



【Online】

Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON

DESIGN AND MAINTENANCE OF SEMI AEROBIC LANDFILL SITE (FUKUOKA METHOD) 課題別研修「準好気性埋立（福岡方式）処分場の設計・維持管理」 JFY 2021

Course No. 202003242J001

Course Period: From November 1, 2021 to December 2, 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.

Background

Due to rapid population growth and expansion of residential area in urban areas, developing economies are facing issues in waste management, and capacity of landfill sites are not enough to deal with increased / diversified wastes. Appropriate landfill techniques are vital factors of waste management.

“Semi Aerobic Landfill Method,” also known as “Fukuoka Method,” is the technology to improve final disposal sites. It was developed in 1970’s by the Fukuoka City of Fukuoka Prefecture in Japan and Fukuoka University, and now is widely applied to the final disposal site in Japan. Furthermore, this technology is applied in many landfill sites overseas.

For what?

This training program intends to promote introduction and effective management of semi aerobic landfill (Fukuoka Method), one of techniques for final disposal site. Participants are able to enhance practical knowledge and techniques, as the curriculum covers design, maintenance, and conservation of surrounding environment.

For whom?

This program is offered to the staffs in charge of management and maintenance of the final disposal sites.

How?

Participants will learn techniques and know-how in the field through online lectures, discussions and virtual tour. At the end of the online program, participants will be requested to make presentation about current situation of landfill site in his/her country.

II. Description

1. **Title (Course-No.): Design and Maintenance of Semi Aerobic Landfill Site (Fukuoka Method) (202003242J001)**
2. **Course Period**
From **November 1, 2021 to December 2, 2021**
3. **Target Regions or Countries**
Bhutan, Brazil, Ethiopia, Mozambique, Philippines and Sri Lanka
4. **Eligible / Target Organization**
This program is designed for governmental and/or public organizations in charge of management of the final disposal sites.
5. **Course Capacity (Upper limit of Participants)**
6 participants
6. **Language to be used in this program**
English
7. **Course Objective**
Participants will be able to explain about methodologies for designing, maintenance and management of semi aerobic landfill for improvement of landfill sites, utilizing contents of the training program.
8. **Expected Module Outputs and Contents**
This program consists of the following components. Details on each component are given below:

(1) Preliminary Phase <i>Participating organizations make required preparation for the Program in the respective country.</i>	
Expected Module Output	Activities
Submission of Job Report	Formulation and <u>submission of Job Report.</u> (described in the section Annex1)

Expected Module Output	Subjects	Methodology
1) Being able to explain about various methods of waste disposal around the world	- Waste disposal in Fukuoka City - Examples from foreign countries to introduce semi aerobic landfill	Lecture and discussion

2) Being able to explain about methodologies for designing of semi aerobic landfill	- Theories on semi aerobic landfill Improvement of existing disposal site	Lecture, discussion and virtual tour
3) Being able to explain about maintenance management of semi aerobic landfill	- Waste haulage management - Operations for dumping and soil-covering - Leachate treatment	Lecture, discussion and virtual tour
4) Being able to explain about environmental management in semi aerobic landfill	- Inspection of underground water and generated gas	Lecture, discussion and virtual tour

Please refer to the attached schedule (Annex II). The schedule is subject to minor changes.

* We use “You Tube” and “Zoom” for delivering Video and Live session.

9. Preparation in a participant's home country

Applying organizations are required to submit Job Report together with the application form for selection in Japan (Annex I).

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: staffs in charge of management and maintenance of the final disposal site
- 2) Experience in the relevant field: have more than three (3) years of experience in the field mentioned above.
- 3) Age: be under fifty (50) years
- 4) Educational Background: be a graduate of university or equivalent level.
- 5) Language: have a competent command of spoken and written English which is equal to TOEFL iBT 100 or more (Please attach an official certificate for English ability such as TOEFL, TOEIC, etc., if possible).

(2) Recommendable Qualifications

- 1) Be in relation with past or on-going JICA projects focusing on waste management.
- 2) Be familiar with engineering background.
- 3) Be familiar with PC operation, as there will be many chances for report writing and presentation.
- 4) Gender Consideration: JICA is promoting Gender equality. Women are encouraged to apply for the program.

3. Required Documents for Application

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

* If you have any difficulties/disabilities, which require assistance, please specify necessary assistances in the Medical History (1-(d)) of the application forms. It

may allow us (people concerned in this course) to prepare better logistics or alternatives.

