



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 2011

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

NO. J-1100668/ ID.1180765

From June 12 to July 2, 2011

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-1100668)

2. Period of Program:

Duration of whole program: May, 2011 to October, 2011

Preliminary Phase: May to June, 2011

(in a participant's home country)

Core Phase in Japan: June 12 to July 2, 2011

Finalization Phase: July, 2011 to October, 2011

(in a participant's home country)

3. Target Countries:

Bangladesh(3 persons), Bolivia(1person), Malawi(2 persons), Senegal(2 persons), Tajikistan(2 persons)

4. Eligible / Target Organizations:

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

Since this time is the third year (final year) of the program,

it is very much preferable that applicants are nominated from the same organizations/institutions as the previous year. The program objective is aimed to be achieved through an accumulation of each year's achievement over three years.

Please refer to the following organizations recommended by the participants in 2010.

[Position and Organization]

Bangladesh: 3 persons among Bangladesh Water Development Board including Project Director

Position: Project Director

Organization: Bangladesh Water Development Board

Bolivia: It is required to send one specialist from flood control section or from ecosystem conservation such as universidad Mayor de San Andres, Institute of Hydraulics and Hydrology in 2009.

Malawi: 2 persons: one from 1), the other from 2)

1) Position: Secretary and Commissioner for Disaster Management Affairs or Senior Officer.,

Organization: Department of Disaster Management Affairs

2) Position: Director of Water Resources,

Organization: Ministry of Irrigation and Water Development

Senegal: 2 persons: one from 1) and the other from 2)

*There are three recommendable persons in SAED however please recommend one person

1) Position: Division Head of Management and Monitoring

Organization: National Parks Direction

2) Position:

- The Technical Water Advisor of SAED General Manager;
- The Director of irrigated schemes and hydro-agricultural infrastructures;
- The delegated Engineer of Dagana

Organization:

- SAED/Technical Water Advisor;
- SAED/Direction of irrigated schemes and hydro-agricultural infrastructures;
- SAED/Dagana Delegation.

Tajikistan: 2 persons: one from 1) and the other from 2)

*From 2) there is no recommendation however one person should be recommended.

1) Position:

- Deputy Chief
- Head Specialist

Organization:

- State Directorate of Nature Protected Areas
- State Directorate of Nature Protected Areas, Department International Relationship, Tourism and Marketing

2) Position: no recommendation

Organization: Department of Monitoring Pump Station and Water Facilities, Ministry of Mekuiratuib and Water Resources

5. Total Number of Participants: 8 participants

6. Working Language: English

7. 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.

8. Program Objective:

Adaptive watershed management methods will be shared among senior administrative officers who belong to the implementing organizations concerning both flood control and ecosystem conservation for watershed management (Final

objective after three years).

9. Expected Module Output and Contents:

This program consists of the following components.

(1) Preliminary Phase in a participant's home country (May to June, 2011) <i>Participating organizations make required preparation for the Program in the respective country.</i>	
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, atachment-1
(2) Core Phase in Japan (June 12 to July 2, 2011) <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i>	
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.	

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

Topics	L	S	D	Contents
Adaptive Watershed Management for Flood Countermeasures by Climate Change and Conservation of Ecosystem	0.5	0.5		Global environmental change: Changing factor in global environment and predictions on climate change in participants' countries. Post-Kyoto Protocol framework: Adaptive measures Fundamentals of landscape ecology for floodplain management
Dams and watershed control	0.5	0.5		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 on conservation of biodiversity	0.5		0.5	Importance of citizen's participation to the watershed management aiming flood control and biodiversity conservation
Retention pool and agriculture		1		Technical and social 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 two large retention pools in Japan as a successful example of adaptation measure
River management and biodiversity and maintenance mechanism in rivers field	1			Function and purpose of structure on ecosystem management in rivers. Biodiversity of aquatic wildlife Importance of flood control with biodiversity conservation
Flood control by diversion channel	0.5			Case study of two diversion channels in the Tokachi drainage basin: technical and Management problems
Flood control and conservation of biodiversity	1.	1		Harmonization of flood control and environment conservation, Project of rehabilitation of wetland, Introduction of GIS application to river management Planning and design
Expected module 3: Participants will discuss about *Action Plan (draft) for an adaptive watershed management project as a measure to deal with climate change. *Action plan(draft) formulated by previous year of the participants				
Presentation and Workshop on Action Plan			1.0	Sharing the common issues of participants' Action Plan and discussion
Capacity development	0.5			Case study "JICA Waterworks Project" and workshop of "Capacity development"
Expected module 4: Participants will formulate an Introductory Plan of necessary method for adaptive management planning applicable to the watersheds at participants' home countries.				
Citizen participation and adaptive watershed management			1.0	Discussion mainly on Action Plan (draft) of Senegal and Tajikistan
Countermeasures and conservation of			1.0	Discussion mainly on Action Plan(draft) of Bangladesh and Malawi

biodiversity				
Issue solution on adaptive watershed management (Summary)			1.0	Guidance and provision of revised participants' Action Plans(draft)
Presentation of Final report (draft)			3	Presentation of Action Plan and final discussion among participants and lecturers.

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

3)Finalization Phase in a participant's home country (July, 2011 to January, 2012) <i>Participating organizations submit the Final Report to JICA Overseas Office by January , 2012.</i>	
Expected Module Output	Activities
Final Report is formulated	Final report (draft) will be shared by the participant's organization. Report to JICA how it is discussed by stakeholders in the organization within six months of returning home

*Final 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:
Senior administrative officers of organizations related to flood control and ecosystem conservation and academic experts directly involved in designing management plans for individual watershed such as position mentioned the above, II. Description, 4. Eligible/Target Organization,
- (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) Inception Report: to be submitted with the Application Form.

