The Japan-China Friendship Environmental Protection Center Project (Phase 2)

Project Sites Beijing

1. Background of Project

Following the rapid economic growth in China, many environmental problems such as air pollution, water pollution, noise pollution and waste contamination arose in the 1980s. To cope with these problems and further realize sustainable development, the Chinese Government adopted "Chinese Agenda 21" following the United Nations Conference on Environment and Development, held in 1992, and announced environmental preservation as an important measure in its national policy.

Under these circumstances, Japan provided grant aid for establishing the "Japan-China Friendship Environmental Protection Center", followed by a project-type technical cooperation, "The Japan-China Friendship Environmental Protection Center Project Phase I," from September 1992 for three years, for the purpose of transferring basic technologies on environmental protection.

The Government of China, confirming the outcome of the technical transfer of basic technologies through the above-mentioned cooperation, further requested Japan to carry out Phase II of the project with the objective of promoting the Center as playing the guiding role in research, training, monitoring, and public education in the environment field.

2. Project Overview

(1) Period of Cooperation

1 February 1996 − 31 January 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

National Environmental Protection Agency, Japan-China Friendship Environmental Protection Center

(4) Narrative Summary

1) Overall Goal

The situation of environmental problems in China is improved.

2) Project Purpose

The Center plays a guiding role in areas such as research, training, monitoring and public education in the environment field within China.

3) Outputs

(a) A management system in the Center is established.
(b) Observation technology is standardized, triggering practical research outputs.
(c) Research outputs on prevention of pollution in the areas of air, water and solid waste are realized, applied and diffused.
(d) Information related to the environment is collected, accumulated, analyzed, evaluated and utilized.
(e) A strategic policy on the environment field is proposed.
(f) A leading role in environment education is taken, and people are motivated to participate.
(g) Technical exchange and training amongst environment technicians, researchers and administrators of each field are conducted.
(h) Joint studies involving domestic and international organizations are arranged.

4) Inputs

Japanese Side

Long-term experts	20
Short-term experts	53
Trainees received	30
Equipment	160 million yen

Chinese Side

Counterparts	356
Land and facilities	
Local cost	approx. 76.3 million yuan (approx. 1.09 billion yen)

3. Members of Evaluation Team

Team Leader:
Yumiko TANAKA, Executive Director, Social Development Cooperation Department, JICA

Sub Team Leader/Environmental Management:
Takashi OSHIMA, Director, Osaka Bay Regional Offshore Environmental Improvement Center

Antipollution:
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Environmental Measurement:
Eiichi KITAJIMA, Chief, Water Science Section, Niigata Prefectural Institute of Public Health and Environmental Sciences

Environmental Cooperation:
Hiroyuki TAGUCHI, Chief, Director, Office of Overseas Environmental Cooperation, Global Environment Department, Environment Agency

Cooperation Planning:
Tsuyoshi KANDA, First Technical Cooperation Division, Social Development Cooperation Department, JICA
Evaluation Analysis:
Ryo TABATA, Suuri-Keikaku Co., Ltd.
Interpreter:
Satomi TAKARA, Japan International Cooperation Center

4. Period of Evaluation

4 September 2000 − 14 September 2000

5. Results of Evaluation

(1) Relevance

Environmental problems are considered to be a serious issue in the Chinese Social Economy Development Plan. Through the reform of the science technology structure of China, the system of the Environmental Protection Center has been strengthened, and part of the functions of the National Environmental Protection Agency were transferred to the Center. Thus, the Center plays an important role in policy and organization related to environmental preservation, therefore the relevance of this project is high.

(2) Effectiveness

Due to the technology transfer by the experts and the self-efforts of the Chinese counterparts, a total of 72 tasks that are relevant to the project purpose were successfully carried out. These tasks include areas of environmental observation, research and investigation, technology development, provision of environment information, policy proposal and human development. The Center acquired basic knowledge and technology to play a guiding role in the environment preservation field. However, it left room for improvement in the capability and number of lecturers.

(3) Efficiency

The timing of dispatching Japanese experts was appropriate, and therefore efficient, for the project. Cooperation performed by the long-term experts was superior in quality, with flexible support based on good communication with the Chinese side. However, owing to the short dispatch period of the Japanese short-term experts, there were some cases where technology transfer was not effectively done.

For the provided equipment, although there were slight delays in arrival which affected training sessions, it did not create major problems, due to the flexible countermeasures taken by both the Japanese and the Chinese.

(4) Impact

The Center is currently proposing environmental policy guidelines to the National Environmental Protection Agency, and contributing greatly to the environmental administration in China. Through the counterpart training sessions, a network between the Center and various organizations in Japan was established. In accordance with the improvement in its capacities, the Center became the contact point in environmental cooperation with Japan. It also assumed functions as a research organization for international joint studies.

On the other hand, ISO14000 related activities resulted in increasing the number of certified organizations and enterprises acquiring ISO14000 although those activities were not planned originally. Other than this project, which was supported by the Japanese long-term experts, there are

An expert instructing the engineers of the Japan-China Friendship Environmental Protection Center

46 activities of environmental cooperation being implemented between Japan and China or independently by the Center. Collaboration with other organizations and joint research has also been strengthened.

(5) Sustainability

The Center has enough capacity to sustain research activities independently. In the financial aspect, although some sections suffered shortage in funds, many sections are becoming capable of self-sustaining their business with 20% support from the government. There were no serious technical problems in the maintenance of equipment.

6. Lessons Learned and Recommendations

(1) Lessons Learned

To increase the efficiency of technology transfer by short-term experts, it is important to dispatch the same experts repeatedly. In areas where research requires advanced knowledge, it is desirable to build a system for securing such experts in Japan.

(2) Recommendations

To increase technical sustainability, it is necessary to strengthen the capacities of equipment maintenance, and to create a system liable to cope effectively with the advanced-level research. Also, it is necessary to tackle complicated environmental themes by flexibly arranging the organizational structure and form inter-sectional task teams for each of the themes.

7. Follow-up Situation

Although all activities were due to be completed within the project period, some activities could not fully be completed due to the delay of some required equipment. Additionally, follow-up cooperation was carried out from February 2001 to March 2002, to support other inter-governmental cooperation outside the scope of this project, yet started within the project period, such as acid rain measures and yellow sand measures. Furthermore, a Phase III cooperation, in order to further strengthen the Center's function to address new environmental problems, was started from April 2002, with a duration of four years.

China

The Research Center of Mineral Resources Exploration Project

Project Sites Beijing

1. Background of Project

China has experienced an increase of demand in mineral resources, caused by its recent economic development. However, its capability of supplying mineral resources domestically was limited, and it was unable to keep up with the demand. China, with its vast size, is believed to have a potentially large amount of mineral resources buried underground. As exploration-related technologies advance by the comprehensive use of current science and technology, these advancements would greatly contribute to the discovery of mineral resources. The Research Center of Mineral Resource Exploration, which has taken on the main task of mineral resource exploration by geochemical methods, was established by the Chinese Academy of Sciences. China requested that Japan implement Project-type technical cooperation for the purpose of transferring exploration and research techniques using geochemistry.

2. Project Overview

(1) Period of Cooperation

1 September 1994 – 31 August 1999
1 September 1999 – 31 August 2001 (extension)

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Chinese Academy of Sciences, Research Center of Modern Geosciences, Chinese Academy of Science, The Research Center of Mineral Resource Exploration

(4) Narrative Summary

1) Overall Goal

Mineral resources within China (particularly copper, gold, silver, rare metals and rare soils) are discovered.

2) Project Purpose

Exploration into the geochemical methods of mineral resources (particularly copper, gold, silver, rare metals, rare soil) is conducted at the Research Center of Mineral Resources Exploration, China Science Institute.

3) Outputs

a) Basic research skills necessary for mineral resources exploration in such fields as geology, petrology, mineralogy, mineral deposit and geochemistry are mastered.
b) Abilities to examine the composition and isotope characteristics for fluid forming mineral deposits and to determine the geologic formation age of mineral deposits are developed.
c) Abilities to distinguish minerals of useful metals and to estimate the quantity of deposits by geochemical methods are developed.
d) The ability to identify exploration area(s) that have development potential is developed.
e) Organizational and operational systems for implementing mineral resource exploration using geochemical approaches are facilitated.
f) Equipment necessary for implementing mineral resource exploration using geochemical approaches is provided.

4) Inputs

Japanese Side

Long-term experts	12
Short-term experts	57
Trainees received	19
Equipment	425 million yen

Chinese Side

Counterparts	50
Center facilities and maintenance	
Local cost	230 million yen

3. Members of Evaluation Team

Team Leader:
Norihiko MATSUMOTO, Special Technical Assistant to the President, JICA
Mineralogy:
Yoshimasu KURODA, Professor Emeritus, Shinshu University
Resources Science:
Hirokazu FUJIMAKI, Professor, Tohoku University
Ore Science:
Takahiko MARUYAMA, Professor, Akita University
Evaluation Cooperation:
Tomoaki SAKURAI, First Technical Cooperation Division, Social Development Cooperation Department, JICA
Evaluation Survey:
Kenichi KUMAGAI, Industrial Service International Inc.

4. Period of Evaluation

27 March 2001 − 7 April 2001

5. Results of Evaluation

(1) Relevance

The increase of demand and the inability to sufficiently supply mineral resources within China still remain. The Chinese Government has emphasized the importance of copper ore exploration through its 10th Five-Year Development Plan.

China was behind in terms of exploration of mineral resources by geochemical methods, due to the lack of equipment. However, by adopting geochemical methods, efficient ore deposit exploration will be ensured, by narrowing down specific exploration areas from the vast size of land. Therefore, this project is in line with the Chinese policy and needs, and can be considered as relevant.

(2) Effectiveness

The establishment of the managing system including arrangement of counterpart personnel and budgeting, together with the preparation of facilities was delayed. Moreover, obtaining topographical maps was difficult. Those factors resulted in a delay of the commencement of basic studies for approximately two years. Later, field geological surveys and sample analyses were done, and further examination through analysis of various data was implemented. As a result, the report on "ore deposit formation model" was published. Thus, although the activities were delayed, the domain of basic research as partly required in the project purpose, "exploration using geochemical methods", was attained.

(3) Efficiency

The equipment provided was highly utilized, and greatly contributed to analyses and surveys. The Chinese specialists had high capabilities and the Japanese experts had high academic skills and techniques, which contributed to smooth transfer of technology.

Through training sessions in Japan, the counterparts gained understanding on the way of Japanese research institutions work, thus deepening mutual understanding between technicians in charge of measurement and analysis, and the researchers in charge of judging and utilizing the analyzed results. As a result, the accuracy in measurement and analysis was improved.

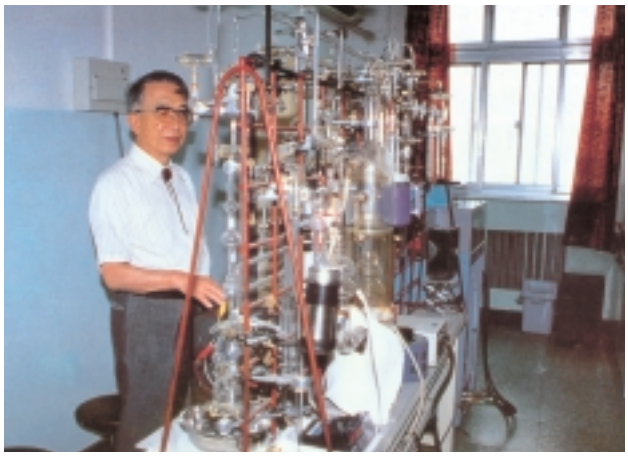
Therefore, although there were some delays in the beginning of the project, it can be said that the process of converting project inputs to outputs was efficient.

(4) Impact

As a result of providing explanation on the importance of geochemical survey through publications and reports, various domestic organizations have started to contact the Center to ask for joint analysis and research.

Through the high perception of the research results, contrary to the movement of restructuring organizations and personnel in the Chinese Academy of Science under the Government's policy, the number of personnel at the Center has increased, and research budget has expanded.

However, the effect of the project has not reached the China Copper-Zinc Group Company, China Rare Metal Rare Earth Group Company and local governments, where explorations are actually done.



Hydrogen extracting apparutus from mineral crystal

(5) Sustainability

Equipment is well managed and the technology improvement is in progress at the Center. Therefore, the Center has capacities to continuosly build up research and skills after the Project completion. The Chinese Academy of Sciences will continue to support the Center by maintaining its staff and financing the Center. If these conditions continue, the sustainability of the Center is secured. However, unless establishing a system to countermeasure the degradation of equipment, activities are liable to be stagnated.

Also, in order to extend geochemical methods in exploration, companies actually handling the exploration, such as the China Copper-Zinc Group Company, need to interested in them, and study the possibility for actual usage.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Buildings, facilities and staff were newly prepared for this project, and due to the delay of establishing the organization and management structure of the new organization, the project purpose could not be accomplished within the expected period of five years. The project was extended for two years as a result. When cooperation is made to a newly established organization as part of the project, it is necessary to consider a preparation period beforehand.

(2) Recommendations

When measuring and analyzing microelements, special caution is needed in all processes to have accuracy in the data for exact judgment. To raise the Center's academic standards to international levels, it is essential that the researchers have responsibilities in the most prudent factors in experiments, and that technicians and researchers have further mutual understanding, as those in developed countries do.

In order to utilize the provided equipment efficiently in the future, it is necessary to secure expendable supplies and spare parts, to create repair and replacement plans, and to receive financial and human resource support from the Chinese Academy of Sciences.

China

Hubei Province Forest Tree Improvement Project

Project Sites Hubei Province

1. Background of Project

Afforestation is being promoted in China, which has a very small forest area covering only 13% of the total nation and amounting to 1.29 million square kilometers. There was a plan to conduct afforestation for approximately 1.3 million hectares from 1991 to 2000 in Hubei Province, but because the quality of seeds and nursery trees was low, and because mass-production technology was not yet established, securing good quality seeds and nursery trees was difficult.

Hubei Province has natural forests, such as the Shennongjia natural reserve. In such natural forests, the existence of quality breeding materials and rare species of plants are recognized. However, technologies for preserving genetic resources were not established.

In such circumstances, the Government of China made a request to Japan for a project-type technical cooperation. China considered developing technologies for breeding forests, and preserving genetic resources in order to maintain the quality of nursery trees. Moreover, China was attempting to make this case of Hubei Province serve as a model case for afforestation in the southern provinces of China.

2. Project Overview

(1) Period of Cooperation

15 January 1996 − 14 January 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

State Forestry Administration
Forestry Administration of Hubei Province

(4) Narrative Summary

1) Overall Goal

Genetically improved seedling species are produced in large quantities and used to forest through the technology developed in the Forest Tree Improvement Center of Hubei Province. Also, the diffusion of forest tree breeding technologies are spread to southern provinces of China and the preservation of genetic resources is progressed.

2) Project Purpose

The genetic improvement of major afforestation species is progressed in the Forest Tree Improvement Center of Hubei Province while the basis of technology to preserve genetic resources applicable for continuous breeding in the future is established.

3) Outputs

(a) The following breeding-related technologies are acquired by the Forest Tree Improvement Center of Hubei Province
- Selection, hybridization, examination of elite trees
- Tissue cultivation
- Preparation and management of seed orchards and scion gardens
- Accumulation, preservation and evaluation of genetic resources

(b) For the targeted five species, genetic material are accumulated and preserved in a utilizable condition for breeding materials.

(c) The Forest Tree Improvement Center of Hubei Province maintain and utilize necessary facilities and materials for the promotion of breeding.

4) Inputs

Japanese Side

Long-term experts	8
Short-term experts	30
Trainees received	15
Equipment	1.83 million yen
Local cost	0.68 million yen

Chinese Side

Counterparts	18
Land and facilities	
Local cost	1.69 million yen

3. Members of Evaluation Team

Team Leader:
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Breeding Technology:
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Genetic Material:
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Evaluation Planning:
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Evaluation Analysis:
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Translator:
Miyoko MIYAGAWA, Japan International Cooperation Center

4. Period of Evaluation

17 July 2000 − 29 July 2000

5. Results of Evaluation

(1) Relevance

The Forest Act was amended in 1998 and the importance of quality seedlings have been emphasized. However, seedlings have been insufficient as a whole and securing quality seedlings has been difficult because of the delay in breeding projects and lack of seeds. Considering these aspects, this project was relevant to the policy of China.

(2) Effectiveness

The project was successful in improving technology in the fields of genetic improvement and the accumulation and preservation of genetic resources and breeding materials for the five targeted species. The project has not yet been able to bring up leaders in this field. However, it has shown some success in training skilled technicians. These trained technicians will bring further development in the field. Concerning "systematic accumulation and the preservation of genetic resources and genetic improvement" given as output b), there is a prospect for the genetic improvement of poplars. Therefore, achievement of the project goals are expected.

(3) Efficiency

The experts were dispatched at the appropriate time as was planned. Their qualifications were sufficient and highly evaluated by their counterparts and there were not many significant problems in the maintenance and utilization of machinery. Overall, adequate input was conducted in terms of machinery, including those that will be used in the future.

As for the input of the Chinese side, the number of counterparts increased as the project progressed. Moreover, since China conducted Japanese language training sessions in advance of the project, the project was carried out very smoothly.

On the other hand, research funds of the Chinese side were always insufficient. Even though they were supplemented by the local costs of Japan, insufficient research funds were cause for inefficiency in the daily research.

(4) Impact

The ideas of forest tree breeding have been widely recognized. It has even led to the establishment of regulations and seed control standards in Hubei Province as well as such systems as the Committee for Superior Forest Tree Species.

Also, the project has promoted the study of forest tree breeding in other research institutions in the nation. Beijing University began considering setting up a new research field, the Ecological Genetic Studies of the Forest. The Nanjing Forestry University opened hybridization breeding as a research field, and began to advocate the establishment of a preserve for a genetic resource of poplars as well as accumulation and preservation of the genetic resource of poplars, which are indigenous to China.

(5) Sustainability

Overall, basic skills were smoothly transferred to the counterparts through the project. It is believed that as they gain more experience, they will be able to acquire the necessary skills to eventually conduct their research activities on their own. The government of China recognizes the importance of this project, and is thus willing to maintain and develop the outputs from the project.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Japanese language training for counterparts, which was conducted in advance of the project, made a great contribution to enhancing the outcome of the project. It also helped to strengthen the relationship between the Japanese experts and the counterparts.

(2) Recommendations

In consideration of maintaining, developing, and spreading the knowledge and skills of breeding trees, it is also necessary to strengthen organizations in the breeding sector and to set up laws and regulations to standardize the level of activities associated with breeding.

Generally speaking, it will require a number of years until income is generated as a result of the project in the forest-breeding sector. Therefore, continuous financial support is necessary.

Basic skills were mostly transferred through the project, however, in order for the Forest Tree Improvement Center of Hubei Province to keep their leading position in forest tree breeding, it is necessary to adopt new methods in the next generation and to improve breeding materials such as through additional selection, improvement of scion gardens and creation of test plantations.

7. Follow-up Situation

Based on the achievements and experience of this project, the Japan-China Cooperation Science and Technology Center for the Forest Tree Improvement Project is taking place. The project is planned for five years from October 2001. It aims to develop further preservation technologies of forest tree genes, breed new species and extend those technologies to the southern provinces of China.

The Project to Enhance Education and Training of Industrial Safety and Health

Project Sites Jakarta

1. Background of Project

In Indonesia, along with the rapid economic growth, the incidence of industrial accidents more than doubled over the six years since the second half of the 1980s, and urgent measures are required. The 6th Five-Year National Development Plan which started in 1994 aimed for further industrial prosperity. As the country faces rapid industrialization and corporate activities, along with the implementation of the plan, industrial accidents will increase unless suitable measures are taken. To cope with this situation, the Government of Indonesia made a request to Japan for technical cooperation aiming to strengthen and expand safety and health education for industrial employers and workers.

2. Project Overview

(1) Period of Cooperation

15 November 1995 – 14 November 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Directorate General for Industrial Relations and Labor Standards, Ministry of Manpower

(4) Narrative Summary

1) Overall Goal

The level of industrial safety and health education and training for workers and employers is enhanced in Indonesia through improvement in awareness and skills.

2) Project Purpose

New or improved industrial safety and health education and training model courses for instructors, experts, workers, managers and employers are conducted.

3) Outputs

a) The Industrial Safety and Health Education and Training Center was established.

b) Counterpart personnel who conduct industrial safety and health education and training courses were trained.

4) Inputs

Japanese Side

Long-term experts	9
Short-term experts	18
Trainees received	18
Equipment	299 million yen
Local cost	26 million yen

Indonesian Side

Counterparts	33
Local cost	4.076 billion rupiahs (approx. 44 million yen)

Land and facilities
(incl. construction of the Industrial Safety and Health Education and Training Center)

3. Members of Evaluation Team

Team Leader:
Motoshige SASAKI, Director of International Office, Industrial Safety and Health Department, Labor Standards Bureau, Ministry of Labor

Industrial Safety:
Hitoshi TAKAMURA, Central Expert Officer, Safety Division, Industrial Safety and Health Department, Labor Standards Bureau, Ministry of Labor

Industrial Health
Noriyoshi SHINOZAKI, Central Expert Officer, Industrial Health Division, Industrial Safety and Health Department, Labor Standards Bureau, Ministry of Labor

Evaluation and Cooperation:
Satoshi UMEKI, First Technical Cooperation Division, Social Development Cooperation Department, JICA

Evaluation Analysis:
Kunio NISHIMURA, CRC Overseas Cooperation Inc.

4. Period of Evaluation

29 May 2000 – 9 June 2000

5. Results of Evaluation

(1) Relevance

Before the economic crisis, labor protection measures

had not been able to catch up with the rapid economic growth, triggering frequent industrial accidents and occupational diseases. After the crisis, employers then paid less interest to labor protection due to the reduction of their industrial activities. On the other hand, the 6th Five-Year National Development Plan announced the importance of labor protection and welfare policy to improve working conditions.

Considering the present state and needs of workers in the working environment, and what the national policy is aiming at, this project focusing on industrial safety and health education is relevant.

(2) Effectiveness

The construction by Indonesian side of the Industrial Safety and Health Education and Training Center was delayed due to the unexpected economic crisis (1997) and social disorder (change of regime in 1998.) However, even during the delay, technical transfer from Japanese experts to the counterpart personnel continued. In addition, the Indonesian side voluntarily established training courses as well as for the subjects not included in the initial project plan in 2000. Teaching materials supplied also were utilized effectively. Consequently, it could be judged that the project purpose was satisfied by the implementation of the courses.

(3) Efficiency

Since the establishment of the Center, training courses have been enforced, and the equipment supplied from Japan has been utilized effectively. Research and technology transfer were done in various areas in a short period. Preparation of curriculums and textbooks, implementation and evaluation of training courses were also efficiently done as originally planned.

Although there were some transfers of the counterparts and delay of maintenance budget in Indonesian inputs, the scale and timing of inputs from both Japan and Indonesia were as planned on the whole.

(4) Impact

Knowledge and technology concerning labor safety and health such as the needs survey, textbook development and terminal and ex-post training evaluation training were transferred and accumulated to the counterpart and the Center. According to the follow-up survey to ex-participants the training courses, most of them (77%) answered that the courses were useful for preventing industrial accidents and occupational diseases in the workplace. Thus it can be said that the courses have contributed to improving the situation of labor safety and health.

(5) Sustainability

Through this project, technology transfer to the counterpart staff has progressed, and management and technical staff were trained. Therefore it can be judged that the management system has become stable. It is further required that many of the counterparts whom had received technology transfer remain in the Center.

At the point of the terminal evaluation, the legal status of the Center, which has been the matter of concern since the start of the project, had not yet been decided. As the Center mapped out a plan for an establishment of a joint venture with a third-party organization, immediate decisions have to be made. According to the Indonesian side, mutual agreement was made between the Ministry of Labor and the third-party organization in September 1999, and 90% of the arrangements for the signing of the memorandum scheduled September 2000 have been made. It can be surmised that management know-how will unite and improve the operational management capability of both organizations by establishment of this joint venture.

Lecture on mobile crane course

6. Lessons Learned and Recommendations

(1) Lessons Learned

Completion of the Centers construction was delayed due to external conditions. In future projects, well-thought-out preparation is required to avoid having harmful influence on the project.

(2) Recommendations

Presently, the Center is concurrently managed by Japanese experts and Indonesian safety and health staff, but the legal and institutional status has not been clarified. In order to maintain the current operation, clarification of the status and formation of a responsible body for operation should be considered as soon as possible.

Toward the end of the project, both Japanese and Indonesian sides are required to note the following recommendations.

1) Statistics on industrial accidents and occupational diseases should be compiled.
2) Similar organizations that are carrying out labor safety and health education should be found.
3) A self-sufficient source to stabilize the management and operation should be considered.

Indonesia

The Quality Soybean Seed Multiplication and Training Project

Project Sites East Java

1. Background of Project

The agricultural sector was stressed as an important sector in the Fifth National Development Plan for Indonesia (1989/90 − 1993/94), which points out crop productivity improvement and attainment of food self-sufficiency as its main policies. In this plan, the emphasis was put on corn, soybean and cassava in addition to rice, which once attained self-support in 1984. However, the government of Indonesia still has to import 500-600 thousand tons of soybeans a year, which is equal to 20-30% of the domestic demand.

The Government mentioned the significant factors that restricted the development of soybean production as follows: 1) the seeds are low in quality such as low germination rates; 2) inability to supply high quality seeds in accordance with the increase of cultivation areas.

Based on the above-mentioned background, the government of Indonesia requested grant aid, "Multiplication and Distribution of High Quality Soybean Seeds," and project-type technical cooperation to the Government of Japan for the purpose of improving farmers' skills, as well as establishing and developing a system and technology of multiplication, inspection and distribution of high quality soybean seeds in East Java where 40% of soybean production is conducted.

