



# TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION ON

**EFFICIENT AND ENVIRONMENT-FRIENDLY MINING  
AND RECYCLING FOR METAL RESOURCES**  
**集団研修「環境に配慮した効率的資源開発・利用に関する研修」**  
***JFY 2011***

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

**NO. J11-00788 / ID. 1180882**

**From July 2011 to March 2012**

**Phases in Japan : From Sep. 25, 2011 to Dec. 3, 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 Governments.

# **I. Concept**

## **Background**

Mineral resources are essential to industrial and economic activities, and for those developing countries that have mineral deposits in their territories, it is quite important to promote their mining activities in order to facilitate the effective utilization of those resources for their economic development as well as for the acquisition of foreign currencies.

Mining development projects would not only create new industries but also create other benefits for each society including improvement of infrastructure and basic social systems, economic development of rural regions, and human resources development in various fields. Thus, socioeconomic influences from mining activities are enormous. On the other hand, we should pay attention to negative influences also, including social and environmental disruption such as water pollution, environmental change of indigenous communities when development projects move into their inhabited areas, and the destruction of forests, for instance. Therefore, in order to enable sustainable mining development, it is important to take appropriate measures without delay.

It can be found that rapid increase of foreign or private capital involved in mining activities in developing countries. Those countries consider their mineral deposits to be important state assets and the key for prosperity. At the same time, however, even if privatization has been accelerated, the governments continue to have the initiative in planning development projects, and mining policies and governmental organizations play an important role in decision-making on liberalization or privatization policy on promoting mining and investment. Therefore, those governments are expected to implement effective measures comprehensively to promote their mining development.

This Training Program is the course to study mining development from basic to application which contains feasibility study, master plan, action plan, follow-up, besides mine pollution control, environmental impact assessment and others.

## **For what?**

This program aims to provide knowledge and skills regarding efficient and environment-friendly mining and recycling, which are the outputs of this program in order to be shared and promoted among his/her organizations.

## **For whom?**

This program is offered to officers in the department of mining engaging on mining policies facilitating mining development projects including prevention mining pollution and recycling comprehensively in government or governmental organization.

## **How?**

Participants shall have opportunities in Japan to learn about efficient and

environment-friendly mining and recycling through lectures, observations, exercises and discussions. Participants shall also formulate an action plan on dissemination activities of skills and knowledge gained from the training program in Japan.

## **II. Description**

### **1. Title (J-No.): Efficient and Environment-Friendly Mining and Recycling for Metal Resources (J1100788)**

### **2. Period of program**

<b>Duration of whole program:</b>	July 2011 to March 2012
<b>Preliminary Phase:</b> (in a participant's home country)	July 2011 to September 2011
<b>Core Phase in Japan:</b>	September 25 to December 3, 2011
<b>Finalization Phase:</b> (in a participant's home country)	December 2011 to March 2012

### **3. Target Regions or Countries**

Albania (2), Bolivia, Cambodia (2), Laos, Mongolia, Pakistan, Solomon, South-Africa, Uzbekistan(2), Kazakhstan, Serbia

Target country can apply more than the number of quota.

### **4. Eligible / Target Organization**

This program is designed for department of metal resources engaging on mining policies facilitating mining development projects including prevention mining pollution and recycling comprehensively in government or governmental organization.

### **5. Total Number of Participants**

14 participants

### **6. Language to be used in this program:** English

### **7. Program Objective:**

Officers of metal resources sector in the government of developing countries obtain Knowledge and skills to promote and facilitate mining projects with efficient and environment-friendly mining and recycling. The knowledge and skills obtained in Japan will be shared with their colleagues in their countries.

### **8. Overall Goal**

Efficient and environment-friendly mining development is promoted and mining projects planned are accelerated with appropriate measures in their countries.

### **9. Implementing Partner:** International institute for mining technology (MINETEC)

## 10. 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> (July 2011 to September 2011) <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 A sample of Country Report is attached as ANNEX 1. Participants will be required to make a power point file for your presentation.

