



# TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION ON

TECHNICAL SUPPORT FOR SME PROMOTION  
TOWARD THE CONSTRUCTION OF SUSTAINABLE SOCIETY  
(BIOTECHNOLOGY/PLASTIC TECHNOLOGY)

集团研修「持続型社会の構築を目指した中小企業への技術支援・普及  
(バイオ・高分子産業分野)」

*JFY 2010*

<Type: Trainers Training Programs / 類型:人材育成普及型>

NO. J10-00650/ ID. 1080904

From March 2010 to January 2011

Phase in Japan: From 26 April 2010 to 29 July 2010

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**

Construction of sustainable society towards environmental issues is an urgent need globally for the prevention of global warming by reduction of carbon dioxide. Promotion of efficient utilization of fossil resources and biomass are required in developing countries where progress of these industries and livelihood improvement are expected. Therefore, natural biomass such as waste of agriculture, forestry, fisheries and food industries has received an attention due to the efficient resources for global warming measure.

Also, plastic products which are necessary for our well-off living are required to shift the environmentally concerned way not only for utilization of natural biomass but also for utilization of biomass plastics such as polylactic acid. Additionally, expectations towards utilization of agricultural products, those wastes and recycled plastics which are produced in developing countries are getting higher in these days. However, there is an insufficiency of environmental technologies in small-medium enterprises (SME) due to the low motivation and technology level, thus activities for the transition towards sustainable society are not enough.

Therefore, it is indispensable to disseminate environmental technology for the construction of sustainable society in cooperation with our country where there are technologies of utilizing biomass, plastic recycle and biomass plastics.

## **For what?**

This program aims at the dissemination of environmental technology (biomass utilization, plastics recycle, etc) to the personnel in Institutes and Universities etc.

## **For whom?**

This program is offered to the personnel in Research / Technical Institutions, Universities and Technical Support Institutions etc.

## **How?**

- Discussion and Q&A in lectures and practices (Confirmation of master level by using check sheet and report).
- Learning of mind/check points for environmental problem/business by observation/discussion in Japanese companies (Confirmation of master level by using report).
- Preparation of Action Plan and Textbooks for the dissemination of the gained knowledge and technology.

## ***II. Description***

**1. Title (J-No.): Technical Support For SME Promotion Toward The Construction of Sustainable Society (Biotechnology / Plastic Technology) (J1000650)**

**2. Period of program**

<b>Duration of whole program:</b>	March 2010 to January 2011
<b>Preliminary Phase:</b> (in a participant's home country)	March 2010 to April 2010
<b>Core Phase in Japan:</b>	April 26, 2010 to July 29, 2010
<b>Finalization Phase:</b> (in a participant's home country)	July 2010 to January 2011

**3. Target Countries**

Malaysia, Mexico, South Africa, Argentina

**4. Eligible / Target Organization**

This program is designed for Research/Technical Institutions, Universities and Technical Support Institutions

**5. Total Number of Participants**

4 participants

**6. Language to be used in this program:** English / Japanese with English interpretation

**7. Program Objective:**

The knowledge and technology on the utilization of biomass and the production and assessment of biomass and recycle plastics will be shared among researchers, engineers and technology extension personnel of the research and technical institutions (participating organization of this program).

**8. Overall Goal:**

The technology is enhanced on the effective use of biomass, plastic recycle and biomass plastics. By technical support activities, SME in the relevant area is promoted. So, the developing countries are believed firmly to take a step forward to sustainable society. Through the research and development more advances, it becomes an example of cancellation of a global environmental problem.

## 9. Expected Module Output and Contents:

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

<b>(1) Preliminary Phase in a participant's home country</b> (March 2010 to April 2010) <i>Participating organizations make required preparation for the Program in the respective country.</i>	
Expected Module Output	Activities
Country report is formulated	Formulation and submission of Country Report