2. Project Overview

(1) Period of Cooperation

1 July 1996 − 30 June 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Directorate General of Food Crops Production, Ministry of Agriculture

(4) Narrative Summary

1) Overall Goal

The production of soybeans is increased in East Java.

2) Project Purpose

The multiplication system of high quality soybean seeds is strengthened in East Java.

3) Outputs

a) High quality seeds are produced.
b) Technical skills of seed production and management are improved.
c) Technical skills of seed inspection are improved.
d) The training system is strengthened.

4) Inputs

Japanese Side

Long-term experts	8
Short-term experts	8
Trainees received	17
Equipment	100 million yen
Local cost	37 million yen

Indonesian Side

Counterparts	15
Land and facilities	
Local cost	1.95 billion rupiah (Approx. 23 million yen)

3. Members of Evaluation Team

Team Leader/Seed Production:
Nobufumi NOMURA, Novartis Agro K.K.

Seed Inspection:
Hisashi GOTO, Crop Production Division, Agriculture Production Bureau, Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF)

Training/Agricultural Administration Cooperation:
Kotaro OMAE, Technical Cooperation Division, International Affairs Department, General Food Policy Bureau, Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF)

Plan Evaluation:
Satoshi FUJII, Deputy Director, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA
Evaluation Analysis:
Hiroshi HASEGAWA, Unico International Corporation

4. Period of Evaluation

7 January 2001 − 20 January 2001

5. Results of Evaluation

(1) Relevance

In the guideline of Policy and Strategy of Agricultural Development in Indonesia [1], the Government has given high priority to soybeans as one of the most important crops next to rice. Indonesia imported about 1.3 million tons of soybeans to meet the domestic demand of about 2.68 million tons in 1999. The domestic demand for soybeans in Indonesia has been stable since the Indonesian people have traditionally soybean products like tempe.

Consequently, the project purpose of strengthening the multiplication system of high quality soybean seeds in East Java can be considered to be relevant throughout the project.

(2) Effectiveness

The rate of high quality soybean seeds for reproduction has been raised from 0.8% at the beginning of the project to 1.6% at present. This result comes from the fact that the technical transfer on seed production and seed inspection has almost been completed, and high quality soybean seeds have been acknowledged among seed growers. The project can be considered to be effective with regard to achievement of the project purpose.

(3) Efficiency

On the whole, the inputs from the Japanese side (equipment, local cost, and counterpart training) were provided as scheduled. In addition, the technology transfer on seed inspection and the training program was efficiently conducted. However, there was a hindrance to realize the project purpose, strengthening high quality soybean seed production in East Java, due to the delay of land acquisition for the model Stock Seed Production Farm where expansion of soybean seed production has been planned. Small-scale strain production was therefore implemented at other farms as an immediate measure.

(4) Impact

As a result of establishing demonstration farms and providing training for key seed growers, their cultivating skills and awareness of high quality soybean seeds have been improved. Through training, merits of soybean production have been recognized, inducing expectation of increasing farmers' income. As a result, other farmers have started to take strong interest in high quality seed production. Thus the achievement of the overall goal of increasing production of soybeans in East Java is promising.


Germination test at the seed inspection staion (BPSD)

(5) Sustainability

In the government budget for agriculture, expenditure for soybean production and multiplication is consecutively provided. However, budgets to be allocated for the replacement of equipment and machinery will likely be difficult to secure. Also, to extend high quality soy seeds, the market value should be stable, but it is concerning that the future of the government's policy and subsidies is uncertain.

6. Lessons Learned and Recommendations

(1) Recommendations

To complete the model Stock Seed Production Farm system in order to extend soybean seed production, it is necessary to immediately complete land reclamation, and take appropriate measures to organize activities such as assignment of personnel and allocation of enough budget. In addition, the manuals that were made in the project for seed production, seed management, and seed inspection should be officially published.

It is also necessary to expand the application of the training for the key soybean seed growers in order to extend the use of high quality soybean seed.

[1] After the food crisis, Indonesia considered "food securement" as an imperative issue of the nation and promoted a three-year program on increased production of rice, soybean and corn.

Indonesia

Forest Fire Prevention Management Project

Project Sites Bogor (West Java), Berbak (Jambi), Nangapinoh (West Kalimantan)

1. Background of Project

In Indonesia, a large area of forest has been destroyed by forest fires every year. The damages caused by these fires are especially serious when extremely dry seasons come once in every four to five years. In 1991 and 1994, the smoke from large-scale fires brought about flight navigation difficulties and health problems in neighboring countries, triggering an international problem. In Indonesia's Sixth Forestry Development 5-year Plan (1994/95~1998/99), it was stated that countermeasures for forest fires would be taken. Since the forestry industry will not work without a forest, the prevention of forest fires is an extremely important issue in Indonesia. Thus, the Government of Indonesia requested a versatile and comprehensive project-type technical cooperation from Japan.

2. Project Overview

(1) Period of Cooperation

15 April 1996 − 14 April 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Directorate of Forest and Estate Crops Fire Control, Directorate General of Nature Protection and Conservation, Ministry of Forestry and Estate Crops

(4) Narrative Summary

1) Overall Goal

Forest fire prevention activities will be promoted throughout the country, and appropriate countermeasures against forest fires will be taken.

2) Project Purpose

Prompt measures against forest fires at the central government level and methods of prevention and initial suppression of forest fires at the local level are improved.

3) Outputs

a) Early warning and detection system is established.
b) The Ministry of Forestry and Estate Crops disseminates the output of the project.
c) A forest fire prevention system and an initial suppression system are strengthened.
d) The participatory forest management system, which is effective for forest fire prevention, is strengthened.

4) Inputs

Japanese Side

Long-term experts	11
Short-term experts	15
Trainees received	11
Equipment	157 million yen
Local cost	13 million yen

Indonesian Side

Counterparts	25
Land and facilities	
Local cost	13 million yen

3. Members of Evaluation Team

Team Leader:
Yoshiaki KANO, Managing Director, Forestry and Natural Environment Department, JICA

Early Warning and Detection System:
Yasumasa HIRATA, Senior Researcher, Remote Sensing Laboratory, Resources Management Section, Forestry Management Division, Forestry and Forest Products Research Institute

Forest Fire Prevention and Initial Suppression:
Koji KATAGIRI, Chief of Planning, Forest Owners' Cooperative Division, Forest Policy Planning Department, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

Planning Evaluation:
Motonori TANAKA, Forestry and Environment Division, Forestry and Natural Environment Department, JICA

Evaluation Analysis:
Jiro IGUCHI, PADECO Co., Ltd.

4. Period of Evaluation

3 September 2000 − 23 September 2000

5. Results of Evaluation

(1) Relevance

Through their experience of large-scale forest fires, the Government of Indonesia has been taking countermeasures by drafting Government ordinance. Therefore, this Project is considered to be in line with the Government policy.

(2) Effectiveness

Through the Project, models of early warning, prevention and initial suppression are individually established. For example, through the early detection system using satellite information, it is now capable of informing a plantation owner whenever a hot spot [1)] is detected, creating a deterrent to lighting fires [2)] inside plantations.

However, since there is a difference in progress in the establishment of the information system at the Central Government and of the warning, detection and suppression systems at the Local Government, the latest information of the Central Government could not be obtained by the Local Government immediately. Therefore, a comprehensive model combining these individual models has yet to be established. Furthermore, techniques related to fire prevention, initial suppression, participatory land management and output extension have been transferred to the Central Government, but due to a lack of operation costs on the Indonesian side, it has not reached a point where the technology is applied at the sites to gain experience .

(3) Efficiency

Due to the economic crisis, the Government budget was insufficient, triggering a delay and shortage of operation costs. However, since the Japanese side bore part of the cost, the delay was recovered.

As for participatory forest management technology, an model activities for forest fire prevention involving the local community was efficiently established with limited input.

(4) Impact

The Government of Indonesia acknowledged the effectiveness of the Project, and promoted the counterpart from a single division to a four-division Directorate office for Forest and Estate Crops Fire Prevention. The Central Government extended the Project output to other areas by selecting 4 states other than the Project site (Liau, Lampun, South Kalimantan and Central Kalimantan), and distributed manuals and pamphlets made by the Project.

(5) Sustainability

Due to the decentralization policy, the authority of the local office (State Forestry Department) of the Ministry of Forestry and Estate Crops will be shifted to the Local Government. Therefore, the sustainability of the Project is unpredictable. Also, since the operations budget has not been disbursed, problems remain in securing future operation costs from the budget.

Joint fire-fighting training of rangers and others.
Usage of fire control equipment as fire pump is acquired

For the early fire detection system, it is expected to sustain as long as the counterpart in the Central Government is not shifted.

6. Lessons Learned and Recommendations

(1) Lessons Learned

When establishing a project, it is necessary to promptly react to the urgent needs of the counterpart country, as carried out in this Project.

(2) Recommendations

For forest fire prevention and initial suppression methods, it is needed to further enrich training sessions both in terms of quality and quantity. For participatory forest management technologies, it is needed to further monitor the activities and refine them to a more user-friendly method to local residents. It is also important to introduce the forest fire detection system to the four selected states other than the Project site.

7. Follow-up Situation

Based on the technologies developed through this Project, with the objective of enhancing the capabilities of initial suppression and fire prevention, the Forest Fire Prevention Project Phase II (April 2002), targeting 4 model National Parks is in operation.

1) An area where the ground temperature is extremely high, thus a potential place for fire outbreaks. It is spotted from the infrared heat data collected from weather satellites.

2) It is prohibited to fertilize land by fires in Indonesia, however there are still many cases of using fires to cut labor costs for soil preparation, mainly in large scale and newly established cultivation

Indonesia

Project on Human Resource Development in Trade Sectors

Project Sites Jakarta

1. Background of Project

The Government of Indonesia, aiming to diversify their petroleum dependent economic structure, formed a policy on the promotion of non-petroleum-and-gas export in 1984. Under these circumstances, the Indonesia Export Training Center (IETC) was constructed with a grant aid from Japan in 1987, and for 5 years from 1988, a further project-type technical cooperation "Export Training Center" was carried out to establish training services in the fields of export management, commercial Japanese language, export inspection and product promotion. A follow-up cooperation was carried out from January 1994 to September 1995, and most of the technical transfer was achieved as planned.

Furthermore in Indonesia, there had been a recognition of an increasing importance of export promotion, thus requiring more personnel with the knowledge and skills for international trades, especially in small and medium-sized enterprises. Given the circumstance, the Government of Indonesia requested a project-type technical cooperation from Japan to upgrade the level of export training.

2. Project Overview

(1) Period of Cooperation

1 March 1997 − 28 February 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Indonesia Export Training Center (IETC)

(4) Narrative Summary

1) Overall Goal

Human resources, primarily in small and medium-sized enterprises, are developed to have the capability to map out various new trade-related strategies in the Republic of Indonesia.

2) Project Purpose

The IETC will be able to formulate and devise training programs (seminars and training courses) to provide Indonesian enterprises, primarily of small and medium sizes, with necessary knowledge, experience and know-how in trade.

3) Outputs

a) The project's operation system will be established.

b) Counterpart personnel in the IETC are to be trained as course planners.

c) The knowledge and experience necessary for executing trade strategies or trading procedures will be offered to counterpart personnel.

d) Useful information on trade will be offered to the public.

4) Inputs

Japanese Side

Long-term experts	5
Short-term experts	37
Trainees received	14
Equipment	22 million yen
Local cost	57 million yen
	Total cost approx. 425 million yen

Indonesian Side

Counterparts	16 (9 course planners, 7 instructors)
Local cost	approx. 8.92 billion rupiahs (approx. 11 million yen)
Facilities	
Equipment	

3. Members of Evaluation Team

Team Leader:

Tsunenobu MIKI, Senior Advisor, Institute for International Cooperation, JICA

Technical Cooperation Planning:

Kazuma YOKOTA, Assistant Chief, General Coordi-

nation Section, International Trade and Policy Bureau, Ministry of Trade and Industry

Technical Transfer Planning:
Takeo FUKATSU, Manager, International Department No.2, Pacific Resource Exchange Center (PREX)

Human Resource Development:
Fumiko SEKINO, Course Leader, International Department No.2, Pacific Resource Exchange Center (PREX)

Evaluation Management:
Takehiro HOZUMI, First Technical Cooperation Division, Mining and Industrial Department, JICA

Evaluation Analysis:
Masayuki TAKAZAWA, RECS International Inc.

4. Period of Evaluation

8 November 2000 − 25 November 2000

5. Results of Evaluation

(1) Relevance

The project has a high conformity with the government policy of promoting non-petroleum-and-gas export and striving to promote exporters' concerns, primarily those of small and medium enterprises. The IETC's importance has been ever increasing after the Asian currency crisis in 1997 and the exports has been expected to lead to economic recovery. Therefore, the needs for services provided by the IETC has been extremely high amongst the private enterprises.

(2) Effectiveness

As a result of the project, training programs provided by the IETC became more diversified, having increased from 77 courses during 1996/1997 to 91 courses in 1999/2000. The cumulative number of participants increased from 1,625 in 1996/1997, to 2,467 in 1999/2000.

By the end of the project, course planners could expected to reach a satisfying level. However, as for instructors, since opportunities to deepen their expertise and to gain practical experience has been limited, it would be difficult to reach the level originally expected.

(3) Efficiency

The quantity, quality and the timing of input were satisfactory overall. When Indonesia suffered the economic crisis, the Japanese side provided additional support to cover the local cost, which maintained the level of input required to implement the project.

(4) Impact

The training programs conducted by the IETC have largely been accepted by the private enterprises, judging from the number of enterprises repeatedly sending its staff to the training courses. 75% of the participants were applying the skills learned from the training sessions, and 33% of them considered the sessions to have actually contributed to their work in the export business. From these figures, it can be said that this project has begun to indicate a positive impact.


Training using computers

(5) Sustainability

The Government has kept its orientation of emphasizing export promotion especially to small and medium-sized enterprises. Therefore, it is thought that the IETC will sustain its position as a key training center.

The income of the IETC has been increasing from both training and inspection/examination services. The income will be expected to increase further according to the improvement of the number, contents and quality of training service, thus securing financial sustainability.

6. Lessons Learned and Recommendations

(1) Lessons Learned

The training course planners modified the training courses to suit their own undertakings using management tools such as a PERT chart that they had learned from the long-term exports. It is recommended for other projects to provide counterparts with opportunities to take the initiative in the management of the project by offering these tools.

(2) Recommendations

There is a need to further develop the capacities of the instructor in order to conduct training closer to the practice in export business. Therefore, follow-up activities such as practical training through OJT, and provision of information related to trade are essential.

Malaysia

Promotion of a Healthy Environment in Urban Areas (Healthy City Programs)

Project Sites Kuala Lumpur

1. Background of Project

As countries in the Asia-Pacific area achieve economic development, they come to face significant population concentration in their urban areas. At the same time, various environmental problems such as air pollution, water pollution in rivers, and waste disposal have become issues of monumental concern in urban areas. There is a pressing need for human resource development to respond to such issues. Since Malaysia has experience in strengthening and improving administrative measures for environmental control, urban management, public health, and many other related areas, it is expected to have the potential to conduct technical cooperation with interregional countries. Having such background, the Government of Malaysia has asked Japan for a Third-country Training Program that enables them to operate training for restoring the urban environment in the countries concerned.

2. Project Overview

(1) Period of Cooperation

FY1998 − FY2000

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

National Institute of Public Administration, Malaysia (INTAN)

(4) Contents of Cooperation

1) Overall Goal

The planning administration's ability to handle the physical and social aspects of the urban environment is improved, as well as its knowledge in public health.

2) Project Purpose

a) Necessary general concept and knowledge on building a healthy and educated city are acquired.
b) The activities in each country for improving the city environment are researched.
c) Action plan for each city is established.
d) The experience of the people responsible for countermeasures for urban problems are shared, and a network is established.

3) Outputs

a) The purpose of this training course is understood.
b) An action plan that meets the needs of each country is established.
c) The plan is enforced in each country.

4) Inputs

Japanese Side

Short-term experts	6
Training expenses	approx. 15 million yen

Malaysian Side

Instructors	54
Training expenses	approx. 7 million yen

(5) Participant Countries

Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Sri Lanka, Thailand, and Vietnam.

3. Members of Evaluation Team

JICA Malaysia Office
(Commissioned to IC Network (M) Sdn Bhd)

4. Period of Evaluation

1 February 2001 − 30 March 2001

5. Results of Evaluation

(1) Relevance

Countries participating in the training have significant population concentrations in their urban areas, caused by differences in wages and job opportunities between urban and rural areas. This condition triggers deterioration of the urban environment such as water and air pollution. Since this training program aims at meeting the countries' needs, the relevance of this project is highly regarded. Moreover, efforts to restore urban environment are in line with the priority area of cooperation, environmental protection, from Japan to Malaysia.

(2) Effectiveness

Training was executed once every fiscal year, with a training period of approximately one month. A total of 69 people from 18 countries participated, and a survey on returned trainees was held. Answers were received from 18 out of total trainees of the project. All answers indicated that the training contents were as expected, and were assessed to be useful. 67% recognized remarkable improvements in their own skills, and 61% stated that the knowledge and skills obtained from the training have been effectively utilized in their offices. As the survey results showed, trainees were highly satisfied, thus the project was highly evaluated in terms of its effectiveness.

(3) Efficiency

The trainees highly evaluated the purpose and contents of this training course. Thus the training has been well-operated in terms of its efficiency. The results of the survey showed that the lecturers were highly evaluated. According to the post-evaluation of trainees who participated in the 1998 courses, all 31 courses (there were 18 lecturers, and 10 study tours were included) were evaluated as either "satisfactory" or "very satisfactory." However, since the training course was covering large areas, the training period of approximately one month was pointed out to be rather short.

(4) Impact

70% of the training participants who replied to the questionnaire use the same textbook at work as the one used in their training. 72% of them share the newly acquired knowledge with their colleagues, and 83% independently conducted training and seminars based on this training. 27% of them wrote reports. Moreover, 82% answered that the completion of this training led them to promotions and/or personnel changes to the related departments. Considering all of these aspects, those who participated in the training are considered to be actively involved in diffusing what they had obtained.

(5) Sustainability

INTAN is an institution that provides training opportunities for all personnel in all public service sectors for both the central and local governments. They have a rich resource of lecturers through their connections with universities and other research institutions. Related organizations are highly committed to the trainings operated by INTAN as well. Based on these facts, INTAN is capable of executing related projects as this training without outside support.

6. Lessons Learned and Recommendations

(1) Lessons Learned

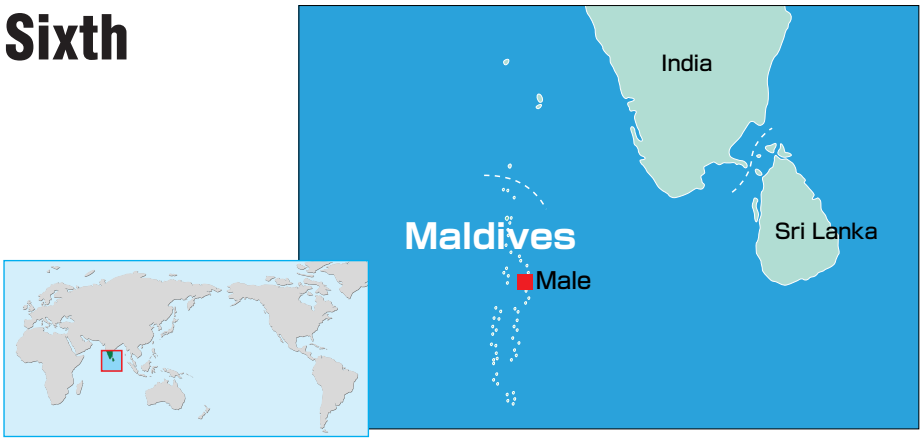
It is necessary to have comprehensive measures for urban environmental management. Therefore, it is important to operate training that provides various case studies in order to help trainees get a clear image of their work.

(2) Recommendations

Since countries that have participated in this training project have different levels of development, the urban environmental issues that they face are respectively different. Considering this, it would be more effective for a better understanding of the unique conditions of each country, if field research were conducted in each participating country as a part of training. Moreover, a follow-up system should be established to realize each country's action plan, which has been drafted during the training, after the trainees return home.

Maldives

Construction of Sixth Primary School



Project Sites Male

1. Background of Project

The Government of Maldives settled on the Primary Education Plan in 1980, and is proceeding with the expansion of elementary education and literacy education. In 1996, an enrollment ratio of 134% for elementary school and an illiteracy rate of 7% were achieved. The improvement of elementary education still continues to be placed as one of the most important issues. The improvement of the quality of elementary school education was aimed for in the 5th National Development Plan in 1997 − 1999, and in the education master plan in 1996 − 2005, with the target being to extend the elementary school system from a five-year system to a seven-year system. Due to the extension of the elementary education period and the increase in the population, there were concerns over a shortage in the number of classrooms. Because of these situations, the Government of Maldives requested Japanese Grant Aid for constructing the Sixth Primary School in Male and the supply of educational equipment.

2. Project Overview

(1) Period of Cooperation

FY1997

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organization

Ministry of Education

(4) Narrative Summary

1) Overall Goal

The quality of education is improved and elementary education is extended to seven years.

2) Project Purpose

In order to cope with the increase in population and the extension of the elementary education period, and to secure the necessary classrooms, an elementary school is constructed in the capital city Male, and educational equipment is supplied to improve the quality of education.

3) Outputs

a) The Sixth Primary School is constructed.
b) Facilities such as a special classroom, science classroom, and gymnasium are installed.
c) Educational materials are supplied.

4) Inputs

Japanese Side

Grant	752 million yen (E/N amount)

Maldivan Side

Land
Local cost

3. Members of Evaluation Team

Team Leader, Investigation on Management:
Tomoyuki NAITO, Project Monitoring and Coordination Division, Grant Aid Management Department, JICA

Investigation on Procurement:
Reiko HAYASHI, Japan International Cooperation System

4. Period of Evaluation

16 July 2000 − 22 July 2000

5. Results of Evaluation

(1) Relevance

The population concentration in Male was very much eased by the capital's functions being moved to the surrounding islands. However, the relevance for construc-

ting a new elementary school is still high when the shortage of classrooms due to the extension of the elementary education period is taken into consideration. In addition, the installment of special classrooms such as the science room made it possible to put in place a new curriculum, which would be necessary in the upper grades because of the expansion of the years of schooling for the elementary school.

(2) Effectiveness

Discussion and cooperation between the Japan side and the Maldives side proceeded smoothly, and acquisition and leveling of the land were implemented without any problems. The construction was also completed in an extremely good condition and on schedule.

The special classrooms contribute to the improvement in the education quality. Use of some these classrooms were changed from the original plan however; the science room is made use of as it is, but due to the necessity to install a computer room, the music room is used as a computer room, and the art room is also used as a music room.

(3) Efficiency

The construction work was completed in nine months, which was shorter than the planned 11 months. Therefore, it was possible to partly start to utilize classrooms from February 1999, which was before the planned handover date of March 1999. The construction can be said that was carried out efficiently.

(4) Impact

The Sixth Primary School accepted 1,828 students in FY 2000, which was 12.3% of the total number of students in Male. The School accepted 1,306 upper grade elementary school students (6th and 7th grade), who were especially in shortage of classrooms, and this is equivalent to 20% of the total. Therefore, it has contributed to the elementary education policy of shifting to a seven-year system.

(5) Sustainability

Since primary education is the highest priority issue of the Maldives Government, the budget for school management is fully secured and executed. At the time of the basic design study the necessary budget was calculated to be 5,679,805 Maldives rufiya (59 million yen); however, the budget for FY2000 is 8,880,814 Maldives rufiya (92 million yen). The school is independently carrying out activities to secure the management budget and collecting donations from parents as well. It can be concluded that the project has full sustainability.

Brid's-eye view of Male Island

6. Lessons Learned and Recommendations

(1) Lessons Learned

At the beginning, although procurement of computers were also requested, this was excluded from the plan as there was no concrete plan to use computers in education on the Maldives Government side at that time. Also, the availability of management and maintenance technology and costs was not clear at the time of request. After the completion, the Maldives Government has implemented computer education for the students by using one classroom, and by placing the selecting of computer equipment, education and management in the charge of a private company.

This sharing method, preparing a classroom that is available for computer education within the Japanese Grant Aid, and making the equipment and maintenance be the responsibility of the recipient country, can also be applied to other projects.

(2) Recommendations

In Male, the number of students who want to be transferred from other islands is expected to increase. However, it is reasonable to regard that the quantitative improvement for reform of the school system from five years to seven years has been completed. In the future, it will be more important to shift to qualitative improvement of primary education and higher education.

7. Follow-up Situation

All budget, personnel, maintenance and administration issues are generally carried out without any problems, and there is no need for follow-up.

Pakistan

The Maternal and Child Health Project

Project Sites Islamabad

1. Background of Project

In Pakistan, the health conditions for pregnant and parturient women have been poor, as indicated by their maternal mortality rate (500 out of 100,000 births). Under these circumstances, the Government of Pakistan placed maternal health as high priority in its national health policy. Consequently, the improvement of the quality and quantity of Lady Health Workers (LHWs), Lady Health Volunteers (LHVs), and Traditional Birth Attendants (TBAs) became a pressing need.

In order to overcome this situation, the Government of Pakistan requested grant aid from Japan to construct the Maternal and Child Health Center (MCH), and a project-type technical cooperation to retrain female medical workers such as LHWs, LHVs, and TBAs in 1996.

2. Project Overview

(1) Period of Cooperation

15 June 1996 − 14 June 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Ministry of Health, Pakistan Institute of Medical Sciences (PIMS)

(4) Narrative Summary

1) Overall Goal

The maternal mortality rate is reduced through enhancing the knowledge of pregnant and parturient women and improving the practice for improving maternal health.

2) Project Purpose

The educational function in maternal health for health care providers (HCPs) in the target area is improved.

3) Outputs

(a) The MCH staff understand the present situation on maternal health and are aware of the importance of solving problems.

(b) The MCH Center's training section develops and manages training plans effective for HCPs to improve maternal health situation.