<b>(2) Core Phase in Japan</b> (September 25, 2011 to December 3, 2011) <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i>		
Expected Module Output	Subjects/Agendas	Methodology
To understand and re-recognizing the importance of natural resources in participants countries	(1) History that natural resources development like minerals contributes to modernization of the developed countries in the 19th and 20th centuries.	Lecture
	(2) Presentation and discussion on participants' country report on the situation and problems of mining sector in their countries.	Presentation
To obtain the knowledge and technologies of efficient mining development	(1) How to extract minerals from ore efficiently. Here rare metals are supposed as many countries pay attention to it.	Lecture
	(2) Site visits to see the sites to help understand the theories and ideas which participants obtained from lectures.	Observation
To understand the technologies and laws for environment protection and recycling	(1) History and experiences on the mining pollution from mining activities and how Japan over-come it.	Lecture
	(2) Method for recovery of metals including rare metals from waste like e-waste that is called Urban Mines nowadays.	Lecture
To enhance the knowledge and skills to promote adequate mining and recycling	(1) How to evaluate the mining project.	Lecture

Preparation and Presentation of Dissemination Plan	<p>(1) Preparation of Action plan  (2) Presentation of Action Plan</p> <p>At the end of this program, participants will make an action plan on how to share and promote skills and knowledge gained from this program.</p> <p>As for this final event, we would like to know your plan on how you collect information to make your Action Plan. Please contact MINETEC to share your plan when you receive the notice from JICA Office in your country. We will provide you with a guidance.</p>	Workshop Consultation Presentation
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**(3)Finalization Phase in a participant’s home country**

*Participants (ting) with their 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
To implement a dissemination plan	Participants are to implement the dissemination activities based on the action plan which was made during the program. Also, participants must submit the progress report within 3 months.

- (1) For your information, please see ANNEX2 of last year’s course curriculum and read carefully. This year’s program will be almost same as last year.
- (2) Regarding how to make Action Plan, please see ANNEX3 and read this carefully as well.
- (3) MINETEC is going to contact to participants before they are coming to Japan. Please clearly specify your E-mail address on application form.

### **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 officials working for government or governmental organization, engaging on non-ferrous metal mining policies including mining development, prevention mining pollution and recycling comprehensively. The training is inadequate for a coal or iron-ore engineer or technician.
- 2) Experience in the relevant field: have more than 3 years' practical experience in the field of mining policy
- 3) Educational Background: be a graduates of engineering faculty of university or equivalent
- 4) Language: have a competent command of spoken and written English, especially reading comprehension, workshop includes active participation in discussions, action plan (interim report) development, thus requires high competence of English ability. Please attach an official certificate for English ability such as TOEFL, TOEIC etc, if possible)
- 5) PC skill: have a competent command of using PC
- 6) Health: must 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 (1) letter of the participant's consent to bear economic and physical risks (2) letter of consent from the participant's supervisor (3) letter of consent from your Embassy in Japan, (4) medical certificate. Please ask National Staffs in JICA office for the details.  
7) Must not be serving any form of military service.

## **(2) Recommendable Qualifications**

1) Age: be under forty (40) years old

## **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) Questionnaire:** to be submitted with the application form. Please refer to the ANNEX "Q/N & Country Report", and submit it along with the application form.
- (4) Country Report:** to be submitted with the application form (detailed information is provided in the ANNEX "Q/N & Country Report").

## **4. Procedure for Application and Selection :**

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

Closing date for application to the JICA Center in JAPAN: August 4, 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 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 August 25, 2011.**

**5. Document(s) to be submitted by accepted participants:**

Participants are requested to prepare a country report and make a presentation(s) to introduce information regarding mining of each countries. The report should be typewritten in English on A4 size paper (21 cm x 29.5 cm) or MS word/Power Point data.

**6. Conditions for Attendance:**

- (1) to follow 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.
- (8) to participate in the whole program including a preparatory phase prior to arrival in Japan.

## IV. Administrative Arrangements

### 1. Organizer:

(1) **Name:** JICA Tohoku

(2) **Contact:** Mr. FUJIWARA Shingo (thictad@jica.go.jp)

### 2. Implementing Partner:

(1) **Name:** International institute for mining technology (MINETEC)

(2) **URL:** <http://minetec.sakura.ne.jp/public/en>

(3) **Remark:** MINETEC was established in 1970 as an independent, nonprofit foundation authorized by the Ministry of Economy, Trade and Industry (METI). Its main purpose is training of domestic and overseas engineers, technicians or planners for mining activities involved in the mining industry.

### 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:

**Kosaka Gold Palace (A hotel by MINETEC)**

Address: 9-3 Furudate, Kosaka Kouzan, Kosaka-machi, Kazuno-gun, Akita-ken 017-0202 Japan

TEL: 81-186-29-3833 FAX: 81-186-29-3843

URL:

(where "81" is the country code for Japan, and "186" is the local area code)

**JICA Tokyo International Center (JICA TOKYO)**

Address: 2-49-5 Nishihara, Shibuya-ku, Tokyo 151-0066, Japan

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

(where "81" is the country code for Japan, and "3" is the local area code)

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

### 5. Expenses:

The following expenses will be provided for the participants by JICA:

(1) Allowances for accommodation, living expenses, outfit, and shipping

(2) Expenses for study tours (basically in the form of train tickets).

