

Simplified Ex-Post Evaluation for Technical Cooperation Project

Evaluator, Affiliation	Junko Noguchi Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for Strengthening Institutional Capacity of Mining Environmental Management	January 2010 – December 2010

I Project Outline

Country Name	Republic of Chile			
Project Period	July 2002-June 2007			
Executing Agency	National Service for Geology and Mining (SERNAGEOMIN)			
Cooperation Agency in Japan	Ministry of Economy, Trade and Industry			
Total Cost	698 million yen			
Related Projects (if any)	JICA, “The Project on the Mine Safety and Environmental Training Center (1994-1999)” (Project-Type Technical Cooperation)”			
Overall Goal	<ol style="list-style-type: none"> 1. The Chilean Government prevents mining pollution caused by closed and abandoned mines. 2. SERNAGEOMIN gives technical guidance concerning the measures to closing mines. 3. SERNAGEOMIN compiles a database on Chilean mines. 			
Project Objective	<ol style="list-style-type: none"> 1. SERNAGEOMIN grasps the situation surrounding operating, closed, and abandoned mines. SERNAGEOMIN compiles a database for closed and abandoned mines, including information on potential environmental impact. 2. SERNAGEOMIN has the capacity to evaluate the plan for minimizing and monitoring environmental damage caused by mining, including mine closure. 			
Output[s]	<ol style="list-style-type: none"> 1. Various initial input is completed. 2. Basic knowledge regarding prevention for Mining pollution is disseminated among inspectors in SERNAGEOMIN. 3. Necessary investigation skills for closed and abandoned mines are strengthened in SERNAGEOMIN. 4. SERNAGEOMIN has an improved data base system for investigation results. 5. SERNAGEOMIN develops the capacity to evaluate technical measures for closing mines. 6. SERNAGEOMIN strengthens its skills for examining pollution from model mines. 7. SERNAGEOMIN develops the capacity to evaluate pollution protection plans for model operating, closed and abandoned mines. 8. SERNAGEOMIN strengthens its capacity for assessing environmental impact. 9. SERNAGEOMIN improves its chemical analysis and its skills in management of the equipment. 10. SERNAGEOMIN obtains data analysis technology and results evaluation technology for chemical analysis results. 			
	Inputs (Japanese Side)		Inputs (Chilean Side)	
Experts	9 for long term, 8 for short term		Staff allocated	36 counterpart personnel
Equipments	152 million yen		Equipments	N. A.
Local Cost	94 million yen		Local Cost	1,211 million peso
Trainees Received	19 trainees		Land etc provided	Office space for the Japanese experts
Others	N. A.		Others	N. A.

II Result of the Evaluation

Summary of the evaluation

This Project aimed to strengthen the capacities of the National Service for Geology and Mining (SERNAGEOMIN) to evaluate and monitor the plans for mine closure, by upgrading its knowledge and skills in investigating mines, compiling databases, planning and evaluating pollution protection plans, etc. Through practical training, SERNAGEOMIN gained the above knowledge and skills, and thus it can be judged that the objective was achieved to some extent. At the time of the ex-post evaluation, some activities have changed their format but their function itself has continued. SERNAGEOMIN says that the budget is not sufficient to cover all the functions, but the project effects have been continuing.

In light of the above, this project is evaluated to be (B) satisfactory.

<Recommendations JICA>

In order to verify the effects of the project, it is necessary to establish quantitative indicators for the Project Purpose and Outputs. If it is not possible, it is indispensable to clearly set criteria for judgment to verify the achievement even in a qualitative way. Also, it is necessary to design the project plan logically. The Project Purpose should be achieved by appropriate Outputs being produced; A Project Purpose which only paraphrases the Outputs produced should be avoided.

<Constraints of this evaluation study>

1. Regarding this Project, the Project Purpose overlaps some of the Outputs and the same goes for the indicators. Also, some indicators are not verifiable or do not include quantitative targets. Therefore, the achievement couldn't be compared with the targeted objectives or indicators. For objectives without a quantitative target, if there was a positive change, even small, it was just described as "there was improvement to some extent."
2. Some Outputs are duplicated. For example, Output 1 is just the result of the Inputs. Output 2 is the overlap of Outputs 3, 4, 5, 6, 7, 8, 9 and 10. Outputs 9 and 10 can be one output. In this evaluation study, the Outputs and the Project Purpose were reorganized and then analyzed.

1 Relevance

(1) Relevance to the Development Plan of Chile

President Lagos, who was inaugurated in 2000, valued environmental issues and tried to promote environmentally-sound economic development. This was followed by the "National Development Plan (2007-2010)," and in this plan "the improvement of the quality of life" was described as one of the strategic pillars for development, which includes environmental programs. A relevant collaborative action for prevention of pollution caused by mining was the "Clean Production Framework Agreement—Large Scale" signed by the mining industry and the Government in 2000, and one of the documents organized from this agreement was the "Methodological Guidelines on Mining and Drainage" published in November 2002.

(2) Relevance to the Development Needs of Chile

Chile is the biggest copper-producing country in the world, but there were no laws and regulations to obligate the restoration of closed and abandoned mines, and therefore many closed and abandoned mines were left uncontrolled and very little information was available on them. The concern was great for the adverse effects on the environment and the people nearby. Recently, mine pollution has been decreasing, but there seems to be a need for the mine investigation including the security as measures for mine closures.