(c) The MCH Center is established as a training institute for improving the maternal health situation.

(d) The MCH Center is functioning as a training institute.

4) Inputs

Japanese Side

Long-term experts	10
Short-term experts	31
Trainees received	13
Equipment	
Local cost	

Pakistani Side

Counterparts	9
Local cost	

3. Members of Evaluation Team

Team Leader:
Shigehiko KAMOSHITA, Director, San-Ikukai Hospital

Regional Health:
Seiki TATENO, Director, First Expert Service Division, International Medical Center of Japan

Human Development:
Takako NAKAHATA, Associate Director, Nursing Department, International Medical Center of Japan

Health Education:
Miyuki ADACHI, Professor, Graduate School of Nutrition Sciences, Kagawa Nutrition University

Project Operation Management:
Naoyuki KOBAYASHI, Deputy Director, First Medical Cooperation Division, Medical Cooperation Department, JICA

4. Period of Evaluation

9 March 2001 − 15 March 2001

5. Results of Evaluation

(1) Relevance

The Government of Pakistan has placed maternal health care as an important issue in its national health policy, emphasizing especially the training of health related personnel. Therefore this project is in line with the Pakistani policy, and it can be said that the relevance is high.

(2) Effectiveness

Training plans of HCPs concerning maternal health were consistently carried out, and the number of patients introduced to hospitals by LHWs, LHVs, and TBAs has risen significantly. Also, 67% of pregnant women in the target area have come to receive health education, indicating that the project was effective.

(3) Efficiency

With the local staff taking the initiative, the MCH Center conducted trainings where all LHWs and LHVs and some 146 TBAs in the target area attended. An improvement of knowledge by the participants was identified through pre- and post-training tests. The percentage of correct answers by LHWs increased by 17.3% on average in the training held in 2000. Considering that all training participants conducted education for many pregnant women and their spouses, it could be judged that the efficiency was high.

(4) Impact

In 1998, the maternal mortality in the target area was 334 in 100,000, while the number in 1999 declined to 308, and 246 in the year 2000. The result of the KAP survey [1)] shows that knowledge of both HCPs and pregnant women is improving. Therefore, the improvement in knowledge resulting from the project brought significant positive impact to HCPs and pregnant women's behavior.

(5) Sustainability

The sequence of the training process (planning-implementation-monitoring-evaluation) has already been established, therefore it is considered sustainable. However, from the financial aspect, since expenditures have exceeded revenues, and all the current income made by the MCH Center are paid to the Ministry of Finance, there is a possibility of negative affects on sustainability.


Demonstration of teaching materials for nutrition

6. Lessons Learned and Recommendations

(1) Lessons Learned

In projects where extention plays a major role in achieving the project purpose, concentration on the efforts toward creating a training system will create a strong possibility for enhancing sustainability. It is also important that the counterparts will be able to work as a cooperative team through HRT (human-relations training) sessions. To make training sessions most effective, it is necessary to thoroughly research the local circumstances and develop teaching materials in conformity with them.

(2) Recommendations

For the improvement of obstetrics medical service at the community level, strengthening of systematic cooperation between the MCH Center and surrounding areas in Islamabad is required. It is also necessary to make changes to the aforementioned financial system, which payment of training fees is made to the Ministry of Finance. The profits should, even if only partially, remain at the center as a budget source.

7. Follow-up Situation

A hospital management advisor is under dispatch as a counterpart of the president of the PIMS, in order to make management proposals for the MCH Center.

1) An abbreviation for the Knowledge, Attitude and Practices Survey. The KAP survey is used in order to acquire qualitative information that is hard to define clearly as a number.

Philippines

Laboratory Diagnosis of HIV Infection and Opportunistic Infections in AIDS

Project Sites Manila

1. Background of Project

According to WHO, the number of HIV infected people in the Asia-Pacific region was estimated to increase to the position of highest in the world by the start of the 21st century. However, technical skills in diagnosing HIV infection and screening methods of infection routes have not yet been established in many countries. It is important to provide health workers with education and training on the technical skills required for the identification of infection routes.

In the Philippines, the Research Institute of Tropical Medicine (RITM) was built by a Japanese Grant Aid in March 1981. From October 1980 to March 1988, a project-type technical cooperation was executed for conducting research on infectious diseases that were common to the Asia-Pacific region. From 1987 a third country training on the "Tropical Medicine" program had been carried out for ten years in order to facilitate the transfer of the skills acquired from the preceding project to neighboring countries.

Furthermore, RITM developed as the core institution for AIDS in the Philippines. It became one of the institutions implementing a project-type technical cooperation called "Project for the Prevention and Control of AIDS " since 1996. Considering the HIV/AIDS situation and needs in the Asia-Pacific region and the achievements of the Philippines, a third country training program called "Laboratory Diagnosis of HIV Infection and Opportunistic Infection in AIDS" was implemented.

2. Project Overview

(1) Period of Cooperation

FY1997 − FY2001

(2) Type of Cooperation

Third Country Training Program

(3) Partner Country's Implementing Organization

Department of Health, the Research Institute of Tropical Medicine (RITM)

(4) Narrative Summary

1) Overall Goal

Techniques for diagnosing HIV infection and AIDS-related opportunistic infection in health care workers of the participating countries are enhanced.

2) Project Purpose

Opportunities are given to enhance the health care providers' knowledge and to develop their technical skills in diagnosing HIV infection and AIDS-related opportunistic infections, and international partnership among the participants are strengthened.

3) Outputs

a) The biological nature of HIV, infection and its effect on the immune system are understood.
b) Infection routes of HIV/AIDS and methods of prevention are understood.
c) Opportunistic infections of AIDS patients are understood.
d) HIV antibody screening techniques are acquired.
e) The significance and limitations of PCR, antigen detection, and virus isolation methods in HIV diagnosis are understood.
f) Diagnostic procedures necessary for the detection of different pathogens causing AIDS−related opportunistic infections, namely bacterial, fungal, parasitic, and viral pathogens are understood and screening techniques acquired.
g) Antibacterial/anti-TB drug susceptibility are understood and screening techniques are acquired.
h) Bio-safety precautions for the handling and testing of blood, body fluids and potentially infectious materials/agents in the screening laboratory are understood.
i) Collecting, handling and processing methods of specimens necessary for diagnostic procedures used in the detection of HIV infection and opportunistic infections are understood.

j) Specific AIDS and STD counseling strategies are understood.
k) Some of the social, ethical, and legal issues in AIDS and STDs are clarified.

4) Inputs

Japanese Side

Short-term experts	4
Training expenses	30 million yen

Philippine Side

Equipment and Local Cost	13 million yen
Land and facility	

(5) Participant countries

Indonesia, Malaysia, Thailand, Cambodia, Laos, Vietnam, Myanmar, China, South Korea, Bangladesh, India, Nepal, Pakistan, Sri Lanka, Fiji, Papua New Guinea, Solomon Islands, Tonga and Samoa.

3. Members of Evaluation Team

Team Leader:
Takashi KURIMURA, Professor Emeritus, Osaka University

Training Evaluation;
Akiko KAMIIISAKA, Southeast Asia Division, Regional Department 1, JICA

4. Period of Evaluation

13 November 2000 − 24 November 2000

5. Results of Evaluation

(1) Relevance

In the participating countries, HIV infection rates have been increasing rapidly in recent years. Improvements in the HIV diagnosing skills have been growing increasingly necessary compared to the beginning of the training course in 1997. This training program was a rare example of one that included not only lectures about AIDS-related opportunistic infections but also screening and laboratory work Therefore many requests were made in regards to the training done in this field.

Since 1998, the Philippines has been enforcing the national AIDS countermeasure plan, and RITM has played a core role in the Japan's technical cooperation. Both RITM and the Philippines were accessible to the participating countries and were under favorable conditions such as the accumulation of actual work in English, knowledge, and experience for being the host for the training.

These facts prove that this project was relevant.

(2) Effectiveness

According to the examinations given at the beginning and end of the training, the percentage of questions answered correctly on HIV-related knowledge improved from 71% to 82%, and on opportunistic infections, 35% to 74%, showing an increase of understanding by the participants. From the questionnaire for the trainees' supervisors, it became clear that they highly valued the trainees' inspection technology.

(3) Efficiency

Training course management (lecturers, bureau, training facilities, training equipment and accommodation) was proper in both quality and quantity.

(4) Impact

According to the results of the questionnaire, most of the training participants are continuing with work that is related to HIV diagnosis after returning to their own countries, and approximately 60% were promoted to leading positions. All of the training participants are trying to extend their technical diagnosis skills through lectures, publication of the research results, and guidance in the medical scene. Some are using the textbook from this project to do so. Therefore this project had an impact on the participating countries.

(5) Sustainability

According to the questionnaire, the needs of training in this field are very high. RITM has been managing training without any problems, and new human resources are being developed. With the exception of the financial aspects, the sustainability could be highly evaluated.

6. Lessons Learned and Recommendations

(1) Lessons Learned

The textbooks used in the lectures are useful for the participants' work in their own countries, and can also be an effective tool for extending the training contents.

As a country that has people with high communication skills, the Philippines is suitable for carrying out the third country training program that receiving participants from various countries.

(2) Recommendations

Since there still is a strong need for training in the participating countries, it is desirable to extend the training period. The RITM staff's participation in planning, publication of the training results, and discussion on utilizing methods for the results are required when extending. Effectively utilizing human resources familiar with Japanese technology cooperation and coordinating with other cooperation projects carried out in the Philippines are also important.

Philippines

Project for the Prevention and Control of AIDS

Project Sites Manila

1. Background of Project

The HIV infection rate in the Philippines has remained a little less than 0.1% [1], but it has been pointed out that it may rapidly worsen in the future.

The Government of the Philippines requested of Japan a project-type technical cooperation as part of the framework of the Second Medium Term Plan (1994 − 1999) of the National AIDS/Sexually Transmitted Diseases (STD) Program, which aimed at making an assessment of actual incidence of infection and preventing its further expansion at the same time.

2. Project Overview

(1) Period of Cooperation

1 July 1996 − 30 June 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Department of Health, STD and AIDS Cooperative Central Laboratory (SACCL), San Lazaro Hospital, Research Institute of Tropical Medicine

(4) Narrative Summary

1) Overall Goal

STD/AIDS prevention and control strategies are enhanced.

2) Project Purpose

National and local capacities to address STD/AIDS concern are strengthened.

3) Outputs

a) Diagnostic capabilities for STD/AIDS of the SACCL are fully established.
b) In accordance with the administrative order, the SACCL is incorporated into San Lazaro Hospital (SLH) of the Department of Health.
c) Referral system is prepared.
d) SACCL training function on STD/AIDS prevention, diagnosis, and treatment are recognized/accredited and training courses are implemented.
e) SACCL Research contributions are maximized.
f) Selected Social Health Clinics (SHCs) are upgraded in terms of experiments, lab testing, education/extension, and STD/AIDS management.

4) Inputs

Japanese Side

Long-term experts	11
Short-term experts	30
Trainees received	14
Equipment	243 million yen
Local cost	171 million yen

Philippine Side

Counterparts	89
Equipment	approx. 12.5 million pesos (approx. 31 million yen)
Local cost	approx. 42.6 million pesos (approx. 105 million yen)

3. Members of Evaluation Team

Team Leader:
Takashi KURIMURA, Emeritus Professor, Osaka University

Immunology:
Namiko YOSHIHARA, Chief, National Institute of Infectious Diseases

Public Health:
Norihiko YODA, Director, Division of International Cooperation, National Institute of Infectious Diseases

Evaluation Planning:
Naoyuki KOBAYASHI, Deputy Director, First Medical Cooperation Division, Medical Cooperation Department, JICA

Cooperation Planning:
Kazuhisa HIRAOKA, First Medical Cooperation Division, Medical Cooperation Department, JICA

Project Evaluation:
Kanji HOSHINO, Sowa Consultants Ltd.

4. Period of Evaluation

6 November 2000 − 20 November 2000

5. Results of Evaluation

(1) Relevance

The agreement on the implementation of the project was reached in 1996 when the AIDS prevention policy was taken into actual operation. These include the establishment of the Philippines National AIDS Council (PNAC) and of the HIV related legistation by National AIDS/STD Prevention and Control Program (NASPCP). This project therefore began at an appropriate time, and was consistent with the policy of the Government. Thus, the relevance of this project was very high.

(2) Effectiveness

Improvements in the inspection system were seen through the total number of samples handled in SACCL, increasing from 2,367 cases in 1997, to 8,051 cases in 1998 and 8,509 cases in 1999. The variety of inspection items had also increased from 7 types / 9 methods in 1997 to 12 types / 33 methods in 2000. The number of inspections practiced by the SACCL, without relying on the referral system increased from 282 cases in 1997, to 1,135 cases in 1998, and 2,597 cases in 1999. However, the number of inspections that were sent through the referral system had yearly fluctuations. It is therefore necessary to further strengthen the referral system.

The training courses undertaken by the SACCL, where 389 medical workers (including doctors, nurses and midwives) participated, were highly evaluated. Almost all doctors understood the method of interpreting the test results, and could perform proper treatment for STD patients. Moreover, the local SHCs came into inspecting through local labs and hospitals.

(3) Efficiency

Although there were delays in the dispatch of Japanese experts and the arrival of some equipment (due to customs clearance arrangements), the initial purpose of the project was attained. For some of the equipment, since the displays were only written in Japanese, the Japanese experts had to exert extra effort on translations.

(4) Impact

By strengthening the inspection system, diagnosis and medical treatments are now possible at an earlier stage than the conventional system, which started them only after the actual symptoms had appeared.

(5) Sustainability

This project is consistent with the Government of the Philippine's policy against AIDS. Also, the SACCL plays a significant role as the core inspection organization in its referral system, and therefore institutional sustainability will be secured. In addition, it is likely that technical sustainability to be secured when the technology transfer has been completed. If training is spontaneously held applying the technical textbooks and manuals that were prepared in this project, sustainability will also be considered achievable. As for financial considerations, however, it is necessary to consider the method such as to divert some portion of the profits of hospital allowance into the operational expenses of SLH for establishing partial independence. Otherwise, the project activities would shrink in scale, given the recent budget cuts for SLH.

Biohazard level 3 Laboratory

6. Lessons Learned and Recommendations

(1) Lessons Learned

Since the WHO West Pacific Ocean Office is located in the Philippines, it can easily be attract attention internationally. There also are many occasions for project personnel to attend academic meetings up to representatives from many foreign countries. It is essential to advertise the importance of the project using such opportunities. Moreover, for the counterparts' training, it is necessary not to make the objective low but to set it somewhat higher for their future independence.

(2) Recommendations

To cope with the delay of technology transfer caused by the delay in P3 laboratory (biohazard level 3) construction, it would be desirable to transfer the technology as the need arises even after the project. Although training courses implemented by the SACCL have covered 50% of the SHC staff and 31.8% of the hospital and STD lab staff, many applicants still remain, and there is a necessity for continuation. Additionally, it is necessary to set up SACCL branch offices that play the core role in each district in order to establish the referral system.

1) UNAIDS Country Report 2000

Philippines

The Training Services Enhancement Project for Rural Life Improvement

Project Sites Manila, Bohol, Albay, Antique and Butuan

1. Background of Project

In the Philippines, agriculture was a key sector in the 1990s, contributing to more than 20% of Gross National Product (GNP), and employing more than 50% of the labor force. More than two thirds of the population lives in rural areas and engages directly or indirectly in agriculture. In these areas, women occupy one fourth of the agricultural labor force, playing an important role in housework, agricultural production and social activities. To improve rural living standards, supporting women through the promotion of agricultural production was therefore considered important.

Under these circumstances, the Government of the Philippines recognized the necessity of providing comprehensive training courses on rural life improvement through the Agricultural Training Institute (ATI), which has 34 training centers around the country, and requested a project-type technical cooperation from the Government of Japan.

2. Project Overview

(1) Period of Cooperation

15 June 1996 − 14 June 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Agricultural Training Institute (ATI), Department of Agriculture

(4) Narrative Summary

1) Overall Goal

Farmers, fisherfolk, women, youths and extension agents are provided with efficient and effective training services by the ATI which will lead to the improvement of the quality of life in rural areas through efforts for human resources development, with special reference to women's participation.

2) Project Purpose

The Training Program for Rural Life Improvement (RLI) is finalized and institutionalized in ATI.

3) Outputs

a) Participatory trials of RLI activities are implemented at the selected pilot areas by the Model Center [1] of Bohol.

b) The training Program for RLI will be formulated at the Model Center, based on the pilot RLI activities.

c) The ATI will be able to implement the Training Program for RLI at the Initial Expansion Centers [2].

d) The cooperative relationship will be enhanced between ATI and other institutions to ensure the effective implementation of the Program at the Model Center and Initial Expansion Centers.

4) Inputs

Japanese Side

Long-term experts	12
Short-term experts	15
Trainees received	17
Equipment	23 million yen
Local cost	56 million yen

Philippine Side

Counterparts	27
Land and center facilities	
Local cost	22 million pesos (Approx. 53 million yen)

3. Members of Evaluation Team

Team Leader / Institution Building:
Ryozo HANYA, Director, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

Community Development / Rural Life Improvement and Extension:
Tomoko ICHIDA, Chief, Europe Section, Department of Foreign Agriculture, National Research Institute of Agricultural Economics, Ministry of Agriculture, Forestry and Fisheries (MAFF)

Human Resource Development / Training:
Yuki TAKAHASHI, Researcher, Rural Life Research Institute

Plan Evaluation:
Yoshihisa MASANAGA, Staff, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

Evaluation Analysis:
Seizo YAMADA, Katahira Engineering International

4. Period of Evaluation

4 February 2001 − 17 February 2001

5. Results of Evaluation

(1) Relevance

The objective and activities of the Project are in accordance with the "Agriculture and Fisheries Modernization Act" [3], a national policy on agricultural and rural development enforced in December 1997. Efficient and effective training services have been provided based on people's needs at the Model Center and Initial Expansion Centers,. Judging from the above, the Project can be considered appropriate.

(2) Effectiveness

The Training Program for Rural Life Improvement (RLI) was piloted in Bohol, based on which experience the RLI Manual (1st draft) was prepared. Based on the Manual, trial expansion was carried out at the three Initial Expansion Centers. Information and lessons learned at the IECs were fed back to revise and improve the Manual, until it was finalized in March 2001. Representative staff of all centers have already taken training courses.

In 2000, solely with the budget from the Philippine government, three additional expansion centers [4] started to conduct the Training Program for RLI. Every year thereafter, three centers will be added until all 33 Training Centers are covered. Considering the above, the project purpose has been achieved.

(3) Efficiency

Most of the input from the Japanese side was effectively conducted with appropriate size. However, as this Project focused more on the "soft" component, such as concepts and approaches of participatory development and rural life improvement, experts were required to have adequate language and communication skills to correctly explain such concepts in words. In this sense, some inputs did not result in effective outputs.

As for input from the Philippine side, although full-time counterparts were assigned they were also loaded with their routine work and were not exclusive to the Project, which caused some difficulties to the smooth implementation of the Project. Due to financial problems after the economic crisis, there were often delays in releasing budget, which caused some delays in the activities and training courses.

(4) Impact

At the pilot sites, beneficiaries learned technical skills, community awareness of the social environment changed and regulations on life improvement were legitimatized by local governments. There were also requests by government agencies, universities and local municipalities to provide training courses on participatory methods. Judging from these factors, the impact of the project was observed.

(5) Sustainability

During the project implementation, counterparts learned participatory methods and improved their capacity to provide efficient and effective training courses. With the instruction from the Department of Agriculture, the ATI plans to promote training courses on rural life improvement at all 33 training centers across the country. ATI staff will be assigned for implementation and monitoring of the project, and the budget will be included in the ATI's regular annual budget. Management will be transferred to local governments, and regular staff are also to be assigned.

San Isidro, Municipality of Duero, Bohol, Backyard gardens were prepared through program of Nutrition and House hold management Improvenent

Thus, the sustainability of this Project is regarded as high.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is important to secure experts who have appropriate ability in language as well as in their field of expertise.

Although the mandate of the ATI was to provide training, the initial stage of the Project focused more on extension, and it took some time afterwards to redirect the Project toward training. For the project's sustainability, the framework and objective of the project should be considered at the planning stage, taking into account the mandate and staff availability of the counterpart organizations.

A baseline survey of this Project took about two years before formulating action plans, but it should be conducted effectively in a shorter period.

(2) Recommendations

The ATI should regularly submit progress reports to the Department of Agriculture and the JICA Philippines office, and conduct monitoring for ex-post evaluation. For the project's further sustainability, it is also desirable that workshops on Training Programs for RLI are regularly offered to all ATI staff.

The Operational Guideline shall be prepared based on a Training Program for RLI and be authorized by the Department of Agriculture to encourage local governments to take initiative in the project implementation.

1) Six pilot activities targeting four sites were conducted at the ATI center in Bohol during the first three years of the project.
2) For the last two years of the project, training programs for RLI, systematized by the Model Center, were implemented at the ATI centers in Albay, Antique and Butuan.
3) This act aims at the reasonable and effective provision of administration service for the modernization of agriculture and fisheries.
4) These centers are located in Isabella, Pangasinan and Eastern Samar.

Philippines

Improvement of Health System for the Province of Benguet

Project Sites La Trinidad

1. Background of Project

In the Philippines, the number of sickbeds and doctors are small for a certain population. Also, the facilities and medical equipment of the national and public hospitals are still at a low level.

The Benguet General Hospital, which plays the core role in the referral system [1)] in the province of Benguet, could not fully meet the demand for both inpatient and out-patient medical treatment. The inadequate capacity of the hospital hindered the provision of medical treatment; 2,000 patients per year were transferred to the National Baguio General Hospital. Also, provision of minimum medical treatment at the local hospitals and RHUs (Rural Health Units) scattered in the province was needed.

Based on such conditions, the Philippine Government formulated "the Project for Improvement of Health System for the Province of Benguet" for the purpose of upgrading the quality of medical services by improving the health care service system in the province of Benguet by 2003. For implementation of this plan, the Government of the Philippines requested Grant Aid from the Government of Japan, for the construction of a new ward in the Benguet General Hospital, upgrading of the medical equipment, and provision of equipment to cover the insufficiencies in local hospitals and RHUs.

2. Project Overview

(1) Period of Cooperation

FY1997 − FY1999

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organization

Provincial Government of Benguet

(4) Narrative Summary

1) Overall Goal

The health conditions of the people are improved by upgrading the referral system of the province of Benguet.

2) Project Purpose

Necessary medical facilities and equipment are installed for the establishment of the referral system in the province of Benguet placing the Benguet General Hospital as the core.

3) Outputs

a) Medical equipment is improved considerably in the Benguet General Hospital, five local hospitals, and 13 RHUs.

b) A new ward is built at the Benguet General Hospital.

c) The advanced medical materials that are necessary for the top referral hospital [2)] are provided to the Benguet General Hospital.

d) A radio vessel is installed for strengthening the connection and the contact system among the Benguet General Hospital, local hospitals, and RHUs.

4) Inputs

Japanese Side

Grant	2,788 million yen (E/N amount)

Philippine Side

Local cost	13.29 million pesos (approx. 33.3 million yen)

3. Members of Evaluation Team

Administration Investigation:

Junji ISHIZUKA, Director, Follow-up Division, Regional Department I, JICA

Procurement Investigation:

Toru TAKAGI, Japan International Cooperation System

4. Period of Evaluation

14 February 2001 − 23 February 2001

5. Results of Evaluation

(1) Relevance

The Benguet General Hospital selected and procured the medical equipment and facilities necessary for the top referral hospital, which could be fully utilized by the existing operational ability of the staff. Also, by installing the medical equipment and communication devices supplied to the local hospitals and RHUs, the conditions were improved for the establishment of the referral system, the objective of this project. Based on these results, the project aims for improving the health conditions of people in the province, thus the relevance of the project was confirmed.

(2) Effectiveness

The facility construction and equipment procurement were executed as planned. Just after the construction of the new ward in the Benguet General Hospital, the practical operation started smoothly. Regarding utilization of the communication devices and the medical equipment supplied to the local hospitals and the RHUs, there are no problems in the operation at the point of evaluation.

(3) Efficiency

When the construction started, subterranean water discharged and led to a reformation of the design. Therefore, construction was delayed for about one and a half months. Just before completion of the construction, the drainage pipe construction up to the site boundary was also delayed, which was the responsibility of the recipient country. However, each delay was rectified, and construction was placed back on schedule.

At the early stage of the project, delivery of the equipment was behind schedule as the provincial government, the execution organization, had difficulty in custom clearance of the equipment. The problem was solved by exempting a tax duty to the provincial government by the President's Office. For the following deliveries, a similar measure was applied, therefore no further problems occurred.

(4) Impact

By the supply of equipment and construction of the new ward in Benguet General Hospital, the number of outpatients increased to 68,173 in 2000, up 11.8% from 1999. It became possible to treat the 2,000 patients who used to be transferred to the National Baguio General Hospital every year prior to the project, and the number of transfers reduced by half.

Sense of security and confidence in the medical services has increased among people in the province. That is because the medical service has improved at the local hospitals and RHUs, and the geographical handicap of the people in the rural and the mountain areas, has been dissolved by the installation of the medical equipment.

(5) Sustainability

The Benguet General Hospital depends mostly on the province for its operating budget. In 2000, only approximately 15% (7 million pesos, approximately 17 million yen) of the operation and management cost (44 million pesos, approximately 110 million yen) was covered by the self-attained income of the hospital, with the rest being covered by the provincial government. The provincial government's support in 2000 was 37 million pesos (approximately 91 million yen), which accounts for about 14% of the total budget of the province. In the future, increase in administration costs can be anticipated from the increase of the personnel cost due to staff increase, or increase in expenses for light and fuel. Therefore, more efforts are required to raise the self-attained income of the Benguet General Hospital.

