



Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON

*Disaster Risk Reduction of Buildings
(against Earthquake, Tsunami and Fire)*
**課題別研修「建築防災(地震、津波、火災等に対して)」
JFY 2018**

NO. J1804387 / ID 1884776

Course Period in Japan: From June 27, 2018 to July 28, 2018

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

Recently, owing to over development, climate change, over population and etc., disaster risk has increased. As past disasters such as Haiti Earthquake in 2010 (the number of casualties was 222,576) and the Great East Japan Earthquake in 2011(ditto 19,575) etc. show, once an earthquake, tsunami, typhoon or fire happens, safer buildings have protected people from damages. On the contrary, disorderly constructed buildings have caused calamities.

Based on the awareness of the issues mentioned above, it is indispensable for us to take the following measures to secure the safety of the buildings in case of emergency.

- Localization of appropriate building codes;
- Efficient regulatory systems, such as permission/inspection systems:
- Diffusion of adequate building construction system to architects, engineers and contractors
- Implementation of disaster mitigation policies.

This program focuses on capacity development of government officials and related staffs who are engaged in regulatory systems¹ so as to materialize safer society.

For what?

This program aims to improve building codes, building regulatory systems, construction practice and disaster prevention policies in the field of buildings based on the Japanese experiences.²

For whom?

This program is offered to staffs of governments or governmental organizations responsible for improvement of building codes and regulatory systems, and disaster prevention policies in the field of buildings.

How?

This course introduces experiences on improvement of building codes and regulatory systems, and disaster prevention policies in the field of buildings in Japan through lectures, visits and discussions. Participants will also formulate an action plan describing what the participants will do after they go back to home country.

¹ Definition of “Regulatory systems” includes building control, land use control and qualification schemes of architects, engineers and workers.

² Please note that this program does not aim to teach the disaster itself such as landslide, flood and etc.

II. Description

1. **Title (J-No.):** Disaster Risk Reduction of Buildings (against Earthquake, Tsunami and Fire) (J1804387)
2. **Course Period in JAPAN**
June 27th, 2018 to July 28th, 2018
3. **Target Regions or Countries:**
Bhutan, El Salvador, India, Myanmar, Nepal, Nicaragua, Peru, Philippines, Samoa, Solomon Islands, Turkey, Uzbekistan, Yemen
4. **Eligible / Target Organization:**
Government or related governmental organizations that is responsible for improvement of building codes and regulatory systems, and disaster prevention policies in the field of buildings.
5. **Course Capacity (Upper limit of Participants):**
13
6. **Language to be used in this program:**
English
7. **Overall Goal:**
To mitigate disasters and damages on buildings by building codes, regulatory systems and capacity development of construction sector.
8. **Course Objective:**
Practical knowledge to mitigate disasters and damages on buildings is obtained.
9. **Expected Output and Contents:**
 - (1) To understand the outline of building codes and regulatory systems and the disaster prevention policies of buildings in Japan.
 - (2) Based on the knowledge obtained, to identify the issue(s) to be solved in respect to building codes and regulatory systems in the participants' country.
 - (3) To make proposals to solve the issue(s).

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

1) Preliminary Phase in a Participant's Home Country (May 2018 to June 2018) <u>Formulation of Inception Report and Submission to JICA Tokyo.</u> The content of Inception Reports is mentioned in Section V.			
Expected Output	Module	Subjects/Agendas	Methodology
Inception Report		Formulation and Submission of Inception Report.	Report and Preparation for Presentation (10-minute per each participant)