(2) Photocopy of passport or ID card

*Photocopy should include the followings:

Name, Date of birth, Nationality, Sex

(3) Job Report: to be submitted with the application form. Fill in Annex I of this General Information, and submit them along with the Application Form. Job Report is necessary document for screening of an applicant.

(4) Nominees' 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 **September 1, 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.*

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development Cooperation Charter of Japan.

Notice of Acceptance

Notification of results will be made by the JICA office (or the Embassy of Japan) **not later than October 1, 2021.**

5. Conditions for Attendance

- (1) to strictly adhere to the program schedule.
- (2) to prepare the terminals used (computer, webcam, microphone and earphone) and the Internet environment to participate online program, and
- (3) to work assignments and submit them.

6. Online Program (Please refer to Annex II)

(1) This course will be conducted as a set of programs for online. The platform for online program will be conducted by “YouTube” and “Zoom”. The URL to attend the online class will be shared later.

(2) We will provide teaching material (online textbook) to each Participant. Details will be announced at the time of notification of selection result.

(3) The length of the online program (Basics) is set relatively long for the number of lectures. Please watch the lecture videos via YouTube and submit your assignment by the specified date. After watching lecture videos, Participants are supposed to take online classes (Advanced) via Zoom 2 times a week.

(4) Please note that participant who does not watch lecture videos or submit the assignment will not be allowed to attend in the Advanced Session.

IV. Administrative Arrangements

1. Organizer

(1) Name: JICA KYUSHU (Training Program Division)

(2) Contact: kictp@jica.go.jp

Person in charge: Hisanobu Saito

(3) URL : (a) Introduction of JICA Kyushu
<https://www.jica.go.jp/kyushu/english/office/index.html>
(b) Introduction of Knowledge Co-Creation Program
<https://www.youtube.com/watch?v=SLurfKugrEw>

2. Implementing Partner

Name: Fukuoka Environment Foundation

V. Other Information

1. Presentation

(1) Presentation on landfill site in your country

As written in the previous page, each nominee is required to submit his/her own Job Report following the instruction in Section III. Participants will have a presentation on landfill site in his/her country up to 10 minutes in Advanced Session in order to share knowledge and background with other participants as well as instructors. Visual materials such as Power Point and pictures may be helpful for your presentation ~~if you bring them with you~~. When you use Power Point, it is preferable to use letters more than 24 points and not to use pictures on the background.

2. Remarks

Participants must understand the following **data teaching materials handling** and sign a pledge before starting online program.

- Respect for copyright, protection
- Sharing without permission on SNS,
- Prohibition of unauthorized upload and modification, redistribution
- Approval required for recording

VI. ANNEX

1. Job Report (Annex I)

2. Tentative Schedule (Annex II)

Annex I

Design and Maintenance of Semi Aerobic Landfill Site (Fukuoka Method) (JFY 2021) Job Report

Name: _____ Country: _____

Organization and present post: _____

E-mail: _____

Remarks 1: The Report should be typewritten in English (12-point font, appropriately spaced, A4 size paper) and total pages of the report should be limited to 4 pages (not including organization chart).

Remarks 2: Please don't forget checking the analysis sheet.

Remarks 3: Each participant is requested to give presentation up to around 10 minutes based on "4. Landfill Site" of this Job Report at the final stage of online program for the purpose of making the training more effective and fruitful by comprehending the situations and problems of the participants each other.

Remarks 4: It is also requested to prepare a POWERPOINT for the presentation. When you use PowerPoint, it is preferable to use letters more than 24 points and not to use pictures on the background.

Remarks 5: Please itemize your answer and make them specific.

1. Organization and main tasks (up to 1 page)

(1) Description of the organization

Name of organization:

Number of staff:

Main task of the organization:

Your task in the organization:

(2) Organization chart

Please draw a chart of your organization including the department (section) names with the number of staffs in it and mark where you are positioned.
(The chart should be attached and not be counted in this page limit.)

(3) Description of your assignments to the training

2. Existing challenges in your section (up to 1 page)

(1) Challenges you are facing in your section (Please describe concrete details)

(2) Countermeasures for these challenges

(3) Obstacles in the process of solving those challenges

3. Expectations for the training course (up to 1 page)

(1) Most interesting subjects or topics in this training course and reasons why you pick up the subjects

(2) How do you expect to apply skills and knowledge according the listed items in Curriculum after the training?

