



TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION

**Adaptive Watershed Management for Flood Countermeasures
by Climate Change and Conservation of Ecosystem**

**集団研修「気候変動による洪水対策と生態系保全のための
順応的流域管理」**

JFY 2010

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

NO. J-1000631/ ID.1080765

From August 15 to October 16, 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 the Governments or recipient country and Japan.

I. Concept

Background

Global warming, which is generally considered to stem from increased emissions of greenhouse gases (e.g. carbon dioxide), has caused climate change on a global scale, including significant variations in rainfall amounts. Developing countries in particular experience frequent cyclones/hurricanes and resultant heavy rain that has developed to unexpected levels, causing a corresponding increase in damage to human life and property. Meanwhile, conventional flood countermeasures such as dams and levees are often found to have adverse effects on the ecosystem in watershed areas.

For these reasons, an adaptive watershed management approach that integrates flood countermeasures and ecosystem conservation rather than viewing them as incompatible is being stressed on an international level; the dissemination of such an approach and the advancement of human resources in developing countries represent effective support measures enabling these regions to deal with climate change.

Motivation

This group training program is designed for mid-level working and senior administrative officers of organizations operating watershed management projects, and aims to share adaptive watershed management methods among them.

Methodology

Participants will have opportunities to have mainly lectures including field studies and discussions. Participants will also formulate an interim report including an action plan describing what the organization will do after the participants go back to home country putting the knowledge and ideas acquired and discussed in Japan among others into their on-going activities.

What is “Adaptive Management of Drainage Basin”?

It aims an adaptation to global climatic changes from viewpoints of drainage basin Management. Under global climatic changes, we will have more risk in river management: the fluvial regime changes quickly and also discharge at rainy season easily exceeds the former level. We cannot decrease the disaster caused by future climatic changes by a further hard works such as a big dam and/or embankment construction. It will be better to reduce the disaster by alternative countermeasures such as construction of retention pools and an appropriate control of flooded water.

Another important issue is biodiversity conservation. Riparian zone is always rich in biodiversity, but in many places its ecosystem has been lost by hard river works and urbanization. Our new training course aims to reduce the vulnerability of our society by using an adaptation management in drainage basin. It proposes a new drainage-basin management system which adjusts to present and future natural conditions by

reducing the vulnerability, and by increasing the resilience to global climatic changes.

II. Description

1. Title (J-No.): Adaptive Watershed Management for Flood Countermeasures by Climate Change and Conservation of Ecosystem (J-1000631)

2. Period of Program:

Duration of whole program: July, 2010 to March, 2011

Preliminary Phase: July to August, 2010

(in a participant's home country)

Core Phase in Japan: August 15 to October 16, 2010

Finalization Phase: October, 2010 to March, 2011

(in a participant's home country)

3. Target Countries:

Bangladesh, Bolivia, Malawi, Senegal, Tajikistan

4. Eligible / Target Organizations:

Project implementation organizations engaging in flood control or ecosystem conservation in watershed areas

Example: Ministry of Environment, Ministry which holds section/department of river management and construction

It is required for target countries to send one or two specialists, one from flood control section, the other from ecosystem conservation.

It is very much preferable that applicants are nominated from the same or relating organizations/institutions as the previous year since the program objective is aimed to be achieved through an accumulation of each year's achievement over three years. This time is the second year of the program.

Please refer to the following organizations as for the organizations in 2009.

The organization list in 2009

Bangladesh: Office of the Chief Planning, Bangladesh Water Development Board

Bolivia: Universidad Mayor de San Andres, Institute of Hydraulics and Hydrology

Malawi: (1) District Environmental Office(Madgochi) Environmental Affaires Department, Ministry of Natural Resources and Environmental Affairs, (2) Relief and Rehabilitation Office, Department of Disaster Management Affairs

Senegal: (1)Langue de Barbari National Park, Ministry of Environment and Natural Protection, (2) Water Management Program, DAIH, SAED

Tajikistan: Technical Department Information Management and Analytical Center, Committee of Emergency Situation and Civil Defense (2) Chief of Department,

Department of Ecosystem Management and International Relations,
Ministry/Committee of Environmental Protection under the Government of Republic
Tajikistan

5. Total Number of Participants: 8 participants

6. Working Language: English

7. Program Objective:

Adaptive watershed management methods will be shared among mid-level working and senior administrative officers who belong to the implementing organizations concerning both flood control and ecosystem conservation for watershed management (Final objective after three years).

