No.34/48/2011-EO(F)
Government of India
Ministry of Personnel, P.G. and Pensions
Department of Personnel & Training

North Block, New Delhi-1
Dated the 24th October, 2010.

TRAINING CIRCULAR

Subject: A Group Training Course in Global Seismological Observation to be held in Japan from 11th January 2012 to 9h March 2012 (Core Phase).

The undersigned is directed to state that the Japan International Cooperation Agency (JICA), under the Technical Cooperation Programme of the Government of Japan has invited applications for the above programme. The total duration of the course is from December 2011 to September 2012. Out of this the core phase from 11th January 2012 to 9h March 2012 will be held in Japan, the preliminary phase and the finalization phase will be held in the candidate's home country. The details of the programme and the application form may be drawn from Ministry of Personnel, Public Grievances and Pensions website (**persmin.nic.in**).

2. This course aims to introduce up-to-date technologies and knowledge in the field of global seismological observation to participants who are expected to play important roles in a global monitoring network for nuclear tests

3. The Candidate should be a graduate or the equivalent, with professional experience of more than three years in the field of seismology; be well versed in basic mathematics such as differentiation and integration; have a good knowledge of computer; be under forty-five years of age; be proficient in written and spoken English; be in good health, both physically and mentally to undergo the above training, and not be serving in any form of military service.

4. The course covers the cost of a round-trip air ticket between an international airport designated by the JICA and Japan will be borne by JICA; travel insurance from the time of arrival in Japan to departure from Japan; allowances for (accommodation, living expenses, outfit and shipping); expenses for JICA study tours and free medical care for participants who may fall ill after reaching Japan (costs related to pre-existing illness, pregnancy, or dental treatment are not included). The participants are not allowed to take any family member during the training course.

5. It is requested that the nomination of the suitable candidates may please be forwarded to this Department in accordance with the eligibility criteria and the terms and conditions of the JICA's Circular dated 21st October, 2011. The Ministry/State Governments may sponsor the names of only Government/ Public Sector Undertaking functionary.

.....Contd.

6. The nomination details should be submitted in the JICA's prescribed proformas (A2A3 Forms) duly authenticated by the Department concerned alongwith the country report. Scanned copy of application may also be sent through e-mail on : doeof@nic.in

7. The applications should reach this Department through the Administrative Ministry/State Governments not later than 14th November, 2011. Nominations received after the prescribed date will not be considered.

(Raakesh Mishra)
Desk Officer

1. The Secretary, Ministry of Earth Science, Mahasagar Bhavan, Block No.12, CGO Complex, Lodhi Road, New Delhi.

2. The Secretary, Ministry of Coal , Shastri Bhavan, New .Delhi.

3. The Secretary, Ministry of Mines, Shastri Bhavan, New .Delhi.

4. The Secretary, Ministry of Petroleum & Natural Gas, 'A' Wing, 2nd Foor, Shastri Bhavan, New Delhi.

5. The Secretary, Ministry of Environment & Forests, Paryavaran Bhavan New Delhi.

6. The Secretary, Department of Atomic Energy, Anushakti Bhavan, Chatrapati Shivaji Maharaja Marg, Mumbai-1

7. Chairman, National Disaster Management Authority, New Delhi

8. Director (Technical), NIC with the request to post the circular along with the JICA's circular and the enclosed application Proformas on the Department's website

TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION
ON
GLOBAL SEISMOLOGICAL OBSERVATION
集団研修「グローバル地震観測」
JFY 2011
<Type: Leaders Training / 類型：中核人材育成型>
No. J11-00924 / ID. 1180887
December, 2011 to September, 2012
Phase in Japan: January 11th to March 09th, 2012

This information pertains to one of the Training and Dialogue Programs 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.

I. Concept

Background

In September 1996, after difficult and exhaustive discussions/negotiations over a period of two and a half years, the Comprehensive Nuclear-Test-Ban Treaty (CTBT) was adopted with the support of an overwhelming majority of the international community. In order to secure the Treaty's verification regime, a global network of monitoring stations, comprised of seismological monitoring stations, is to be established to monitor nuclear tests.

CTBT stipulates IMS (International Monitoring System) in order to verify the compliance of the treaty. Four kinds of monitoring and observation stations are to be set at 321 spots all over the world, and the data obtained at those stations are sent to the International Data Center in Vienna to be processed.

Towards the early entry into force of the treaty, the Government of Japan made a decision to start an international cooperation in 2004 with the group training course in "Global Seismological Observation," which deals with seismological observation and its application for nuclear test monitoring technology ("Global Seismological Observation" and "Global Seismological Observation Ⅱ" were held during 1995-1998 and 1999-2003, respectively).