(3) Relevance to Japan's ODA Policy

Based on the survey of the ODA Task Force in Chile and the political discussions with the Chilean government in 2005, "environmental protection and health improvement" has been set as one of the four priorities in Japan's assistance. Regarding this priority area, JICA has elaborated the program for enhancement of environment administration capacities. Also, Japan supports Chile's south-south cooperation and expects to extend the Project's effects to other countries which have similar environmental problems.

This project has been highly relevant to the country's development plan, development needs, as well as Japan's ODA policy; therefore its relevance is high.

2 Effectiveness / Impact

(1) Achievement of Project Outputs and Project Objective

The Project generated the following results to enhance the administrative capacities of SERNAGEOMIN.

- (i) The format of the investigation of the closed and abandoned mines (E-400) was revised. 213 mining facilities were investigated and the results were stored in the revised database.
- (ii) With the newly developed format (E-500), 19 operating mines were investigated.
- (iii) A total of 96 SERNAGEOMIN staff gained new knowledge on the evaluation of technical measures for closing mines.
- (iv) SERNAGEOMIN staff acquired skills to prepare pollution protection plans with cost estimation based on actual cases (as case studies during the seminar).
- (v) The draft of the EIA guideline was prepared, and was finalized.
- (vi) 13 standardized documents for chemical analysis were developed, and more samples were analyzed within 30 days than before.

The above 6 elements are indispensable to evaluate and monitor the technical measures for closing mines. Actually, as a result, SERNAGEOMIN evaluated and monitored 50 plans for closing mines based on the revised Mining Safety Regulations. Therefore, it can be judged that the Project Purpose was achieved to some extent, as results of the project outputs.

(2) Achievement of Overall Goal, Intended and Unintended Impacts

No quantitative data was available, but according to SERNAGEOMIN, the following pollutants have been mitigated: particulate matter from the mines and tailings dumps, collapse of the tailings dumps, mine drainage, and mining noises and vibration. Besides, SERNAGEOMIN has continued monitoring mines and conducted seminars on safety, and due to these extension activities, requests for consultation with SERNAGEOMIN increased on EIA and evaluation of mine closures.

This project has largely achieved its objectives; therefore its effectiveness is high.

3 Efficiency

(1) Outputs

As mentioned above, the Project achieved results as planned.

(2) Elements of Inputs

The inputs were mentioned in the "Project Outline." Some activities were delayed due to the delayed dispatch of an expert and delayed customs clearing of some equipment, but the Outputs were generated as planned. Besides this point, the terminal evaluation study analyzed that the quality, quantity and timing of the inputs were appropriate.

(3) Project Cost, Period of Cooperation

The Project planned the inputs of 530 million yen. The actual cost was 698 million yen, slightly higher than planned, but no problem was pointed out in the terminal evaluation study, as the actual cost wasn't compared with the planned cost.

The actual period of the Project was 60 months as planned.

Some of the inputs (project cost) are not appropriate for producing outputs, therefore efficiency of the project is fair.

4 Sustainability

(1) Related Policy towards the Project

The Message of the present President Piñera (Social Projections for Chile to 2014) describes, among others, the importance of environmental conservation, environmentally-sound market development, and development of the mining industry. In addition, the present Director of SERNAGEOMIN expresses the new guidelines including the online posting of mining information and safety of the mining activities, so as to strengthen prevention of accidents and pollution and training of the supervisors. Also, the Bill Mine Closure received an approval for parliamentary discussions in March 2010 and it is expected to legally promote the evaluation of the mining plans.

(2) Institutional/Operational and Technical Aspects of the Executive Agency

For conducting necessary related activities for preventing mining pollution (e.g., investigation of the closed and abandoned mines, database management, evaluation of mining pollution, evaluation of pollution protection plans, EIA, and chemical analysis), staff are allocated almost in the same way as they were during the project period. Out of the 36 staff who were counterpart personnel during the project, 30 remain at SERNAGEOMIN. For the newly employed staff, lectures and OJT are delivered. However, according to the self evaluation of SERNAGEOMIN, personnel are not sufficient in some areas (investigation and supervision of the operating mines, and chemical analysis) and need to have capacity strengthened in some areas (investigation of the operating mines and planning of the pollution protection plans). However, except for this point, no major concerns were identified. The manuals and documents developed by the Project are still all accessible by the staff. The major procured equipment are regularly inspected and functioning, though some had repair records.

(3) Financial Aspects of the Executive Agency

In 2010, 12,232 million pesos are allocated to SERNAGEOMIN. The budget for operation has been increasing since 2007 (7,226 million pesos, when the Project was completed), but SERNAGEOMIN says it is not sufficient to complete its functions for the protection of mining pollution and mines investigation. The main budget has been allocated to areas such as volcanic hazards and mining safety.

(4) Continuity of Effectiveness and Impact

As of May 2010, SERNAGEOMIN has evaluated 231 plans for mine closure. Considering that only 50 were evaluated during the Project, it can be said that the Project's effects have continued. Among the 6 functions of SERNAGEOMIN mentioned in the column of "Effectiveness/Impact", all have been implemented in the same way as they were during the Project, except the investigation of operating mines, and SERNAGEOMIN evaluates itself sufficiently capable. The investigation for operating mines itself has been conducted, although its format was modified.

Some problems have been observed in the technical and financial aspects of the executing agency; therefore, sustainability of the project effects is fair.