8. Overall Goal:

Watershed management methods will be systematically internalized among organizations engaging in flood countermeasures and those involved in ecosystem conservation as an adaptive measure for climate change. These organizations will work together to mitigate flood risk and conserve ecosystems effectively.

9. Expected Module Output and Contents:

This program consists of the following components.

<p>(1) Preliminary Phase in a participant's home country (July to August, 2010) <i>Participating organizations make required preparation for the Program in the respective country.</i></p>	
Expected Module Output	Activities
Inception Report is Formulated.	Formulation and submission of Inception Report to the respective country's JICA Offices accordance with the Annex, attachment-1
<p>(2) Core Phase in Japan (August 15 to October 16, 2010) <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i></p>	
<p>Expected Module Output 1: Participants will be able to explain the effects of climate change on the watersheds of their respective areas and discuss the possibility of introducing adaptive watershed management methods.</p>	

L: Lecture, P: Practical training, S: Site Visit, D: Discussion / Unit per day

Topics	L	P	S	D	Contents
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Global environmental change/Kyoto Protocol	1				Reality of global environmental deterioration and the significance of the Kyoto Protocol.
Post-Kyoto Protocol framework: adaptive measures	0.5			0.5	Meanings of adaptation in Post-Kyoto Protocol framework
Fundamentals of landscape ecology	1				Fundamentals of landscape ecology for floodplain management
Dams and watershed control	1		1		Flood control effect and environmental impact of dam in watershed management: Function of multipurpose dams and mudslide-control dams and impact to down streams
Expected Module Output 2: Participants will be able to analyze current flood risks and the conditions/patterns of ecosystem destruction in the watersheds of their respective areas and explain tasks related to area management methods and ongoing adaptive measures					
Citizen's participation and consensus building	0.5			0.5	Importance of citizen's participation to the watershed management aiming flood control and biodiversity conservation
Conflict solution and consensus building in biodiversity conservation			1		Case study of biodiversity conservation on river management (the Tokachi River and solution of conflict among farmers)
Public involvement For flood control And biodiversity conservation			1		Methods of public involvement for flood control management and biodiversity conservation
Retention pool and agriculture			1		Problems for a large-scale retention pool construction and agricultural development
Flood control by retention pools			1		Introduction of flood control by retention pools: A case study of the Chitose River management as a successful example of adaptation measure
Resident activities related to rivers			1		Introduction of NGO activities and river conservation by residents

River management and biodiversity and maintenance mechanism in rivers field	1	1			Function and purpose of structure on ecosystem management in rivers. Biodiversity of aquatic wildlife Importance of flood control with biodiversity conservation
River control plans and monitoring	0.5	0.5			River management monitoring in Japan Measurement of flow volume
GIS-based flood control plans and biodiversity conservation		5			Basic knowledge and operations GIS Air photointerpretation Remote Censing, Watershed Analysis Usage and prospects of GIS
GIS application and river management plan design		1.	1		Application of GIS to flood control and biodiversity conservation; flood disturbance and riparian forest; calculation of flood discharge of different recurrence periods.
Terrestrial ecosystems and biodiversity	0.5	0.5			Protection of biodiversity and small mammals
Flood control and development of irrigation system in Bangladesh	0.5			0.5	Case study of Progress Report “Flood control and development irrigation system” Project by ex-participant in Bangladesh and sociological analysis from a viewpoints of habitants participation and consensus building
Expected module 3: Participants will prepare action plans (temporary) for an adaptive watershed management project as a measure to deal with climate change.					
Issues Analysis	0.5			1	Analysis of participants’ Interim Report by Issue analysis method
Participatory research methods	1	1	1		Definition of “Participation” and its merit and demerit, Workshop and practice of Participatory research methods
Capacity development	0.5			0.5	Case study “JICA Waterworks Project” and workshop of “Capacity development”
Review session by participants				1	Looking back the contents and discuss about its applicability among participants
Interim report guidance and preparation				3	Provision of guidance to design action plans and individual coaching for interim report formulation

The schedule is subject to change due to the coordination of curriculum.

3)Finalization Phase in a participant's home country (November, 2010 to March, 2011) <i>Participating organizations submit the Progress Report to JICA Overseas Office by March 16, 2011.</i>	
Expected Module Output	Activities
To formulate the Progress Report	Sharing and discussing the basic data and analysis results in their organizations and formulating a report about improvement

*Progress Report will be submitted by the participating organization, not by the individual participant.