2) Core Phase in Japan (June 27, 2018 to July 28, 2018)	
Expected Module Output	Subjects/Agendas
	* There may be minor changes in some subjects.
To understand Building Regulation	- Building Regulation in Japan
To understand the Disasters and Disaster Mitigation Policies	<ul style="list-style-type: none"> - Disaster Mitigation Strategy - Mechanism of Earthquake and Tsunami - Strong Motion and its Occurrence Mechanism - Rapid Screening and Seismic Evaluation Method for Damaged Buildings - Past Earthquakes and Restoration - Earthquake Disaster Countermeasures - Urban Development for Disaster Prevention - Earthquake/Tsunami Disasters and Tools in the World
To understand Structural Safety	<ul style="list-style-type: none"> - Reinforced Concrete Buildings - Steel Structure Building - Wooden Houses - Building Construction (RC, S) - Structural Stability of Buildings - Seismic Isolation System - Seismic Retrofitting Technology - Technical Visit to a Large Scale Experimental Facility

<p>To understand the safety against disasters such as fire and typhoons</p>	<ul style="list-style-type: none"> - Testing Methodologies for Building Fire Safety - Building Standards on Fire Safety - Fire Protection - Basic Knowledge on Wind Engineering - Codes for Safety against Strong Winds - Lessons from Recent Typhoons
<p>To understand International Cooperation</p>	<ul style="list-style-type: none"> - Safer Non-Engineered Houses for Earthquake Disaster Reduction - Measures Taken to Reduce Building Damages in the Developing Countries

All participants are required to elaborate an Action Plan at the end of Core Phase in Japan on Improvement of the building codes and regulatory systems necessary to expand the disaster-proof buildings in the participants' country.

Disaster Risk Reduction of Buildings (against Earthquake, Tsunami and Fire) 2018
 【Curriculum diagram by category】

Lecture / Observation

BUILDING

Building Administration

- (L) Building Regulations in Japan
- (L) Seismic Evaluation Method
- (L) Activities of "Designated Administrative Agency" (in Kobe)
- (L) Activities of "Designated Building Confirmation and Inspection Bodies" and "Designated Evaluation Bodies" (Case of BCJ)

Fire Safety -Evacuation-Fire Protection

- (L) Overview of Building Standards on Fire Safety in Japan
- (L) Overview of study and measures for Fire Safety in Cities

Buildings in Japan

- (O) Preservation, Repair and Seismic Reinforcement of Cultural Heritage structures (Tomioka Silk Mill)

Structures
 (Include specifics related to earthquakes, Tsunamis and Typhoons)

- (L) Structural Stability of Buildings (Structural standards in Japan and other countries)
- (L) Earthquake Resistance Testing
- (E&D) Group Work (Seismic Evaluation, calculation on design seismic load)
- (L) Seismic Isolation System
- (L) Masonry structures
- (L) Design and Construction of Steel Building Structures
- (L&O) Seismic Retrofitting
- (O) Building Construction: RC structure (Construction management, On-Site inspection)
- (O) Building Construction: S structure

Research-Testing-Development

- (L&O) Research and Development by the Government (Introduction of the Building Research Institute, BRI and observation of its facilities)
- (L&O) E-Defense
- (L&O) Material Testing

DISASTER MEASURES

Disaster Risk Reduction

- (L) Disaster Mitigation in Japan
- (L) Mechanism of Earthquakes and Tsunamis
- (L) Strong motion and its occurrence mechanism
- Post-earthquake Quick Inspection of Damaged Buildings

Disaster cases

- (L) Characteristics of building damage due to the Great East Japan Earthquake
- (L) Disaster Mitigation Lessons learned from the Great Hanshin-Awaji Earthquake in 1995 (Hyogo Prefecture, DRI)

INTERNATIONAL RELATIONS

- (L) Earthquake/Tsunami Disasters and Tools from around the World
- (D) Building Regulation in participants' country
- (L) Measures Taken to Reduce Building Damage in Developing Countries
- (L) Safer Non-engineered Housing for Earthquake Disaster Reduction

Reports and Presentations

- Presentation of Inception report
- Consultation of Draft Action Plan
- Presentation of Draft Action Plan and Discussion

III. Conditions and Procedures for Application

1. Expectations for 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 1).
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan.