This course is designed to introduce up-to-date technologies and knowledge in the field of global seismological observation to participants who are expected to play important roles in a global monitoring network for nuclear tests.

For what?

This program aims to acquire knowledge and advanced techniques of global seismological observation and is able to play important roles in the monitoring system for nuclear tests.

For whom?

This program is offered to the administrative officers who are expected to play important roles in a global monitoring network on nuclear tests.

How?

Participants shall have opportunities in Japan to acquire knowledge and advanced techniques of global seismological observation and is able to play important roles in the monitoring system for nuclear tests.

Participants will also formulate an Action Plan describing what the participant will do after they go back to home country putting the knowledge and ideas acquired and discussed in Japan among others into their on-going activities.

II. Description

1. Title (J-No.):

GLOBAL SEISMOLOGICAL OBSERVATION (J11-00924)

2. Period of program:

Duration of whole program	December, 2011 to March, 2012
(1) Preliminary Phase: (in a participant's home country)	December, 2011 to January, 2012
(2) Phase in Japan:	January 11th, 2012 to March 09th, 2012
(3) Monitoring Phase:	March to September, 2012

3. Target Region or Country: Nine (9)

Republic of Indonesia, Kingdom of Thailand, Islamic Republic of Pakistan, Democratic Socialist Republic of Sri Lanka, Republic of Fiji, Republic of Guatemala, Arab Republic of Egypt, Republic of Zimbabwe, Turkmenistan,

4. Eligible / Target Organization:

This program is designed for a governmental organization which is expected to play important roles in a global monitoring network on nuclear tests.

5. Total Number of Participants:

Nine (9)

6. Language to be used in this program:

English

7. Program Objective:

The program objective is to acquire knowledge and advanced techniques of global seismological observation for playing important roles in the monitoring system of nuclear tests under the CTBT.

8. Overall Goal:

The overall goal is to strengthen the capacities of National Data Center (NDC) in the field of seismology and/or International Monitoring System (IMS) for contributing to the promotion for taking effect of Comprehensive Nuclear Test Ban Treaty (CTBT) in each country.

9. Outputs:

Participants are expected to achieve the following outputs;

(1) To acquire knowledge of the CTBT regime and the role of seismology in the

International Monitoring System (IMS)

(2) To understand global seismological observation technologies for monitoring nuclear tests and earthquakes

(3) To acquire data analytical techniques to discriminate nuclear tests from natural earthquakes

(4) To make an Action Plan which they should do in their country.

10. Expected Module Contents:

This program consists of the following components.

Details on each component are given below;

(1) Preliminary Phase in a participant's home country; *(December, 2011 to January, 2012)* *Participating organizations make required preparation for the Program in the respective country.*	
	Activities
	Formulation and submission of an Inception Report.

(2) Phase in Japan; *(January 11th to March 09th, 2012)* *Participants dispatched by the organizations attend the Program implemented in Japan.*				
Output	Subject	Lecture/Exercise	Contents	Methodology
To acquire knowledge of the CTBT regime and the role of seismology in the International Monitoring System (IMS)	CTBT & IMS	Introduction of CTBT Regime concerning seismology	Review of verification of nuclear tests and seismology. Explanation of present status and future plan of CTBT concerning seismology	Lecture
		Characteristics and Progress Status of the International Monitoring System of the CTBT Organization (CTBTO)	Four different technologies form the basis used by IMS to verify compliance with CTBT. The characteristics and status of implementation of each of the networks -Seismic, Hydroacoustic, Infrasound and Radionuclide- with emphasis on the primary and auxiliary seismic networks will be presented.	Lecture

To understand global seismological observation technologies for monitoring nuclear tests and earthquakes	Seismological Observation	Seismometer I & II	Basic theory of electro-magnetic seismometer and specific explanation for some broad band seismograph.	Lecture and Practice
		Seismic Network	Data acquisition and telemetry systems are overviewed.	Lecture
		Design of Seismic Network I & II	General guidelines for designing seismic network are given on the first day. Participants will then make a plan to upgrade the seismic network of your country during the training course to make a presentation on the last day.	Lecture and Presentation
		Noise survey and site selection I & II	Practice in measurement of ground tremor will be given with short-period sensors and a broadband sensor.	Lecture and Practice
	National Data Center	Auto Data Request Manager	The auxiliary stations under IMS network should send seismograms by e-mail upon request from IDC. To realize this data transmission automatically, it is required to install Auto Data Request Manager (AutoDRM) at stations or National Data Center. In this lecture, we will review the Swiss 8AutoDRM system, which has been widely used around the world since GSETT-3. The lecture includes the installation and maintenance of this AutoDRM system.	Lecture
		National Data	System and operation in	Lecture