<Whole Structure of the Three-year Program>

【Preparatory Phase:】

Submission of the Inception Report (present state and issues)

1. First and second years program (for 60 days)

Expected Module Output 1: To be able to analyze current flood risks and the conditions/patterns of ecosystem destruction in the watersheds of their respective areas and explain tasks related to area management methods and ongoing adaptive measures.

Expected Module Output 2: To be able to explain the effects of climate change on the watershed

Expected Module Output 3: To formulate the Interim Report (draft of Action plan) for an adaptive watershed management project at participants' home countries

*Submission of Progress Report on the Interim Report after within six months after returning home.

2. Third-year program (for 21 days)

Expected Module Output1~3

Expected Module Output 4: To formulate an Introductory Plan of necessary method for adaptive management planning applicable to the watersheds at participants' home countries.

【Finalization Phase】

Submission of the Final Report which is to report the progress on the introductory of the adaptive management planning within six months of returning home

During six months until the submission the course leader gives advices to the participants by e-mail.

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 utilize the program 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 program 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:

Participants who should;

- (1) Be nominated by their government,
- (2) Current duties:
First and second year: Mid-level working officers in charge of flood control and ecosystem preservation projects within organizations
*Notice: this is the second year of this program,
Next the third year: Senior administrative officers of organizations related to flood control and ecosystem conservation and academic experts directly involved in designing management plans for individual watershed,
- (3) Experience in the relevant fields: Individuals with at least five(5) years experience,
- (4) Educational background: be university graduates or equivalent,
- (5) Language: competent command of spoken and written English, which is equal to TOEFL iBT* 72 (CBT** 200/PBT*** 533) or more (the program is commanded by English; therefore participants are requested to have sufficient English ability),
*iBT: Internet-Based Testing/ **CBT: Computer-Based Testing/
***PBT: Paper-Based Testing
- (6) Health: must be in good health, both physically and mentally.
*Pregnancy :
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.

Please ask national staffs in JICA office for the details.

- (7) Must not be serving any form of military service,
- (8) Preferable to have computer literacy because this program contains the program on GIS.

3. Required Documents for Application:

(1) Application Form: The Application Form is attached to this General Information.

(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) Questionnaire: to be submitted with the Application Form.

Applicants should submit the comment on the Interim Report which was formulated by the ex-participants of the previous year, 2009 in respective countries. *Please refer to Annex, attachment-1*

4. Procedure for Application and Selection :

(1) Submitting the Application Documents:

Closing date for application to the JICA Center in Japan: **June 15, 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 program. Selection shall be made by the JICA Center in consultation with the organizations concerned in Japan based on submitted documents according to qualifications.

(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 July 15, 2010.**

5. Document(s) to be submitted by accepted participants: Inception Report A-1, Questionnaire A-2, and Inception Report B

Before coming to Japan, the accepted participants should be required to submit Inception Report **by July 30 2010**.

Inception Reports are requested to send to JICA Obihiro, preferably by e-mail to jicaobic-kenshuu2@jica.go.jp

*Contents is differentiated depends on participants' organization which joined the previous year or the first time participation.

*Please referring to Annex attachment-2, 3 and 4

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 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-3.

IV. Administrative Arrangements

1. Organizer:

Name: JICA Obihiro

Contact:

(Address) 1-2, Minami 6-chome, Nishi 20-jo, Obihiro, Hokkaido, 080-2470, Japan

(Tel) 81(*)-155(**)-35-1210 (Fax) 81(*)-155(**)-35-1250

Note: *:country code for Japan, **:area code for Obihiro

(Email) jicaobic@jica.go.jp (Website) www.jica.go.jp/english

2. Implementing Partner:

Name: Northern Regions Center (NRC)

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:

Obihiro International Center (OBIC)

Address: 1-2, Minami 6-chome, Nishi 20-jo, Obihiro, Hokkaido, 080-2470, Japan

TEL: 81-155-35-2001 FAX: 81-155-35-2213

(where "81" is the country code for Japan, and "155" is the local area code)

If there is no vacancy at OBIC, 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. 8-16 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.