2. Nominee Qualifications:

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

(1) Minimum Requirements

1) Current Duties:

- be officials in the government office or related governmental organizations currently in charge of establishment of building codes, improvement, application of regulatory systems and disaster prevention policies in the field of buildings,
- and also expected to assume a leading position in those organizations.

2) Experience in the relevant field:

More than **five (5) years** and with the general knowledge in the field of buildings or architecture such as building administration, architectural design and structural engineering

3) Educational Background:

Be university graduates or equivalent

4) Language:

Have a high level of English ability which is equal to TOEFL CBT 250 or more. (Please attach an official certificate for English ability such as TOEFL, TOEIC, etc., if possible)

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)Preferred Qualifications

1) Expectations for the Participants:

The priority level of the selection might be lower to the person who participated in the JICA training course in the past.

2) 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 respective country's JICA office or the Embassy of Japan.

(2) Inception Report: Please refer to "V. Guidance for Reports and Presentation 1.Inception report".

(3) Questionnaire: Please refer to "V. Guidance for Reports and Presentation 2.Questionnaire".

(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), please attach it (or a copy) to the application form.

4. Procedure for Application and Selection :

(1) Submitting the Application Documents:

Please submit the necessary documents as below;

- 1) Application Form
- 2) Inception Report
- 3) Questionnaire
- 4) Nominee's English Score Sheet

As for the closing date for applications, please inquire to the JICA office (or the Embassy of Japan).

(Just for reference, after receiving the documents, our JICA office is supposed to send it to the JICA Tokyo **by April 19th, 2018**).

(2) Selection:

After receiving the documents through due administrative procedures in the respective government, the respective country's JICA office (or Japanese Embassy) shall conduct screenings, and send the documents to the JICA Tokyo International Center.

Selection shall be made by the JICA Tokyo International Center in consultation with the implementing partner based on submitted documents. The organization with 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 shall be made by the respective country's JICA office (or Embassy of Japan) to the respective Government by **not later than May 25th (Friday), 2018.**

5. <For accepted applicants only>

Preparation for a presentation:

During the course, all participants are required to do a 10-minute presentation on the Inception Report of their respective countries.

The PPT presentation should be saved on a USB and submitted to the person in charge on **June 28th (Thu), 2018** after the program orientation.

Accepted applicants will receive the format to follow for the presentation with the notification of acceptance to the workshop.

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: JICA Tokyo International Center (JICA Tokyo)

2. Implementing Partner:

Housing Bureau, Ministry of Land, Infrastructure, Transport and Tourism,
Japan (MLIT)

3. Travel to Japan:

Air Ticket: The cost of a round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.

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, 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.

(5) Pre-departure Orientation:

A pre-departure orientation will be held at the respective countries’ JICA offices (or Embassies of Japan), to provide participants with details on travel to Japan, conditions of the workshop, and other matters.

V. Guidance for Reports and Presentation

All applicants are required to submit both “Inception Report” as well as “the questionnaire”. Both documents are used for the selection of the candidates.

In addition, these documents will be shared with other participants and lecturers.

1. Inception Report:

<Guideline>:

The Inception Report should respect the following:

- (1) Use the designated format below.
- (2) Written in Microsoft Word.
- (3) Number of pages should not exceed 5.
- (4) Font: Arial or Times New Roman, size 12.
- (5) Add some charts, graphs and/or pictures to better illustrate your country's situation.

<Format>:

Name of the Participant:
Country:
Organization:
Position:
Responsibility:

1. Outline of the buildings in the country.
 - (1) Popular construction methods for houses of low-income and middle-income people
 - (2) Popular construction methods for buildings in the 4-6 story range
 - (3) Popular construction methods for buildings of 20 stories and over
 - (4) Other characteristics
2. Outline of risks of disaster (earthquake, tsunami, etc.).
 - (1) Possible risks and prioritization among them
 - (2) The heaviest damage and recent damages in your country
 - (3) Future risks

* Please attach hazard map if available.
3. Outline of current building control situation and/or disaster mitigation measures.
4. Issue(s) and possible approach(es)
 - (1) The issue(s) your country/department faces in respect to building codes and regulatory systems⁴

⁴ Definition of “Regulatory systems” includes building control, land use control and qualification schemes of engineer and workers.

