of biomass utilization in your country such as photographs, photo slides and books. The reports are expected to be used as materials for presentation and for discussions during the course period.

(2) Climate

The climate of Hiroshima Prefecture in January is cold. Maximum temperature is around 10°C and Minimum temperature is around 0°C. It is recommendable to bring comfortable clothes for this season.

(3) Other

- 1) Participants will receive information about the trip to Japan, conditions relating to the program, and other matters. A brochure, "KENSU-IN GUIDE BOOK", and a Japanese language textbook will be provided to each participant before departure for Japan.

- 2) Participants are recommended to bring about USD100 for an unexpected situation.

- 3) Participants taking a medicine now in your country should bring it with you. If you have food restrictions due to religions or allergies, please contact the following office in advance.

VI. ANNEX: Instruction of Job/Country Report

Accepted candidates are required to prepare a Job/Country Report on the following issues and submit it to JICA by **December 20, 2019**. The report should be made in Microsoft PowerPoint, written in English

Participants are requested to prepare a Job / Country report on the following issues before arriving in Japan. These documents are required to be typewritten in English on A4 size paper at maximum of 20 pages.

I. Nominee's Information			
1. Full Name	[Family]	[First]	[Middle]
2. Organization			
3. Title of your present job			
II. Description of Your Organization			
1. Missions and works of your Organization (Summarize in items)			
2. Works that you are in charge of in your organization. (Summarize in items)			

3. Organizational chart	* Please attach the chart and circle where you belong.
III. Condition of Biomass Utilization of Your Country / Area	
1. Biomass resources and its utilization, present condition and future outlook in your Country/Area	
2. Laws or Systems for promoting utilization of and research of biomass resources in your Country/Area	

<p>3. Special topics of the biomass utilization (Especially in your practice or research field)</p>	
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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 Chugoku Center (JICA CHUGOKU)

Address: 3-3-1 Kagamiyama, Higashihiroshima, Hiroshima 739-00466, Japan

TEL: +81-82-421-6310 FAX: +81-82-420-8082