Terminal Evaluation

Asia

1. Outline of the Project

Country:
China

Project title:
Project Cooperation in Environmental Protection and Safety Training Center of Coal Industry

Issue/Sector:
Industrial Development

Cooperation scheme:
Project-type Technical Cooperation

Division in charge:
Second Technical Cooperation Division, Mining and Industrial Development Cooperation Department

Total cost:
1,021 Million Yen

Period of Cooperation 1 March 1997 - 28 February 2002

Partner Country's Implementing Organization:
State Administration of Coal Mine Safety
Environmental Protection
Safety Training Center of Coal Industry

Supporting Organization in Japan:
Nuclear and Industrial Safety Agency, Ministry of Economy, Trade and Industry
Japan Coal Energy Center (JCOAL)

Related Cooperation:

1-1 Background of the Project

Seventy percent of the primary energy in China has been dependent on coal, and coal output and consumption have been the largest in the world. The energy consumption of China was expected to increase along with the rapid growth of its economy which has been outstanding even in the Asia and Asia-Pacific Region. However, environmental problems including air pollution are worsened by the production, distribution and incineration of coal, as well as by the prevalence of unclear and low quality coal with its high-ash and high-sulfur emissions. In addition, there was an urgent need to improve and reform the system of safety techniques since accidents such as gas explosions had occurred on a regular basis along with the increase in production.

For these reasons, the Government of China requested Project-type Technical Cooperation from Japan for the purpose of establishing an Environmental Protection and Safety Training Center for Coal Industry (the Center) and providing technical transfer on coal mine environmental conservation and coal mine safety.

1-2 Project Overview

In order to prevent pollution and coal mine disasters, techniques on environmental conservation in the coal industry and coal mine safety are transferred to the Center in China.

(1) Overall Goal

Modern techniques of environmental conservation in the coal industry and coal mine safety are disseminated and improved in China.

(2) Project Purpose

Human resources with a knowledge of modern techniques of environmental conservation and safety in the coal industry are developed through training in the Center.

(3) Outputs

1) Operation and management system are developed in the Center.
2) Training Courses in techniques of coal mine environment conservation are conducted by the Center.
3) Training Courses in techniques of coal mine safety are conducted by the Center.
4) The capacity to conduct research on the surrounding coal mines and consulting are developed.

(4) Inputs

Japanese side:

Long-term Experts	12	Equipment	221 Million Yen
Short-term Experts	16		
Trainees received	16		

Chinese Side:

Counterparts	23
Local Cost	81.4 Million Yuan (1,307 Million Yen)

2. Evaluation Team

Members of Evaluation Team

Team Leader: Masaaki KATO, Director, Mining and Industrial Development Cooperation Department Second Technical Cooperation Division, JICA
Training Management: Munenori KIKUTA, Ministry of Economy, Trade and Industry
Environmental and Security Techniques: Koichiro INADA, Japan Coal Energy Center
Project Management: Shunsuke SAKUDO, Staff, Cooperation Department Planning Division and Investment and Loan Division, Mining and Industrial Development, JICA
Evaluation Analysis: Akinori IBAYASI, Nippon Koei Co., Ltd.
Interpreter: Miyoko ISHII, Japan International Cooperation Center

Period of Evaluation

10 September 2001 - 29 September 2001

Type of Evaluation:

Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

The Project's Overall Goal and Purpose are both consistent with environmental conservation and energy policies, which began to take concrete measures in mine safety and environmental conservation. They are also consistent with the needs of the Center and of the related parties to the mining industry.

(2) Effectiveness

The Center has trained 394 people in national level training courses, and 10,225 in local level ones. The Center is recognized as being rated as a first class coal mine training facility of national level. The number of trainees accounts for 70 percent of what was initially planned. However, most of the trainees have reached the level that makes them eligible for certificate; therefore, the Purpose of the Project "to develop human resources with modern techniques on environmental conservation in the coal industry through training in the Center" was achieved overall.