V. Other Information

1. Participants who have successfully completed the training program will be awarded a certificate by JICA.

2. Medical history

In case you have or have had malaria, you are kindly requested to bring the medicine for malaria with you because it is quite difficult to obtain it in Japan.

3. Climate

The climate condition in Obihiro is given below. Participants are advised to prepare appropriate clothes.

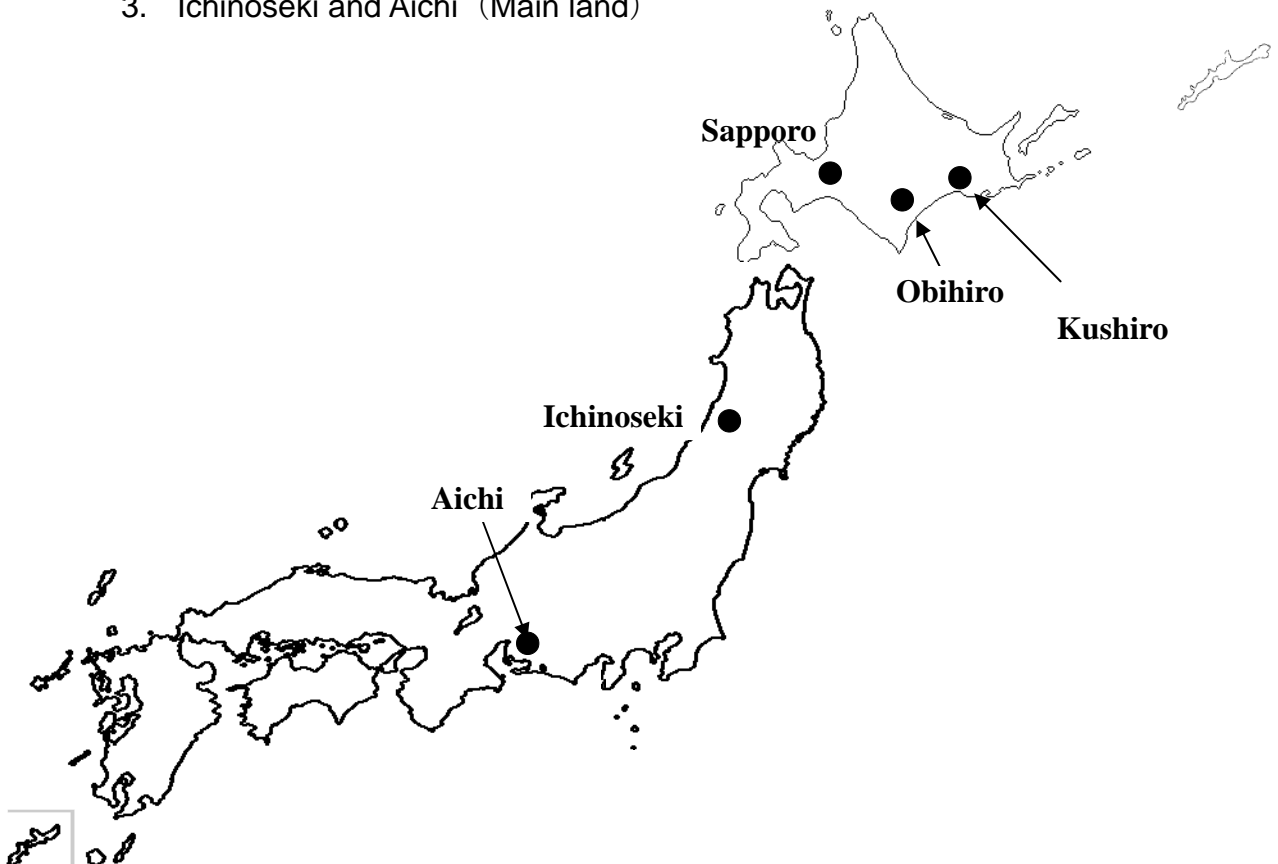
		Winter		Spring			Summer			Autumn			Winter
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Temperature (°C)	Maximum	-2.0	-1.0	3.4	11.3	17.6	20.4	23.7	25.1	21.2	15.4	7.7	1.1
	Average	-7.7	-6.8	-1.6	5.4	11.0	14.5	18.4	20	16	9.6	2.8	-3.7
	Minimum	-13.9	-13.2	-6.9	0.2	5.4	10.0	14.5	16.2	11.6	4.3	-1.9	-8.9
Humidity (%)		70	69	67	66	69	79	83	82	79	73	68	69
Precipitation (mm)		42.3	30.7	49.6	60.5	80.1	85.9	94.4	139.2	139.8	91.7	68.2	40.3

(Average from 1971 to 2000)

4. Study Trip

As a supplemental program, there are study trips during your stay.