(3) Free medical care for participants who become ill after arriving in Japan (costs related to pre-existing illness, pregnancy, or dental treatment are not included)

(4) Expenses for program implementation, including materials

For more details, please see 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.

## ***V. Other Information***

1. Visa to enter Japan will be arranged and issued at Japanese Embassy in candidates’ respective countries.

If there is no Japanese Embassy or Councilor in the country, please contact JICA office or Japanese Embassy in neighbor countries.

#### **2. Others**

1) Kosaka town is a long way (around 325km) from the Fukushima Nuclear Power Plant.

2) URL of Reading of environmental radio activity level (English version):

**<http://www.mext.go.jp/english/incident/1304080.htm>**

## **VI. ANNEX**

### **ANNEX 1**

#### *Q/N & Country Report*

[Q/N(Questionnaire)]

Participants are requested to submit a questionnaire with the application form which is screening the participants. This Questionnaire should be typewritten in English(A4 size paper) in accordance with the format indicated as follows.

Note: An application not accompanied with a complete questionnaire cannot be considered.

- (1) Name of participant:
- (2) Country:
- (3) Course you graduated from:
  - A. Mining Technology
  - B. Technology of exploration
  - C. Processing Technology
  - D. Technology of Metallurgy
  - E. Others
- (4) Describe your graduation thesis briefly(within 500 words):
- (5) State your fields of interest and the reason thereof(within 100 words)
- (6) If you have studied abroad, inform its country(ies) and periods  
Country : \_\_\_\_\_  
Period: From \_\_\_ to \_\_\_
- (7) Inform any available information (food restriction due to health /religious reasons), if you have.
- (8) Inform your body size for your uniform during the program  
Height: \_\_\_\_\_cm                      Weight: \_\_\_\_\_kg  
Shoe size: \_\_\_\_\_cm  
(If you are not familiar with centimeter-size, please write your size with a note of "American" or "European" measures.

[Country Report]

Participants are requested to prepare a country report on the following issues and submit it along with the Application Form by August 4, 2011. The report should be typewritten in English on A4 size paper (21 cm x 29.5 cm) or MS word/Power Point data. It would be appreciated if participants could bring economic and social statistics or development plans of their country in addition to the country report, when they come to Japan. Due to the time limitation on the presentation (30 minutes for each), the participants are requested to highlight major problems in the presentation.

Note: It is advisable to use audio visual equipments such as movies, slides, pictures, or Power Point when presenting the country report.

## **1. Background information**

Background information	
(1)	Name of participant and country
(2)	Overview of organization which participants belong to.

## **2. Topics : (please prepare your report on all of the following four topics)**

### Topic 1: Economic statistics

- a) The role of mining industry in the overall economy of your country

### Topic 2: Mining statistics:

- a) Ore reserves and the amount of production, domestic consumption and export
- b) The activities of major mines (place, the kind of minerals, the amount of production, etc)
- c) The capacity of mineral processing and smelting

### Topic 3: Mining policy:

- a) The name and structure of mining organizations
- b) Domestic taxation system concerning foreign investment
- c) Domestic policies concerning mining industry
- d) Environmental protection