Benguet General Hospital

6. Lessons Learned and Recommendations

(1) Lessons Learned

Although some of the medical staff tend to request advanced medical equipment such as CT (Computed Tomography), its necessity should be carefully considerate.

If the implementing organization is not at national but at local government level, it is necessary to conduct detailed coordination in advance among the persons concerned in the central government about the tax exemption of the imports.

1) The referral system refers to the division and coordination of the functions among the medical institutions in a certain area in order to improve regional medicine and to achieve an efficient medical service system. The referral system of the province of Benguet is as follows: 13 RHUs and 4 local hospitals serve as primary hospitals, 1 district hospital serves as the secondary hospital, and above this, as the tertiary hospital, the Benguet General Hospital is established.

2) As for emergency life saving medical treatment, each medical institution adopts the system of sharing roles depending on its function, and they divide the patients into the following: primary hospitals deal with emergency patients who can return home with outpatient medical treatment, the secondary hospital deals with emergency cases which need hospitalization, and emergency cases that are life-threatening are serviced at the tertiary or top referral hospital.

Philippines

The Enhancement of Practical Works in Science and Mathematics Education at the Regional Level

Project Sites Manila, Davao, Iloilo and Legazpi

1. Background of Project

In accordance with the expansion of the industry in the Philippines, there is a pressing need for a basic education with quality for the development of human resources. The improvement of basic education in science and mathematics is recognized as being especially essential for fostering mid-level technicians. For the Filipino attempt to shift from math and science classes used to focus on rote learning to a more practical approach, Japan provided grant aid cooperation to build elementary schools and math and science laboratories in 1987. To further enhance effects of these attempts, Japan implemented the "Package Cooperation to Improve Elementary and Secondary Math and Science Education" in March 1994. This cooperation is a combination of JICA projects such as country-focuced training and dispatch of individual experts and Japan Overseas Cooperation Volunteers (JOCV).

The JOCV members were dispatched to the Regional Science Teachers' Centers (RSTCs) in three regions. They were to follow up the teachers who had received trainer's training for math and science in Manila in order to extend the result of the training in a regional level.

2. Project Overview

(1) Period of Cooperation

24 March 1994 − 31 May 1999
(1 June 1999 − 31 May 2001 (extension))

(2) Type of Cooperation

JOCV Team Dispatch Program

(3) Partner Country's Implementing Organization

Bicol University RSTC
West Visayas State University RSTC
Ateneo de Davao University RSTC
Ministry of Science and Technology, Ministry of Education, Culture and Sports

(4) Narrative Summary

1) Overall goal

The performance of the elementary and secondary school students on science and mathematics is upgraded in the targeted regions.

2) Project purpose

High quality science and mathematics classes with practical works are conducted by the teachers.

3) Outputs

a) RSTC's training programs and trainings related to the system of retraining teachers are held as appropriate.
b) RSTC counterparts and teachers including trainers have gained knowledge and acquired skills on practical works and experiments.
c) Laboratory equipment and tools are managed properly and used effectively.
d) Science and mathematics teachers acquired skills on making low cost tools and materials to use in science experiments.
e) Both teachers and students become more interested in science and mathematics.

4) Inputs

Japanese side

Senior members	3
Senior short-term emergency dispatch members	1
General members	34
Trainees received	7
Equipment	23 million yen
Local costs	10 million yen

Philippine side

Counterparts	17
Administrative employees, laboratory assistants, driver	15
Local costs	79 million yen

3. Member of Evaluation Team

Team Leader:
Kazuo SUDO, Recruitment and Domestic Affaires Division, Secretariat of JOCV, JICA
Education:
Nobuhiro SETOGUCHI, former Saint Lucia senior JOCV member
Cooperation plan:
Kiyoka TAKENAKA, Second Overseas Assignment Division, Secretariat of JOCV, JICA

Plan analysis:
Mieko URAMOTO, RECS International Inc.

4. Period of Evaluation

26 February 2001 − 17 March 2001

5. Results of Evaluation

(1) Relevance

Because industrial development has created a greater need for engineers in the Philippines, the improvement of basic education in science and mathematics has been prioritized. The project purpose is in accordance with the government's policies and local needs, thus the project retain relevance.

(2) Effectiveness

The RSTC staff recognizes that the project outcomes have been virtually achieved. The RSTCs were revitalized, training was appropriately implemented and the participants have gained knowledge and acquired technical skills on practical works. Questionnaires given to ex-participants of RSTC training indicate that 92 out of the 109 teachers (84%) conduct experiments in classes more frequently than before the training. Therefore, the project purpose has been achieved.

(3) Efficiency

Since there were difficulties in recruiting FY1998 was the only year in which JOCV members were dispatched for all subjects of the three universities. It was particularly difficult in dispatching JOCV members in the mathematics field to the RSTC of Bicol University.

It was pointed out that some of the newly installed equipment did not match the local needs and capabilities because they were neither selected by the JOCV members nor Filipino teachers who actually use them.

Since the project purpose, output and member activities were not clarified at the early stages, the coordination did not work very effectively. On the other hand, coordination between the individually dispatched experts and the experts and JOCV members of project-type technical cooperation was generally good, facilitating communication between central and outlying areas.

(4) Impact

Since it takes time before results can be seen in the field of education, it is not possible at this time to validate the improvement of the academic abilities of the students. However, the questionnaire given to ex-participants of RSTC training showed that 80% felt that more students were good at or liked science and mathematics. Thus, the impact of this project should be observed in the future.

Furthermore, it is highly evaluated that the implementation of this project strengthened the links between the RSTC and the regional offices of the Ministry of Education, Culture and Sports.

(5) Sustainability

There will be difficulties in continuing training Conducted by JOCV members at Bicol University where the number of RSTC staff was limited.


(a class of) Science and mathematics education

The budget for training is likely to be secured for the Ministry of Science and Technology, due to its emphasis placed on pursuing training programs for science and mathematics teachers.

While the counterparts and teachers obtained many skills and knowledge on practical works through the project and they are willing to continue their training activities, their involvement in training is likely to decrease. This is because they have a very heavy workload in their universities and high schools. Support should be provided to reduce their teaching load so that they could continue their training activities as well.

6. Lessons Learned and Recommendations

(1) Lessons Learned

The equipment and materials should be chosen by the JOCV members who will actually use them. A guideline should be formulated for the maintenance, promotion of utilization, and usage report of the equipment and materials.

In future package cooperation projects, the roles of JOCV members should be clarified in advance and coordination with related JICA departments should be strengthened.

(2) Recommendations

JOCV members need to hand over their roles of continuing the project and maintaining equipment to the local staff. The Ministry of Science and Technology and the Ministry of Education, Culture and Sports should monitor the practical works introduced in this project to sustain and strengthen this project's approach.

Singapore

Trainers in Tourism Management

Project Sites Singapore

1. Background of Project

In the Asia-Pacific area, the importance of the tourism industry is highly recognized and each country strives to increase its number of tourists. However, in many of these countries, due to the lack of experienced human resources, it is difficult to achieve the proper planning for tourism development and promotion. Therefore, it is necessary to develop a tourism policy that works towards increasing the revenue from tourism while satisfying conditions including the preservation of natural and social environment. With this background, it was decided that the relevant training would be carried out in Singapore where the tourism industry has already been well-developed. In September 1997, the R/D (the Record of Discussion) was signed and exchanged for the execution of this training based on the Japan Singapore Partnership Program for the 21st century (JSPP21) [1].

2. Project Overview

(1) Period of Cooperation

FY1997 − FY2000

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

Technical Cooperation Division at the Ministry of Foreign Affairs
Temasek Polytechnic

(4) Narrative Summary

1) Overall Goal

The training participants play a major role in human resource development for those who are associated with the tourism industry in their country.

2) Project Purpose

The trainees' skills and knowledge on fostering workers engaged in the tourism are improved.

3) Outputs

a) A training course for those who are engaged in the tourism industry is designed.
b) Effective teaching methods for training of those engaged in the tourism industry are acquired.
c) Teaching methods that are suitable to their country are chosen from the acquired ones and utilized.

4) Inputs

Japanese Side

Short-term experts	4
Local cost	14 million yen

Singaporean Side

Instructors	12
Staff	5
Local cost	14 million yen

(5) Participant Countries

Cambodia, Egypt, Fiji, India, Indonesia, Laos, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Sri Lanka, Vietnam, East Timor, and Mauritius.

3. Members of Evaluation Team

JICA Singapore Office
(Commissioned to Acequia Information Services)

4. Period of Evaluation

4 December 2000 − 31 March 2001

5. Results of Evaluation

(1) Relevance

Recently, in many countries in the Asia-Pacific area, there is an attempt to increase the number of tourists by means such as establishing "the year of tourism." It is quite significant to conduct the training in Singapore, where the tourism industry is well-developed.

(2) Effectiveness

According to the questionnaires from the training participants who returned to their own countries (28 out of 58 targeted replied, with a reply rate of 49%.), nearly 90% of the participants answered that their skills for training people in the tourism industry had improved due to the program. Moreover, when asked about the applicability of this training, almost all of the trainees answered that it was useful for their work. Therefore, the effectiveness of this course is highly recognized.

(3) Efficiency

Analyzing from the comments of the person in charge of Temasek Polytechnic and the expenses, the training is recognized as being high in quality and efficiency.

However, the selection of the training participants remains an issue. For this training program, there has not been a appropriate selection of participants. A lecturer suggested that the training should be aimed exclusively at high-ranking officers from the tourism department and teachers from specialized schools of tourism.

(4) Impact

According to the results of the questionnaire, 97% of the respondents answered that they utilized the knowledge and skills obtained from this training for their work, and all shared their acquired knowledge with other people. 64% made manuals with the knowledge they obtained.

Almost 90% of the trainees' bosses who answered the questionnaire commented that the trainees' performance had been improved by their participation in the training. Therefore, this project had a great impact on the policy, system, and the administration of the tourism related fields in each country.

(5) Sustainability

According to the questionnaires from trainees and their bosses, 96% of the ex-trainees continue to work in tourism administration, and nearly 90% work for the same organization as before. 75% are using the textbook from this training program for their daily work, and 64% compiled the acquired knowledge in some kind of a report or a manual.

End-of-training ceremony

Considering all of these aspects, the effects of this project are sustainable enough.

6. Lessons Learned and Recommendations

(1) Recommendations

It is necessary to choose Japanese lecturers who are suitable for the required contents derived from the analysis of the evaluation carried out after training each year.

When training participants are selected, special attention must be paid to their positions in their organizations and their ability of the language used in training, English.

7. Follow-up Situation

Based on the recommendations given above, the tourism English course was established in fiscal year 2000 for trainees from Cambodia, Laos, and East Timor, whose English ability was insufficient. The selection of Japanese instructors was also made to appropriately respond to the required training subjects.

[1] This is a framework for assisting the economic development of developing countries, which was set up in 1997 to effectively combine human resources, technology, and the funds of both Japan and Singapore.

Singapore

Aeronautical Information Services

Project Sites Singapore

1. Background of Project

In many countries in the Asia-Pacific area, the aeronautical information processing system has not yet been computerized. Only an elementary aeronautical information service (AIS) is provided to aircraft operators via Teletype and mail, and there is a high demand for an advanced aviation service that includes automation. Under such circumstances, Singapore has been promoting automated systems by constructing aeronautical information databases for the Asia-Pacific area in order to establish a position as "the center of the regional AIS system." The Singaporean Government considers it very beneficial to conduct training for the aeronautical information system in Singapore, as it contributes to the standardization of the AIS in the Asia-Pacific area. Thus, the R/D was signed and exchanged for the training in September 1997 conforming to the "Japan Singapore Partnership Program for the 21st Century (JSPP21) [1)] ".

2. Project Overview

(1) Period of Cooperation

FY1997 − FY2001

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

Technical Cooperation Division, Economic Cooperation Bureau, the Ministry of Foreign Affairs
Singapore Aviation Academy(SAA)

(4) Narrative Summary

1) Overall Goal

The aeronautical information service of the Asia-Pacific countries is improved via training that increases the participants' knowledge and understanding of technology as required for aeronautical information officers.

2) Project Purpose

Knowledge and techniques about AIS are improved among the training participants.

3) Outputs

a) The training participants acquire specialized knowledge and technology for AIS.
b) The training participants function effectively as AIS officers.

4) Inputs

Japanese Side

Short-term experts	5
Training expenses	approx. 32 million yen

Singaporean Side

Instructors	33
Training expenses	approx. 32 million yen

(5) Participant Countries

Bangladesh, Bhutan, Cook Islands, Fiji, Laos, Marshall Islands, Myanmar, Nepal, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Tonga, Vanuatu, and Vietnam.

3. Members of Evaluation Team

JICA Singapore Office
(Commissioned to Acequia Information Services)

4. Period of Evaluation

4 December 2000 − 31 March 2001

5. Results of Evaluation

(1) Relevance

Many Asia-Pacific countries depend on elementary AIS such as mailing. Therefore, they demand advanced AIS that includes computerized systems. According to the survey carried out on the training participants after their return (32 out of 57 training participants replied), 56% of the respondents indicated that "the training was

useful and appropriate for the actual work," and 53% replied that "the knowledge acquired can be applied to their actual work." Hence, this training is assumed to satisfy their needs, and its relevance is confirmed.

(2) Effectiveness

A total of 57 people have participated in the training over a four-year period. Lectures were conducted on 23 subjects including the function of the NOTAM (Notice To Airman) office, AIP (aeronautical information publication) and its correction, and the CNS/ATM (Communication, Navigation, Surveillance/ Air Traffic Management) summary. According to the survey mentioned above, 44% of the respondents reported that they wrote textbooks or manuals after their return based on the acquired knowledge and experience from the training. 44% replied that they use the textbook from the training course for their daily tasks. On the other hand, 12% answered that they have not written any textbooks nor manuals, and 12% replied that they have not referred to the textbook for the daily work.

Regarding their supervisors' opinions, 56% of the supervisors evaluated the AIS activities of their organization as having been greatly improved due to their subordinates' participation in the training program.

(3) Efficiency

As a whole, the input was used appropriately and economically, and the standard of the training was high. This training is assumed to have achieved a high efficiency.

More than 50% of the trainees responded gave high ratings to the level of training, the quality of the lecturers, and the convenience of the training facility, as a result of the SAA having made serious efforts for the training program. Only 2% of the respondents remarked that they had some dissatisfaction. SAA instructors reported that no communication problems were caused by language barriers, and the participants' preliminary knowledge about the AIS training reached a certain level. They concluded that there were no problems that influenced the efficiency of the training.

(4) Impact

The training had a direct impact in terms of leading the participants to a level where they could perform their tasks with the ICAO (International Civil Aviation Organization) standard. An indirect impact can also be seen in the diffusion of AIS knowledge to the participants' colleagues and other co-workers. In the questionnaire, 47% of the responded trainees answered that they shared the knowledge acquired in their training with other people, including colleagues. Another impact is that an agreement over the AIS information procedure was enacted between the Cook Islands and the surrounding areas, although only six participants from the Cook Islands attended the trainings.


Singapore Aviation Academy

(5) Sustainability

At the time of the evaluation, all respondents answered that they were continuously engaged in aviation-related jobs, and 49% of them were engaged in AIS activities. The number increased to 53% along with the number of workers at ATC (Aviation Control System) and ATS (Air Traffic Services). Some of the participants who were excluded from the above numbers were promoted to manager positions at airports or advisor positions.

In addition to these facts, knowledge on AIS is assumed to settle as the outcome of the training programs are widely diffused in each participating country through manuals written by the participants and through on-the-job training.

6. Lessons Learned and Recommendations

(1) Recommendations

According to the survey, only 49% of the ex-trainees and 56% of their supervisors knew that the training was carried out with JICA's assistance. We need to reflect on this fact. It is also necessary to steadily promote public relations keeping in mind the promotion of "help with a human face".

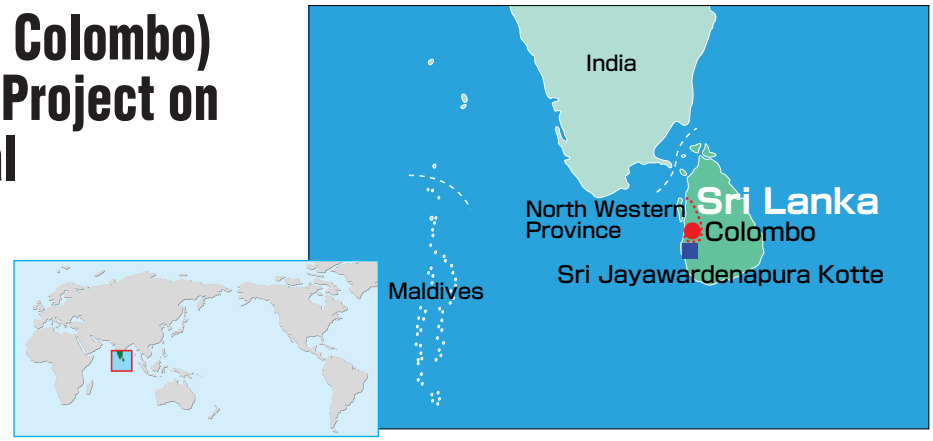
7. Follow-up Situation

As recommended above, an introduction of JICA by the JICA office was included in the training course executed in fiscal year 2001.

[1] This is a framework for assisting the economic development of developing countries, which was set up in 1997 to effectively combine human resources, technology, and the funds of both Japan and Singapore.

Sri Lanka

U.C. (University of Colombo) - JICA Joint Study Project on Participatory Rural Development



Project Sites Colombo

1. Background of Project

Since 1979, Sri Lanka has been implementing the Integrated Rural Development Programme (IRDP), in which certain achievements in infrastructure development have been recognized. However, since it lacks a scheme under which residents can take initiative, it is less successful in poverty reduction and the creation of new jobs. Thus, most of the recent IRDP projects adopted participatory approaches. On the other hand, the approach has not yet been established since it is pointed out that it is not appropriate to the social structure, political background and development process.

The University of Colombo has contributed to the IRDP through the training of administrative officers engaged in area development and commissioned researches. In order to employ the university's knowledge of rural development projects in the area, the Sri Lankan Government requested Japan a research cooperation with the university as an implementing organization.

2. Project Overview

(1) Period of Cooperation

1 July 1998 − 30 June 2001

(2) Type of Cooperation

Joint Study

(3) Partner Country's Implementing Organization

University of Colombo and the Northwestern Provincial Government

(4) Narrative Summary

1) Overall Goal

The socio-economic conditions of rural communities are improved.

2) Project Purpose

The methods of participatory development with the commitment of the university are improved.

3) Outputs

a) The improved methods for participatory development are identified.

b) An appropriate system of sustainable University-Rural Extension Service is identified.

c) An appropriate system of sustainable University-Community Extension Service is identified.

4) Inputs

Japanese Side

Long-term experts	2
Short-term experts	8
Trainees received	8
Equipment	14 million yen
Local cost	7 million yen

Sri Lankan Side

Counterparts	6
Facilitators [1)]	12
Assistants	3
Local cost	26 million yen

3. Members of Evaluation Team

Team Leader:
Takashi KANEKO, Managing Director, Regional Department II, JICA

Regional Development:
Yoshio KAWAMURA, Vice President, Ryukoku University

Evaluation Planning:
Hideya KOBAYASHI, Southwest Asia and Oceania Division, Regional Department II, JICA

Evaluation Analysis:
Ikuo YAMAMOTO, Senior analyst, IC Net Limited

4. Period of Evaluation

7 January 2001 − 25 January 2001

5. Results of Evaluation

(1) Relevance

Since this project agrees with the local people's needs and the policy of the government on emphasizing participatory development, this project is relevant. The Univer-

sity of Colombo has a history of practical research in the regional community, which also corresponds to the needs of the implementing organization.

(2) Effectiveness

Based on the practical research, the participatory method was utilized in six villages in the Northwestern Province, with a total of 29 community-based programs. As a result, people in each village showed their solidarity, enthusiasm, and independence, which can be seen as an indicator of the effectiveness of this method. Based on the results of the practical research, eight research reports have already been produced [2], and eight outputs are scheduled to be composed. In terms of establishing an appropriate system for sustainable rural extension services, it is getting achieved as an interdisciplinary effort in the form of campaigns on community health awareness (Department of Community Medicine) and legal awareness (Faculty of Law). Above all, it can be said that the objective of this project will be almost completely achieved within the cooperation period.

(3) Efficiency

The Japanese input of human resources and equipment was carried out as planned. However, the fund released by the Sri Lanka was delayed holding off the projects in the villages. At the beginning of the project, the local decision-making function was poor due to the fact that team leader was in Japan, and it caused an arrearage in the effective execution of the project. However, it was corrected for the dispatch of a mission in May 2000, and became more efficient.

(4) Impact

In the University of Colombo, the meaning of the community extension service and the importance of interdisciplinary efforts were recognized by the persons concerned, and the students also acquired practical knowledge by participating in the project activities. Other universities have also shown their interests in dealing with the community extension services using this project as a model. In the villages where the project activities were carried out, solidarity, enthusiasm, and independence of the people have increased promoting activities in search of new income generation methods such as aquarium fish firming. Women and young people taking initiatives in the activities are increased as well.

(5) Sustainability

In the University of Colombo, abilities for research, project management and ownership have been greatly improved. In this sense, it has become possible to manage projects independently. Also, the growing recognition that coordination with communities is also important for the development of research and education has encouraged the use of the project experience in classrooms and interdisciplinary approaches. Furthermore, there is a plan to establish a Development Research Institute in the university, which would enable activities to be sustained.

Building of an agricultural reservoir (cooperation of villagers)

6. Lessons Learned and Recommendations

(1) Lessons Learned

For projects that support social dimensions in development, it is necessary to respond flexibly and to be in accordance with the course of changes in the research subjects.

At the early stage of this project, the terms of reference of the long-term expert did not include "work related to making decisions on important issues as project management," and the on-site decision-making structure was weak. It negatively influenced attempts to build a trusting relationship between the counterparts concerned. Given this experience, it is important to clarify a project's decision-making structure the beginning of the project.

(2) Recommendations

In order to deepen, effectively utilize, and extend the participatory rural development method achieved in this project, it is important to continue the research activities. It would also be desirable to organize seminars and establish a system for social extension in the university. Regarding the six villages that were subjects of the project activities, it is desirable to carry out an ex-post evaluation one year after the end of the cooperation period to confirm efficiency and sustainability.

7. Follow-up Situation

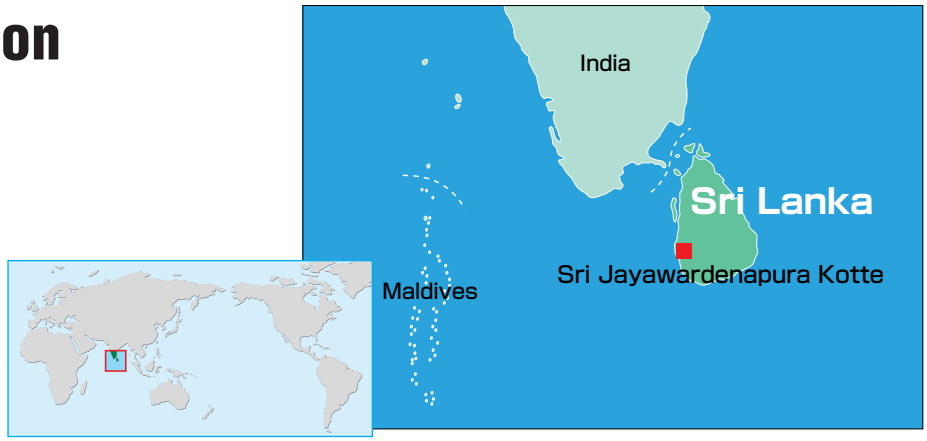
Given the above recommendations, the post-project evaluation will be conducted in 2002.

[1] They served as coordinators between the Japanese experts, their counterparts at Colombo University, and the villages, as well as supported in organizing and awareness-raising in the villages.

[2] Geography and Resources (organized information on the geographical conditions and resources of each project site), Experience of the Field Manager (issues based on the experiences of field managers), Economic Condition of Rural Villages (analysis on the economic conditions of each site), and others.

Sri Lanka

Nursing Education Project



Project Sites Sri Jayewardenapura Kotte

1. Background of Project

In Sri Lanka, the absolute number of nurses has been in shortage (64 nurses for every 100 thousand people), and resolving this problem has been a critical issue in the country's health policy.

Under these circumstances, the Government of Sri Lanka requested that Japan grant aid to establish a new nursing school, along with a project-type technical cooperation for training specialized nursings, such as the usage of ICU (Intensive Care Unit) and CCU (Cardiac Care Unit). Accepting this request, the National School of Nursing, Sri Jayewardenepura was build by a grant aid in 1996. As for technical cooperation, based on the preliminary studies done in August 1995, it was agreed with the Government of Sri Lanka that the project-type technical cooperation was aimed towards improving the quality and level of education at the ten other national nursing schools, and that the National School of Nursing, Sri Jayewardenepura would be treated as the model case in the improvement of basic education.

2. Project Overview

(1) Period of Cooperation

1 October 1996 − 30 September 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

National School of Nursing, Sri Jayewardenepura

(4) Narrative Summary

1) Overall Goal

Nursing service is improved.

2) Project Purpose

A model nursing school is established, and basic education on nursing is enhanced.

3) Outputs

a) Effective nursing education is practiced at the new nursing school.

b) With emphasis on the new school, the level of teachers in all national nursing schools is improved.

c) With emphasis on the new school, the management of all national nursing schools is improved.

d) With emphasis on the new school, instruction on clinical practice to students in all national schools is improved.

e) Education equipment and material are provided and utilized in all national nursing schools, including the model school.

4) Inputs

Japanese Side

Long-term experts	7
Short-term experts	19
Trainees received	13
Equipment	160 million yen
Local cost	40 million yen

Sri Lankan Side

Counterparts	8
Land and facilities	
Local cost	

3. Members of Evaluation Team

Team Leader:
Yuujiro HANDA, Development Specialist, Institute for International Cooperation, JICA

Nursing Education:
Michi TAKAHASHI, Deputy Managing Director, Japanese Nursing Association Publishing Co.