Applicants should submit the comment on the Progress Report which was formulated by the ex-participants of the previous year, 2010 in respective countries. *Please refer to Annex, attachment-1.*

The organization in which participate this program for the first time such as Bolivia, please refer to Annex, attachment-2 and 3.

4. Procedure for Application and Selection :

(1) Submitting the Application Documents:

Closing date for application to the JICA Center in Japan: **April 30, 2011**

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 May 12, 2011.**

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 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 -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.

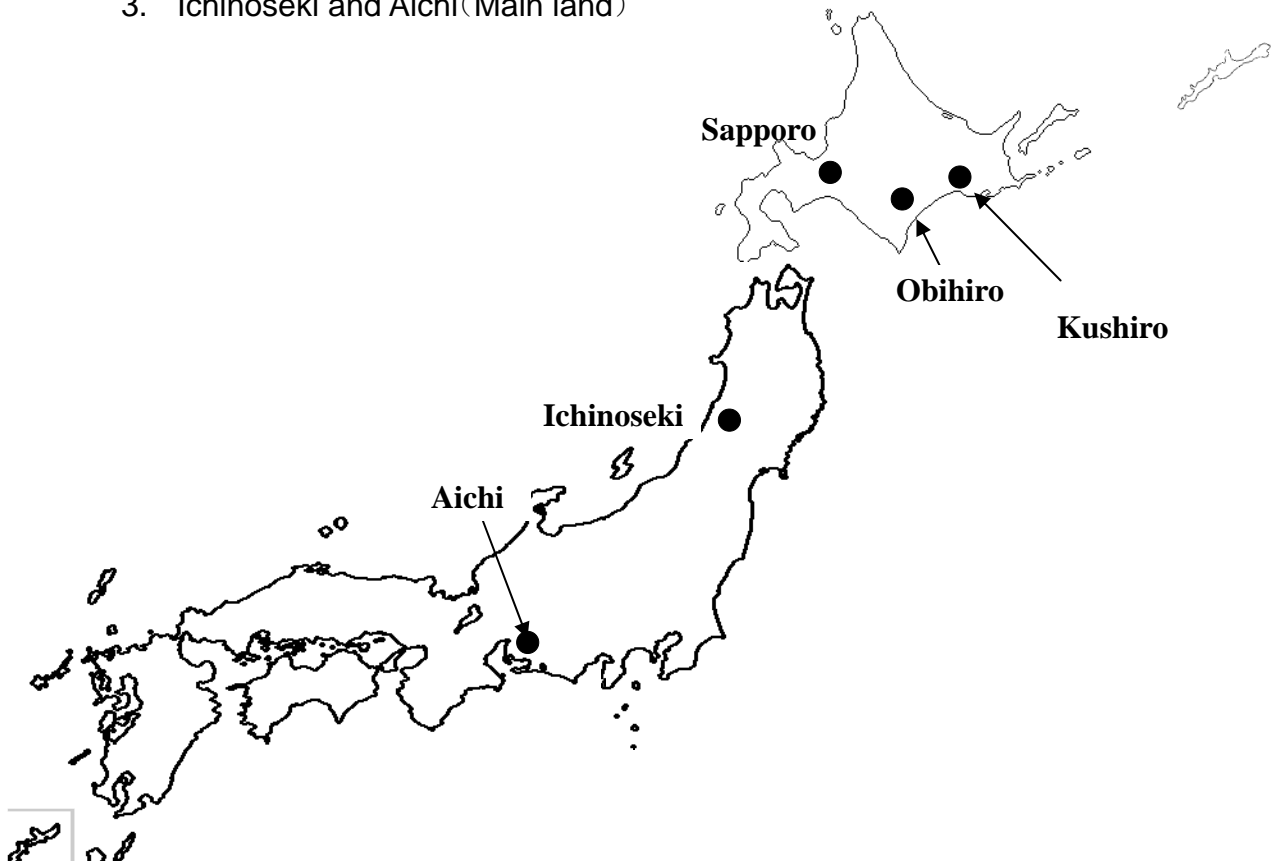
		Winter		Spring			Summer			Autumn			Winter
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Temperature (°C)	Maximum	-2.0	-1.0	3.4	11.3	17.6	20.4	23.7	25.1	21.2	15.4	7.7	1.1
	Average	-7.7	-6.8	-1.6	5.4	11.0	14.5	18.4	20	16	9.6	2.8	-3.7
	Minimum	-13.9	-13.2	-6.9	0.2	5.4	10.0	14.5	16.2	11.6	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)



Inception Report A

For the participants whose organization is the same as ex-participants of the previous year: **Bangladesh, Malawi, Senegal and Tajikistan**

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 **April 30, 2011**, preferably by e-mail to jicaobic@jica.go.jp. Inception Report is to submit with Application Form

a. Contents

It is necessary for you to discuss with the participant of previous year to formulate Inception report on the following issues.

- (1) Name of participant and country
- (2) Name of Organization
- (3) Present situation after the submission of Progress Report
 - a) Does the Action Plan proceed as schedule, plan of operation?
 - b) Prospect for budget on implementation of Action Plan or secure any budget of agreement on implementation of Action Plan?
 - c) What are the most severe obstacles?
- (4) 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.

Inception Report B

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

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 **April 30, 2011**, 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 B

For the participants whose organization did not take part in the previous year.
Please submit this Questionnaire with Inception Report and Application Form by April 30, 2011.

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.

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

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)

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

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

E-mail: jicaobic@jica.go.jp