		Center (NDC)	National Data Center (NDC) will be introduced.	
To acquire data analytical techniques to discriminate nuclear tests from natural earthquakes	Data Processing	Retrieval of Digital Seismic Data and Disposal of Format	Practice of data retrieval and plotting seismograms will be given. Then basic theory and practice of data processing used frequently in the field of global seismology will be given. You will practice using broad and short-period seismograms of nuclear explosions and earthquakes.	Lecture and Practice
		Spectral Analysis		
		Digital Filter		
	Data Analysis	Introduction to UNIX	The essentials and basic commands of UNIX will be explained.	Lecture and Practice
		Installation of LINUX and SAC	Installation of Linux Installation of SAC (Seismic Analysis Code)	Lecture and Practice
		Analysis of Teleseismic waves	Explanation of principles underlying the interpretation of seismograms Reading practice	Lecture and Practice
		Hypocenter Location	A method for determining a hypocenter of a teleseismic event will be explained as well as that of a local one. Practice of the hypocenter determination will be given using PC.	Lecture and Practice
		Source Mechanism	The purpose of this lecture is to provide with necessary basic knowledge for determination of focal mechanism by seismic wave analysis. It includes a manual P-wave first motion method and moment tensor inversion.	Lecture and Practice
		Seismic Array	Objectives and history of	Lecture

		Data Analysis	seismic arrays Signal and noise in space and time Arrival time analysis Beamforming in time domain Frequency-wavenumber power spectrum Resolution Spatial sampling Design of an array station	
		Observation and Practice of Seismic Array	Introduction of Matsushiro Seismological Observatory Visit to a satellite station of MSAS (Matsushiro Seismic Array System) Practice: Analysis of seismograms obtained by MSAS	Lecture and Practice
		Analysis using GEOTOOL	Practice of analyzing IDC waveforms using GEOTOOL software.	Lecture and Practice
		Seismicity and Tectonics	The characteristics and tectonic background of the seismicity in the world are introduced and practice on analyzing seismicity is given by using personal computer.	Lecture and Practice
	The nuclear test identifying method	Discrimination by mb-Ms	General introduction on magnitudes, practice of determination of mb and Ms, and discrimination by mb-Ms	Lecture and Practice
		Discrimination by short-period seismograms	Explanation of short period discriminates, practice of discrimination by short period discriminates	Lecture and Practice
		General discrimination	Practice of the screening procedure along the stream	Practice

		technique	line by using all knowledge in this lecture course.	
To Make an Action Plan (Project Proposal) which they should do in their country after a homecoming.	Action Plan	Making Action Plan	Making Action Plan	Practice
		Presentation	Making the Presentation of the Action Plan	Presentation and Discussion

(3) <u>Monitoring Phase after returning home country</u>; (March to September, 2012) Participating organizations make required preparation for the Program in the respective country.	
	Activities
	* Participants will share the Action Plan prepared in Japan, and the acquired knowledge and techniques in this training course to their organizations and/or countries. * Participants will elaborate/revise the Action Plan for solving the problem in their countries through the results of above-mentioned presentation in their organizations and/or countries.
	* Participants will formulate the Final Report described in the results/progress of Action Plan. * The Final Report should be submitted to JICA overseas office in six months after leaving Japan. (* The deadline of submission for the Final Report is on September 10th, 2012)

【Structure of the Program】

Overall Goal ;
The overall goal is to strengthen the capacities of National Data Center (NDC) in the field of seismology and/or International Monitoring System (IMS) for contributing to the promotion for taking effect of Comprehensive Nuclear Test Ban Treaty (CTBT) in each country.

3. Monitoring Phase after returning home country

(○ To formulate the Final Report described in the results/progress of Action Plan.)
○ To share the Action Plan prepared in Japan to your organization and/or country.
⇒ To elaborate/revise the Action Plan for solving the problem in your country.

(Submission of the Final Report)

Program Objective ;
The program objective is to be acquired knowledge and advanced techniques of global seismological observation for playing important roles in the monitoring system of nuclear tests under the CTBT.