Technical Transfer Planning:
Yutori SADAMOTO, First Medical Cooperation Division, Medical Cooperation Department, JICA

4. Period of Evaluation

1 April 2001 − 13 April 2001

5. Results of Evaluation

(1) Relevance

The Ministry of Health has been aware of the shortage of nurses at the time of the evaluation, and the need for prompt development of human resources have yet to be fully met. Therefore this project's relevance is considered to be very high.

(2) Effectiveness

Concerning the five outputs expected, most were achieved up to a satisfactory level at the model school. Factors such as the rise in the level of students entering the school, development of instruction guidelines, creation and distribution of teaching materials, and research classes for the teachers have triggered an improvement in the capabilities of teachers in the model school. By regularly holding school principal's meetings, the management capabilities of the other ten schools have improved. The level of teachers and curriculum were improved and systemized as a model school.

However, in schools other than the model school, the instructions on clinical practices, utilization of education material and re-education of the teachers all would be difficult to achieve within the project period. Therefore, the project as a whole has not been fully accomplished.

(3) Efficiency

Equipment for educational purposes arrived on time before the new school opened, and stimulated a smooth education process. The period for the counterpart training sessions in Japan was carefully arranged so that it would not affect the management of schools, and was therefore efficient.

The new guidelines and textbooks that were developed through the technical transfer of Japanese experts were distributed to nursing schools throughout the nation. It contributed to the standardization of training and the awareness of teachers in each school, previously reliant on individual teachers' capabilities. However, the guidelines were not used at full value in schools other than the model school.

Experts were dispatched to designated hospitals for clinical practices, and training programs that include the re-education of hospital nurses who were in a position to instruct trainees were made. Although this approach needs further improvement, it is leading to better clinical practice.

(4) Impact

At the model school, there are still not enough teachers who can provide and maintain the quality of training required, resulting in heavier burdens on the existing teachers. On the other hand, their attitude of learning more in areas of not only nursing education but also nursing research have emerged, which led to even further improvement in their levels. However, the project created a huge gap between the model school and the ten other schools in the areas of infrastructure and the attitudes of the teachers.

(5) Sustainability

At the model school, a system was introduced whereby the cost of textbooks was borne by the trainees, and the amount collected was used to print the oncoming textbooks. The system enabled long-term diffusion of the textbooks. Also, school principal's meetings are now held voluntarily. Middle management training sessions, originally borne by the local costs from the Japanese side, were gradually shifted and are now borne by Sri Lanka. However, there still remains a shortage of teachers, and the Ministry of Health is expected to seriously tackle this problem.

A class at a nursing School

6. Lessons Learned and Recommendations

(1) Lessons Learned

In the field of nursing education, caution is needed that the Japanese method of managing nursing schools does not apply completely to some countries. There are no particular standards in the area of nursing procedures, each country having their own appropriate methods. It is necessary to adapt cooperation to the country's unique methods.

(2) Recommendations

The shortage of nurses in Sri Lanka is caused by the lack of teachers in the field of nursing. In addition to strongly advising the Ministry of Health to augment the personnel, considering cooperation to graduate training organizations is essential.

For the low diffusion of educational materials and curriculums in the ten non-model schools, it is necessary to investigate the cause, and to further monitor and extend activities.

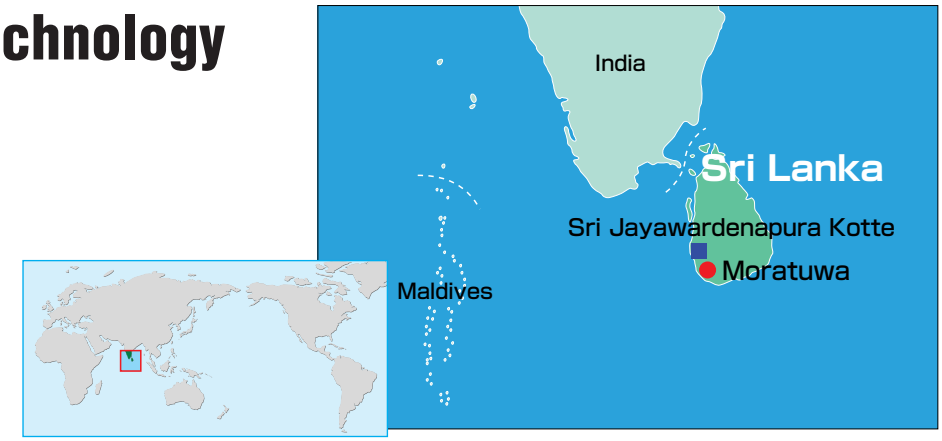
In order to see the shortage of nurses as a national issue and compile a nurse fostering plan, it is essential to fully understand the actual situation of nursing education of both national and private nursing schools, and to establish a comprehensive strategy to strengthen the total education system.

7. Follow-up Situation

A dispatch of an individual expert is planned in Kalubowila Hospital, one of the clinical practice hospitals, to further strengthen its function as a clinical practice hospital.

Sri Lanka

The Foundry Technology Development



Project Sites Moratuwa

1. Background of Project

The Government of Sri Lanka was drafting a "Master Plan for Industrialization" to establish a domestic industrial infrastructure. In the plan, the machinery industry was highly prioritized, and as a part of the machinery industry, metalworking was expected to contribute largely to the invigoration of the domestic economy. However, in the industry, the improvement of quality for domestic products was urgently required under price competition with foreign products.

Therefore, the Government requested a project-type technical cooperation to Japan for technical improvement and training of technicians in foundry, prioritized among metal processing techniques.

2. Project Overview

(1) Period of Cooperation

1 December 1995 − 30 November 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Ministry of Industrial Development
Industrial Development Board (IDB)

(4) Narrative Summary

1) Overall Goal

The technical capability and production capacity of the foundry industry in Sri Lanka are improved.

2) Project Purpose

The IDB is enabled to provide appropriate technical services for the foundry industry.

3) Outputs

a) The project management system in the IDB is strengthened.
b) Foundry machines are properly procured, installed, operated and maintained.
c) The capabilities of counterparts are improved.
d) Training courses on foundry are systematically conducted.
e) New technologies on foundry are introduced to technicians and engineers through seminars and publication of documents.

4) Inputs

Japanese Side

Long-term experts	12
Short-term experts	37
Trainees received	15
Equipment	387 million yen
Local cost	12 million yen

Sri Lankan Side

Counterparts	14
Local cost	118 million yen

3. Members of Evaluation Team

Team Leader:
Masahiko KANEKO, Deputy Managing Director, Mining and Industrial Development Cooperation Department, JICA

Technical Cooperation Planning:
Katsumi YAMAMOTO, Deputy Director, Machinery and Information Industries Bureau, Ministry of International Trade and Industry (MITI)

Technology Transfer Planning:
Toshikazu OSHIMA, Technical Advisor, The Materials Process Technology Center of Japan

Engineer Training:
Chikako YAMAUCHI, Assistant Manager, Planning Division, The Materials Process Technology Center of Japan

Evaluation:
Takehiro HOZUMI, Staff, First Technical Cooperation

Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:

Ayako WATANABE, Social Planner, Regional Planning International Co. Ltd.

4. Period of Evaluation

27 August 2000 − 5 September 2000

5. Results of Evaluation

(1) Relevance

The overall goal of this project has been relevant to the Government's policy to develop the foundry industry, which placed priority on the industrial master plan as a supporting industry. The IDB has been the sole organization that provides training to foundry technicians in Sri Lanka. It is expected to provide appropriate technical services while a severe lack in human resources in this field is noted. Thus, the project is deemed relevant.

(2) Effectiveness

The counterparts reached the level where they are able to produce and to instruct the production of fundamental and essential foundry products. They also acquired the ability to hold seminars and training courses on their own.

However, they have had rather short of experience and hence have not yet reached the level required to play a leading role in meeting various technical requirements from private foundries. Therefore, the project purpose has not been fully attained.

(3) Efficiency

Since the period of technology transfer was virtually limited to two and half years as some large-scale machinery consumed almost half of the five-year project span for installation. The delay prevented the counterparts from obtaining adequate experience.

(4) Impact

Some private factories invested in environment-friendly equipment and machinery or grew as a mechanized plant upon technical consultation with the IDB. However, in order to contribute to the technical betterment of the whole foundry industry, further enhancement of technology level is necessary to provide appropriate technical consulting services to the private sectors.

(5) Sustainability

The Ministry of Industrial Development assured that it would continue to provide necessary budget for the IDB leading it to be financially self-sufficient.

However, the IDB is concurrently expected to cover as much of its operational expenses by its own income as it can.

Work site of foundry

6. Lessons Learned and Recommendations

(1) Recommendations

The IDB is further required to enhance its production capability of high technical level products that do not compete with the private sector and at the same time become self-sufficient.

On the other hand, the importance of the provision of training and technical consultation will further increase in order to support the private sector in solving various technical problems, improving product quality and developing new products through the application of fundamental production capability. The IDB should acquire not only fundamental skills but also the ability to apply new technologies in order to continue providing appropriate technical services.

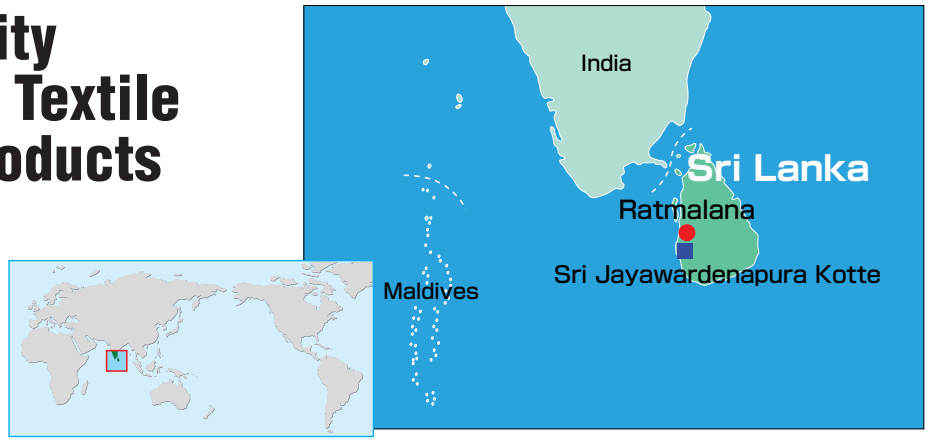
As the counterpart has not yet fully acquired the technical capabilities of the highest level, follow-up activities are considered necessary.

7. Follow-up Situation

Follow-up cooperation for supplementary technology transfer regarding foundry techniques acquired through the project has been carried out since 2001, and is expected to continue for two years until 2003. Advice on production skills and plant management to support IDB sustainability is also under way.

Sri Lanka

Project on Quality Improvement of Textile and Clothing Products



Project Sites Ratmalana, Colombo

1. Background of Project

The textile industry, and mainly apparel manufacturing, is a major industry in Sri Lanka and its export value has been the largest of all export industries. However, the textile industry has been dominated by subcontractors taking advantage of low-cost labor and depending mostly on imported raw materials. Therefore, it has been an important issue for the textile and apparel industry to gain competitiveness in exporting products by 2005 when the Multi Fiber Agreement (hereinafter referred to as MFA), which has been advantageous to Sri Lanka, will be discontinued. Given such circumstances, the Government of Sri Lanka requested a Project-type technical cooperation from Japan with the purpose of upgrading material production technology and inspection and testing skills in the existing Textile Training & Services Centre (hereinafter referred to as TT&SC). In response to the request, cooperation activities including establishment of apparel technology and quality certification system were commenced.

2. Project Overview

(1) Period of Cooperation

1 April 1996 – 31 March 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Textile Training & Services Centre (TT&SC)
Clothing Industry Training Institute (CITI)
Ministry of Industrial Development

(4) Narrative Summary

1) Overall Goal

The quality of Sri Lankan fabrics and garments will be improved.

2) Project Purpose

Technical services extended by TT&SC and CITI are upgraded.

3) Outputs

a) Project operation system is established.
b) Necessary machinery and equipment are properly provided, installed, operated and maintained.
c) The skills and ability of the counterpart are improved.
d) Training courses and seminars are implemented systematically.
e) Testing and inspection services are implemented systematically.
f) Consultancy services are implemented systematically as a trial.

4) Inputs

Japanese Side

Long-term experts	11
Short-term experts	11
Trainees received	16
Equipment	approx. 1.96 million yen
Local cost	approx. 0.2 million yen
Total cost	approx. 8.9 million yen

Sri Lankan Side

Counterpart	19
Land, facilities and equipment	
Local cost	approx. 1 million yen

3. Members of Evaluation Team

Leader:
Masaaki HANAI, Senior Advisor, JICA
Technical Cooperation Planning:
Yasuo MIYAMURA, Deputy Director, Textile Division, Consumer Goods Industry Bureau, Ministry of International Trade and Industry (MITI)
Technical Transfer Planning:
Nobuhiro TSUTSUMI, President, The Japan Cotton & Staple Fiber Fabric Inspecting Institute Foundation
Textile and Clothing Technology:
Kazumasa HARA, Vice-chief, Testing and Research Department, The Japan Cotton & Staple Fiber Fabric Inspecting Institute Foundation
Evaluation Management:
Tomomi IBI, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA
Evaluation Analysis:
Takeshi INOUE, Technology Fine Inc.

4. Period of Evaluation

8 January 2001 − 25 January 2001

5. Results of Evaluation

(1) Relevance

Placing the textile industry as a priority industry for the introduction and acquisition of foreign capital, promotion of employment, and promotion of regional development, the Government of Sri Lanka has given supporting measures such as tax incentives. Quality improvement has been an important task for the textile industry to acquire international competitiveness. Therefore, this project met with the needs of the textile industry.

(2) Effectiveness

Each service in TT&SC and CITI became active through the implementation of the project. The number of training courses in CITI was increased, and the level of satisfaction with the seminar was high according to questionnaires conducted on the participating companies. Also, in testing services of TT&SC, testing techniques were improved for 63 testing items and 18 new tests were introduced. The number of requests for testing from companies increased from 8,307 in 1996 to 14,571 in 2000. Furthermore, they obtained ISO9002 in 1998 and received recognition as a designated testing laboratory from Western companies.

Meanwhile, with the support of the Asian Productivity Organization, about 10 staffers per year, mainly from the testing, dyeing, operation management and engineering departments participated in overseas training. These external factors also played a complementary role in achieving the project purpose.

(3) Efficiency

With the efforts of the Sri Lankan side installation of machinery was completed in early stage of the project, which was a smooth start to the project. Most of inputs of the project, experts, machinery, acceptance of trainees, and costs of visiting testing facilities in other countries were generally appropriate in terms of quality, quantity and timing.

(4) Impact

Due to the abolishment of customs duties since 1998, companies had difficulty in improving quality by means of new investment. This project, however, has known to contribute the improvement of productivity and quality by spreading the attachment technology[1)] throughout the country.

TT&SC and CITI extended knowledge and skills obtained from the project to neighboring nations such as Bangladesh, Nepal, the Maldives and Myanmar by conducting Third-Country Training.

(5) Sustainability

Since the textile industry remains important for the future, requirements for the services of TT&SC and CITI continue to exist, as a central organization that provides technical assistance. From an operational aspect, there is a plan for the two organizations to be affiliated in the near future, which leads to expectations for more efficient management. From a technical aspect, they have enough leadership, planning and technical ability to continue each service independently in the future. From a financial aspect, 60% of the expenditure in 2001 was supplied by their own income, and their incentives to increase income are high. Hence, it is expected that the effects of the project will continue in the future.

Making samples using sewing machines with thread trimmer

6. Lessons Learned and Recommendations

(1) Lessons Learned

In this project, the fare receipts from the service of the implementing organizations have contributed to the maintenance of machinery/equipment, smooth implementation of the activities, and assurance of sustainability. Therefore, when one plans a project, it is desirable to call upon the recipient country to establish a system generating one's own income or to include activities leading to income generation in the project.

(2) Recommendations

In order to continue technical assistance for urgent issues in the textile industry, and to further improve productivity, product management and total quality control, it is necessary to promptly establish the Quick Response Center (QRC), which will provide consultancy services that have been implemented on a trial basis. It is also necessary to attain ISO/IEC17025 in order to gain international recognition and reliability.

7. Follow-up Situation

As of August 2002, in response to the above recommendation, currently there is one long-term expert (apparel technology) dispatched to the QRC, which was established by the Sri Lankan Government.

1) Attachment is an auxiliary instrument of cloth handling for sewing machines and it required experienced technique to handle this, but in this project this technique was systemized as a universal technology.

Thailand

Effective Countermeasures against Drug Offenses and Advancement of Criminal Justice Administration

Project Sites Bangkok

1. Background of Project

Drug-related crimes are among the most urgent crime issues today. In spite of the efforts made by each country, the rate of drug-related crime has been increasing, and the modus operandi of drug-related crimes is leaning towards greater sophistication. In recent years, new issues are also arising. There has been an increase in the illegal manufacturing and trafficking of stimulant drugs in addition to heroin, and increasingly younger people are getting involved in drug crimes.

Under these circumstances, the Thai government established the Office of the Narcotic Control Board (ONCB) in the Prime Minister's office. It grapples with the synthetic drug countermeasure, achieving satisfactory results. Based on these experiences and results, the Government of Thailand requested of Japan to offer a third country training program. This training was executed for five years from fiscal years 1992 to 1996. It was extended from 1997 to 2000 as a result of the terminal evaluation in fiscal year 1996.

2. Project Overview

(1) Period of Cooperation

FY1997 − FY2000

(2) Type of Cooperation

Third Country Training Program

(3) Partner Country's Implementing Organization

The Office of the Narcotic Control Board (ONCB)

(4) Narrative Summary

1) Overall Goal

The drug control system is intensified in each country and each region of the Asia-Pacific region.

2) Project Purpose

Know-how on drug control methods and related laws is acquired by the trainees.

3) Outputs

a) The actual situation of drug offenses in the region is recognized.
b) Efficiency and appropriateness of the existing practices of criminal justice systems in dealing with the drug problem and drug-related criminality are examined.
c) The cause of drug-related crimes and effective countermeasures against drug offenses are analyzed.
d) Present countermeasures of each country against drug offenses are analyzed.
e) Necessary information regarding drug offenses and countermeasures is exchanged.
f) Feasible and effective countermeasures are developed.
g) International policies against drug offenses are formulated.

4) Inputs

Japanese Side

Short-term experts	7
Training expenses	

Thai Side

Lecturers
Local cost
Facilities and equipment

(5) Participant Countries

Indonesia, Malaysia, the Philippines, Cambodia, Laos, Vietnam, Myanmar, China, South Korea, Mongolia, Bhutan, Bangladesh, India, Nepal, Pakistan, Sri Lanka and Papua New Guinea.

3. Members of Evaluation Team

Team Leader:

Takashi HATAKEYAMA Director, Indo-china Division, Regional Department I, Japan International Cooperation Agency (JICA)

Technical Evaluation:
Hiroshi IITSUKA Professor, United Nations Asia and Far East Institute for the prevention of Crime and the Treatment of Offenders (UNAFEI)
Training Execution Evaluation:
Daisuke YAMAMOTO Staff, Indo-china Division, Regional Department I,
Japan International Cooperation Agency (JICA)

4. Period of Evaluation

19 February 2001 − 28 February 2001

5. Results of Evaluation

(1) Relevance

Effective and rapid countermeasures against drug offenses are necessary in the Asia-Pacific region due to drug-producing areas within. Most notably, a large opium field, "the Golden Triangle," is bordered by Thailand, Myanmar, Laos, and China. Therefore, international cooperation is indispensable when taking countermeasures against drug offenses. Based on these facts, the execution of a third country training program that aims at improving knowledge and technical skills for drug eradication is in accordance with the needs of the Asia-Pacific region.

The ONCB is located in Thailand, where countermeasures against drug offenses are internationally highly valued. Cooperating with the international agencies and police organizations, the ONCB has been dealing with the planning and execution of training programs on anti-drug measures. Therefore, project implementation by this organization is highly relevant.

(2) Effectiveness

According to the questionnaire conducted with the training participants, for the question "Do you think the course was useful considering the present situation facing your country in this field?", 19 participants out of 23 answered that it was "extremely useful." Therefore it is considered that the objective of this training program has been achieved.

Furthermore, in an interview survey, some participants said that it was meaningful for them to have the opportunity to exchange knowledge with neighboring countries on drug-related crimes and develop legislation based on actual situations of their countries. Therefore, the program also contributed to the recognition of the current drug offense situation in the region.

(3) Efficiency

The training was effectively carried out by a few adjustments. For example, the contents of the training curriculum were modified according to changes in the flow of drugs from opium or heroin to amphetamine-type stimulants. Meanwhile, it was pointed out that the training would have given better understanding if the duration of the training were extended for one more week in order to give participants more time to exchange information.

One problem lowering the efficiency of the training was the language barrier. There were some participants who could not communicate well in English, oftentimes falling behind in the training. One of the reasons for this was that the dispatching countries had not confirmed the candidates' English proficiency sufficiently. Also, the amount of information that could be exchanged depended strongly on the participants' duty position and language skills.

(4) Impact

For the question "How much of the knowledge, experience, and technology acquired from this training are useful to you in your work?", 18 out of 24 participants who answered the questionnaire gave 4 or 5 points out of 5. They have utilized the knowledge, technology, and experience from the training after returning to their own countries.

Some participants also extended activities by presenting acquired knowledge to their colleagues using the course report as a textbook. The course report and lecture materials on laws of each country are regarded useful for understanding the situations in neighboring countries.

(5) Sustainability

The ONCB is evaluated as having executed the training without any severe problems, and as having full management abilities required for executing training courses.

6 Lessons Learned and Recommendations

(1) Recommendations

Since the ONCB made considerable achievement in collaborating with international agencies and police organizations, Japan should continue to carry out cooperation with the ONCB, an indispensable base for regional cooperation against illegal drugs.

7. Follow-up Situation

Although this training was completed in 2000, a project, "Regional Training Course on Effective Countermeasures Against Drug Offenses and the Advancement of Criminal Justice Administration," has been implemented since June 2002 for a three-year period by the ONCB. The project's objective is to strengthen drug control by improving the drug analysis ability of Indo-china countries such as Thailand, Vietnam, Cambodia, Laos, and Myanmar.

Thailand

Water Supply Technology

Project Sites Bangkok, Chiang Mai, Khon Kaen, Songkhla

1. Background of Project

For human resource development of the water service organization in Thailand, the National Waterworks Technology Training Institute (NWTTI) was established with a Grant Aid from Japan. In NWTTI, two kinds of project-type technical cooperation were carried out over a period of eleven years. One is the "Thailand National Waterworks Technology Training Institute Project Phase I (1985－1991)" for transferring basic water supply technology. The other is Phase II (1994 － 1999) of the same project for transferring higher levels of technology. As a result of the cooperation, the Metropolitan Waterworks Authority (MWA) and Provincial Waterworks Authority (PWA) advanced their technical level greatly.

Under such circumstances, the government of Thailand recognized the importance of widely providing the knowledge and technology of NWTTI to the Asia-Pacific area, and made a request to Japan for third country training on transferring the latest technology and diffusing knowledge in the areas of water supply services.

2. Project Overview

(1) Period of Cooperation

FY1992 － FY2001

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

NWTTI

(4) Narrative Summary

1) Overall Goal

Training participants will contribute to improve the standard of living in their countries by increasing the water supply amount.

2) Project Purpose

Participants are provided with opportunities for training that will enhance their knowledge and technical level concerning water supply services.

3) Outputs

a) Training participants gain practical knowledge and experiences concerning waterworks technology and other related areas.

b) Training participants acquire abilities that contribute to solving various problems in water supply service technology in their own countries.

c) The training participants acquire practical technology through practices and inspections.

4) Inputs

Japanese Side

Short-term experts 6

Local cost

Thai Side

Instructors

Facilities and equipment

(5) Participant Countries

Cambodia, Indonesia, Malaysia, the Philippines, Pakistan, Laos, Vietnam, Sri Lanka, Bangladesh, Nepal, Papua New Guinea, Bhutan, Fiji, West Samoa, and Thailand.

3. Members of Evaluation Team

JICA Thailand Office
(Commissioned to IC Net (Thailand) Co. Ltd.)

4. Period of Evaluation

1 June 2001 － 22 June 2001

5. Results of Evaluation

(1) Relevance

Water supply service is one element of basic human needs, and is indispensable to improving sanitary conditions or maintaining an economic infrastructure. However, levels of knowledge and technology of waterworks have not reached an adequate level in the participating countries. Under such condition, this training was sufficiently planned in advance to assure that it would be appropriate to the needs of each country. As a result, the participants have given the training program a high rating. As this project is assumed to meet the needs of the participating countries, the relevance is high.

(2) Effectiveness

An approximately five-week training was implemented every fiscal year. The contents of the training covered a wide variety of areas, such as techniques for environment assessment, recent water supply services in Japan, and controlling and preventing leaks. In addition to the training in the central NWTTI in Bangkok, a study tour in the local NWTTI of each principal city was carried out to inspect the facts of waterworks in different socio-economical backgrounds.

Regarding the contents of the training program, the participants' opinions and impressions were collected and reflected in the curriculum. The training was managed flexibly in order to achieve its goal in response to the participants' needs.

(3) Efficiency

Concerning this project, delays or inaccuracies were not recognized in terms of dispatching Japanese experts or the input of materials. In short, the input was conducted as planned.

Moreover, the training support system on the Thai side was fully functional, and there were no serious problems in receiving the trainees or implementing the training. The training participants highly evaluated the appropriateness and the quality of the level of instructors and the curriculum.

(4) Impact

There is little information on whether the training participants contributed to the development of the waterworks in their countries. However, the participants from Laos, Cambodia, and Vietnam started waterworks related projects, as well as training courses and technology transfers to the local waterworks organizations.

