

第2章 中間評価について

2 - 1 中間評価方法について

本調査では以下の方法で中間評価を実施した。

2 - 1 - 1 国内準備作業

(1) 既存資料の収集・整理

以下の関連資料を収集整理し、プロジェクトの概要及び経緯、疑問点・不明点等について検討した。

- ・プロジェクトの計画立案段階における調査報告書
- ・プロジェクト実施段階における活動報告書(四半期報告書、モニタリング・評価実施報告書等)
- ・C / P アンケート結果等の関連書類

プロジェクトの経緯を添付資料1にとりまとめた。

(2) 現地専門家からの情報収集

既存資料の収集・整理に基づき、疑問点・不明点について、e-mail、Fax等を利用して、現地専門家から直接情報を収集した。

(3) 評価用PDMの作成

1) PDMの変更の経緯

a) 変更の有無

当初計画のPDM₀は「フィリピン鉱山環境管理計画プロジェクト環境保全策定調査(1999年6月)」において作成されたが、「フィリピン鉱山環境管理計画運営指導調査(2000年9月)」の際、合同調整委員会において修正され、現在はPDM₁の段階にある。PDMの変更に合わせてPO、TSI、APO、DPOの変更もなされた。

b) 主要変更点

PDM₀からPDM₁への主要変更点は以下のとおりであり、大幅な変更はない。

- ・「指標」の一部書き換え
- ・「指標」にトレーナーの能力の向上が追加
- ・「指標データ入手」の一部書き換え
- ・「投入」において、フィリピン側の人材投入にコンサルタントが加わった

フィリピン側の人材投入にコンサルタントが加わった理由は、フィリピン側組織の強化である。「指標」にトレーナーの能力の向上が加わったことについては、本プロジェ

クトの上位目標の達成及び将来的な持続発展性の観点から、変更の妥当性が認められる。資材投入についても特に大きな変更はない。

2) 評価用 PDM (PDM_E) の作成

PDM₀ を基に、既存資料の収集・整理結果、プロジェクトの計画変更の経緯、専門家への質問結果等を参考に PDM_E を作成した。作成した PDM_E を表 1 に示す。また、PDM_E 作成の考え方を添付資料 2 に示す。また、PDM₀ 及び PDM₁ を添付資料 3、4 に示す。

3) 調査項目の選定

本調査は協力期間の中間時点における評価であることから、次のような観点で調査項目を検討した。

- a) 計画に沿ってプロジェクトが進行してきたか
- b) 成果の達成状況はどうか
- c) 投入が有効に活用されているか
- d) これまでのプロジェクト内容に問題はないか
- e) 今後の活動に修正あるいは追加すべき点はないか

調査法方については、現地における調査期間を考慮して効率的に情報を収集するため、前もって専門家に質問票を送付しヒアリングを中心とした調査を実施することとした。

2 - 1 - 2 現地調査

現地では以下の方法によって調査を実施した。

- (1) 質問票に基づく専門家及び C / P チームリーダーのヒアリング
- (2) 供与機材の保守管理状況、使用状況の確認
- (3) プロジェクトが作成したトレーニングマテリアルの進捗状況の確認
- (4) 関連資料の収集・整理

ヒアリング対象者を以下に示す。

【長期派遣専門家】

宇佐美 毅	チーフアドバイザー
近藤 康雄	業務調整員
小島 義一	鉱山環境モニタリング
渡部 武雄	環境化学分析
青木 篤	鉱山環境管理

【C / P チームリーダー】

GERONIMO C. BADULIS, JR. コーディネーター

EDMON V. DI_O 鉱山環境モニタリング

TERESITA P. BALMES 環境化学分析

JULIET M. MIGUEL 鉱山環境管理

LILIAN A. ROLLAN 教育・研修

ANNEX 1

Project Design Matrix (PDM_g) (Draft) at Mid-term Evaluation

The Capacity Building Project for Environmental Management in Mining in the Republic of the Philippines
 Authority of Japanese Side: Japan International Cooperation Agency (JICA)
 Target Country: The Republic of the Philippines

Terms of Project: from July 1, 1999 to June 30, 2002
 Counterpart: Mines and Geosciences Bureau (MGB)
 Target Group: Staff of MGB