2. Core Phase in Japan

Output 4:
To Make an Action Plan (Project Proposal) which they should do in their country after a homecoming.
＜Subject of training＞
Action Plan
・Making Action Plan, Presentation

Output 2：
To understand global seismological observation technologies for monitoring nuclear tests and earthquakes

＜Subject of training＞
Seismological Observation, National Data Center
・Seismometer, Seismic Network, Design of Seismic Network, Noise survey and site selection
・Auto Data Request Manager, National Data Center

Output 3：
To acquire data analytical techniques to discriminate nuclear tests from natural earthquakes

＜Subject of training＞
Data Processing, Data Analysis, The nuclear test identifying method
・Retrieval of Digital Seismic Data and Disposal of Format, Spectral Analysis, Digital Filter
・Introduction to UNIX, Installation of LINUX and SAC, Analysis of Teleseismic waves, Hypocenter Location, Source Mechanism, Seismic Array Data Analysis, Observation and Practice of Seismic Array, Analysis using GEOTOOL, Seismicity and Tectonics
・Discrimination by mb-Ms, Discrimination by short-period seismograms, General discrimination technique

Output 1:
To acquire knowledge of the CTBT regime and the role of seismology in the International Monitoring System.
＜Subject of training＞
Outline of CTBT & IMS
・Introduction of CTBT Regime concerning seismology
・Characteristics and Progress Status of the International Monitoring System of the CTBTO

1. Preliminary Phrase
Formulation and submission of Inception Report.

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 operations. Applying organizations are expected to use the program for those specific purposes.

(2) In this connection, applying organizations are expected to nominate the most qualified candidates to address the said issues or problems, carefully referring to the qualifications described in section III-2 below.

(3) Applying organizations are also expected to be prepared to make use of knowledge acquired by the nominees for the said purpose.

2. Nominee Qualifications:

Applicants should:

- be nominated by their governments.
- be university graduates or the equivalent, with professional experience of more than three (3) years in the field of seismology.
- be well versed in basic mathematics such as differentiation and integration.
- have good knowledge of computer.
- be under forty-five (45) years of age.
- have a competent command of spoken and written English which is equal to TOEFL CBT 173 or more (This training program includes active participation in discussions and development of the action plan, thus requires high competence of English ability both in conversation and composition. Please attach an official certificate for English ability such as TOEFL, TOEIC etc, if possible)
- be in good health, both physically and mentally, to participate in the Program in Japan.
  (* Pregnancy: Pregnant participants are strictly requested to complete the required procedures before departure in order to minimize the risk for their health. The procedures include ①letter of the participant's consent to bear economic and physical risks ②letter of permission from the participant's supervisor ③letter of consent from your Embassy in Japan, ④medical certificate. Please ask National Staffs in JICA office for the details.)
- not be serving any form of military service.

3. Required Documents for Application:

Following items should be submitted to JICA Office (or the Embassy of Japan) by **November 16, 2011**.

(*__NOTE: Applications without these items will be out of the selection process.__)

(1) Application Form:

Regarding the Format of Application Form, please make contact with the respective countries' JICA office.

(2) 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.

(3) Inception Report:

Each applicant should prepare a report on the present situation of the following subject in their own countries in accordance with ANNEX I. This Inception Report should be typewritten and submitted to JICA Office (or the Embassy of Japan) together with the application form.

Title: Seismic Observation in your country

Sections to be included;

(1) Introduction, (2) Seismicity, (3) Organization, (4) Observational Network and Instruments (5) Data analyses performed in your organization, (6) Relation between your country/your organization and CTBT/IMS, (7) Current problems relevant to CTBT, IMS, and NDC that your organization is facing with, and Future Plans corresponding to them

4. Procedure for Application and Selection:

(1) Submitting the Application Documents:

Closing date for application to the JICA Office: **November 16, 2011**.

(2) Selection:

After receiving the document(s) through due administrative procedures in the respective government, the respective countries' JICA office (or Japanese Embassy) shall conduct screenings, and send the documents to the JICA Center in charge in Japan, which organizes this program. Selection shall be made by the JICA Center in consultation with the organizations concerned in Japan based on submitted documents according to qualifications.

The organization with intention to utilize the opportunity of this program will be highly valued in the selection.

(3) Notice of Acceptance:

Notification of results will be made by the respective countries' JICA office (or Embassy of Japan) to the respective Government by **no later than December 13, 2011.**

5. Documents to be submitted by accepted participants:

Before coming to Japan, only accepted participants are required to prepare the following materials;

(1) Presentation material on Inception Report:

Participants will be requested to make a presentation (about 20 minutes) and discuss on their Inception Report in group discussion session at the beginning of the training program.

6. Conditions for Attendance:

(1) to observe the schedule of the program,
(2) not to change the program subjects or extend the period of stay in Japan,
(3) not to bring any members of their family,
(4) to return to their home countries at the end of the program in Japan according to the travel schedule designated by JICA,
(5) to refrain from engaging in political activities, or any form of employment for profit or gain,
(6) 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.
(7) to observe the rules and regulations of their place of accommodation and not to change the accommodation designated by JICA, and
(8) to participate the whole program including a preparatory phase prior to the program in Japan. Applying organizations, after receiving notice of acceptance for their nominees, are expected to carry out the actions described in section II-10 and section III-5.