(5) Sustainability

The ex-participants cannot always utilize the acquired knowledge and technology due to a lack of funds in their countries. Besides, not enough follow-ups or information exchanges were conducted for the returned trainees.

Training at the laboratory

However, it is assumed that the acquired knowledge and technology have been utilized to a certain extent as most of the training participants are consistently engaged in waterworks. Therefore, a certain level of sustainability for the acquired technology and knowledge can be recognized.

Although the ability of information management for NWTTI was not satisfactory, the training participants highly evaluated the training contents and system. An independent source of revenue was also established, so NWTTI seems sustainable as a training organization. In addition, cooperation by the Government of Thailand and the local NWTTI were evaluated to be functional.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Projects should establish networks among the cooperating organizations and training institutions in order to achieve steady outcome and sustainability. Furthermore, it is necessary to build an after-care system for training participants.

(2) Recommendations

Even after the completion of this project, the need for waterworks training is still high in the Asia-Pacific area. Although NWTTI has not made a clear statement about any future cooperation in water works training, we expect them to implement training individually as a leader of the institution of waterworks training in the area.

Thailand

Diagnostic Technology and Control Measures for Major Livestock Diseases

Project Sites Bangkok

1. Background of Project

In the Asia-Pacific area, the low productivity caused by livestock disease is a big drawback to the development of the livestock breeding industry. To cope with such a condition, Japan carried out projects in Thailand, such as the Grant Aid "National Institute of Animal Health (NIAH) construction (1985)," the Project-type Technical Cooperation "National Institute of Animal Health (NIAH) planning (1986－1993)," and the National Institute of Animal Health (NIAH) planning (1993－1998). These projects implemented the establishment of effective prevention and removal methods for five major livestock diseases (e.g. hog cholera), as well as the preparation of manuals to standardize diagnoses.

As a result, a significant outcome was produced such that the NIAH function was strengthened to improve the method for diagnosing foot-and-mouth disease.

Based on such development in NIAH, the Government of Thailand requested of Japan Third Country Training to improve the diagnosis of major livestock epidemics and epidemic prevention techniques in the Asia-Pacific area, as the livestock epidemics could expand across borders due to the migration of livestock.

2. Project Overview

(1) Period of Cooperation

FY1997－FY2001

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

National Institute of Animal Health (NIAH) Department of Livestock Development (DLD)

(4) Narrative Summary

1) Overall Goal

The livestock production is increased by improving the diagnosis and prevention system of major livestock epidemics for cattle and swine, and by planning to strengthen the collaboration of disease prevention and treatment in the Asia-Pacific area.

2) Project Purpose

Training participants' diagnosis and prevention technology is improved in terms of important livestock contagion diseases.

3) Outputs

a) Basic knowledge on major livestock epidemics and technical knowledge about economical influence are deepened.

b) Knowledge about the structure of epidemics is strengthened.

c) The diagnosis technology for livestock epidemics applicable to the surrounding countries is developed.

d) Basic knowledge and the means of prevention and treatment of livestock epidemics are understood.

e) Experiences are shared, and solidarity is established in the Asian-Pacific area

4) Inputs (Fiscal Years 1997-2000)

Japanese Side

Lecturers for instructors	7
Training expenses	approx. 18 million yen

Thai Side

Instructors	160
Training expenses	approx. 7 million yen

(5) Participant Countries

Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, the Philippines, Sri Lanka, and Vietnam.

3. Members of Evaluation Team

JICA Thailand Office
(Commissioned the following local consultants.)

Team Leader:
Porntip Udomsin Sukhothai, Thammathirat Open University

Animal Health:
Supote Methiyapun, Pet Specialist Co., Ltd.

Planning Evaluation:
Paranee Tahgwiwat Sukhothai, Thammathirat Open University

4. Period of Evaluation

9 February 2001 − 31 March 2001

5. Results of Evaluation

(1) Relevance

There is a risk of the livestock epidemics spreading over the borders. As it is a critical issue that epidemics cause low productivity in livestock breeding in the Asia-Pacific area, this project meets the needs of the participating countries.

(2) Effectiveness

A total of 63 people from 13 countries participated in this training. According to the survey of the training participants, almost everyone replied that their knowledge and technology were improved by this training course. Also, from a survey of the supervisors of the participants, almost all of them recognized improvements in the participants' ability. The supervisors also reported that the participants' knowledge and understanding of technology had positive effects on their organizations.

(3) Efficiency

According to interviews with NIAH staff members and other related people, there were no problems related to management of the training course. As for the quality of the instructors, many of the participants evaluated them highly. The instructors spent an average of 234 hours per 26 days training, providing a highly concentrated training program.

(4) Impact

94% of the respondents answered that they diffused their newly acquired knowledge and technology skills "through individual relations with colleagues." Moreover, 50% of the respondents held a seminar, 19% published papers, and 38% managed a training course in their organizations.

However, it is uncertain whether the training's outcome, which consists of improved diagnosis and prevention technology against the livestock epidemic, had a direct impact on the livestock breeding of each country. According to the survey, while 56% of the training participants answered, "The number of livestock diseases has been decreasing these past several years," 44% did not recognize such a tendency. The productivity of the livestock products is not influenced exclusively by livestock disease. It comes under the influence of many other factors such as the supply and demand of producers and consumers.


Laboratory training

Since the period of training was only five years, it is impossible to assess how much the livestock disease diagnosis and the epidemic prevention and treatment technology impacted livestock breeding in each participating country.

(5) Sustainability

Almost all of the training participants remained in their organizations, and carried out duties related to diagnosis and prevention for livestock epidemics. Based on this fact, the knowledge and sustainability of the technology acquired in this project were kept sustainable. Moreover, NIAH has high sustainability since the staff members and equipment were reserved in the budget on the Thai side.

6. Lessons Learned and Recommendations

(1) Recommendations

Even after this training was over, the need for technology improvement for the diagnosis and prevention of livestock epidemics is still high in the Asia- Pacific area. Therefore, Japan should continue to support this training.

Thailand

Reforestation and Extension Techniques for Lao Forester

Project Sites Udon Thani

1. Background of Project

Because the proportion of forest area to land decreased from 54% in 1954 to 26% in 1994 in Thailand, forest preservation and restoration through community forestry projects has become one of the priority policy issues. Japan has been providing cooperation through Grant Aid and Project-Type Technical Cooperation since the early 1990s, accumulating knowledge and techniques in regard to forest preservation and restoration.

On the other hand, in Laos, as the proportion of forest area has been decreasing by 1% every year since 1940, the area halved in size. The reasons for this are mainly traditional slash-and-burn farming, logging, and the war. The Government of Laos is aiming at preserving and restoring forests along with the effective utilization of resources to bring about socio-economic development. Hence it is regarded as an urgent issue to develop human resources who are capable of managing the forest resources and water sources at an operational level.

Based on these backgrounds, the governments of Thailand and Japan agreed to start the Third Country Group Training for Laos, using the "Japan Thailand Partnership Program." [1)]

2. Project Overview

(1) Period of Cooperation

FY1998 − FY2000

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

Ministry of Agriculture and Cooperatives (MOAC), Royal Forest Department (RFD)

(4) Narrative Summary

1) Overall Goal

Ex-participants contribute to encourage reforestation activities by local people in the context of community development.

2) Project Purpose

The trainees' skills for reforestation, forest management, extension, and the sustainable utilization of forest are improved.

3) Outputs

a) Reforestation techniques including nursery management are learned.
b) Agroforestry and other related forestry techniques are learned.
c) Management systems of forests and other related species such as fruit trees are learned.
d) Natural resource management with respect to community development is learned.
e) Extension methods to local people are learned.
f) Knowledge of forest conservation and watershed management is acquired.

4) Inputs

Japanese Side

Short-term expert 1
Training expenses

Thai Side

Instructors
Facilities and equipments

3. Members of Evaluation Team

JICA Thailand Office
(Commissioned to Sanyu Consultants (Thailand) Ltd.)

4. Period of Evaluation

February 2001 − June 2001

5. Results of Evaluation

(1) Relevance

As the Government of Laos puts a premium on preservation and restoration of forests, the training is highly necessary. Because Laos has much in common with Thailand in terms of natural conditions and languages, it seems highly relevant to conduct training in Thailand, where the local communities have the knowledge and skills of forest preservation and restoration.

(2) Effectiveness

Training was conducted for 56 forest administrative officers of each prefecture and area of Laos, and for 11 participants from the Thai RFD. Both the trainees and the training implementing organization RFD answered in a questionnaire and interviews that they improved their knowledge and skills sufficiently to achieve the expected objectives.

(3) Efficiency

Experts and the amounts and types of equipment were suitable for the contents. This training was implemented mainly in the Udonthani Nursery Center in the Northeast part of Thailand. As the center and the reforestation extension techniques had been provided by Grant Aid and Project-Type Technical Cooperation, "The Reforestation and Extension Project in the Northeast of Thailand phase", the efficiency of the cooperation by Japan is high.

(4) Impact

Laos has high expectations about utilizing the skills obtained from this training. There are examples in which ex-trainees implemented domestic training. However, because of the lack of budget, equipment, means of communication and transportation that are required for the trainees to carry out the extension of forestry techniques, it is presumed that the extension of the acquired skills is presently limited.

(5) Sustainability

Almost all of the trainees returned to their original work. However, funds and equipment to utilize the acquired techniques are not sufficient to continue technique extension activities.

Field trip to prpvince

A visit to mushroom growing facility

6. Lessons Learned and Recommendations

(1) Lessons Learned

As forestry training is effective for the preservation and restoration of forests, it should be conducted also to other Indochina countries (Myanmar, Vietnam, Cambodia) with similar geographical and natural conditions.

(2) Recommendations

Study tours and OJT (On-the-Job Training) should be added to the curriculum of the present contents of the training course.

Dispatching forestry experts to provinces or areas and providing training and funds to operators in forestry should be also considered since equipment, communication facilities, or other expenditures necessary for the extension of acquired techniques are limited.

[1] This collaborated program is agreed in August 1994 between our country and the Government of Thailand, in order to conduct development cooperation operations mainly to Indochina countries, based on Thai techniques accumulated by Japanese technical cooperation.

Thailand

Research Project for Higher Utilization of Forestry and Agricultural Plant Materials in Thailand

Project Sites Bangkok

1. Background of Project

Thailand's forests are diminishing rapidly due to increasing demand for timber fuelled by rapid economic development and an increase in population, as well as an increase in the cultivation of forests and slash-and-burn agriculture carried out by poor farmers. Thailand's Royal Forest Department prioritizes the maintenance of 40% of all land as forest in its national social and economic development plan and promotes afforestation. The Thai government recognized the need for technology that enables the efficient use of timber and development of timber alternatives, and requested Japan's assistance in a Project-type technical cooperation to develop a manufacturing technique for pulp and paper – which was expected to meet with increasing demand – and extention of the method.

In response, Thai and Japanese governments agreed to establish a project aiming at creating a new model for an agroforestry system that would enable the regional agricultural societies to sustainably develop through the production of pulp and paper.

2. Project Overview

(1) Period of Cooperation

1 August 1996 − 31 July 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Kasetsart University

(4) Narrative Summary

1) Overall goal

The effectiveness of the new agroforestry system model is verified, and the model is introduced into the rural communities in Thailand.

2) Project purpose

A new agroforestry system model with a higher utilization of forestry and agricultural plant materials is developed for sustainable rural development.

3) Outputs

a) The technologies on biological process of the agroforestry system are improved and developed.

b) A sustainable agroforestry system is identified and recommended.

c) Practical pulping technology for small-scale pulp mills is developed for the higher utilization of forestry and agricultural plant materials.

d) Utilization and management technology for pulping waste and plant material residues are developed.

4) Inputs

Japanese Side

Long-term experts	6
Short-term experts	15
Trainees received	17
Equipment	297 million yen
Local costs	22 million yen

Thai Side

Counterparts	99
Local costs	179 million yen

3. Members of Evaluation Team

Team Leader:
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Agroforestry:
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Pulp Technique:
Kazuhiko SAMESHIMA, Professor, Department of Forest Science, Faculty of Agriculture, Kochi University

Planning Evaluation:
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JICA

Evaluation Analysis:

Takahiro MIYOSHI, Fukuyama Consultant Co., Ltd.

4. Period of Evaluation

5 March 2001 − 16 March 2001

5. Results of Evaluation

(1) Relevance

The Thai government has paid great deal of attention to rural development in consideration of environmental conservation, giving this project a great deal of consistency with Thailand's policies. The relevance is also high given the needs of the counterparts and rural residents.

(2) Effectiveness

Activities related to forest ecosystems, plant physiology and tissue cultures have attained an output with a high degree of academic value. Recommendations regarding agroforestry systems are being organized and a schedule for completing the final report has been set. Although there are some delays in developing technology for efficient use of agricultural and forestry residues, the results expected from research into pulp technology and technology for managing the effluents have been achieved.

Technology related to the agroforestry system model was learned from researchers on the Thailand side, and the project purpose have achieved.

(3) Efficiency

The 1997 economic crisis had severe effects on Thailand's fiscal balance, and the Japan side had to take responsibility for additional input. This measure enabled activities to continue without delays or postponement. Also, technical exchanges with JICA projects in other countries, the sharing of lessons learned, and use of equipment in other schemes enhanced efficiency.

(4) Impact

The agroforestry system developed in this project is just starting to be used in national projects and corporate farms, so as of this point, the system's effectiveness and the potential for its extension to rural areas is not yet apparent.

(5) Sustainability

Judging from institutional capacity and technique acquired by counterparts, the project's sustainability is high. However, since the fund for research and diffusion activities have been insufficient, financial support from external sources such as national projects and overseas assistance seemed to be essential.

Papermaking at a small-scale pulp mill

6. Lessons Learned and Recommendations

(1) Lessons Learned

Future agroforestry projects should proceed with due attention to trends in market prices in supplying a certain amount of raw materials, in order to ensure farmers' incentive. Also, the instruction to enable the supply of the raw materials from multiple plants should be incorporated in a project, to minimize the effect of seasonal damage and ensure steady supply.

The research papers and data are important indicators for presenting the project performance, but Thai researchers tend to disregard research papers and hold on to data individually, which is inappropriate. Future projects on research cooperation should improve this aspect.

(2) Recommendations

In this project, agroforestry techniques and pulp techniques were researched separately, but these two techniques should ideally be integrated.

Since Kasetsart University does not have a specialized organization responsible for extension, the cooperation of other organizations was indispensable for spread a new model. Community leaders who can promote the new model should be trained and secured by using in-country and third-country training, while also providing additional support through the dispatch of individual experts.

7. Follow-up Situation

As follow-up, three individual short-term experts were dispatched in FY 2001 to assist in the activities of agroforestry testing sites.

Thailand

Project on Testing and Inspection Technology Upgrading for Textile and Garment Products

Project Sites Bangkok

1. Background of Project

The textile industry is one of the major industries in Thailand. However, Thailand has been losing its comparative advantage since other countries, such as China, Indonesia and Vietnam, started exporting cheaper products. In order to survive the intensifying global competition, small and medium enterprises need to strengthen their competitiveness by improving the quality of their products.

Under such circumstances, the Government of Thailand made a request to Japan for a project-type technical cooperation to improve product quality of small and medium enterprises by upgrading the testing and inspection services of the Textile Industry Division in the Ministry of Industry (hereinafter referred to as "TID").

2. Project Overview

(1) Period of Cooperation

1 March 1997 − 28 February 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Textile Industry Division (TID), Bureau of Industrial Sectors Development, Department of Industrial Promotion, Ministry of Industry

(4) Narrative Summary

1) Overall Goal

The product quality of small and medium scale textile/garment enterprises will be improved.

2) Project Purpose

Technical services for small and medium scale textile/garment enterprises extended by the TID will be upgraded.

3) Outputs

a) The project operation system is established.
b) The necessary machinery and equipment are provided, installed, operated and maintained properly.
c) Technical capability of the counterpart personnel is upgraded.
d) The testing and inspection services are implemented systematically.
e) Training courses and seminars are implemented systematically.
f) Information and advisory services as a trial are implemented systematically.

4) Inputs

Japanese Side

Long-term experts	7
Short-term experts	18
Trainees received	11
Equipment	1.8 million yen
Local cost	0.14 million yen
Total cost	5.3 million yen

Thai Side

Counterparts	19
Land, building and facilities	approx. 1.9 million yen (approx. 68,441,000 baht)
Local cost	approx. 0.57 million yen (approx. 20,659,000 baht)

3. Members of Evaluation Team

Team Leader:
Tsunenobu MIKI, Senior Advisor, Institute for International Cooperation, JICA

Technical Cooperation Planning:
Atsumi KITAJIMA, Control of Inspection Section Chief, Textile Division, Consumer Goods and Service Industries Bureau, MITI

Technology Transfer Planning:
Nobuhiro TSUTSUMI, President, The Japan Cotton & Staple Fiber Fabric Inspecting Institute Foundation

Testing and Inspection Technology:
Kazumasa HARA, Vice-chief, Testing and Research Department, The Japan Cotton & Staple Fiber Fabric Inspecting Institute Foundation

Evaluation Management:
Tomomi IBI, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:
Tadashi SEKIKAWA, ODA Consulting, Tohmatsu & Co.

4. Period of Evaluation

29 October 2000 − 15 November 2000

5. Results of Evaluation

(1) Relevance

The textile industry is considered one of the top priority industries in the Industrial Restructuring Plan that the Thai Government has been promoting since 1997.

The TID plays a critical role as the only public testing and inspection organization, which is indispensable in improving the quality of textile products, and thus, to strengthen competitiveness. The TID provides services that private sectors cannot afford, such as training courses, seminars, information services and technical guidance.

Thus, this project is consistent with the policy of the Thai government as well as the needs of the textile industry.

(2) Effectiveness

Six new testing and inspection items were added and 22 technical items were improved. Furthermore, the variety and quality of services were improved so that they can be provided to textile companies. The number of requests for testing and inspection increased from 583 in 1996 to 1099 in 2000. Approximately 200 new client companies were acquired, implying that the TID has been gaining recognition. Although there is room for improvement regarding deadline management of their service, client's evaluation of reliability and satisfaction are fairly high.

(3) Efficiency

Due to the delay in completion of a new laboratory construction, the installation of part of the machinery and equipment was also postponed. However, the influence of the delay on the whole project was minimized in a flexible and impromptu manner, such as carrying out technology training even before the machinery and equipment installation, and installing machinery along with the progress of the construction, etc. Also, the project conducted technology testing with other organizations and cooperated in training and seminars. Therefore, the project was deemed efficient as a whole.

(4) Impact

According to the survey conducted to 200 companies (32 companies responded) by the Evaluation Team, 67% answered that the TID was beneficial for quality improvement, and 50% answered that it was valuable for efficiency improvement. Moreover, some companies started product quality management after participating in seminars held by the TID.

(5) Sustainability

Although testing and inspection operations of the TID will be transferred to the Thailand Textile Institute (THTI) one year after the termination of the project, there seems likely to be no significant change and same operation system and procedure will be taken over. There was no sharp decrease in budget from the Government during the implementation of the project. However, they will apply an independent accounting system to the THTI, therefore, the outlook for sustainability remains ambiguous.

Flammability testing laboratory

Fabric inspection training

6. Lessons Learned and Recommendations

(1) Lessons Learned

Increase in revenue by providing technical services is proved to be effective for strengthening sustainability of the project. The methods or systems to raise revenue must be considered when projects are in the planning stage.

(2) Recommendations

Transfer of the testing and inspection operations to the THTI requires appropriate placement of personnel, establishment of an operating system, and management of client information. For technical sustainability, it is necessary for skilled counterparts to be transferred from the TID to the THTI. Means to facilitate transfer or lease of skilled counterparts to transfer technology should be considered.

From a financial aspect, financial support from the government is essential at least in the short term. After the smooth transfer, it is necessary for them to improve services, facilitate sales activities, obtain ISO9002 and ISO/IEC17025 to gain recognition as a technology testing/inspecting organization, and strengthen cooperation with the textile industry.

Thailand

Productivity Development Project

Project Sites Bangkok

1. Background of Project

In 1962, the Government of Thailand established the Thailand Management Development Productivity Center (TMDPC) in the Department of Industrial Promotion, Ministry of Industry under cooperation of the International Labor Organization (ILO). Since then, the Thai government has been promoting productivity and management development. The Thai government requested Project-Type Technical Cooperation from the Japanese Government for strengthening the function of the TMDPC. It also aimed at training instructors on diffusing the productivity movement throughout the country in order to counter competition with the neighboring newly-industrialized countries and to be abreast of the diversification of the industry world.

Five years after the "Productivity Development" project started in 1994, the goal of training instructors in the following three areas was attained: "productivity consulting technology," "human resource development and labor relations," and "promotion diffusion and investigation."

The economic crisis that occurred in 1997 during this project triggered the Thai government to hammer out a productivity improvement policy that would strengthen the international competitiveness of small and medium-sized companies. There was also an increase in the necessity of human resource development for enterprise diagnosis, and guidance. Based on these circumstances, the Japanese Government decided to carry out a follow-up cooperation for two years, starting in 1999, to develop human resources at the senior level, and thus create employees who could train their juniors in "productivity consulting technology" and "human resource development and labor relations" through On-the-Job Training (OJT) within companies

The subject of this evaluation study is the follow-up cooperation period.

2. Project Overview

(1) Period of Cooperation

18 February 1999 − 17 February 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Thailand Productivity Institute (FTPI) [1], Ministry of Industry

(4) Narrative Summary

1) Overall Goal

Through FTPI as a state productivity organization, the productivity activities are diffused in Thai enterprises.

2) Project Purpose

The productivity activities are effectively carried out in the Thai enterprises by the project counterparts of the FTPI.

3) Outputs

a) The management system for project execution is strengthened.
b) The counterparts of the FTPI obtain knowledge of the consulting technology.
c) The counterparts of the FTPI obtain knowledge on human resource development and labor management for the sake of productivity improvement.

4) Inputs

Japanese Side

Long-term experts	9
Short-term experts	43
Trainees received	8
Equipment	1 million yen
Local cost	5 million yen
Total cost	approx. 180 million yen

Thai Side

Counterparts	38
Land, facilities and equipment	
Local cost	approx. 11 million yen (approx. 3.973 million Baht)

3. Members of Evaluation Team

Team Leader:
Mitsuru HAGINO, Senior Advisor in Industrial Development, JICA

Technology Transfer Planning:
Ko KASUGA, Executive Director, International Division, Japan Productivity Center for Socio-economic

Development

Evaluation Management:

Asuka OKAYAMA, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:

Hideo YAMAMOTO, Consultant, International Development Associates Ltd.

4. Period of Evaluation

11 December 2000 − 23 December 2000

5. Results of Evaluation

(1) Relevance

Productivity development and the improvement of the production process are upheld in the Thai government's "Industry Structure Adjustment Project" as important subjects for strengthening international competitiveness. The FTPI is the organization for human resouces deveopment and business coordination interms of productivity improvement. Therefore, this project also coincides with the development policy of the Thai government and the needs of the FTPI.

(2) Effectiveness

Twelve senior level employees were fostered through the OJT on company management consulting (56 companies), small and medium-sized enterprises consulting (30 companies), and process improvement assistance (10 companies). As a result, in the FTPI, there sufficient human resource was developed in both quality and quantity.

The ten companies that received process improvement support became model enterprises, and they grappled with improvement activities, dealing with multiple shop areas for six months. As a result, in all of the companies, positive effects such as a decline of the defective rate, reduction in the delivery delay, cost reduction, and increased production were observed.

(3) Efficiency

Experts were dispatched as planned, but there were some minor changes in the field of expertise. The number of both trainee acceptances and input equipment which were not originally planned was kept to a minimum, so input was efficient.

Although thirteen of the trained counterparts retired for various reasons, the FTPI complemented nine, including new recruits.

(4) Impact

During the cooperation period, the FTPI provided 96 companies with OJT activities for productivity improvement, and trained 38 consultants. There are many clients who wish to continue receiving the services, and the number of new contacts and inquiries is also increasing. Understanding and practice of the activities of productivity improvement has prevailed in management, administration, and spot staff at domestic Thai companies.

A counterpart giving a lecture

(5) Sustainability

In October 2000, the FTPI shifted to the self-support accounting system. By the forecast for fiscal year 2001 there was still an approximately 56 million yen (approximately 20 million Baht) deficit. However, since they have made a reserve fund and had accumulated about 550 million yen (about 200 million Baht) the outlook looks fine for the time being. Technically, the senior consultants have reached a level where they can train junior instructors, and where quality improvement in the service is prospective. Therefore, sustainability is secured.

6. Lessons Learned and Recommendations

(1) Lessons Learned

In this project, because the time allocation between the newly added duties by the project and the original duties of the counterparts was fully discussed by the steering committee, smooth project management became possible. It is important to make such adjustment from the beginning of the cooperation.

(2) Recommendations

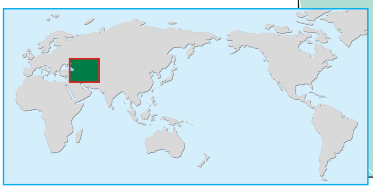
In the FTPI, it is necessary to secure an absolute number of human resources and to improve their quality, thus re-examination of the entire employment system, and improvement of labor management to reduce turn over are required immediately.

Financially, in addition to getting appropriate support from the Thai government, it is necessary to adopt profitable businesses such as consulting and training. In the future, it will be necessary to consider strengthening advertisement activities to diffuse the consultation of productivity improvement in Thailand.

1) In 1995, during the project that started in 1994, the FTPI was just newly established. The function of the TMDPC was transferred to the new organization and the implementing organization of the project also changed to the FTPI.

Uzbekistan

The Project for Improvement of Medical Equipment for Maternal and Child Hospitals in Middle Provinces



Project Sites Samarqand State, Navoi State

1. Background of Project

In Uzbekistan, many of the medical facilities utilize old equipment provided by the former Soviet Union a long time ago. The facilities were aging and a part of them were unusable. As described, the qualitative and the quantitative shortages were a critical issue. Furthermore, patients did not trust the medical facilities, and they often delayed visiting those facilities until they were beyond cure. Thus, the low confidence in the medical service caused a rise in the death rate.