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>[Overall Goal of the Project]</p> <p>The capacity of MGB in mine environmental management in the fields of water and soil pollution caused by mining activities will be enhanced</p>	<p>1. The strength number of the technical staff who completed the staff training programs on the mine environmental management of MGB are increased at the MGB central and major regional offices.</p> <p>2. MGB plans the mine environmental management program in the fields of water and soil pollution by 2002.</p> <p>3. The number of the incidents of the water and soil pollution caused from the mine mills decrease.</p>	<p>1. Records on training courses and seminars for mine environmental management of MGB.</p> <p>2.1. Records on planning of the mine environmental management program of MGB.</p> <p>2.2. Implementation records on administrative guidance in mine environmental management for local and center of MGB.</p> <p>2.3. Interviews with and questionnaire to the parties concerned on the mine environmental management.</p> <p>3.1. Reports on water & soil pollution monitoring of MGB & LGU.</p> <p>3.2. Records on the operation of water and soil pollution control conducted by MGB and LGU.</p> <p>3.3. Interview with and questionnaire to the MGB staff and parties concerned.</p>	<p>a. The mine environmental management policy is sustained by the Government & Industry.</p> <p>b. The coordination between MGB & EMB is sustained appropriately.</p> <p>c. The services of the technical staff who completed the staff training programs on the mine environmental management of MGB are continued at MGB.</p>
<p>[Purpose of the Project]</p> <p>The staff necessary for mine environmental management in the fields of water and soil pollution caused by mining activities will be fostered at MGB.</p>	<p>1. The C/Ps technical experts on the mine environmental management in the fields of water and soil pollution are enhanced under the C/Ps training under MGB technical staff by 2002.</p> <p>2. MGB plans the long and mid-term training program on mine environmental management in the fields of water and soil pollution by 2002.</p>	<p>1. Reports on the mine environmental training.</p> <p>2.1. Records on the correspondence of the training documents.</p>	<p>a. The services of the C/P who are trained by the experts are continued at MGB.</p> <p>b. The operational cost and staff for the staff training program are assured appropriately.</p>
<p>[Outputs of the Project]</p> <p>1. The management system of the Project will be established.</p> <p>2. The operation and maintenance management of the machinery and equipment used for chemical analysis, measurements and experiments will be undertaken by the technical staff of MGB.</p> <p>3. The MGB's functions of mine environmental monitoring in the fields of water and soil pollution will be upgraded and strengthened.</p>	<p>1. MGB personnel are allocated according to the plan.</p> <p>2. Staff budget from MGB equipment is approved in the plan.</p> <p>3. C/Ps acquire enough skills to operate and maintain management of the machinery and equipment used for chemical analysis, measurements and experiments by 2002.</p> <p>4. Documents required for operation and maintenance management of the machinery and equipment are completed by 2002.</p> <p>5. The C/Ps technical experts on the mine environmental management in the fields of water and soil pollution are enhanced by 2002.</p> <p>6. The MGB's functions of mine environmental monitoring in the fields of water and soil pollution are strengthened by 2002.</p> <p>7. Training materials required for the C/Ps staff acquisition on the laboratory technology are prepared by 2002.</p> <p>8. The C/Ps technical experts on the mine environmental management technology are enhanced to the level of C/Ps staff under MGB technical staff by 2002.</p> <p>9. Training materials required for the C/Ps staff acquisition on the evaluation of the environmental management technology are prepared by 2002.</p> <p>10. The C/Ps technical experts on the evaluation of the environmental impact assessment reports are enhanced by 2002.</p> <p>11. Training materials required for the C/Ps staff acquisition on the evaluation of the environmental impact assessment reports are prepared by 2002.</p> <p>12. The C/Ps staff training courses on the mine environmental management in the fields of water and soil pollution are enhanced to the level of C/Ps staff under MGB technical staff by 2002.</p> <p>13. MGB plans the long and mid-term staff training program by 2002.</p> <p>14. Training materials required for the long and mid-term staff training program by MGB are prepared by 2002.</p> <p>15. The technical staff of MGB acquire the basic information on mine environmental management in the fields of water and soil pollution by 2002.</p>	<p>1. Records on personnel of MGB.</p> <p>2. Records on budget of MGB.</p> <p>3.1. Records on the acquisition and evaluation of the machinery and equipment.</p> <p>3.2. Interview questionnaire and report on the C/P.</p> <p>3.3. Manuals on operation and maintenance of the equipment.</p> <p>3.4. Records on operation, maintenance and management of the equipment.</p> <p>4.1. Records on the training and evaluation of the records on water and soil monitoring program, water measurement, lab chemical analysis, and water & soil pollution on monitoring data.</p> <p>5.1. Training materials.</p> <p>6.1. Records on monitoring and evaluation.</p> <p>6.2. Interview questionnaire to staff in the C/P.</p> <p>7.1. Training materials.</p> <p>8.1. Records on monitoring and evaluation (e.g. records on the training programs prepared by the short-term experts and of C/Ps competence).</p> <p>8.2. Interview questionnaire survey and report to C/P.</p> <p>9.1. Records on evaluation on the environmental impact assessment reports training program.</p> <p>9.2. Training materials.</p> <p>10.1. Records on monitoring and evaluation (e.g. records on evaluation of training program).</p> <p>10.2. Interview with questionnaire to staff in the C/P.</p> <p>11. Records on planning of the long and mid-term staff training program at MGB.</p> <p>12. Training materials concerned staff training.</p> <p>13. Records on implementation of training courses and seminars and number of participants.</p> <p>14.1. Questionnaire to the trainees.</p>	<p>a. The C/P are arranged appropriately in accordance with the specialty concerning technology transfer.</p> <p>b. The operational costs for the Project are assured appropriately.</p>

Notice: Shaded parts indicate that they are changed from PDM_g and PDM.