(2) The possible approach(es)/idea(s) to improve the issue(s)

*At the end of the program, based on the knowledge you gained during the program, it is required to make a proposal in order to solve the issue(s.)

2. Questionnaire:

<Guideline>:

The Questionnaire should respect the following:

- (1) Use the designated format below.
- (2) Written in Microsoft Word.
- (3) Font: Arial or Times New Roman, size 12.

<Format>

Questionnaire

Name of the Participant:
Country:

Q1 When someone intends to construct a building in your country, does he/she have to go through official procedures, such as building permission?

Please put Yes or No into the boxes in the table below.

Location \ Size	Urban areas	Rural areas
Buildings		
Ordinary small houses		

*If all answers are "No", go to Q6.

Q2 Please write the name of the Act, which provides official procedures above.

[_____]

The act is available at

[website(http://www._____), bookshops, government offices, others(_____)]

English documents are welcome if available.

Q3 What fields does the mandatory technical requirements, which are applied to buildings, cover?

* Two or more checks are acceptable.

Fields			Y (Yes) or N (No)
Building Codes	Structural stability	dead loads and live loads	
		earthquakes	
		heavy winds	
	Fire safety	Fire resistance	
		Escape	
		Firefighting equipment	
	Barrier free / universal design		
Elevators / escalators			
Zoning Codes	Building use		
	Building height		
	Floor area ratio		
	Building coverage ratio		
	Setback from the street boundary		

Q4 What organization mainly issues the building codes?

- () Central Government
- () Local authorities, such as municipalities
- () Others * Please explain below about the authorities that issue

* _____

The codes are available at
[website(<http://www.>),
bookshops, government offices, others()]

Q5 Please answer the following questions regarding a **building regulatory system (administration system)** in the region in which your office is located.

Q5-1 Which authorities are in charge of permission/approval/inspection of each building?

* Two or more checks are acceptable.

- () Central Government, including its branch offices
- () Local authorities, such as municipalities
- () Organizations which are authorized by Central Government or by local authorities
- () Others * Please explain below about the authorities that issue permission/approval.

*

Q5-2 Is it required to receive inspection by the public authority during **construction**?

- () No, inspection by the public authority is not required during construction.
- () Yes, inspection by the public authority is required during construction.

*Please explain below about the buildings to which it is applied.

*

Q5-3 Is it required to receive inspection by the public authority **after construction work**?

- () No, inspection by the public authority is not required after construction work. * If the answer is No, skip to Q6.
- () Yes, inspection by the public authority is required after construction work.

* Please explain below about the buildings to which it is required.

*

Q5-4 Is it prohibited to use the building before receiving a certificate of final inspection mentioned in Q5-3?

- No, it is allowed to use the building before receiving a certificate.
- Yes, it is prohibited.

* Please explain below about the buildings, which cannot be used before issue of a certificate of final inspection.

*

Q6 Please answer the following questions regarding **licensing system for architects or building engineers.**

Q6-1 Does your country have licensing system for **architects** and **building engineers**?

- Both licensing systems for **architects** and **building engineers**
- Licensing system for **architects** only
- Licensing system for **building engineers** only
- No license system for **architects** nor **building engineers** (No need to answer Q6-2.)
- Others * Please explain below about the licensing system.

*

Q6-2 Is it required for buildings **to be designed or checked** by a qualified architect and/or a building engineer? And by whom must the design or check be done?

- No, it is not required for buildings to be designed or checked by a qualified architect and/or building engineer.
- Yes. it is required for buildings to be designed or checked by both a qualified architect and building engineer.
- Yes. it is required for buildings to be designed or checked by a qualified architect only.
- Yes. it is required for buildings to be designed or checked by a qualified building engineer only.
- Others * Please explain below about the system.

*

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