Since independence, the Government of Uzbekistan has been trying to expand its medical services with the emphasis on mother and child medical treatment. However, due to financial constraints, they have not achieved improvement the of the medical services to the level expected. Therefore, the Government of Uzbekistan decided upon "The Maintenance Plan for Medical Equipment of Maternity and Child Hospital in Middle Provinces" and requested Grant Aid from Japan for purchasing medical materials for five major obstetrics and pediatrics in Samarqand State and Navoi State.

2. Project Overview

(1) Period of Cooperation

FY1997

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organization

Department of Healthcare of Mother and Child, Ministry of Health of Uzbekistan

(4) Narrative Summary

1) Overall Goal

The condition of maternal and child healthcare is improved in the target area.

2) Project Purpose

The level of medical services in the target hospitals is improved.

3) Outputs

a) Medical equipment are prepared in the departments of obstetrics, neonatal care, and pediatrics of the five maternal and child hospitals.

b) The systems of medical equipment operation and maintenance are developed.

c) The medical service systems for neonatal and pediatrics department are prepared.

4) Inputs

Japanese Side

Grant 676 million yen (E/N amount)

Uzbekistan Side

Facilities

3. Members of Evaluation Team

Koichi KUROKO (Project Formulation Advisor of JICA)
Sarvar A. Gulyamov (JICA Uzbekistan Office)
Shukhrat N. Artikov (Consultant)
Alijan Khalikovich Dadajanov (Ministry of Health of Uzbekistan)

4. Period of Evaluation

25 October 2000 − 26 October 2000

5. Results of Evaluation

(1) Relevance

This project is consistent with the policy of expanding medical service, which has been promoted by Uzbekistan since the independence in 1991. Besides, Japan sets "restructuring the social sectors" as the primal assistance area for Uzbekistan. Furthermore, the equipment were chosen based on the local doctors' need. Thus, relevance of this project is evaluated highly.

(2) Effectiveness

In targeted facilities related to maternal and child healthcare, it established the operation and maintenance system for equipment by the Uzbekistan side. Training in handling this equipment was also carried out. Furthermore, the time for diagnosis and treatment was shortened by the use of the equipment. Thus, the level of medical services was assumed to be improved, and the project objective seemed to be achieved.

(3) Efficiency

The installed equipment was used on a daily basis. Training was implemented not only for the target hospitals but also other medical facilities in Uzbekistan so that as many as medical professionals as possible could operate the equipment.

To have expanded the participants of training in this way can be evaluated as having raised the efficiency.

(4) Impact

As the level of medical services improved in the target hospitals, the length of stay of patients at the hospital was shortened from several days to several hours. Moreover, maternal and infant mortality rates dropped. (Infant mortality decreased from 25 /1000 in 1997 to 15 /1000 in 2000).

Patients have been able to receive modern medical treatment in their neighborhoods, and they do not have to pay extra money to go to a hospital far from their place.

Besides, free medical services have come to be provided for the low income class. Hence, the standard of living was improved in both Samarqand and Navoi.

(5) Sustainability

The running costs of the target hospitals were provided solely by the Government of Uzbekistan. Also, regarding the maintenance management of the equipment, the Ministry of Health of Uzbekistan decided to cooperate in terms of finance, personnel, and procurement. Thus, the sustainability of this project was evaluated as being high.

Ultrasonic diagnostic equipment

6. Lessons Learned and Recommendations

(1) Recommendations

Although there was little problem at the time of the terminal evaluation, the counterparts will need to reinforce the equipment maintenance management system as they become old. To be more precise, the training about equipment maintenance management should be carried out continuously to increase the number of medical professionals who can handle the equipment. Also, follow-up training should be implemented for them to improve their skills.

For these purposes, it is desirable to provide training for several instructors in Japan, as well as to invite experts from Tashkent and Moscow to carry out the training widely in both Samarqand and Navoi.

7. Follow-up Situation

Two members of Japan Overseas Cooperation Volunteers are scheduled to be dispatched to the target hospital in Samarqand in December 2002.

Egypt

Development of Creativity Lessons for Primary Education

Project Sites Cairo

1. Background of Project

In Egypt, the modernization of education is given high-priority in national policies. Even in the five-year state development plan, the expansion of education is regarded as an important issue. In the paln, not only is the quantitative expansion of education an issue, but so is its qualitative improvement. Specifically, it is required to shift from the current cramming education system towards practical education for skill learning. There is particular emphasis on the necessity of modifying curriculum and training in-service teachers for the modernization of Science and Arithmetic education. Under these circumstances, Japan sent a project formulation mission in 1992, conducted a survey on the current state of school education in 1995, and dispatched experts in 1996. Considering the expert's studies and advice, the Government of Egypt requested of Japan the dispatch of an Individual Team of Experts, for improving teacher training in science and arithmetic education in elementary schools, and improving the teaching method by editing the teachers' guidebooks.

2. Project Overview

(1) Period of Cooperation

1 December 1997 − 30 November 2000

(2) Type of Cooperation

Dispatch of Individual Team of Experts

(3) Partner Country's Implementing Organization

National Center for Education Research and Development (NCERD)

(4) Narrative Summary

1) Overall Goal

The academic ability of the pupils is improved in science and arithmetic.

2) Project Purpose

The method of teaching elementary science and arithmetic is improved.

3) Outputs

a) The current situation of the elementary science and arithmetic teaching method is understood.
b) The guidebook on the teaching method and the teaching materials are developed.
c) The training plan for the in-service teachers are proposed.

4) Inputs

Japanese Side

Long-term experts	3
Short-term experts	14
Trainees received	5
Equipment	22 million yen
Local cost	8 million yen

Egyptian Side

Counterpart	10
Local cost (Execution cost)	

3. Members of Evaluation Team

Team Leader:
Kenichi SAKURAI, Hokkaido University of Education
Science Education:
Hideaki WATANABE, Hokkaido University of Education
Arithmetic Education:
Yoshihiko SUGIYAMA, Hokkaido University of Education
Evaluation Planning:
Makoto ASAI, Program Division, Hokkaido International Center, Sapporo, JICA
Evaluation Analysis:
Akitoshi IIO, Yachiyo Engineering Co., Ltd.

4. Period of Evaluation

11 November 2000 − 22 November 2000

5. Results of Evaluation

(1) Relevance

In the state budget ratio for fiscal year 1997-1998, the government expenditure to the education field in Egypt was 19.1%, and the education budget was also as much as 5.9% of the total GDP. Since human resources development through the expansion of basic education is one of Japan's important fields of assistance for Egypt, this project agrees with the policy of both countries.

(2) Effectiveness

The analysis of the current situation in science and arithmetic education was done through observations of the science and arithmetic classes in a total of seventeen schools, and the collection of the current textbooks and

teachers' guidebooks. As a result, the issues on improving and reforming teaching methods were identified, and a tentative improvement plan was proposed. This tentative plan was implemented for the model classes of the elementary schools in Cairo and Alexandria. The plan's applicability was verified, according to the questionnaire carried out at the time, as 88% of the 635 students replied that they would be interested in science.

The teaching method guidebooks were positioned as teaching materials for how to bring out and foster students' creativity or ability. A total of three guidebooks that include all of the topics of the current textbooks were made. These guidebooks were written with the Japanese experts, not in Arabic but in English since their completion within the project period was intended. Out of these guidebooks, 30% of the science topics, and 54% of the arithmetic topics were developed by the counterpart.

(3) Efficiency

Overall, efficient use was made of the various inputs that contributed to the project activities, such as in understanding the current situation of the science and arithmetic classes, analysis, and guidebook development. However, there were several problems related to efficiency. Firstly, by the characteristic of the Egyptian administration, it was impossible to receive cooperation from the organizations (with the exception of NCERD), when the collecting information and materials or visiting sites that were necessary to analyze present condition and issues. It was difficult to carry out activities effectively and efficiently.

Secondly, because the working hours of Egypt ends at 2PM, the counterparts were arranged as "part-time workers" who needed to work for the project on top of all their original duties, and there were limited collaborations in working time with the Japanese experts. The burden on the counterpart side was also increased due to overtime work without payment. There were problems using the personal computers (e.g. the use of color printers were limited by the Government of Egypt, and the software to be used was not standardized) as well.

(4) Impact

During the project period, periodical meetings were held twice a week between Japanese experts and Egyptian counterparts for both science and arithmetic subjects. These meetings contributed to improve the research ability of the counterpart. A seminar for announcing the results was held at the end of this project. There were a total of 180 participants from various educational organizations, including the Minister of Education, which recognized the necessities of dissemination, application of the guidebooks and future revisions, and introduction to schools. As outline documents on this project were distributed to various fields, it contributed to this project being widely recognized in Egypt.

(5) Sustainability

Since this project was executed as a collaborative research between Japanese experts and their Egyptian counterparts, technical skill transfer on topics such as science and arithmetic teaching methods and teacher training policy was fully carried out during the period of this project. Moreover, the counterparts, formulated an ownership for the results of this project. This can be observed in such voluntary activities as actively translating the guidebooks into Arabic, and considering the distribution of the guidebooks to the related organizations.

An expert advising counterparts in charge of math

6. Lessons Learned and Recommendations

(1) Lessons Learned

When the administrative mechanism is rigid, it is important for the project executing organizations to work towards smooth consultations with the related organizations so that the necessary cooperation for the project can be attained. Moreover, proceeding the project through discussions between the experts and their counterparts motivated the Egyptian side, which led to an effective achievement of the project objectives.

(2) Recommendations

It is important to widely introduce the results and acquired information of this project to the people concerned in the education fields and related organizations in Egypt. It is also important to extend and apply the proposed teaching method for optimizing their existing resources. In the future, for the diffusion and application of this project's teaching method, the following assistance will be important:

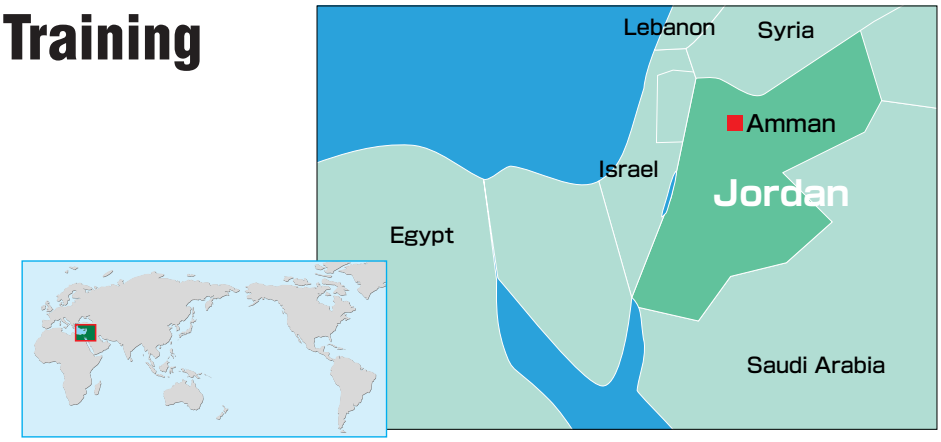
1) the promotion of the teaching method guidebook by translation into Arabic;
2) the execution of the in-service teacher training program and the pilot training;
3) and the establishment of the guidebook revision system.

7. Follow-up Situation

Based on the above recommendations, a technical cooperation project for a period of three years ("elementary school science and arithmetic education") is currently being examined for possible execution.

Jordan

Electric Power Training Phase 2



Project Sites Amman

1. Background of Project

In Middle-East countries, due to the increase in demand for electric power, it is a pressing issue to train technicians in the fields of power generation, transmission, transformation, and distribution. Based on this background, JICA implemented the Project-Type Technical Cooperation, "Electric Power Training Center in the Hashemite Kingdom of Jordan", to support human resources development from 1986 to 1990 for the Government of Jordan. Furthermore, aimed at diffusing and transferring the results of this cooperation to surrounding Arabian countries, the Third Country Training Program "Electric Power Industry Training" was executed for five years from 1992. The extension of training for another five years was determined in April 1997 based on the recommendation of the final evaluation carried out in March 1996.

2. Project Overview

(1) Period of Cooperation

FY1997 − FY2001

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

National Electric Power Company (NEPCO),
The Electric Training Center (of Jordan Electricity Authority (ETC))

(4) Narrative Summary

1) Overall Goal

The technology and knowledge of the electric power field for participants from Arabian countries are improved.

2) Project Purpose

The training participants learn the basic knowledge and the use of standard technology of the following areas: ① construction and maintenance of distribution line systems, ② construction and maintenance of indoor substations, ③ construction and maintenance of outdoor substations, ④ construction and maintenance of overhead power transmission lines, ⑤ the operation and maintenance of power plants.

3) Outputs

a) The training participants gain knowledge and learn about technology related to ground cables and ABC system cables.
b) The training participants gain knowledge and learn about technology related to the construction, operation and maintenance of distribution line systems/ABC systems, and the construction of ground cables.
c) The training participants gain knowledge and learn about technology related to the construction, operation and maintenance of high voltage transmission lines.
d) The training participants gain knowledge and learn about technology related to the construction, operation and maintenance of the distribution systems.

4) Inputs

Japanese Side

Training expenses	81 million yen

Jordan Side

Instructors	91
Training expenses	5 million yen

(5) Participant Countries

Algeria, Bahrain, Egypt, Mauritania, Morocco, Oman, Saudi Arabia, Syrian Arab Republic, Tunisia, and Yemen

3. Members of Evaluation Team

Hiroshi KURAKATA, JICA Jordan Office,
Amen NABULSI, National Electric Power Company (NEPCO),
Ibrahim HAWARI, The Electric Training Center (ETC)
Riyad AL-REOUSAU, The Electric Training Center (ETC)

4. Period of Evaluation

January 2001 − March 2001

5. Results of Evaluation

(1) Relevance

For this training, before setting up of the training curriculum, the executing agency (NEPCO) established the training themes and contents by hearing the needs of the organizations in the surrounding countries. According to the questionnaires given to the training participants at the final evaluation survey (sent to 60 out of 87 participants, with 50 replying), 95% of participants replied that they are "making use of the knowledge and technology learned in the training", thus the contents of the training are seen to be reflecting the needs and are properly set up.

(2) Effectiveness

Analyzing the evaluation report carried out right after the training, regarding the four items of the teaching method, the appropriateness of the curriculum, the application of technology, and the degree of achievements, the training participants evaluated on average from 3.5 to 3.9 out of 5 points. The curriculum, the teaching method, etc. all satisfied the necessary standard, and the contents of the training also satisfied the training participants. According to the questionnaire given to the training participants for the final evaluation survey, 95% of those who answered indicated that they are "making use of the knowledge and the technology learned in the training". Judging from this result, the training contributes to the improvement of thetechnology of construction, operation and maintenance of the facilities such as distribution and transmission lines, and it can be said that the training have achieved its objectives.

(3) Efficiency

In addition to the fact that the executing agency, NEPCO, has had extremely high ability for management of the training courses and administrative works, there was no problem with regard to the technical level, experience, and willingness of the lecturers. For these reasons, it can be said that the training was extremely useful for both the participants and the execution side, and that the effects also can be recognized to be high.

(4) Impact

In the questionnaire to the bosses of the training participants, almost all of them answered, "the knowledge and technology are transferred from the training participants to other engineers", and replied that it is useful for the improvement of the skills of their organizations.

(5) Sustainability

With extremely high management ability, NEPCO implemented effective training for the participants from Middle-East countries. And according to the result from the training evaluation report made just after the end of the training, there were no problems with the teaching method of the lecturers. In the background of these, when implementing the training, the lecturers monitored the technical level of each participant, and reflected the results with management of lectures and the practices. Such carful process results in positive effects.

Also regarding the management of the actual training, the administration of budget and the settlement after the training are properly processed. Based on these, it is judged that NEPCO would be able to implement the training program independently from now on.

Training on the maintenance of transmission lines

6. Lessons Learned and Recommendations

(1) Lessons Learned

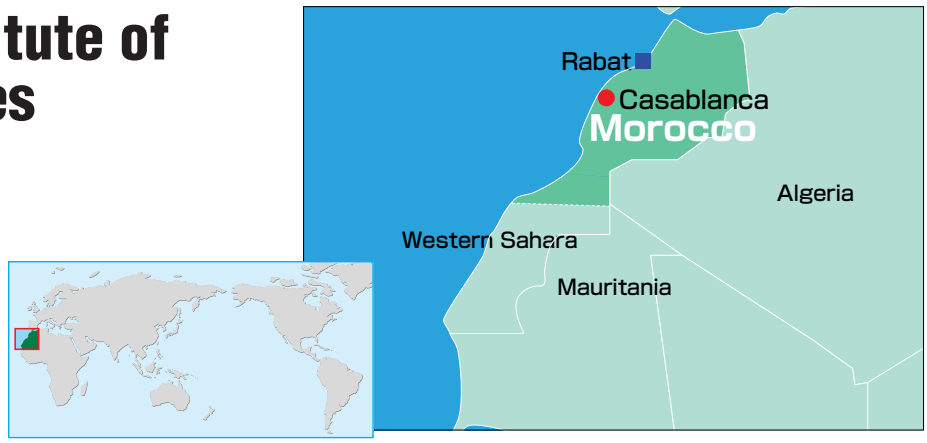
This training is a success model in the sense that the result of the Project-Type Technical Cooperation was diffused to the surrounding areas. This is because of the facts that the detailed training plan was made by setting the training themes and contents according to the needs of the surrounding countries, and the training implementing organization had high abilities.

(2) Recommendations

The area concerned is politically unstable mainly because of the Palestine Disputes, and various efforts are made toward the building of peace. The training with the theme of "stable electricity supply in the area by interconnection of transmission lines" can be comparatively easy for gaining consensus on the importance of the training objectives. It is necesarry to make efforts to utilize the scheme of the Third-country Training Programe and increase the number of the areas mutually cooperated by establishing the network among the areas. In this case, careful selection of the technology and the engineers for the training becomes very important.

Morocco

The Higher Institute of Maritime Studies



Project Sites Casablanca

1. Background of Project

Morocco's northern and western regions face the Mediterranean Sea and the Atlantic Ocean, and to the South lies the Sahara Desert. On this account, the ratio of marine transportation in international trade has been high, and the Government of Morocco has concentrated on reinforcing Morrocan merchant vessels and promotion of native seamen.

The Higher Institute of Maritime Studies (ISEM) was established in 1978 as a training organization to train high-level officers for the maritime sector in Morocco. Coping with STCW Convention [1)] ratification, the Government has aimed at strengthening the contents of seamen's training and education at ISEM. However, the levels of ISEM did not meet the standards of the STCW Convention. Against such background, the Government requested a project-type technical cooperation from Japan in order to improve the contents of training at ISEM to comply with international standards.

2. Project Overview

(1) Period of Cooperation

1 April 1996 − 31 March 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

The Higher Institute of Merchant Marine (ISEM), Ministry of Transport and Merchant Marine

(4) Narrative Summary

1) Overall Goal

Better-qualified personnel are supplied for the development of the Moroccan maritime sector.

2) Project Purpose

Training levels of Seamen's Education (Marine Navigation and Engineering) at ISEM, are improved in compliance with international training standards.

3) Outputs

a) A clear policy on the future training, including the fulfillment of the STCW standards and the needs of the country, is to be laid.
b) The training curriculum reflect technological innovation both in practice and theory.
c) Sufficient practical training is provided.
d) Sufficient upgrading training is provided.
e) Instructors acquire proper specializations and better teaching abilities.
f) Training related to the Global Marine Distress and Safety System (GMDSS) is undertaken.
g) Appropriate machinery and equipment for the training courses are secured.

4) Inputs

Japanese Side

Long-term experts	5
Short-term experts	12
Trainees received	12
Equipment	406 million yen

Moroccan Side

Counterparts	28
Land, facilities and equipment	
Local cost	33 million yen

3. Members of Evaluation Team

Team Leader/Seamen's Education (Deck):
Hiroshi YUMOTO, Chairman, Department of Navigation Institute for Sea Training, Ministry of Transport

Seamen's Education (Maritime Engineering):
Takeshi GOI, Teacher, Educational Affairs Division, Shimizu School for Sea Training, Ministry of Transport

Cooperation Planning:
Naoto MUKAI, Planning Division, Social Development Cooperation Department, JICA

Evaluation Analysis:
Yoshiki MIZUGUCHI, Chubu Electric Power Co., Inc.

4. Period of Evaluation

30 October 2000 − 9 November 2000

5. Results of Evaluation

(1) Relevance

In the Five-year Development Plan (2000 − 2004), there was a specific target to increase the volume of marine transportation. In order to achieve the target, it is obvious that the maritime sector will need a greater number of better-qualified personnel. Therefore the overall goal is considered appropriate.

ISEM is the sole high-level training organization for training high-level sailors and reeducating officers. Therefore, the project purpose of improving the training of seamen in compliance with international training standards is relevant.

(2) Effectiveness

Through this project, the educational level at ISEM has satisfied the mandatory standards of the revised STCW. Curriculums, teaching manuals and textbooks were all revised, and theories and practices including marine training were all in conformity with international training standards.

Morocco was placed on the White List [2)] announced in the 73rd IMO Maritime Safety Committee held in 2000. This means that the Moroccan seaman's recognition system was in the international level, and it could be estimated that the project purpose was attained.

(3) Efficiency

The dispatch of both long-term and short-term experts was carried out as planned. Suitable technology transfer was implemented as well in each field by, for example, supplementing short-term experts when necessary.

Although the procurement of a diesel engine plant took time and was delayed, a short-term expert for installation of the plant was dispatched at the same time, resulting in smooth installation. Other principal equipment was all provided either in the first or second year of the project contributing to the efficient achievement of outputs.

(4) Impact

The recognition of ISEM by private shipping companies has risen, and requests for various training sessions have increased.

Moreover, counterparts have acquired capabilities to develop their own training programs, and have thoroughly learned the usage of training tools and materials, and training methods at ISEM.

(5) Sustainability

ISEM was established organization in 1978, and has sufficient management capabilities since. There is a large possibility of development as an educational institution for the high demand of seamen in Morocco and the large number of applicants.

The budget for ISEM is secured by the governmental fiscal support and income through training courses, thus predicted to be stable. Since ISEM is recognized as an important high-level training organization, it is difficult to imagine the sharp reduction of governmental support, and thus ISEM is thought to be financially sustainable. However, since maritime related equipment is expensive, ISEM should recognize the need for a new measure for raising fund whenever new equipment is needed.

Installation of an engine plant by the collaborative work of Japanese engineers, counterparts and experts

In respect to technology, in addition to ISEM having been a high-level training institute, this project has enabled ISEM to independently apply knowledge and skills in the areas of navigation and engineering. Through the project activities, ISEM has also established relations with foreign related organizations, and created a system where the latest information is collected, which includes the application of the Internet. Furthermore, the counterparts have established capabilities to cope with problems by themselves.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Since the procurement of advanced equipment often requires time, it is necessary to have discussions on sufficient procedures beforehand with the implementing organization and complete specifications before the start of the project.

(2) Recommendations

Since the equipment provided requires considerable expense for maintenance and expendable items, ISEM must make further effort to secure enough budget.

Trainers at ISEM need further improvements in their technological level. It is important to provide lecturers with opportunities for further study in educational institutions such as the World Maritime University.

1) "STCW Convention" stands for "International Convention on Standards of Training, Certification and Watchkeeping for Seafarers" signed in 1984 and revised in 1995.

2) The "White List" is a list of countries that are judged to be in conformity with the revised STCW. The IMO judges them by the reports submitted from each country that ratifies the Convention.

Saudi Arabia

Safety Requirements for Household Appliances

Project Sites Riyadh

1. Background of Project

Various household electrical appliances are sold in markets of Arab countries. It is an important issue to standardize household electric appliances in terms of consumer protection. The Saudi Arabian Standard Organization (SASO), which is a standardization organization in Saudi Arabia, has been making efforts towards learning about inspection technology and gaining knowledge on various household electrical appliances. They are aiming at establishing a standard and a product inspection technique, and are known as the most advanced standardization organization in the region. On the other hand, regarding the same type of organizations in the surrounding countries, it would be difficult to say that the activities toward standardization are carried out sufficiently. This is because there are negative factors such as the lack of know-how and the delay in engineer training. Under such circumstances, the Government of Saudi Arabia has asked Japan to assist with the Third Country Training Program which aim to strengthen their skills in special technologies in order to maintain safety in household electrical appliances as well as to promote the skills of specialists and technicians in the field. For the training program, SASO plays the role of an implementation organization.

2. Project Overview

(1) Period of Cooperation

FY1996 – FY2000

(2) Type of Cooperation

Third-country Group Training

(3) Partner Country's Implementing Organization

The Saudi Arabian Standard Organization (SASO)

(4) Narrative Summary

1) Overall Goal

Considering consumer protection as the principal objective, technical skills are obtained to minimize the possibility of household electrical appliances damaging the human body in order to achieve product safety.

2) Project Purpose

Targeting household electrical appliances that can be potentially dangerous, the method for satisfying the international standard and the domestic standard of products is learned and resolved into the products.

3) Outputs

a) International standards such as IEC and SSA are understood.
b) The operational principle of the electrical product is understood.
c) Precautions for use of the electrical product are understood.
d) The role and meaning of the standards are understood.
e) The direction of administrating consumer protection is examined.

4) Inputs

Japanese Side

Short-term experts	9
Trainees received	16
Equipment	1 million yen
Training expenses	1,318,619 Saudi Real (approx. 43 million yen)

Saudi Arabian Side

Instructors and management staff	8
Facility and equipment for Experiments	

(5) Participant Countries

Oman, Bahrain, Morocco, Egypt, Syrian Arab Republic, Tunisia, Kuwait, Lebanon, and Yemen.