IV. Administrative Arrangements

1. Organizer:

(1) Name: JICA Tsukuba

2. Implementing Partner:

(1) Name:
International Institute of Seismology and Earthquake Engineering (IISEE) at Building Research Institute (BRI)

(2) Address: 1 Tachihara, Tsukuba-Shi, Ibaraki-ken, 305-0802 Japan

(3) TEL: +81-29-879-0679, FAX: +81-29-864-6777

(4) E-mail: iisee@kenken.go.jp

(5) URL: http://www.kenken.go.jp/english/index.html

(6) Remark:
IISEE is an organization that trains participants from earthquake-prone developing countries on Seismology and Earthquake Engineering. In 1962, the BRI established the IISEE as an institute exclusive for training in the field of seismology and earthquake engineering.

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:
Term of Insurance: From arrival to departure in Japan.

4. Accommodation in Japan:

JICA will arrange the following accommodations for the participants in Japan:

JICA Tsukuba International Center (JICA TSUKUBA) Address: 3-6 Koyadai, Tsukuba, Ibaraki 305-0074, Japan TEL: +81-29-838-1111, FAX: +81-29-838-1790 (where "81" is the country code for Japan, and "29" is the local area code) Please refer to facility information of JICA Tsukuba at its URL: http://www.jica.go.jp/english/contact/domestic/information.pdf

If there is no vacancy at JICA TSUKUBA, 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, 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 p. 9-16 of the brochure for participants titled "KENSHU-IN GUIDE BOOK," which will be given to the selected participants before (or at the time of) the pre-departure orientation.

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. Computer:

The participants are recommended to bring own laptop/notebook computers and conversion adapter to prepare the Action Plan, presentation slides and to communicate by e-mail. The electrical current in Japan is 100 volts, 50 cycles, and the plug shape is A type.

2. Data for global seismological observation in your country:

The participants are recommended to bring the relevant data concerning global seismological observation of your country in your laptop/notebook computers for preparing the Action Plan, presentation slides.

END

ANNEX-I: Instruction for the Preparation of Inception Report
ANNEX-II: (For your information) Tentative Schedule of the program in Japan (JFY2011)
ANNEX-III ：(For your information) Relevant organization list in the field of CTBT

VI. ANNEX- I:

Instructions for the Preparation on Inception Report

JICA Group Training Course on Global Seismological Observation

The Inception Report should be typewritten including items listed below.

(1) Name of Applicant

(2) Name of Organization to which Applicant belongs
(*(1)-(2) are to be written on cover sheet as following sample shows.)

(3) Title and **Author's Name**

(4) Summary
The summary should be informative and include the principal findings and conclusions. References to formulas or figures are not necessary. It should not consist of more than 200 words.

(5) Introduction

(6) Affiliation of the Author
Affiliation should appear as a footnote on the first page as following sample shows.

(7) Topic
* You might add **Acknowledge** and **Appendix** after the topic if necessary.

(8) References
References should have numbers in brackets in the order of their citation.

(9) Attached Document
Applicants are requested to submit attached documents including 3 items,
- Information about the structure of Organization, for example, Organization Chart,
- Research activity of Organization related to Seismology, Earthquake Engineering, or Seismic Hazard/Risk Analysis, and a list of governmental or private organizations related to Seismology or Earthquake Engineering in the country of Applicant.
- Program for CTBT (Comprehensive Nuclear-Test-Ban Treaty) in your country

(10) Download
The template file that may make your editing task easier from
http://iisee.kenken.go.jp/?p=public

* The participants will be requested to make action plans in which they describe how they utilize their achievements (e.g., knowledge, techniques, etc.) that they have obtained in the

training course after the training. In order to make good action plans through the training course, each applicant should describe current problems relevant to CTBT, IMS, and NDC that their organizations are facing with in their inception reports.

Note;