1. Sapporo city(Capital city of Hokkaido)
2. Kushiro City(Eastern part of Hokkaido)
3. Ichinoseki and Aichi (Main land)



VI. ANNEX:

Attachment-1

Questionnaire for all the applicants

Applicants should write any comments on the previous year's Interim Report which was formulated by the ex-participants in terms of your own special field and submit questionnaire **together with Application Form by June 15.**

Please refer to the attached Interim Report or inquire about them the JICA respective Overseas Offices to obtain them.

Name and Country:
Interim Report Title:
Comments:

Inception Report A-1

For the participants whose organization did not take part in the previous year.

Participants are requested to prepare an Inception Report on the following issues, and submit it to the respective country's JICA Office or JICA Obihiro by **July 30, 2010**, preferably by e-mail to jicaobic@jica.go.jp. If possible it is preferable to submit Inception Report together with Application Form.

a. Purposes

- (1) To clarify issues and problems presently faced in their work in order to facilitate the acquisition of knowledge and ideas leading to solutions during the training program.
- (2) To provide advance information regarding issues and problems faced by participants to lecturers and organizations concerned with the program as a point of reference in finding solutions.

b. Contents

- (1) Name of organization
- (2) Organization chart
- (3) Risk of global climatic changes
 - a) What will be the most serious risk in your drainage basin caused by global climatic changes in the viewpoint both flood countermeasure and conservation of biodiversity?
 - b) What kind of adaptation work you wish to do in your drainage basin ?

c. Layout

Typewritten in English, 3-5 pages (12-point font, double spaced, A4 size paper)

d. Presentation

The Inception Report is to be presented by each participant using MS PowerPoint at the beginning of the program.

- (1) The time allocation for each presentation of the Inception Report will be about 10 minutes.
- (2) It is advisable to bring some materials such as pictures or other visual aids to show your country's wildlife management and wildlife issues situation.

Questionnaire A-2

For the participants whose organization did not take part in the previous year.

Name: _____

Country: _____

Please indicate the following materials on your drainage basin.

1. Map of land use
2. Map of vegetation
3. Population
4. Basic climatic condition
 - 1) Mean annual temperature
 - 2) Monthly air temperature
 - 3) Monthly precipitation data
5. River data
 - 1) River length and surface of drainage basin
 - 2) Maximum and minimum discharge
 - 3) Water qualities, if available, indicate BOD, COD level or any bio-index etc.
6. Please name specifically the endangered species of plants, animals and insects which should be conserved from the viewpoint of biodiversity in your designated drainage basin.

*Please submit the Questionnaire with A2A3 Nomination form and Inception Report.

*It is preferable to bring slides or photos of drainage basin in your region so that we can understand your conditions more clearly.

Inception Report B

For the participants whose organization is the same as ex-participants of the previous year

Participants are requested to prepare an Inception Report on the following issues, and submit it to the respective country's JICA Office or JICA Obihiro by **July 30, 2010**, preferably by e-mail to jicaobic@jica.go.jp. If possible it is desirable to submit Inception Report together with Application Form

a. Contents

- (1) Name of participant and country
- (2) Name of Organization
- (3) Present situation after the Progress Report by the ex-participant.
- (4) Issues which were discussed/shared by the organization/section.
- (5) Subjects on which you would like to focus in this program

c. Layout

Typewritten in English, 3 pages (12-point font, double spaced, A4 size paper)

d. Presentation

The Inception Report is to be presented by each participant using MS PowerPoint at the beginning of the program.

- (1) The time allocation for each presentation of the Inception Report will be about 10 minutes.
- (2) It is advisable to bring some materials such as pictures or other visual aids to show your country's wildlife management and wildlife issues situation.

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 Obihiro International Center (JICA Obihiro)

Address: 1-2, Minami 6-chome, Nishi 20-jo, Obihiro-city, Hokkaido, 080-2470, Japan

TEL: +81-155-35-1210 FAX: +81-155-35-1250

Website: www.jica.go.jp/english/

E-mail: jicaobic@jica.go.jp