<b>(2) Core Phase in Japan</b> (April 26, 2010 to July 29, 2010) <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i>		
Expected Module Output	Subjects/Agendas	Methodology
<b>Output 1 (common)</b> - To explain basics on environmental problems such as CO2 reduction, recycling, for the construction of the sustainable society.	(in own country) Country Report making	Report
	- (in Japan) Country Report presentation	Discussions
	- Environmental problems, CO2 reduction, recycling and biodegradation of Plastics.	Lectures and Tests
<b>Output 2 (biomass group)</b> - To explain biomass resources exploitation technology, utilized or studied in Japan. - To perform experiment of biocatalyst utilization for the development of biomass resources.	- Biomass resources (carbohydrate, fat, protein, biofuel, materials for bioplastic, etc.) processed and produced by the use of such biocatalysts as microorganisms and enzymes.	Lectures, Practices, Discussions, Observations and Q&A
<b>Output 3 (plastics group)</b> - To explain plastics technology (mainly biomass plastics and filler, and recycling of plastics). - To conduct processing practice (mixing and	- Plastic technology for application of biomass plastic and natural fillers, and recycle of plastics, (basic knowledge, property and processing (extrusion mixing and injection molding, compression molding, etc.)	Lectures, Practices and Discussion
	- Identification of problems and discussion for processing or application of biomass materials and recycling.	Company Observations and Q&A

forming) utilizing biomass or recycle plastics and filler. - To conduct the analysis and testing of plastics.	- Analysis and testing of plastics (GPC, IR, RAMAN, DSC, DMA, SEM, Mechanical, electrical, thermal, processing tests, biodegradation test etc.)	Lectures and Practice
<b>Output 4 (common)</b> - To make Action Plan to disseminate the gained technology and knowledge	- Preparation of Action Plan and Textbooks for the dissemination of the gained knowledge and technology - Presentation of action plan	Guidance and Discussion

### **(3)Finalization Phase in a participant's home country**

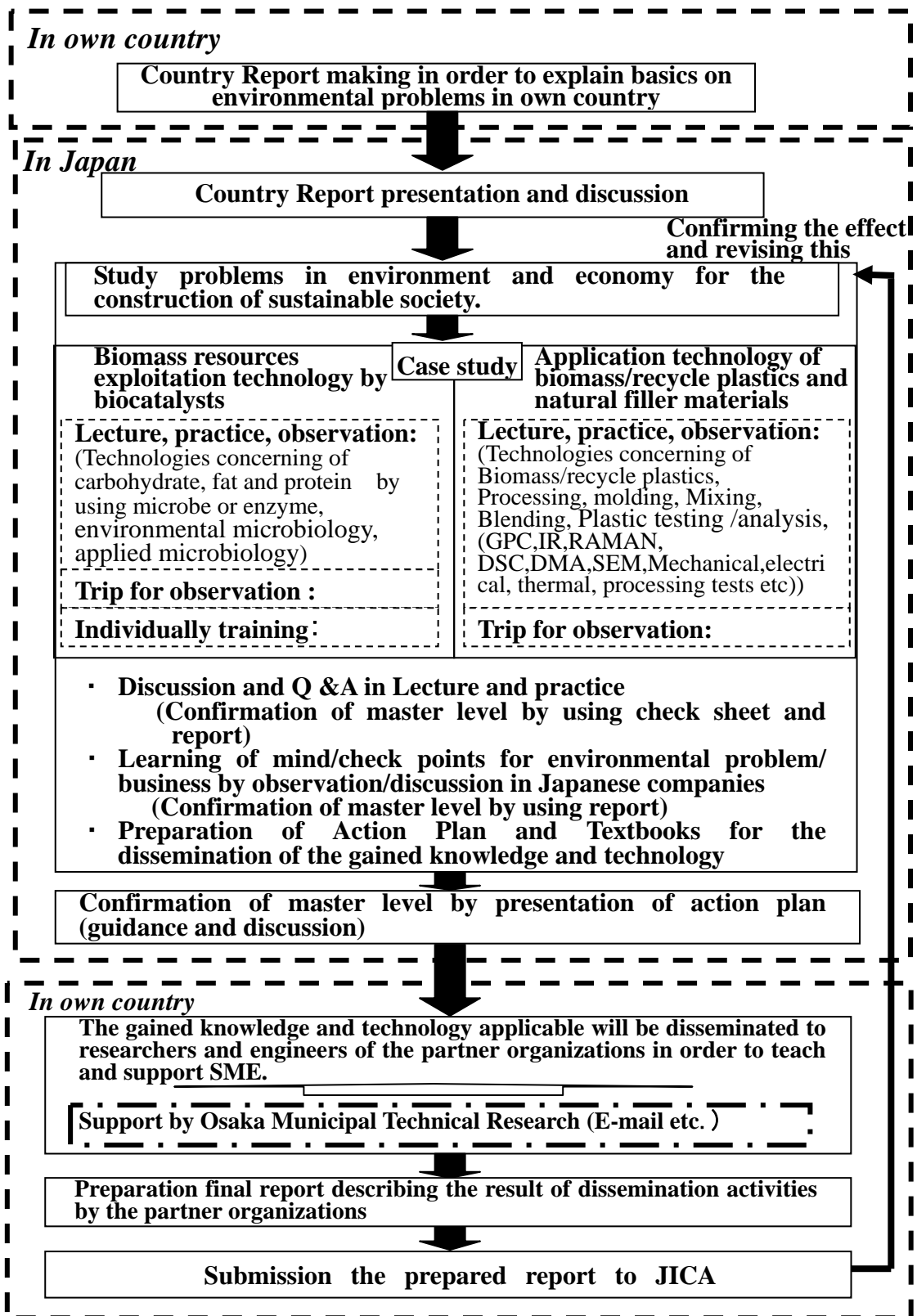
(July 2010 to January 2011)