1. The manuscript must be carefully prepared and should be submitted with the application form. The total pages of the Inception Report should not exceed 15 pages including tables and figures.
2. **Page Format:** Use A4 white paper sheets (21 cm x 29.7 cm). Leave 2.5 cm margins at the top, right and left sides of the text and 3.5cm margin at the bottom. Special attention has to be paid in preparing papers using US letter-size paper. It should be appropriately arranged so that it conforms to the above requirements in appearance, namely the manuscript should occupy 16cm x 23.7cm in each page. All main text should be single spaced, Times New-Roman types. Use 18pt in capital letters and boldface for **TITLE**, 12pt for authors, and 11pt for the rest, including affiliations, abstract, main text, headings, sub-headings, sub-subheadings, acknowledgement, appendix, references, and captions for figures, photos and tables.
3. **Organization of the papers:** Write the **TITLE** of your paper, centered and in 18pt capital letters and boldface types at the top of the first page. After two more line space, write your names in 12pt. Last names should be in capital. Affiliations should be cited by superscripts. Leave two lines, and then write abstract in 11pt. "**ABSTRACT**" should be in capital letters and boldface and be followed by the text of Abstract. After three lines, start main body of your paper in 11pt. The ordinary pages, starting from the second page, contain the main text from the top line. Avoid footnotes and remarks. Explain in the main text, or in Appendices, if necessary. Affiliation itself should be put at the bottom of the first page, cities, countries and e-mail addresses of all authors, as indicated above.
4. **HEADINGS:** Use at most three levels of headings, i.e., headings, subheadings and sub-subheadings. Headings shall be written in capital letters, boldface types, and centered of your text. Leave two lines space before headings and one after them. Do not indent the first line after headings, subheadings and sub-subheadings. First lines of the other text paragraphs should be indented as indicated here. Do not leave blank lines between paragraphs. **Subheadings:** Subheadings shall be written in lower-case letters and boldface types, right against the left side of your text, as indicated here. Leave one line space before and after subheadings. Use the above mentioned rules for indentation. ***Sub-subheadings:*** The only difference with respect to subheadings is that sub-subheadings shall be in Italic and no lines space shall be left after sub-subheadings. Don't put numbering to heading of any level.
5. **EQUATIONS AND SYMBOLS:** Use high quality fonts for both mathematical equations and symbols. Papers with hand-written mathematical equations and symbols are not accepted. Equations should be centered and numbered. Leave one line above and below equations. The equation number, enclosed in parentheses, is placed flush right. Equations should be cited in the text as Eq. (1).
6. **FIGURES, TABLES AND PHOTOS:** Figures and tables shall be legible and well reproducible, and photos shall be clear. Colored figures, tables and photo will be printed in Black and White. Captions shall be written directly beneath figures and photos and above

tables, and shall be numbered and cited as Figure 1, Table 1 or Photo 1. They should be written in 11pt, and centered. Long captions shall be indented. Do not use capital letter or boldface types for captions. Figures, tables and photos shall be set possibly close to the positions where they are cited. Do not place figures, tables and photos altogether at the end of manuscripts. Figures, tables and photos should occupy the whole width of a page, and do not place any text besides figures, tables and photos. Leave one line spacing above and bottom of figures, tables and photos. Do not use small characters in figures and tables. Their typing size should be at least 9pt or larger.

7. **UNIT:** Use SI unit in the entire text, figures, and tables. If other units are used, provide it in parentheses after the SI unit as 2MPa (19.6 kg/cm^2).
8. **CONCLUSIONS:** Write a **CONCLUSIONS** section at the end of your paper, followed by ACKNOWLEDGEMENT, APPENDICES and REFERENCES.
9. **ACKNOWLEDGMENT:** Acknowledgment should follow CONCLUSIONS.
10. **APPENDIX:** Appendix should be placed between Acknowledgment and References, if any.
11. **REFERENCE:** All references should be listed in alphabetical order of the first author's family name. They are referred in the main text like (Gibson 1995a). Write the reference list as;

    Gutenberg, B., and Richter, C. F., 1954, Seismicity of the Earth and Associated Phenomena, 2nd ed. Princeton Univ. Press, Princeton, NJ.

    Richter, C. F., 1935, an instrument earthquake magnitude scale, *Bull.Seis. Soc.Am.*25, 1-32.
12. **Date of acceptance:** This will be assigned after accepted for publication and added to the end of manuscript by Editorial Board. They should be written in parentheses in 9pt in boldface types.

<Sample for Inception Report>

【Sample for the cover sheet】

THE GROUP TRAINING COURSE IN
GLOBAL SEISMOLOGICAL
OBSERVATION

2011
(COURSE ID: J11-)

INCEPTION REPORT
ON

1. Name of Participant
2. Name of Organization

【Sample for the first page】

TITLE OF THE INCEPTION REPORT
by
AUTHOR*

ABSTRACT

_____
_____

INTRODUCTION

_____
_____

* The Author's organization and occupation are to be written here.