### Topic 4: Technical and financial cooperation from foreign countries in the field of mining industry :

- a) The name of countries
- b) The kind of cooperation

1st-2nd week 第1-2週		Training Program 研修日程		Remarks 備考
		A.M. 午前	P.M. 午後	
26-Sep.	SUN. (日)	Arv. Tokyo Japan 来日(東京)		
27-Sep.	MON. (月)	Briefing ブリーフィング  JICA TIC JICA東京		
28-Sep.	TUE. (火)	Briefing ブリーフィング  JICA TIC JICA東京		
29-Sep.	WED. (水)	Orientation オリエンテーション  JICA TIC JICA東京		
30-Sep.	THU. (木)	D: Presentation of Country Report カントリーレポート発表会 (10:45-12:00, 13:00-14:45)	Introduction of Action Plan Presentation アクションプラン説明 (15:00-16:00)	
1-Oct.	FRI. (金)	L: Case Study of Mining Exploration and Economic Development for Developing Countries 開発途上資源国の資源開発と経済発展事例		
2-Oct.	SAT. (土)			
3-Oct.	SUN. (日)	Leave Tokyo for Kosaka 移動:東京→小坂	Living Orientation リビングオリエンテーション	
4-Oct.	MON. (月)	Program Orientation プログラムオリエンテーション Introduction and resister of MINETEC Global Alumni Site 国際資源大学校コミュニケーションサイトの紹介・登録	Courtesy on Kosaka Town Hall 小坂町表敬訪問 Quick tour of Kosaka 小坂町内案内 Opening Ceremony 開講式 Welcome Party 歓迎会 (於: レストラン青銅館)	
5-Oct.	TUE. (火)	L: World Mining History 講義: 世界鉱山史 (産業発展との関係を学び、自国の発展へどう活かすか)		
6-Oct.	WED. (水)	L: Outline of Resources Economy 講義: 資源経済概論		
7-Oct.	THU. (木)	L: The Newest Study of Mineral Deposit 講義: 最新鉱床学		
8-Oct.	FRI. (金)	L: Fundamentals of Mathematical Geology and Geologic Remote Sensing 講義: 数理地質学と地質リモートセンシングの基礎		
9-Oct.	SAT. (土)			

Schedule for Group Training Course on Efficient and Environment-Friendly Mining and Recycling for Metal Resources / September - December 2010

3rd-4th week 第3-4週		Training Program 研修日程		Remarks 備考
		A.M. 午前	P.M. 午後	
10-Oct.	SUN. (日)			
11-Oct.	MON. (月)	Physical Education Day 体育の日		
12-Oct.	TUE. (火)	L: Analysis of Satellite Image Data 講義：衛星画像データの解析		
13-Oct.	WED. (水)	P: Analysis of Satellite Image 演習：衛星画像解析		
14-Oct.	THU. (木)	L: Preparation for Field Survey (Black Ore) 講義：地質巡検準備(黒鉱鉱床) 8:30-9:00	Field Survey: Kosaka and Odate Area 地質巡検：小坂・大館地区 9:00-16:00	
15-Oct.	FRI. (金)	L: Introduction to Exploration (tentative name) 講義演習：探査概論(仮題)		
16-Oct.	SAT. (土)			
17-Oct.	SUN. (日)			
18-Oct.	MON. (月)	L: Basic Technology of Mining Development 講義：鉱山開発技術の基礎		
19-Oct.	TUE. (火)	L: Mine Development and Economic Evaluation 講義：鉱山開発と経済評価		
20-Oct.	WED. (水)	LP: Analysis of Airborne Prospecting 講義演習：空中探査解析と演習		
21-Oct.	THU. (木)	L: Tachnology of Mineral Processing 講義：選鉱技術		
22-Oct.	FRI. (金)	L: Policy of Mine Safety in Japan 講義：日本の鉱山保安政策	L: Japanese Mine Pollution Control Technology 講義：日本の鉱害対策技術	
23-Oct.	SAT. (土)			

Schedule for Group Training Course on Efficient and Environment-Friendly Mining and Recycling for Metal Resources / September - December 2010

