

# Terminal Evaluation

## Asia

### 1. Outline of the Project

**Country:**

Philippines

**Project title:**

Capacity Building Project for Environmental Management in Mining

**Issue/Sector:**

Mining/Environment

**Cooperation scheme:**

Project-type Technical Cooperation

**Division in charge:**

Second Technical Cooperation Division,  
Mining and Industrial Development Study Department

**Total cost:**

504 million Yen

**Period of  
Cooperation**

1 July 1999 - 30 June 2002

**Partner Country's Implementing Organization:**

Mines & Geo-Science Bureau(MGB)

**Supporting Organization in Japan:****Related Cooperation:****1-1 Background of the Project**

One of the Philippines' current tasks is addressing the frequent occurrence of mining accidents and their impact on the surrounding community and society in general. The Government has addressed environmental pollution through regulation, the allocation of funds, and through the "Philippine mid-term development plan (1989-1999)". However, the techniques of preventing environmental pollution were insufficient, and there was a particularly urgent need to acquire techniques for evaluating, monitoring, and controlling the environment related to the mine industries.

The government acknowledging the urgency of the task in order to promote implementation of the "Proactive Environmental Conservation Cooperation Project 1998" (series of projects that the Japanese side proactively proposed to partner countries). The Government of Japan dispatched a Study Team on "Environmental Conservation Technology Research" in September 1998 and in January 1999, following by the Government of Philippines' request for the Project in March 1999. In May 1999, the Government of the Philippines signed and exchanged the Record of Discussions for the commencement of the Project during the dispatch of the "Environmental Conservation Planning System Team". The Project was launched in July 1999.

**1-2 Project Overview**

Transfer of the necessary techniques in order for MGB to develop human resources needed for mine environmental management in the field of water and soil pollution.

**(1) Overall Goal**

The capacity of MGB (central and all regional offices) in mine environmental management in the field of water and soil pollution caused by mining activities will be enhanced.

**(2) Project Purpose**

The staff for mine environmental management in the field of water and soil pollution caused by mining activities will be trained at MGB (central office).

**(3) Outputs**

- 1) The management system of the Project will be established.
- 2) The operation and maintenance of the machinery and equipment used for chemical analysis, measurements and experiments will be undertaken by the technical staff of MGB (central office)

- 3) MGB's functions of mine environmental monitoring in the field of water and soil pollution will be strengthened.
- 4) MGB's function of evaluation on the environmental assessment impact report will be strengthened.
- 5) MGB's function of staff training in the field of mine environmental management will be strengthened.

(4) Input

Japanese side:

Long-term Experts	5	Equipment	180 million Yen
Short-term Experts	13	Local Cost	24 million Yen
Trainees received	8	Others	

Philippine side:

Counterparts	23		
Land and Facilities			
Equipment		2.03 Million Philippine Pesos (5 million Yen)	
Local Cost		3.35 Million Philippine Pesos (87 million Yen)	

## 2. Evaluation Team

### Members of Evaluation Team

Leader: Masaaki KATO, Director, Second Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA  
 Technical Cooperation Planning: Satoshi YAMAMOTO, Section Chief, Nuclear and Industrial Safety Agency, Mine Safety Division, Ministry of Economy, Trade and Industry  
 Technical Transfer Planning: Katsuhiko ASAI, Director, Japan Mining Engineering Center for International Cooperation Inc.  
 Project Management: Etsuko IDE, Associate Expert, Second Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA  
 Evaluation Analysis: Kenichi KUMAGAI, International Cooperation Department, Industrial Services International Co, Ltd.

**Period of Evaluation** 7 April 2002 - 19 April 2002 **Type of Evaluation:**  
Terminal Evaluation

## 3. Results of Evaluation

### 3-1 Summary of Evaluation Results

(1) Relevance

The Government of the Philippines had the expectation of rapid growth of the mining industries when it drew up the Philippine Mid-term Development Plan. However, the people of the Philippines strongly opposed mining activities because of the pollution attributed to the industry in the past. The development of mine industries has been further adversely affected by the negative response of surrounding communities, as well as recent turbulence in the price of non-iron metals, which resulted in an increase in the number of mines being abandoned. Implementing mine pollution control in such conditions is intended to sweep away the fears of mine-related pollution and promote mining development. Therefore, the Project is relevant.

(2) Effectiveness

The planned activities are estimated to be completed by the end of the Project. In training for the trainers, held twice through the years 2001 and 2002, all counterpart personnel judged the training as successfully reaching the level whereby counterparts can now train other technicians on their own. As for MGB, the Med-term Plan for the development of mine environment technicians was established. The above mentioned facts indicate that the Project Purpose has been attained.

### (3) Efficiency

The progress of the plan was temporarily delayed due to a delay in delivery of locally procured equipment. However, as a whole, most of the inputs, including the human resources, equipment, and the facilities allocation were appropriate and timely. The expenses were used according to the initial plan, and the outputs were achieved accordingly. Flexible actions such as appointing local consultants as training instructors and for environmental impact assessment greatly contributed to the improvement of efficiency.