*Participating organizations produce final outputs by making use of results brought back by participants. This phase marks the end of the Program.*

Expected Module Output	Activities
<b>Output 5 (common)</b> - The gained knowledge and technology applicable will be disseminated to researchers and engineers of the partner organizations.	- Dissemination activities like seminars to researchers and engineers of partner organization and relevant SMEs. - Construction of final report describing the result of dissemination activities.

**<Structure of the program>**

**Technical Support for SME Promotion toward the Construction of Sustainable Society (Biotechnology/Plastic Technology)**



### **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 .
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan by carrying out the activities of the Finalization Phase described in section II -9.

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

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

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

- 1) Current Duties: be engaged in work or research related to SME Promotion (Biotechnology / Plastic Technology)
- 2) Experience in the relevant field: have more than 3 years' experience
- 3) Educational Background: be a graduate of university and have majored in Biotechnology / Plastic Technology or the equivalent
- 4) Language: have a competent command of spoken and written English
- 5) Health: must be in good health, both physically and mentally, to undergo the Program in Japan

※There is higher risk for pregnant women and people with chronic diseases to cause serious medical consequences when infected with the new Influenza A (H1N1) virus according to the past cases. Under the pandemic situations of the new Influenza, pregnant applicants shall not be accepted for the time being. And applicants who suffer from chronic diseases, such as respiratory illness, cardiac disease, metabolic disease (diabetes, etc), renal dysfunction and immune insufficiency (systemic steroid administration, etc), shall not be accepted in principle. However, for those applicants with the chronic diseases, if they and their organizations express strong interest in participating in training programs, JICA shall accept them as an exceptional case after receiving a letter of consent

from themselves and their organizations. Please ask national staffs in JICA office for the details.

6) Must not be serving any form of military service.

7) Age: be between the ages of twenty-five (25) and forty (45) 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) 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) Country Report:** Applicants should complete a Country Report in accordance with the format indicated in ANNEX of this General Information, and submit it along with the Application Form. Applications not accompanied by a completed Country Report cannot be duly considered for selection. The country report should be typewritten and double-spaced in English (approximately 4–5 pages, A4-size). At the beginning of the technical training course, each participant will give a report presentation for 15 to 20 minutes based on the reports submitted with the Application Form. Participants are therefore requested to prepare material for an effective presentation before coming to Japan.

### 4. Procedure for Application and Selection :

#### (1) Submitting the Application Documents:

Closing date for application to the JICA Center in JAPAN: **12 March 2010**

**Note: Please confirm the closing date set by the respective country's JICA office or Embassy of Japan of your country to meet the final date in Japan.**

#### (2) Selection:

After receiving the document(s) 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 Center in charge in Japan, which organizes this project. 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 shall be made by the respective country's JICA office (or Embassy of Japan) to the respective Government by **not later than 26 March 2010**

**5. 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 the rules and regulations of their place of accommodation and not to change the accommodation designated by JICA, and
- (7) 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 -9 and section III -4.