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Project Summary</p> <p>Activities of the Project</p> <p>0-1. Allocate the staff based on the plan.</p> <p>0-2. Formulate the operational plan.</p> <p>0-3. Formulate the budgetary plan.</p> <p>1-1. Formulate the preparation plan and implement the procurement and maintenance of machinery, equipment and facilities.</p> <p>1-2. Implement the installation, and guide to the operation and maintenance of machinery and equipment provided by JICA.</p> <p>1-3. Prepare the manuals on maintenance of the Equipment.</p> <p>2-1. Acquire the technical and administrative outline of mine environmental monitoring in the fields of water and soil pollution.</p> <p>2-2. Acquire the techniques and prepare the training materials of water and soil sampling for environmental analysis.</p> <p>2-3. Acquire the technology and prepare the training materials of on-site measurements and analysis for water and soil quality.</p> <p>2-4. Acquire the technology and prepare the training materials of laboratory measurements and analysis for water and soil quality.</p> <p>2-5. Acquire the techniques and prepare the training materials on the environmental evaluation of the results of measurement and analysis for water and soil quality.</p> <p>3-1. Acquire the technical information for mine environmental management technologies.</p> <p>3-2. Acquire the techniques of environmental management for mine drainage and dam facilities for mine pollution control, and prepare the training materials.</p> <p>4-1. Acquire the technical information on the process of environmental impact mining projects.</p> <p>4-2. Acquire the technical information on the evaluation of environmental impact assessment for reports for mining projects.</p> <p>5-1. Formulate the training program.</p> <p>5-2. Prepare the training materials.</p> <p>5-3. Implement the training.</p> <p>5-4. Implement the questionnaire survey to the business.</p>	<p>Input up to the present</p> <p>Philippine side</p> <p>1. Preparation of Building & Facilities</p> <p>① Renovation of building and facilities</p> <p>② Installation of the Equipment</p> <p>③ Office of experts</p> <p>④ Office of counterparts</p> <p>⑤ Training rooms</p> <p>2. Allocation of Staff</p> <p>① Project director :1</p> <p>② Project manager :1</p> <p>③ Technical consultant (Environment) :1</p> <p>④ Technical consultant (Geology) :1</p> <p>⑤ Technical consultant (Metallurgy) :1</p> <p>⑥ Research advisor :1</p> <p>⑦ Project coordinator :1</p> <p>⑧ Technical s/p :21</p> <p>⑨ Support staff :9</p> <p>a. Clerical staff</p> <p>b. Administrative staff</p> <p>c. Treatment staff</p> <p>3. Procurement of Machinery, Equipment and Materials.</p> <p>4. Expenses of Local Counterpart Budget</p>	<p>Japanese Side</p> <p>1. Dispatch of the Experts</p> <p>1-1. Long-term Experts</p> <p>① Chief Advisor :1</p> <p>② Coordinator :1</p> <p>③ Expert in charge of Mine environmental monitoring :1</p> <p>④ Expert in charge of Environmental chemical analysis :1</p> <p>⑤ Expert in charge of Mine environmental management :1</p> <p>1-2. Short-term Experts :4</p> <p>① Mr. Yoshihiko Watanabe (Chemical Analysis)</p> <p>② Mr. Saburo Sato (Technical Development of Mine Pollution Control)</p> <p>③ Mr. Saichiro Inoue (Supervision and Management of Tailing Dams in Mines)</p> <p>④ Mr. Masako Yumada (Abandoned mines pollution control)</p> <p>⑤ Mr. Kazuo Kawakami (Mine Environmental Monitoring)</p> <p>Planned up to March 2001</p> <p>Mr. Eiichiro Sasaki (Suitable technologies on the environment in mining development)</p> <p>Planned in March 2002</p> <ul style="list-style-type: none"> • The latest technologies for mine pollution control • Monitoring method using biological indicator • Evaluation method of environmental impact assessment technology and its report • Evaluation and management of the data of on-site measurement and chemical analysis • Environmental management system • Soil pollution by heavy metals and its monitoring <p>2. C/P Training in Japan</p> <p>1999 :3</p> <p>2000 :2</p> <p>2001 :Three(3) persons/ of C/P (planned)</p> <p>3. Provision of the Machinery & Equipment (the Equipment necessary for technology transfer)</p>	<p>Important Assumptions</p> <p>a. Supports of the MGB's Capacity Building Project for Environmental Management in Mining by the central & local governments the mining industry and other related organizations are sustained.</p> <p>b. The customs clearance of the machinery and equipment provided by the Japanese side are processed smoothly.</p> <p>Precondition</p> <p>a. The agreement between MGB and EMB concerning the mine environmental management is sustained.</p>

Notice: Shaded parts () that they are charged from EDMs and EDMs.