(3) Efficiency

The external conditions of the project changed significantly due to the reorganization of the public sector. The Implementing Organization of the National Coal Industry Division was disintegrated and reorganized as the State Administration of Coal Mine

Safety from the State Administration of Coal Industry. Despite these circumstances, the quality, amount and timing of inputs from the Japanese side (equipment supply, dispatch of experts, counterparts training) and the Chinese side (school construction, distribution of counterparts, etc.) were mostly appropriate. In terms of technical transfer in environmental issues, there was a delay with the above-mentioned reorganization which engendered an eight-month absence of long-tern experts, but the loss was offset before the end of the Project.

(4) Impact

1) The turnover rate of former trainees of the Center has been low and thus occupational change after returning to work is not a major concern. In addition, the Yankuang Group, one of China's leading conglomerate enterprises and a superordinate at the Center, made it obligatory to take the Center's course as one of the conditions for promotion of the staff in charge of environmental issues at eight coal mines and four organizations. This is regarded by the government of China as a textbook example not only to the companies related to the coal industry but also to companies in general for the concept of environmental conservation. Nationwide dissemination of the techniques in the future is expected since it has been accredited as a first class coal mine safety training facility by the State Administration of Coal Mine Safety.
2) In terms of the impacts on policy, the Center took part in the establishment of the grading system for the training centers in the field of mine safety, established by the State Administration of Coal Mine Safety. As an aside, the Center has contributed in the making of new training policy under the new administration system. The Center has come to be recognized as a designated training facility not only for the organizations of coal mine safety and environment areas but also for the other organizations related to environmental conservation.
3) In terms of the technical impacts, the equipment supplied to the Center is technically advanced when it is compared with those used for coal mines in China. The equipment resulted in providing opportunities for many trainees to refresh their understanding of their coal mines' safety and environment. The training has also contributed to raising the awareness of the coal mine staff, necessary for the dissemination and improvement of techniques. The textbooks on safety and environment, which the Project helped to prepare, earned a good reputation and have been disseminated in China.

(5) Sustainability

The Center is positioned as a research and development center of the Yankuang Group and is receiving organizational, managerial and financial support from the Yankuang Group. Therefore, the sustainability of the Center is expected to be maintained. This can also be observed from a policy point of view by the following facts; it was accredited as a first class coal mine safety training facility; the Chinese Government's deliberation of "Law of the People's Republic of China on Work Safety" with the background of the affiliation to WTO; the number of trainees is expected to increase since the request has been made by the central government as well as the Province of Shandong.

3-2 Factors that promoted realization of effects

(1) Factors concerning Planning

N/A

(2) Factors concerning the Implementation Process

1) Incentives for being recognized as a national level training facility and competition with other facilities led to the achievement of the Project Purpose.
2) The Project was able to collect many trainees for the training since it was provided with the support of the Yankuang Group which is the parent body of the Center.

3-3 Factors that impeded realization of effects

(1) Factors concerning to Planning

N/A

(2) Factors concerning the Implementation Process

The technical transfer was delayed due to the early return of the expert in the field of environment, and the disintegration and reorganization to State Administration of Coal Mine Safety from State Administration of Coal Industry, which is the superordinated agency of the implementing institution of the project.

3-4 Conclusion

Generally, the Project was carried out smoothly. The Project Purpose was achieved since the Center established a sufficient capacity as an institution for human resources development of modern coal mine technicians and was recognized as a first

class training facility for coal mine safety. The Project's sustainability also is deemed to be high, given the organizational, operational, and financial support from the Yankuang Group and the Center's enhanced capacity to conduct training courses.

3-5 Recommendations

(1) Although some part of the software such as that for ventilation network analysis has been translated into Chinese, the rest should also be translated as much as possible.

(2) In terms of delivered equipment and materials, a sufficient management system needs to be established by arranging supplier contact information, main parts of equipment and their cost, etc., and making these into an equipment management manual.

(3) It is required that the mandate as a training institution or the demarcation among the Center be clarified, China Association for Coal Processing and Utilization and Shandong Environment Protection Agency in the area of environment conservation. A System of issuing official certification is expected, which allows qualified trainees to be widely recognized through documentation such as certificates for those who have finished trainings on ventilation.

3-6 Lessons Learned

(1) In order to motivate the counterparts, a system providing incentives such as official qualification for completing the Project, needs to be introduced.

(2) To secure financial support, a related organization with a strong financial parent body needs to be brought into the Project.

3-7 Follow-up Situation

N/A