5th-6th week 第5-6週		Training Program 研修日程		Remarks 備考
		A.M. 午前	P.M. 午後	
24-Oct.	SUN. (日)			
25-Oct.	MON. (月)	L: Mining Development and Assiments of Environmental Problems for Developing Countries 講義：途上国の資源開発と鉱害事例等の課題	L: Actual Case of Environmental Assessment Contract, survey and regulations for Mining Development 資源開発のための環境アセスメント契約・調査・各国制度の実例	
26-Oct.	TUE. (火)	L: Matrial Flow of World Base Metal and Life Cycle Assessment (incl: metal content of end product) 講義：世界ベースメタルマテリアルフロー、ライフサイクルアセスメント（最終製品の金属含有量を含む）	LO: Technology of <b>Bioleaching and Passive Treatment</b> 講義・見学：バイオリーチング、パッシブトリートメントの技術	
27-Oct.	WED. (水)	L: Smelting Technology (Cu, Pb, Zn, Ni and Precious Metal etc.) 講義：製錬技術(銅、鉛、亜鉛、ニッケル、貴金属等)		
28-Oct.	THU. (木)	L: Smeting Technology (SX-EW) 講義：製錬技術(SX-EW)	O: Plant for Waste Materials Treatment and Recycling for Waste of Home Electric Appliances (Odate city) 見学：家電回収実験及び家電リサイクル施設（大館市）	
29-Oct.	FRI. (金)	O: Kosaka Smelting & Refining Co., Ltd. 見学：小坂製錬株式会社 小坂製錬所	L: Purpose of Non-Ferrous Metal Material (incl: use of high-tech product) and Recycle 講義：非鉄金属資源の用途（ハイテク製品への利用を含む）とリサイクル	
30-Oct.	SAT. (土)			
31-Oct.	SUN. (日)			
1-Nov.	MON. (月)	L: Japanese Regulations for Recycling 講義：日本のリサイクル法制	L: Metal Resources Recycling and Metallurgical Technology 講義：資源リサイクルと製錬技術	
2-Nov.	TUE. (火)	L: Environmental Assessment for Recycling 講義：リサイクルのための環境アセスメント		
3-Nov.	WED. (水)			
4-Nov.	THU. (木)	L: Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and World's Waste 講義：バーゼル条約と世界の廃棄物	LO: Analysis Technology for Recycling Method 講義・見学：リサイクル手法決定のための分析技術	
5-Nov.	FRI. (金)	O: Neutralization Plant, Matsuo Mine, Japan Oil, Gas and Metals National Corporation (JOGMEC) (Hachimantai City) 見学：JOGMEC 松尾新中和処理施設（八幡平市） Kosaka → Hachimantai → Kosaka 移動：小坂 → 八幡平 → 小坂		
6-Nov.	SAT. (土)			

Schedule for Group Training Course on Efficient and Environment-Friendly Mining and Recycling for Metal Resources / September - December 2010

7th-8th week 第7-8週		Training Program 研修日程		Remarks 備考
		A.M. 午前	P.M. 午後	
7-Nov.	SUN. (日)			
8-Nov.	MON. (月)	L: Mining Processing Technology for Recycling 講義：選鉱技術のリサイクル処理への応用		
9-Nov.	TUE. (火)	LP: Project Evaluation Model for Mineral Resource Development / Practice for Project Evaluation 講義演習：鉱物資源開発プロジェクト評価モデル/プロジェクト評価演習		
10-Nov.	WED. (水)	LP: Project Evaluation Model for Mineral Resource Development / Practice for Project Evaluation 講義演習：鉱物資源開発プロジェクト評価モデル/プロジェクト評価演習		
11-Nov.	THU. (木)	L: Project Finance 講義：資源開発に要する資金と資金調達法	L: Necessary Environmental System for Mineral Resources Development and Required Fund -Atacama Case- 講義：鉱物資源開発に必要な環境システム、鉱物資源開発と所要資金額、アタカマの事例	
12-Nov.	FRI. (金)	L: World Economics and Vision of Metal Resources Demand and Supply 講義：国際経済と金属需給展望		
13-Nov.	SAT. (土)			
14-Nov.	SUN. (日)			
15-Nov.	MON. (月)	O: Kosaka Tailing Dam and Scorodite (Kosaka) 見学：小坂廃滓ダム、スコロダイト (小坂)	L: Mine Safety Supplies 講義：保安用品  Leave Kosaka for Akita, stay in Akita 移動：小坂 → 秋田市、秋田市泊	
16-Nov.	TUE. (火)	O: KAMAISHI KOZAN Co., Ltd. (Kamaishi city) 見学：釜石鉱山株式会社 (釜石市) Kosaka → Kamaishi 小坂 → 釜石	Leave for Akita, Stay in Akita 移動：釜石市 → 秋田市、秋田市泊	
17-Nov.	WED. (水)	O: Akita Zinc Co., Ltd. (Akita city) 見学：秋田製錬株式会社 (秋田市)	O: Akita Zinc Solutions Co., Ltd / DOWA Semiconductor Co., Ltd 見学：秋田ジンクソリューションズ株式会社 / DOWAセミコンダクター秋田株式会社 Get back to Kosaka 移動：秋田市 → 小坂	
18-Nov.	THU. (木)	O: Japan Underground Oil Storage Co., Ltd., Kuji Site (Kuji city) 見学：日本地下石油備蓄株式会社 久慈国家石油備蓄基地 (久慈市) Kosaka → Kuji 移動：小坂 → 久慈	Leave Kuji for Hachinohe, stay in Hachinohe 移動：久慈 → 八戸、八戸泊	
19-Nov.	FRI. (金)	O: Hachinohe Limestone Mine, Sumimetal Mining Co.,Ltd. (Hachinohe city) 見学：住金鉱業株式会社八戸鉱業所 (八戸市)	O: Hachinohe Smelter and Refinery Co., Ltd. (Hachinohe city) 見学：八戸製錬株式会社 八戸製錬所 (八戸市)  Get back to Kosaka 移動：八戸 → 小坂	
20-Nov.	SAT. (土)			