(3) Other matters you are expecting for this course, if any (Basically this training program is fixed and cannot be changed upon your request.)

4. Landfill Site

4.1 General information

Items	Disposal site	
	Site1	Site2
Name of the site		
Year when disposal started		
Total area	ha	ha
Capacity	cu.m	cu.m
Estimated life span remaining(year)	yrs	yrs
Amount of waste disposed daily	t/d	t/d
Distance from collection area to the site	km	km
Disposal method (See notes bellow)	<input type="checkbox"/> O, <input type="checkbox"/> C, <input type="checkbox"/> S, <input type="checkbox"/> D	<input type="checkbox"/> O, <input type="checkbox"/> C, <input type="checkbox"/> S, <input type="checkbox"/> D
Existence of animals on site	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Existence of waste pickers	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Existence of open burning on site	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Note O : Open dumping
 C : Controlled tipping (with sporadic cover)
 S : Sanitary landfill (with daily cover)
 D : Dumping into water body

- Method for measurement (or estimation) of volume of waste

- Rate of tipping fee

- Management (local government or private company)

4.2 Personnel for the Landfill Management service (number of personnel) In case where a person is not staffed at the Landfill site, please put the number of such persons in parenthesis.)

Type of personnel	Disposal site	
	Site1	Site2
Administrator		
Health officer		
Public Health Inspector or equivalent		
Engineer		
Technical assistant/Technician		
Mechanics/ Mechanic's assistant		
Supervisor		
Driver		
Laborer		
Total		

4.3 Details of existing Landfill sites

Items		Disposal site	
		Site 1	Site 2
Location	Riverside Swamp Flat ground Mountain area Seaside Others		
Depth of waste layers		m	m
Cover material	In Site Outside the Site Buy		
Type of waste	Domestic, institutional and		

disposed	commercial waste Industrial waste Construction waste Street/park cleansing waste Drain cleansing waste Bulky waste Others:		
Monitoring items	Leachate Landfill gas		

4.4 Existence of facilities in Landfill Sites

Item	Disposal Site	
	Site 1	Site 2
Electricity		
Water Supply		
Telephone		
Office in the Site		
Weighbridge		
Access Road in Site		
Fence for Boundary		
Bank for Boundary		
Gate		
Notice Board		
Cover Material		
Gas Venting Pipe		
Rain Water Drain		
Leachate Collection Pipe		
Leachate Treatment Facility		
Oxidation Pond		
Bio treatment		
Chemical treatment		
Sand filtration		


Annex II

Tentative Schedule *The schedule is subject to change.

- Online program consists of “Basics” and “Advanced”.
- Participants of JFY 2020 will join Advanced training. So, it will be joint session for JFY2020 and JFY2021 Participants.
- Participants are requested to complete watching 8 lecture videos in the 1st two weeks(Nov.1~Nov. 15) (self-study).

1. Basics (On demand by YouTube)

From November 1 to November 15, 2021

Video Distribution period	No.	Lecture Title
Nov.1 ~ Nov.15	1	Course Orientation
	2	Waste Management in Fukuoka City
	3	Night time waste Collection & Transportation Services of Fukuoka City
	4	Improvement of Waste Collection & Transportation Work in Developing Country
	5	Road to sanitary Landfill - "Fukuoka Method"
	6	Maintenance of final landfill site
	7	Maintenance of incineration facility
	8	Method in Samoa, Example from the improvement project

2. Advanced (Live distribution by Zoom)

From November 16 to December 2, 2021

Lecture time (local time in Japan):19:00-21:00

Date	Contents
November	16(Tue) Category of Landfill Sites by Structure Advantages of Semi-Aerobic Landfill Structure
	18(Thu) Q&A Session 1
	22(Mon) Virtual tour: On-Site Training of Fukuoka Method
	25(Thu) Q&A Session 2
	30(Tue) Action Plan progress report presentation by ex-Participant
December	2(Thu) Presentation on landfill site by Participant JFY 2020 and 2021

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 Kyushu Center (JICA KYUSHU)

**Address: 2-2-1 Hirano, Yahatahigashi-ku, Kitakyushu-shi,
Fukuoka 805-8505 Japan**

TEL: +81-93-671-6311 FAX: +81-93-671-0979