## IV. Administrative Arrangements

### 1. Organizer:

(1) **Name:** JICA Osaka

(2) **Contact:** Training Program Division I (osictt1@jica.go.jp)

### 2. Implementing Partner:

(1) **Name:** Osaka Municipal Technical Research Institute (OMTRI)

(2) **URL:** [http://www.omtri.city.osaka.jp/gaiyou\\_e/indexe.html](http://www.omtri.city.osaka.jp/gaiyou_e/indexe.html)

(3) **Remark:**

(4) Osaka Municipal Technical Research Institute (OMTRI) was founded by the City of Osaka in 1916 with the principal objective of promoting and advancing the manufacturing industries of Osaka. Since then, it has performed comprehensive technological services through its success in developing much innovative technology based on fundamental studies and their application. The institute also promotes international friendship through technical cooperation with many developing countries around the world. OMTRI has been publishing many reports concerning of biomass materials and recycling of plastics, and then accepting 408 of JICA participants from 41 of countries for 40 years.

### 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. The traveling time outside Japan shall not be covered.

### 4. Accommodation in Japan:

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

JICA Osaka International Center (JICA OSAKA)

Address: 25-1 Nishi-Toyokawa-cho, Ibaraki-shi, Osaka 567-0058, Japan

TEL: 81-72-641-6900 FAX: 81-72-641-6910

(where "81" is the country code for Japan, and "72" is the local area code)

If there is no vacancy at JICA Osaka, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of OSIC at its URL, <http://www.jica.go.jp/english/contact/domestic/>

### 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 “KENSU-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.

**7. General Orientation for Introduction to Japan**

Participants are scheduled to participate in a 2-day orientation program offered by JICA Osaka for the purpose of providing participants with general information on key points regarding Japan and with the tools needed for adapting to life and training in Japan. Basic information on Japanese values, behavior and customs as well as economic and social institutions will be provided.

**8. Japanese Language Course**

An intensive Japanese language course will be conducted prior to the technical training following the General Orientation. A general Japanese language course is organized in the evening for participants who are interested in learning the language.

**9. Development Education Program**

The purposes of the International Cooperation Program of JICA are not only to share Japanese knowledge, experience and ideas with participating countries, but also to promote mutual understanding between participating countries and Japan. The Japanese government recognizes the importance of citizen participation in its International Cooperation Program and has thus recently placed a greater emphasis on this aspect of the Program. With this objective, JICA collaborates with schools and local governments as well as various kinds of community-based organizations to expose the members to the rich heritages of foreign cultures represented by participants, as a precious first step to promote international exchange and cooperation. To provide a stronger foundation for these activities, JICA has been conducting a Development Education Program for Japanese citizens in all training courses and seminars it offers. Participants are encouraged to bring any materials necessary to introduce the cultural heritages and/or natural histories of their own countries, such as national costumes, musical instruments, works of art, photographs, and so on. This program may not be conducted if there is no offer from any schools.

## **VI. ANNEX:**

### ANNEX 1.

#### **COUNTRY REPORT**

Country:

Name of applicant:

Name of organization:

Group of Application :  Biotechnology Group       Plastics Technology Group  
(Select one from two groups)

- (1) Draw a detailed chart of your organization and indicate your position in it as well as the number of persons in each department, division, section, work team, etc.
- (2) Give detailed descriptions regarding your duty as to the following:
  - a) Your present position and the kind of work you are engaged in
  - b) Your career since completing your education
  - c) The kind of work you will be engaged in after returning to your country from Japan
  - d) Subjects of special personal interest in this training course
- (3) Give detailed descriptions regarding SMEs(Small & Medium Enterprises) as to the following:
  - A) SMEs in your country
    - a) Definition of SME (Capital, Number of Employees)
    - b) Number & ratio of SMEs in your country
    - c) Type of industries where SMEs are actively doing businesses and the ratio of SMEs in each industry
    - d) Most successful & unsuccessful industries for SMEs
  - B) Present State of SMEs in Biotechnology (if you selected Biotechnology Group), or SMEs in Plastics Technology (if you selected Plastic Technology Group)
    - a) Scale of the SMEs in Biotechnology or Plastics Technology (Number of enterprises, Market-size)

- b) Outline of typical SMEs in Biotechnology or Plastics Technology,
- c) Problems and causes faced by these SMEs using the below Issue Analysis Sheet.