Schedule for Group Training Course on Efficient and Environment-Friendly Mining and Recycling for Metal Resources / September - December 2010

9th-10th weeks 第9-10週		Training Program 研修日程		Remarks 備考
21-Nov.	SUN. (日)			
22-Nov.	MON. (月)	O: Osarizawa Mine, the Historical Site (Kazuno city) 見学：史跡尾去沢鉱山 (鹿角市)  <i>Leave Kazuno for Odate</i> <i>移動：鹿角 → 大館</i>	O: Nikko Drilling Co., Ltd. (Odate city) 見学：日鉱ドリリング株式会社 大館営業所 (大館市)	
23-Nov.	TUE. (火)	Labor Thanksgiving Day 勤労感謝の日 Leave Kosaka for Hitachi, Stay in Hitachi 移動：小坂 → 日立、日立泊		
24-Nov.	WED. (水)	O: Nikko Environmental Services Co., Ltd (Hitachi city) 見学：日鉱環境株式会社 (日立市)	O: Nippon Mining Museum (Hitachi city) 見学：日鉱記念館 (日立市)  <i>Stay in Hitachi</i> <i>日立泊</i>	
25-Nov.	THU. (木)	O: Hitachi Cable Ltd. Cable Factory (Hitachi city) 見学：日立電線株式会社 電線工場 (日立市)  <i>Leave Hitachi for Tsukuba</i> <i>移動：日立 → つくば</i>	O: Geological Museum, AIST (Tsukuba city) 見学：独立行政法人産業技術総合研究所 地質標本館 (つくば市) <i>Leave Tsukuba for Takasaki, Stay in Takasaki</i> <i>移動：つくば → 高崎、高崎泊</i>	
26-Nov.	FRI. (金)	O: Takasaki Yoshii Works, Furukawa Rock Drill Co., Ltd. (Takasaki city) 見学：古河ロックドリル(株)高崎吉井工場 (高崎市)	  <i>Leave Takasaki for Tokyo, Stay in JICA TIC</i> <i>移動：高崎 → 東京、JICA東京泊</i>	
27-Nov.	SAT. (土)			<i>Stay in JICA TIC</i> <i>JICA東京泊</i>
28-Nov.	SUN. (日)			<i>Stay in JICA TIC</i> <i>JICA東京泊</i>
29-Nov.	MON. (月)	O: Komatsu Techno Center, Komatsu Ltd. (Ito city) 見学：株式会社小松製作所 コマツテクノセンタ (伊東市)  <i>Leave Tokyo for Ito</i> <i>移動：東京 → 伊東</i>	  <i>Leave Ito for Tokyo, Stay in JICA Tokyo</i> <i>移動：伊東 → 東京、JICA東京泊</i>	
30-Nov.	TUE. (火)	LP: Presentation of Project Evaluation and Discussion 講義演習：プロジェクト評価演習発表・評価		JICA Research Institute JICA研究所(予定)
1-Dec.	WED. (水)	D: Preparation for Action Plan 検討会：アクションプラン作成		JICA Research Institute JICA研究所(予定)
2-Dec.	THU. (木)	D: Preparation for Action Plan 検討会：アクションプラン作成		JICA Research Institute JICA研究所(予定)
3-Dec.	FRI. (金)	D: Action Plan Presentation 検討会：アクションプラン発表・評価	Evaluation Meeting and Networking with Non-Ferrous Companies 研修評価会及び非鉄金属各社との交流会  <i>Closing Ceremony</i> <i>閉講式</i>	JICA Research Institute JICA研究所(予定)
4-Dec.	SAT. (土)	Preparation for Leaving 帰国準備		
5-Dec.	SUN. (日)	Going HOME 帰国		

## Guidelines for “Action Plan”

### **1. What’s the Action Plan (AP)?**

Action Plan is to improve problems of organizations, divisions to which you belong through knowledge obtained from this training course.

You are expected to carry out the “action plan” after going back to your country so that “Action Plan” should be concrete and feasible

### **2. Why you are requested to prepare the Action Plan?**

All of you are participating in this training representing your country or organization. Therefore, you are expected to share the ideas and knowledge acquired through this training within and outside your organization and take initiative in acting for improving extension service. Your Action Plan (AP) is a course of action for you to take after resuming your duty. Accordingly, it needs to be concrete and feasible. When elaborating an AP you are expected to make the best out of the knowledge and ideas acquired during the training.