### (4) Impact

Educating the technicians was implemented as an experiment aimed at strengthening MGB Trainer training program. Technical personnel from central and other offices were trained as the first step toward achieving the Overall Goal, "The capacity of MGB in mine environmental management in the field of water and soil pollution caused by mining activities will be enhanced".

Moreover, there have been several positive impacts, such as 1) MGB is using the transferred techniques and equipment in its work, 2) The local residents that took the monitoring training have come to recognize the start of MGB'S environmental management activity, 3) MGB's morale has been boosted, 4) Both the Environment Manage Bureau (EMB) and the mining industry has showed interest in the transferred techniques, etc.

### (5) Sustainability

MGB has drawn up human resources development plans and a plan for equipment use recognizing that extending the environmental management activity to the provinces will become essential in the future. MGB has also conceived a plan concerning the environmental monitoring activities, such as cooperating with EMB and NGOs to form monitoring teams. The turnover rate of the counterparts is low, and their skills have been improved through international exchange.

From these facts, the sustainability in terms of organization and techniques can be expected. However, because of the tight financial conditions of the Government of the Philippines, concerns remain regarding capital investment toward the environmental management activity in the provinces as well as funding for maintaining and managing the provided equipment. For this reason, a decline in sustainability in terms of financial aspects is a concern.

## **3-2 Factors that promoted realization of effects**

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### (1) Factors concerning the planning

Taking the short cooperation period of three years into consideration, the contents of the cooperation were very much narrowed down in each field of chemical analysis, environmental monitoring, and environmental management.

### (2) Factors concerning the Implementation Process

1) Annual meetings were held at each level of the counterpart personnel's organization. The meetings focused on examining the contents of activities, adjusting the schedule, individually interviewing the chief advisor and counterparts, and feeding back the results of interviews for better communication. The close communication among members contributed to solving problems and the smooth implementation of activities.

2) The situation of the technical transfer was accurately understood as verified by regular monitoring evaluation every six months. Thus, devising solutions for problems were possible.

3) Twenty (20) Seminars and Symposiums were held during the project. The participants were not only from MGB but also from EMB and other mining companies. This was effectively deepen third-party comprehension of the importance of the environmental management activities.

4) As a result of MGB personnel's implementation of environmental monitoring training using equipment, communities around the targeted area of MGB's practical training became more aware of MGB'S environmental management activities.

5) Many opportunities were made for the counterparts to present their achievements internally and externally. Along with the presentations, a fair and diverse evaluation was made by the Japanese experts, the Philippine instructors, as well as the participants in the MGB's training courses. This opportunity provided incentive for counterparts to become actively involved in the project.

## **3-3 Factors that impeded actualizing the effects**

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### (1) Factors concerning the planning

The Project was started in a relatively short time after the proposal was made. Thus, detailed planning of activities, which took place after Project commencement took a considerable amount of time, resulting in a substantial delay in the starting period.

## (2) Factors concerning the Implementation Process

- 1) Some counterparts could not attend the lectures and the training for a while because of their normal duties at MGB. Thus, there was a delay in the Project schedule.
- 2) At the beginning of the Project, the supply of certain equipment was difficult due to the decline in the Peso. This also caused a delay in the Project schedule.
- 3) Owing to the delayed construction of the Sample Coordination Room, some of the chemical analyses (solid matter analyses) were delayed as well.
- 4) Concerning the procurement of materials, because of the lack of a preliminary confirmation on the local conservation and management system, it took a considerable amount of time before a faulty mercury device was repaired.

### **3-4 Conclusion**

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The Project Purpose and outputs have been achieved mostly as planned. Although some concern remains with regard to financial sustainability, the remainder of the evaluated items presented good results in all aspects.

### **3-5 Recommendations**

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Environmental management funding must be reinforced for improved sustainability. To achieve this, positive and tenacious approaches to the policy maker by the MGB senior management are necessary. Furthermore, to sweep away negative feelings toward mining development due to past pollution, and activate the Philippine's mining industry to take advantage of the country's rich non-metal resources, mine environmental management must take the following actions;

- 1) To utilize the techniques and knowledge attained through the Project.
- 2) Use publicity to raise awareness of the local residents, provincial government institutions, and NGOs of the importance of mining and environmental management.

### **3-6 Lessons Learned**

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(1) As mentioned in the "1-1 Background of the Project", a prompt start of the Project implemented as a proactive cooperation scheme was extremely effective in developing countries requiring urgent solutions. However, even though the scheme may be proactive, sufficient communication for a mutual understanding, and ensuring enough time for careful selection of Project contents and the supply of equipment are all important.

(2) In training trainers, it was effective for trainees to be involved in the evaluator team activities with the Japanese experts because it allows evaluation to be performed from a broader perspective. Hence, the idea is recommended to be applied to future projects similar to this one.

### **3-7 Follow-up Situation**

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N/A