Issue Analysis Sheet

	Problems to be addressed	Causes
1	(Give specific problems)	(Give all the causes/backgrounds briefly)
2		
3		
4		

C) Technical Support system for SMEs in your country

D) Your involvement in technical support for SMEs

## ***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.

# Welcome to JICA Osaka

Osaka International Centre of Japan International Cooperation Agency (JICA Osaka) extends a hearty welcome to all JICA participants.

## 1. Location of the centre in the Kansai region

JICA Osaka is located in Ibaraki City, Osaka prefecture, in the heart of the Kansai region. Ibaraki lies close to the ancient cultural centers of Kyoto and Nara, and to the commercial, industrial and economic center of Osaka, and the city of Kobe.

## 2. Orientation Programme & Japanese Language Course

(1) The four days after arrival at JICA Osaka are dedicated to an orientation programme, during which participants are introduced to JICA Osaka and its facilities, attend lectures on Japan's economy, society and culture, and participate in an international exchange programme with local communities.

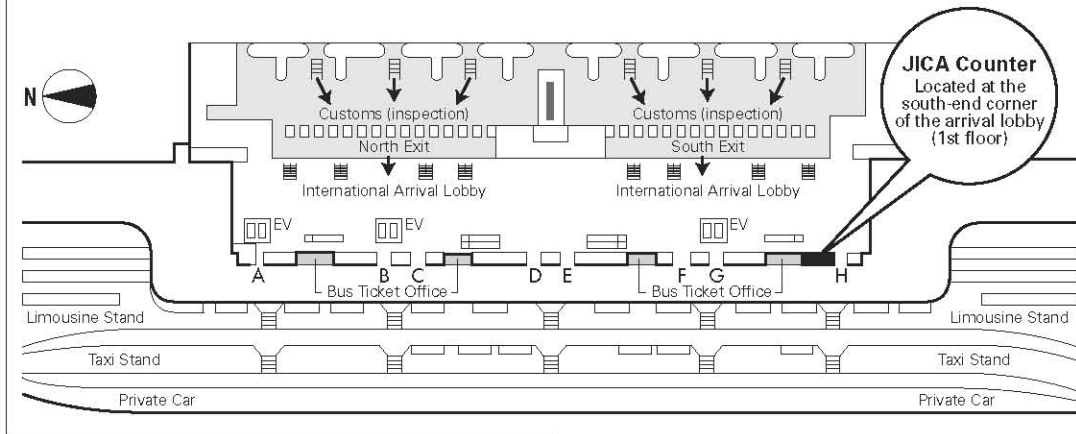
(2) It is desirable that participants acquire basic Japanese daily conversation for use in communication with training institution personnel and in other situations outside the scope of their technical training. JICA Osaka therefore offers:

- 1 an intensive Japanese language course as an integral part of the training programme in designated courses
- 2 an optional Japanese language course held in the evenings

## 3. Weekend Recreational Programme

Occasionally, at the weekends, JICA Osaka, in concert with community groups, organizes a programme of recreational activities and exchange events, including introductions to flower arrangement, tea ceremony, kimono wearing, handicrafts, and folk dancing, and visits to Japanese homes.