VI. ANNEX- II:

(For your information)
Tentative Schedule of the program in Japan (JFY2011)
Global Seismological Observation Course

No.	Place	Date	Day of the week	Time	Room	Module Objectives	Category	Details of Training Course
1		11-Jan	Wed.	–	–	–	Others	Arrive in Japan
2	JICA Tsukuba	12-Jan	Thu.	10:00-12:00		–	Others	Briefing by JICA
				13:00-15:00		–	Others	
				16:00-16:30	auditorium	–	Others	Opening ceremony
3	BRI	13-Jan	Fri.	10:00-11:00	Lecture room	–	Others	Orientation by IISEE
				11:10-12:00		①, ②, ③, ④	Lecture	Overview of the Curriculum
				13:00-15:00		①	Lecture	Introduction of CTBT Regime Concerning Seismology in Japan
				15:00-		–	Others	Guidance of Computer
4		14-Jan	Sat.					
5		15-Jan	Sun.					
6	BRI	16-Jan	Mon.	9:30-12:00	Lecture room	③	Lecture	Installation of LINUX (0.5/1)
						③	Lecture	Introduction toUNIX
7	BRI	17-Jan	Tue.	9:30-12:00	Lecture room	③	Lecture	Introduction to UNIX(1/1)
				13:00-15:30		③	Lecture	Data Processing (0.5/3) (Retrieval of Digital Seismic Data and Disposal of Format)
8	BRI	18-Jan	Wed.	9:30-12:00	Lecture room	③	Lecture	Data Processing (1.5/3) (Spectal Analysis)
				13:00-15:30			Lecture	
9	BRI	19-Jan	Thu.	9:30-12:00	Lecture room	③	Lecture	Data Processing (2/3) (Digital Filter)
				13:00-15:30		③	Lecture	Installation of LINUX (1/1)
10	BRI	20-Jan	Fri.	9:30-12:00	Lecture room	①, ④	Others	Presentation of Inception Report
				13:00-15:30				
11		21-Jan	Sat.					
12		22-Jan	Sun.					
13	BRI	23-Jan	Mon.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (1/9) (Seismometer I)
				13:00-14:00			Lecture	
14	BRI	24-Jan	Tue.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (3/9) (Seismometer II)
				13:00-15:30			Lecture	
15	BRI	25-Jan	Wed.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (2/9) (Noise Survey I)
				13:00-15:30			Lecture	
16	BRI	26-Jan	Thu.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (5/9) (Noise Survey II)
				13:00-15:30			Lecture	
17	BRI	27-Jan	Fri.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (4/9) (Seismic Network)
				13:00-15:30			Lecture	
18		28-Jan	Sat.					
19		29-Jan	Sun.					
20	BRI	30-Jan	Mon.	9:30-12:00	Lecture room	②	Lecture	Instrumentation and Observation (6/9) (Design of Seismic Network I)
				13:00-14:00			Lecture	
21	BRI	31-Jan	Tue.	10:00-12:00	–	①, ②	Study Trip	Observation of JMA
				14:00-16:00	–	①, ②	Lecture	Instrumentation and Observation (7/9) (NDC)
22	BRI	1-Feb	Wed.	9:30-12:00	Lecture room	①, ②	Lecture	Instrumentation and Observation (8/9) (Auto DRM)
				13:00-15:30			Lecture	
23	BRI	2-Feb	Thu.	9:30-12:00	Lecture room	①	Lecture	Monitoring System of the CTBTO (PTS Lecturer)
				13:00-15:30			Lecture	
24	BRI	3-Feb	Fri.	9:30-12:00	Lecture room	①, ③	Lecture	Introduction of IDC (PTS Lecturer)
				13:00-15:30			Lecture	
25		4-Feb	Sat.					
26		5-Feb	Sun.					
27	BRI	6-Feb	Mon.	9:30-12:00	Lecture room	③	Lecture	Analysis of Teleseismic Waves
				13:00-15:30			Lecture	
28	Hiroshima	7-Feb	Tue.			①	Study Trip	Field Tip to Hiroshima (Atomic bomb Dome, Hiroshima Peace Memorial Museum)
						①		
29	Awaji Island, Kobe	8-Feb	Wed.			③		Nojima Fault
						③		
30	Kobe, Tsukuba	9-Feb	Thu.			–		Come back to Tsukuba
						–		
31	BRI	10-Feb	Fri.	9:30-12:00	Lecture room	③	Lecture	Data Processing(3/3) (Retrieval of Digital Seismic Data and Disposal of Format)
				13:00-15:30			Lecture	