### **3. Contents of the AP**

Based on the information and experiences, which you have obtained through the training course, you will write a proposal to your Department of your Ministry/Organization and Cooperatives in order to improve the current situation of your country. When you write an AP, please refer to your respective “Job/Country Report”. The contents of your action should include the below-mentioned items as minimum requirement. You are free to add more information that you think necessary.

[Contents to be included]

#### **1) Introduction:**

Please describe the reasons for choosing the subject, and also to describe which specific information from the training you think is useful for the activities in your AP.

#### **2) Purpose:**

Please describe the purpose of your AP.

#### **3) Target Group:**

Please describe a group of people or organizations to whom your AP is targeted in order to improve the identified problems.

#### **4) Expected Output:**

Please describe specifically the output, which is expected to be seen after your AP is fulfilled.

#### **5) Essential Activities:**

Please describe activities that are necessary in order to achieve the expected output mentioned in paragraph 4.

#### **6) Division of Responsibilities:**

Please describe the name of organization or department expected to be in charge of the activities mentioned in 5. If many people or organizations are involved, please don't forget to indicate their relationship.

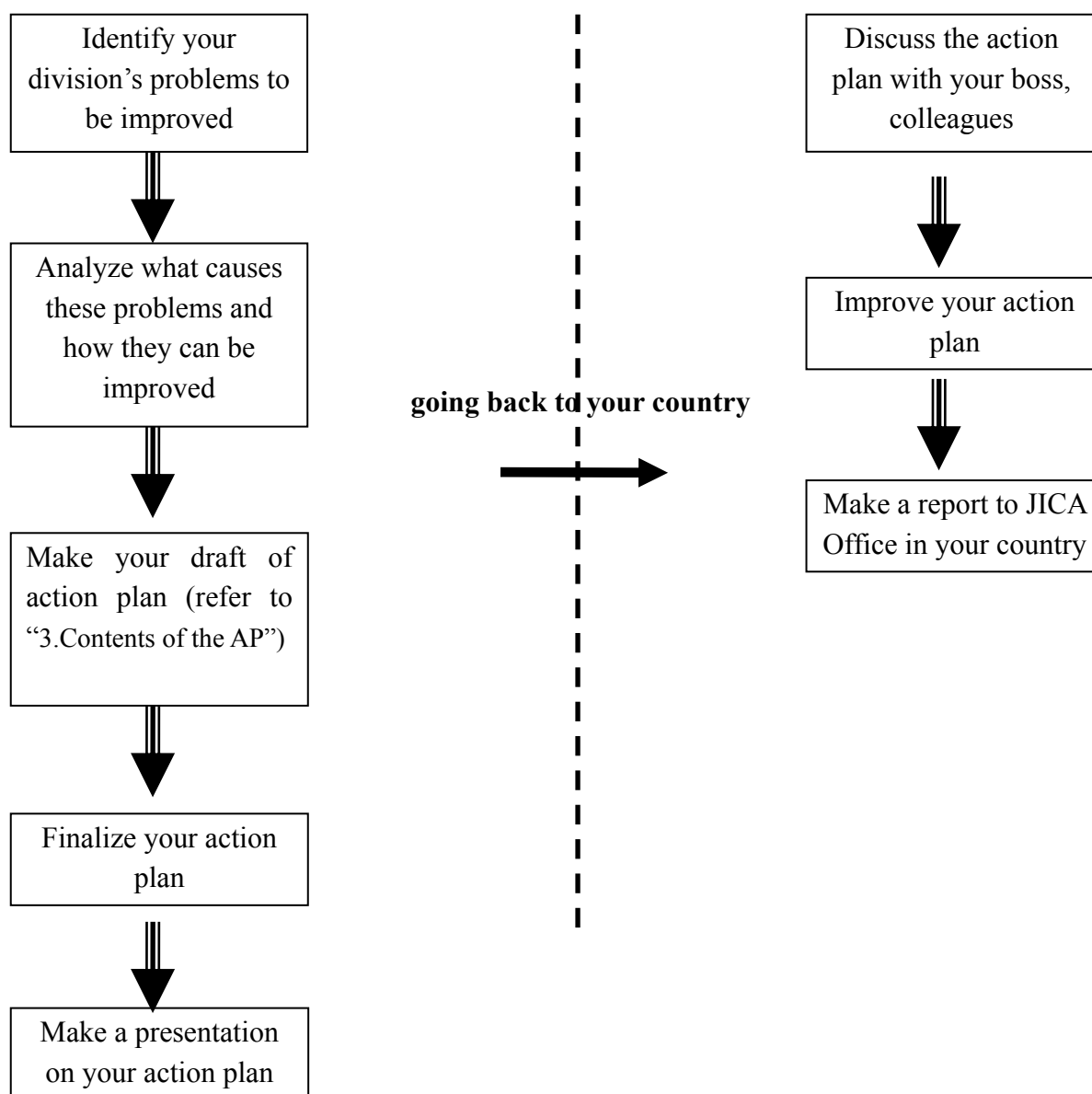
**7) Financial Resources (Cost Estimate):**