## Map of JICA Counter in Kansai International Airport (KIX)



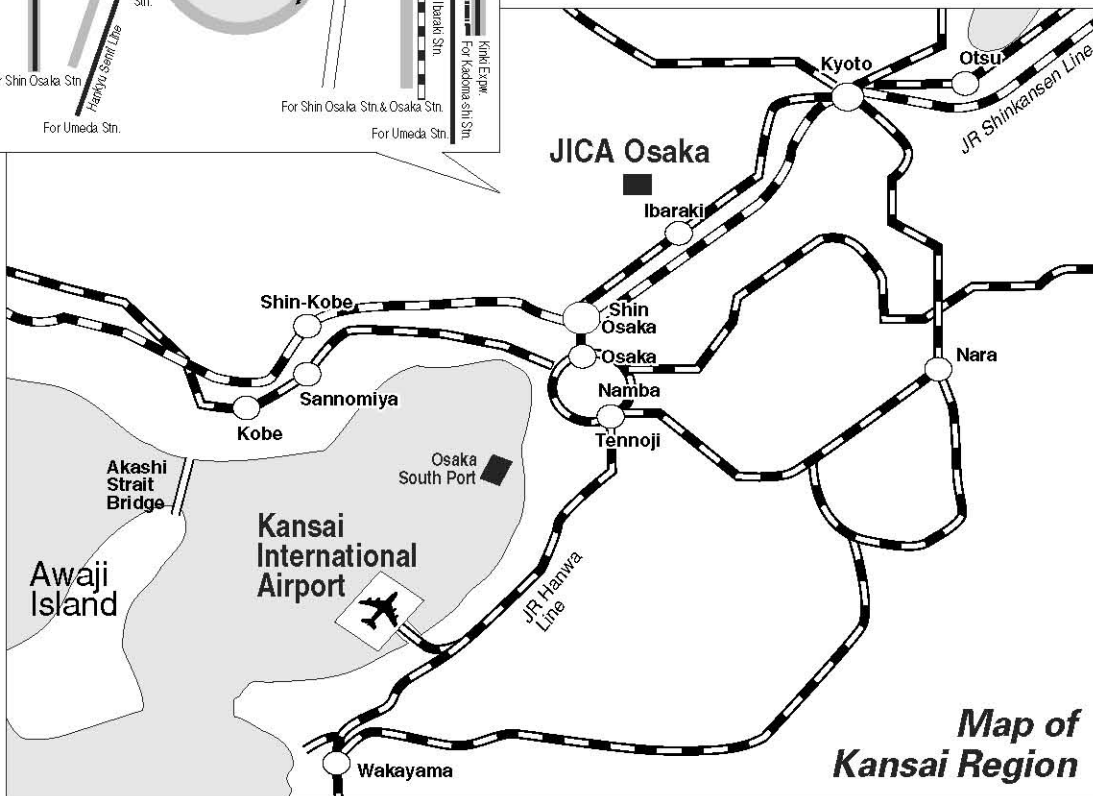
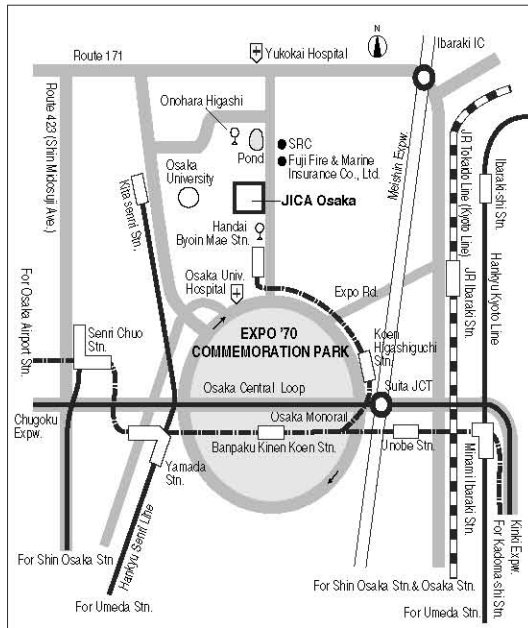
**Upon arrival, participants should follow the procedure below:**

1. Ride on Wing Shuttle (red elevated tram).
2. Pass through Immigration.
3. Collect baggage and pass through Customs Inspection.
4. Go to the JICA Counter located at the south-end corner of the arrival lobby (1st floor).

The staff at the JICA Counter will provide participants with a limousine bus ticket to Osaka Station (alight at Hotel New Hankyu).

At Osaka Station, a representative of the travel agency designated by JICA will meet the participant. The participant will be taken to JICA Osaka by taxi (with a taxi ticket), which takes approximately 30 minutes.

## Map of the JICA Osaka Vicinity



**Map of Kansai Region**



***CORRESPONDENCE***

For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:

JICA Osaka International Center (JICA OSAKA)

Address: 25-1 Nishi-Toyokawa-cho, Ibaraki-shi, Osaka 567-0058, Japan

TEL: 81-72-641-6900 FAX: 81-72-641-6910