No.	Place	Date	Day of the week	Time	Room	Module Objectives	Category	Details of Training Course
32		11-Feb	Sat.					National Holiday
33		12-Feb	Sun.					
34	BRI	13-Feb	Mon.	9:30-12:00 13:00-15:30	Lecture room	②	Lecture Lecture	Instrumentation and Observation(9/9) (Design of Seismic Network I)
35	BRI	14-Feb	Tue.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Hypocenter Location (1/3)
36	BRI	15-Feb	Wed.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Hypocenter Location (2/3)
37	BRI	16-Feb	Thu.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Hypocenter Location (3/3)
38	BRI	17-Feb	Fri.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Observation and Practice of Seismic Array
39		18-Feb	Sat.					
40	Nagano	19-Feb	Sun.					Move to Nagano
41	Nagano	20-Feb	Mon.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Observation and Practice of Seismic Array (at Matsushiro Seismological Observatory)
42	Nagano, Tsukuba	21-Feb	Tue.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Observation and Practice of Seismic Array (at Matsushiro Seismological Observatory) 15:30 - Return to Tsukuba
43	BRI	22-Feb	Wed.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Source Mechanism (1/3)
44	BRI	23-Feb	Thu.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Source Mechanism (2/3)
45	BRI	24-Feb	Fri.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Discrimination by mb-Ms
46		25-Feb	Sat.	9:30-12:00				
47		26-Feb	Sun.	9:30-12:00				
48	BRI	27-Feb	Mon.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Discrimination by Short-Period Seismograms
49	BRI	28-Feb	Tue.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Source Mechanism (3/3)
50	BRI	29-Feb	Wed.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Seismicity and Tectonics
51	BRI	1-Mar	Thu.	9:30-12:00 13:00-15:30	Lecture room	③	Lecture Lecture	Geotool
52	BRI	2-Mar	Fri.	9:30-12:00 13:00-16:00	Lecture room	③	Lecture Lecture	General Discrimination Technique(1/3)
53		3-Mar	Sat.					
54		4-Mar	Sun.					
55	BRI	5-Mar	Mon.	9:30-12:00 13:00-16:00	Lecture room	③	Lecture Lecture	General Discrimination Technique (2/3)
56	BRI	6-Mar	Tue.	9:30-12:00 13:00-16:00	Lecture room	③	Lecture Lecture	General Discrimination Technique (3/3)
57	BRI	7-Mar	Wed.	9:30-12:00 13:00-15:30	Lecture room	④	Others Others	Presentation of Action Plan
58	JICA Tsukuba	8-Mar	Thu.	11:00-11:30	-	—	Others	General Meeting
				11:30-13:00	-	-	Others	Closing Ceremony
59	-	9-Mar	Fri.	-	-	—	Others	

**This schedule and curriculum are subject to change.*

VI. ANNEX- III:

(For your information) Relevant organization list in the field of CTBT

Target Country	Organization Name
Republic of Indonesia	Meteorological Climatological and Geophysical Agency (BMKG)
Kingdom of Thailand	Thai Meteorological Department
Islamic Republic of Pakistan	Micro Seismic Studies Program Pakistan Meteorological Department
Democratic Socialist Republic of Sri Lanka	Geological Survey and Mines Bureau
Republic of Fiji	Mineral Resources Department, Ministry of Land
Republic of Guatemala	Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología (INSIVUMEH)
Arab Republic of Egypt	National Research Institute of Astronomy and Geophysics
Republic of Zimbabwe	Goetz Observatory, Meteorological Services Department
Turkmenistan	Research Institute of Seismology

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 and 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 Tsukuba International Center (JICA TSUKUBA)
Address: 3-6 Koyadai, Tsukuba, Ibaraki 305-0074, Japan
TEL: +81-29-838-1111 FAX: +81-29-838-1790

6. The nomination details should be submitted in the JICA's prescribed proformas (A2A3 Forms) duly authenticated by the Department concerned alongwith the country report. Scanned copy of application may also be sent through e-mail on : doeof@nic.in

7. The applications should reach this Department through the Administrative Ministry/State Governments not later than 14th November, 2011. Nominations received after the prescribed date will not be considered.

(Raakesh Mishra)
Desk Officer

1. The Secretary, Ministry of Earth Science, Mahasagar Bhavan, Block No.12, CGO Complex, Lodhi Road, New Delhi.

2. The Secretary, Ministry of Coal , Shastri Bhavan, New .Delhi.

3. The Secretary, Ministry of Mines, Shastri Bhavan, New .Delhi.

4. The Secretary, Ministry of Petroleum & Natural Gas, 'A' Wing, 2nd Foor, Shastri Bhavan, New Delhi.

5. The Secretary, Ministry of Environment & Forests, Paryavaran Bhavan New Delhi.

6. The Secretary, Department of Atomic Energy, Anushakti Bhavan, Chatrapati Shivaji Maharaja Marg, Mumbai-1

7. Chairman, National Disaster Management Authority, New Delhi

8. Director (Technical), NIC with the request to post the circular along with the JICA's circular and the enclosed application Proformas on the Department's website