The Action Plan should include a realistic consideration of financial resources based on your organization's budget. The budget of your Action Plan should be calculated based on costs of all inputs.

**8) Schedule (How long):**

The duration of the Action Plan depends on each participant. However, your plan should be realistic and something that you can achieve in 6 months to 2 years.

**4. How do you make it? (Writing process)**



## **5. Notes for AP writing**

The most important point in your AP is “feasibility”. Even an excellent plan will become meaningless if it is never implemented. Followings are some tips to improve “feasibility”.

### 1. Involvement of your Boss

Design your plan which can be implemented responsibly with your given authority. It means that the plan should fit in the scope where you have a direct influence or coordination. AP is not a grand scale plan for launching a new project or formulating new policies or revising existing policies of your government. AP is a plan of one organization or a person in order to solve some of the present issues, which are under the direct responsibility of such organization or person.

### 2. Balance between Volume and Resources of your Target Group

Specify the target group by considering the budget required for implementation, your position, duties, etc. If target groups become more limited, the financial and human resource requirement will be less and coordination efforts will also become smaller accordingly.

### 3. Monitoring and Improvement

Specify the expected results. Otherwise it is difficult to properly assess the progress and to identify missing factors to achieve the goal.

### 4. Control Area

Specify the essential activities. The more activities are performed by yourself instead of someone else, the higher possibilities of the activities which are actually carried out are shown as it is easier to control.

### 5. Period

Make a timetable with sufficient latitude.

### 6. Describe how the knowledge and ideas obtained in Japan are applied to the plan. Due to different conditions such as financial and human resources as well as cultural background in your country and in Japan, Japan’s system or method may not be immediately applicable in your country. Please give due consideration to the factors derived from such conditions.

## **6. Final presentation**

## *For Your Reference*

### **JICA and Capacity Development**

The key concept underpinning JICA operations since its establishment in 1974 has been the conviction that “capacity development” is central to the socioeconomic development of any country, regardless of the specific operational scheme one may be undertaking, i.e. expert assignments, development projects, development study projects, training programs, JOCV programs, etc.

Within this wide range of programs, Training Programs have long occupied an important place in JICA operations. Conducted in Japan, they provide partner countries with opportunities to acquire practical knowledge accumulated in Japanese society. Participants dispatched by partner countries might find useful knowledge and re-create their own knowledge for enhancement of their own capacity or that of the organization and society to which they belong.

About 460 pre-organized programs cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs are being customized to address the specific needs of different target organizations, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

### **Japanese Development Experience**

Japan was the first non-Western country to successfully modernize its society and industrialize its economy. At the core of this process, which started more than 140 years ago, was the “*adopt and adapt*” concept by which a wide range of appropriate skills and knowledge have been imported from developed countries; these skills and knowledge have been adapted and/or improved using local skills, knowledge and initiatives. They finally became internalized in Japanese society to suit its local needs and conditions.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from this “*adoption and adaptation*” process, which, of course, has been accompanied by countless failures and errors behind the success stories. We presume that such experiences, both successful and unsuccessful, will be useful to our partners who are trying to address the challenges currently faced by developing countries.

However, it is rather challenging to share with our partners this whole body of Japan’s developmental experience. This difficulty has to do, in part, with the challenge of explaining a body of “tacit knowledge,” a type of knowledge that cannot fully be expressed in words or numbers. Adding to this difficulty are the social and cultural systems of Japan that vastly differ from those of other Western industrialized countries, and hence still remain unfamiliar to many partner countries. Simply stated, coming to Japan might be one way of overcoming such a cultural gap.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.



***CORRESPONDENCE***

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