3. Members of Evaluation Team

JICA Saudi Arabia Office
(Commissioned to Mr. Mahmood Khan Zafar Muhammad)

4. Period of Evaluation

2 December 2000 − 24 December 2001

5. Results of Evaluation

(1) Relevance

In the Arab countries, since the demand for household electrical appliances is high, preparing the standards in order to secure the products has a high priority and is an urgent issue. Based on this, the execution of this training course and the theme is appropriate.

(2) Effectiveness

The number of training participants for the entire five-year period was 102. In addition to the lectures on the Japanese consumer protection system and product safety theories, there was a trip to observe factories for household electrical appliances as well. According to the questionnaires from the training participants (21 replied out of 102), 16 evaluated this training as being "useful."

(3) Efficiency

Japan has been executing a cooperation of standardization for SASO since 1980. In conducting this training program, the needs of the countries participating in the training could be understood in advance through SASO. The technology transfer by the Japanese short-term experts showed some difficulties. This is because, even though the training was conducted in English, there were some trainees who did not understand English very well. Moreover, if any other reflections were pointed out in terms of efficiency, it would have been the training opportunities given for SASO instructors. If SASO instructors had any opportunities to be trained in Japan to gain new knowledge after the 1990's, this training project would have been executed more effectively.

(4) Impact

According to the questionnaire from the training participants, 16 out of 21 said that they were making use of the knowledge obtained from the training in the actual work at their organizations. Considering cases where some participants were placed in charge of diffusing the knowledge obtained in this training, where others were involved in setting up regulation enactment, or improving laboratories, the knowledge obtained in this training is contributive to the capacity development of the participants' organizations.

Laboratory training on safty affirmation

(5) Sustainability

In this project, SASO had a major role in planning, designing and implementing the training. This contributed to strengthening SASO institutionally. There were also requests for new subjects that had been written off in the curriculum, such as fire protection. There remain training needs in the field of standardization throughout the region that should be fulfilled even after this project. Therefore, SASO is expected to meet these requests by conducting training courses on their own. The neighboring countries are also expecting SASO to become a leading force in the region.

6. Lessons Learned and Recommendations

(1) Recommendations

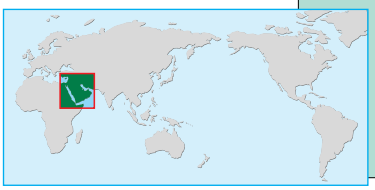
The Government of Saudi Arabia needs to give more support to SASO in order to make it possible for them to play a leading role in the electrical safety field in the region. Moreover, the facilities and its system of the SASO laboratory need to be renewed to constantly meet the requirements for electrical safety investigation. Lastly, SASO and other organizations in Saudi Arabia should be more concerned with cooperating with each other in order to meet their individual technical needs.

7. Follow-up Situation

After this project was completed, SASO asked to start Phase 2 of this project. However, considering the importance of building Saudi Arabia's capacity to develop by self-help efforts, Japan has decided to closely watch the work of the SASO instead of conducting a Phase 2.

Saudi Arabia

Improvement of Technical Education of Electronics in the College of Technology in Riyadh



Project Sites Riyadh

1. Background of Project

Saudi Arabia is attempting to establish new industries that can depart from its oil-dependent economy. At the same time, the Government of Saudi Arabia is promoting a "Saudization" policy where foreign workers in important sectors will be replaced with Saudi nationals. To promote these policies, the Government urgently needs to train mid-level engineers capable of understanding theories on technical expertise, and have practical technical skills and are Saudi Arabian nationals.

Under such circumstances, the Government decided to place special emphasis on the electronics field, and set up the Electronics Department (ED) in the College of Technology in Riyadh (RCT).

The Government of Saudi Arabia highly valued Japan's achievement in the past project-type technical cooperation "Technical Electronics Institute in Riyadh", covering the secondary school level, and its rich experiences and techniques in the electronics field. Thus, a project-type technical assistance was requested to improve curriculums of four fields (industrial electronics/control technology, computer technology, communications technology and general electronics) provided by the Electronics Department of RCT.

2. Project Overview

(1) Period of Cooperation

1 April 1997 − 31 March 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

General Organization for Technical Education and Vocational Training (GOTEVOT)

The College of Technology in Riyadh (RCT)

(4) Narrative Summary

1) Overall Goal

The demand for engineers with appropriate knowledge and skills in the electronics field in Saudi Arabia is satisfied.

2) Project Purpose

The technical education of electronics at the College of Technology in Riyadh is upgraded.

3) Outputs

a) Improvement of curricula and syllabi
b) Development of teaching materials
c) Development of teaching methodology in experiments and practical exercises
d) Improvement of teaching equipment
e) Improvement of counterparts' capabilities

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	58
Trainees received	17
Equipment	192 million yen

Saudi Arabian Side

Counterparts	47
Land and facilities	
Equipment	10 million riyal (approx. 320 million yen)

3. Members of Evaluation Team

Team Leader:
Hiroyuki MATSUMOTO, President, Tokyo National College of Technology

Evaluation of Management:
Shinji OMORI, President, Tsuyama National College of Technology

Evaluation of Education and Research:
Masayuki NAGAO, Professor, Toyohashi University of Technology and Science

Evaluation Planning:
Noriaki MURASE, Second Technical Cooperation Division, Social Development Cooperation Department, JICA

Evaluation Analysis:
Masayuki TAKAZAWA, RECS International Inc.

4. Period of Evaluation

5 January 2001 − 16 January 2001

5. Results of Evaluation

(1) Relevance

This Project has contributed to the improvement of capabilities for RCT as a training center for engineers, thus meeting the Government's policies that promote new industries and Saudization. The ED of RCT is considered to be the center of excellence in the field of electronics education, and the expectation from the industry is high. Therefore, it was highly relevant to appoint RCT as the counterpart for this Project.

(2) Effectiveness

Improvements in the general curriculum were done mainly by GOTEVOT, but the Project counterparts were appointed as task members for the curriculum improvements, and greatly contributed to its completion. As a result, expansions were seen in areas of specialized subjects and practical exercises, and the time allocation for basic subjects such as mathematics and physics were also increased. English language was also strengthened so that students would understand English textbooks and manuals better.

As for teaching material development, since GOTEVOT held the initiative in selecting and improving teaching materials, it was difficult for RCT to develop its own, except teaching aid materials for practical exercises. Among the counterparts, some were appointed from GOTEVOT to take part in the improvement of teaching materials, therefore the output of teaching materials development was achieved to a certain extent.

As for teaching methods, improvements were seen in methods of experiments, and selection and operation of equipment. Thus, outputs were achieved to a certain extent. Furthermore, improvements in curricula will be carried out accordingly with the complete revision of the overall curriculum under the instructions by GOTEVOT.

Moreover, since training sessions for the counterparts resulted in improvement in their capabilities, it can be said that the project purpose was achieved.

(3) Efficiency

The counterparts highly evaluated the Japanese experts' performance. However, some short-term experts, due to their personal reasons, were dispatched during the examination period or Ramadan, resulting in an inefficient technical transfer. There were also some opinions that the dispatch period was too short. Equipment supply had been generally adequate in terms of quality, quantity and timing, and had been efficiently converted to the outputs expected. Some equipment had been delayed and some had outdated specifications due to the rapid progress in the field of electronics. However, this did not cause any major hindrance to the project as a whole.

(4) Impact

Overall, spontaneous efforts were seen by the counterparts as trainers. Many counterparts who had been dispatched to Japan as trainees shared the contents with those who had not gone. GOTEVOT started revising curricula and syllabi for electronics of the colleges throughout the country, and in the "Committee for Revising Curricula and Syllabi" established by GOTEVOT, many counterparts in RCT were appointed as members of the task force.

Practical training in the Electronics Deptartment

(5) Sustainability

The status of RCT has already been well established in the country. The Electronics Department of RCT has also tried to reform itself, such as by improvement of its curricula, or commencement of training to private companies. Therefore it can be said that sustainability as an organization is high.

The management after the project will be sustainable, as level of facilities and equipment is satisfactory, and the motivation and capability of the counterpart personnel are high. Since GOTEVOT is positive about supporting college education, it can thus be said that financial sustainability is also high. Although equipment must be self-supplied after the termination of the project, it is considered possible unless there is a major change in the Government's financial situation.

6. Lessons Learned and Recommendations

(1) Lessons Learned

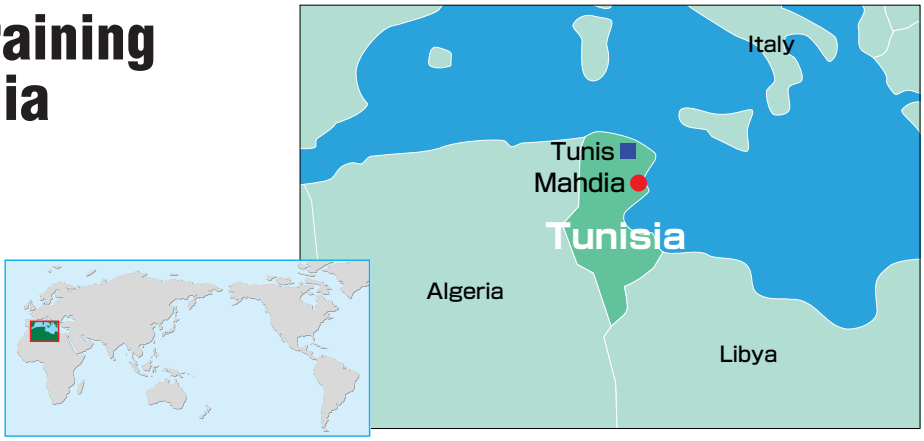
Due to the rapidity of technical progress in the field of high technology, frequent updating of equipment and its specifications is necessary. Caution is needed when selecting such equipment, since the most updated equipment is preferred.

(2) Recommendations

GOTEVOT is actively promoting the establishment of new training colleges. The results obtained by this project are applicable to the management of these new colleges. It is also recommended that RCT prepare training sessions for its staff, so that they are able to keep abreast of the rapid innovation of electronics.

Tunisia

The Fisheries Training Project in Mahdia



Project Sites Mahdia

1. Background of Project

The government of Japan provided cooperation aiming at upgrading the level of staff training skills to the Fisheries Professional Training Center of Mahdia (CFPP Mahdia) from 1978 to 1982. Since then, the center has served as a leading institution in fisheries education in the country. However, now that 15 years have passed since the cooperation was started, technology has become out-of-date and equipment is decrepit. These have lowered the center's contribution in relation to the increase of fisheries products.

Improving and strengthening of the vocational training system was raised as one of the Tunisian government's policies in the "Social and Economic Policies-Ninth Development Plan (1997 − 2001)". The plan aimed at increasing fisheries products from around 80-90 thousands tons to 120 thousands tons.

Based on the above-mentioned background, the Government of Tunisia requested the Government of Japan to provide cooperation in order to upgrade the CFPP Mahdia to be a training and educating organization with provision to implement third-country training programs in the future.

2. Project Overview

(1) Period of Cooperation

1 August 1998 − 31 July 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Fisheries Professional Training Center of Mahdia, (CFPP Mahdia), Agency of Training and Extension, Ministry of Agriculture

(4) Narrative Summary

1) Overall Goal

Fishery training ability in Tunisia is developed.

2) Project Purpose

The facilities of the Fisheries Professional Center of Mahdia (CRPP) are improved and training capability is strengthened.

3) Outputs

a) Facilities and equipment procured under the Project are operated and maintained by CFPP.
b) Technologies on new/improved fishing methods are introduced to C/Ps (instructors) of CFPP.
c) The concept of fisheries resources management is introduced in the training courses of CFPP.
d) The current curriculum is reviewed.
e) Textbooks are introduced in training courses of CFPP Mahdia.

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	6
Counterpart training	
Japan:	11
Morocco:	4
Equipment	158 million yen
Local cost	12 million yen

Tunisian Side

Counterparts	12
Facilities and training vessels	
Local cost	27 million yen

3. Members of Evaluation Team

Team Leader:
Hajime KAWAMURA, Head of Fisheries and Environment Division, Forestry and Environment Department, JICA

Technical Cooperation Planning:
Kojiro MOTOMURA, Professor, Department of Fishery Science and Technology, National Fisheries University
Akira KUROIWA, Executive Managing Director, Japan Fisheries Telecommunications Association
Maki HAMAOKA, Japan Techno Co. Ltd.

4. Period of Evaluation

6 March 2001 − 18 March 2001

5. Results of Evaluation

(1) Relevance

The Tunisian goverment has made effort on strengthening fishery sector. The intention was seen in the plan to increase fisheries products which was adopted in the government's "Social and Economic Policies-Ninth Development Plan" and appointment of the new Tunisian Vice Minister of Fisheries in the structural reform in 2001. CFPP Mahdia has been a key institute in providing primary fishery training. Its activities were not limited to education for trainees, but included reeducation for training staff and fishery workers in other fishery training centers. Considering that concepts of resources management, technologies, and equipment introduced to the center have been dedicated to the improvement and activation of fishery training in Tunisia, the project can be considered as relevant.

(2) Effectiveness

The project has led to the upgrading of facilities through equipment provided, and to the improvement of course materials and training curricula. The course materials have been modified to be more practical and training were revised by adding practical training to lectures. Additionally, techniques to operate and maintain equipment are also acquired through the project, except electronic devices.

The project's achievement has reached the level that the counterpart can spontaneously manage and develop the acquired technologies such as improving texts subsequent to the technologies learnt. Thus, it can be considered that the primary purpose was almost attained.

(3) Efficiency

The project had difficulties in communicating in French and delay in selection of the fish-catch processing expert. In addition, the fields of specialization for the three long-term experts, namely "Fish Catch Processing", "Coastal Fishery", and "Fishing Vessel Engines", were comparatively broad, preventing each individual's technology transfer activities from going into detailed items. On the other hand, the prolongation of construction of a storage shed to install the equipment as well as the delay of provision of equipment from the Japanese side led to the delay of equipment install. All these issues affected the period of technology transfer, which lowered the efficiency of the project.

(4) Impact

A seminar for fisheries resources management, targeting people involved in fisheries nationwide was held as a part of the project. The seminar has become a place for mutual understanding and sharing ideas of both the final beneficiary and competent authority which was never seen before. Moreover, cases in which fishery workers actively contacted the project to collect information could also be observed.

(5) Sustainability

The revenues of CFPP Mahdia are secured by the Government of Tunisia, and CFPP also has income from sales of fish caught by training vessels. Financial prospects for sustainability of the center are high except for cases of mechanical failure of high-level electronic devices or procurement of new training vessels.

Fishing trawler: maintenance of fishing vessel

On the other hand, the course will be conducted without difficulties due to the stability of the workforce retained.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Activities of the project were restricted due to the delay of provision of equipment. In order to implement efficient technology transfer within a relatively short period of three years, appropriate measures, such as providing approximately 80 percent of planned equipment by the first year, will be required.

Issues of communication should be considered when implementing cooperation in Francophone areas compared to in Anglophone areas. The dispatching period for each expert should be longer to enable enough linguistic preparation. Also, in cases long-term experts are in charge of wide-ranging fields as in this project, flexible measures such as dispatching of short-term experts should be taken, when necessary.

(2) Recommendations

The government of Tunisia should concretize the implementing policy and plans for extension activities. The equipment provided should be self-managed, though technical assistance from Japan is still needed in operating new training vessels provided by Japanese Grant Aid Cooperation.

Since effectiveness of a human resource development project takes time to be revealed, monitoring of the capabilities of training staff and the employment situation of the graduates is required.

7. Follow-up Situation

Based on the above recommendation, follow-up cooperation was implemented from 1 August 2001 to 19 October 2001.

Turkey

Exploration and Evaluation of Underground Resources

Project Sites Ankara

1. Background of Project

As the JICA office was established in Ankara in February 1995, the leaders of both Japan and Turkey agreed to consider the possibility of carrying out technical cooperation for Central Asia together. It was decided that as a cooperative project, a third country training program would be appropriate, and possible projects were discussed. A proposal from Japanese experts on cooperation in the field of mineral resources development was adopted after considerable discussion, since JICA has more than 20 years of experience in mineral resources development in Turkey. The cooperation had become finalized by the official request from the Government of Turkey.

In 1996, Japan carried out the preliminary study and decided to execute a third country training program with the General Directorate of Mineral Research and Exploration (MTA). The MTA has been playing a central role in mineral resources research in Turkey and has been cooperating [1)] with JICA for more than twenty years.

2. Project Overview

(1) Period of Cooperation

FY1996 − FY2000

(2) Type of Cooperation

Third Country Group Training

(3) Partner Country's Implementing Organization

General Directorate of Mineral Research and Exploration (MTA), Prime Ministry

(4) Narrative Summary

1) Overall Goal

The participants' knowledge and skills on explorations and evaluations on their countries' mineral resources are improved.

2) Project Purpose

The technology of investigation, mining, and processing of the mineral stones in the participating countries is improved, and cooperative work between the participating countries is promoted by sharing knowledge on processing the underground resources.

3) Outputs

a) The participants' exploration, exploitation, and management techniques of mineral resources are improved.

b) The participants' knowledge on the management of underground resources is exchanged and shared.

c) Basic technical skills for the latest method of resources development are acquired.

4) Inputs

Japanese Side

Short-term experts	6
Trainees received	3
Training expenses	37 million yen

Turkish Side

Lecturers	107
Facilities and vehicles	

(5) Participant Countries

Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, and Bosnia and Herzegovina.

3. Members of Evaluation Team

JICA Turkey Office

4. Period of Evaluation

December 2000

5. Results of Evaluation

(1) Relevance

This program is in line with the Turkish diplomatic policy, which aims to reinforce the ties between the Central Asian countries that participated in the training. It is also in accordance with the needs of the participating countries that place considerable emphasis on the development of the various underground resources for economical development.

Founded as a Turkish implementing institution in 1935, the MTA has considerable experience in conducting international projects in the field of underground resources. Cooperation to such an institution is relevant because the extension of training output is effective.

Out of the total five training programs, the applicants for the 2nd, 3rd, and 4th programs were 28, 36, and 33 respectively. These exceeded the fixed limit of 25, which shows a high need for training in the participating countries.

(2) Effectiveness

The training contents were sufficient for the achievement of training objectives, and the training participants were in a generally satisfactory level. The training program was considered legitimate for the participants' understanding and acquisition of technology. Many of the training participants also commented that the training was useful for improving their knowledge and technological abilities in relation to underground resources development. Therefore, the program objectives can be considered to have been achieved.

(3) Efficiency

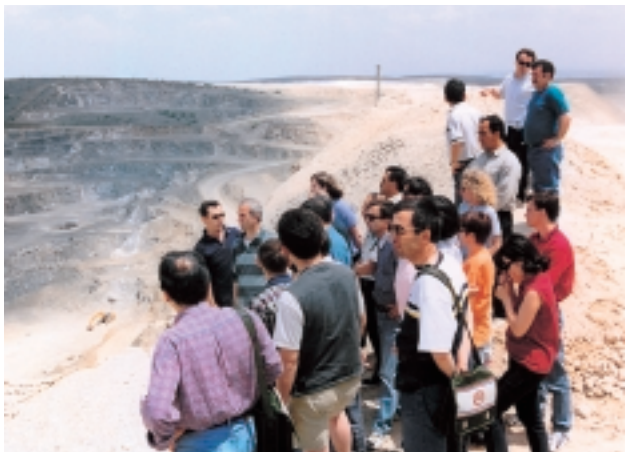
The MTA has staff with substantial experience, and a varied network of contacts, thus the lecturers were with suitable levels and appropriate fields to conduct the training programs. The connection between MTA and JICA is good, and the efficiency of the program was high. However, the late participation of some of the trainees, and the false declaration of their language skills obstructed the training progress.

(4) Impact

The training participants are expected to make use of the training results in the future, since the aimed level of knowledge and technology was acquired.

(5) Sustainability

The MTA has a more than 60-year history in mineral resources research, and it is the best Turkish research institute in this field. The MTA has been very eager about the training, has abundant human resources and can ensure that there will be no discontinuation caused by personnel transfers. As long as the MTA carries the third country training program, there should be no problems with its sustainability concerning institution and equipment. In this training, the independence of the MTA was questioned because the rate of the external lecturers was high (maximum of 37%). However, it was agreed that the number will be decreased to 20-25%.



Visit of a digging area

6. Lessons Learned and Recommendations

(1) Lessons Learned

In order to execute a third country training program effectively, it is necessary that the level of the training participants' understanding matches that of the contents of the training course. The participants should be widely recruited through the related organizations of the participating countries and the previous participants. It is necessary that the participants' skills are carefully assessed, including linguistic skill.

(2) Recommendations

In response to the strong requests of the participating countries, it is desirable to extend this training for five years. However, it is necessary to improve the quality of the training by using audio-visual equipment, and/or revising the textbook. Moreover, it is necessary to revise the field work program to make the training more practical.

7. Follow-up Situation

The above suggestion has been taken to extend this training for five years from 2001 to 2005.

1) The Metal Resource Projects were carried out in 1974—1976, 1977—1980, 1984—1987, 1988—1991, 1995—1997, and the Subterranean Heat Energy Project was carried out in 1986—1989.

Turkey

Improvement of Mine Safety Technologies

Project Sites Zonguldak

1. Background of Project

The Government of Turkey has proceeded with the coal development policy in order to cope with domestic shortages in the electric power supply. However, in domestic coal mines, the disaster and fatal accidents were repeated every year with about 20 fatalities, including the gas and coal dust explosion that led to 103 fatalities in 1983. In March 1992, a catastrophic gas and coal dust explosion took place at Kozlu colliery of the Turkish Hard Coal Enterprise (TTK) in the Zonguldak area leading to 265 deaths.

For the purpose of decreasing serious accidents and securing the safety of coal mine workers, TTK has asked the Japanese Government for a project-type technical cooperation in June 1992, since Japan has similar geological conditions and has high technology when it comes to coal mine safety.

2. Project Overview

(1) Period of Cooperation

1 November 1995 − 31 October 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Turkish Hard Coal Enterprise (TTK)

(4) Narrative Summary

1) Overall Goal

Coal mine disasters in the Republic of Turkey are decreased.

2) Project Purpose

The prevention technology of coal mine disasters of TTK is improved.

3) Outputs

a) The safety control technology is improved.
b) Technology of disaster prevention is improved.
c) The maintenance management technology for the safety equipments is established.
d) Education and training technology is improved.

4) Inputs

Japanese Side

Long-term experts	8
Short-term experts	14
Trainees recieved	14
Equipment	276 million yen
Local cost	17 million yen

Turkish Side

Counterparts	37
Land, facilities and equipment	
Local cost	approx. 152.4 billion Turkish Lira (approx. 18 million yen)

3. Members of Evaluation Team

Team Leader:
Ken TAKAHASHI, Technical Director, Japan Coal Energy Center

Technical Cooperation Planning:
Takashi ISOBE, Deputy Director, Mine Safety Division & Coal Mine Safety Office, Environmental Protection and Industrial Location Bureau, Ministry of International Trade and Industry

Evaluation Administration:
Tomoyuki UDA, Second Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:
Akira MATSUMOTO, Senior Economist, IC Net Limited

4. Period of Evaluation

8 May 2000 − 26 May 2000

5. Results of Evaluation

(1) Relevance

The Government of Turkey has continued to develop and rationalize the coal mining industry increase the production of coal, and to increase its competitiveness on the international market. However, securing coal mine safety is also indispensable to the improvement of productivity. Therefore, this project has conformity with Turkish coal development policy and is deemed highly relevant.

(2) Effectiveness

This project has progressed very smoothly, and the four targeted outputs have been practically attained. During the project period, the number of accidents in the coal mines under the TTK jurisdiction decreased greatly from 35,557 cases in 1985 − 1989 to 11,470 cases in 1995 − 1999. The number of deaths, injuries, and the frequency of accidents has also declined every year.

Great progress was observed during the project period. There were no serious accidents at any of the coal mines under the TTK, and the daily administration functions improved. Therefore, the project contributes to the achievement of the improvement of the coal mine disaster prevention technology.

(3) Efficiency

The dispatch of experts and the supply of equipment from Japan were timely, and the equipment was managed well and utilized effectively.

Although there were repeated changes of the TTK executive officers due to changes in the Turkish government, no counterparts had left the job during the project period. The technology transfer was carried out effectively.

The supply of land, facilities, and equipment from the Turkish side, was mostly satisfactory in quality and in quantity in spite of the severe financial circumstances.

(4) Impact

The output of the project is extended by holding seminars in which the engineers outside of TTK participate (e.g. the Turkey Energy Conference), by conducting presentations at academic society (e.g. the Turkish coal academic society), and by reception of study tours on latest safety technology including the central control unit introduced by this project. Therefore, a decrease in the disaster occurrence rate could be expected in coal mines outside of the TTK jurisdiction.

(5) Sustainability

Although there are some financial concerns, there will be no major changes in the coal-centered Turkish energy policy, therefore support from the government is expected to continue.

Since the TTK is very eager for technological innovation in both safety and production, no problem is seen with the sustainability of safety control management.

The handover ceremony of respiratory equipment

However, in fiscal year 1999, 385 skilled mine workers retired voluntarily. Also in January 2000, 4,012 workers were recruited as an employment measure for earthquake-damaged areas, and also for further increase in coal production. The increase in unskilled workers is bound to affect safety in the mines.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Extra activities by long-term experts such as the compilation of a mining terminology dictionary (Turkish/English/Japanese) and Turkish grammar notes, successfully promoted smooth implementation of the project.

(2) Recommendations

TTK recruited 4,012 coal mine workers in January 2000 as an employment measure for areas damaged by the earthquake in August 1999. In the future, it will be necessary to provide these pit workers with a well-planned and satisfactory safety education. It is also necessary to consider implementing a follow-up project as needed.

7. Follow-up Situation

TTK's coal mining spot is shifting to deeper areas and new problems regarding safety and mining technology have arisen. It is necessary to introduce new technology to cope with these problems, so the dispatch of an individual expert who can provide extensive guidance and advice on safety and production technology was requested. Since February 2002, an expert on "improvement in coal mine safety and the coal mining rationalization" has been dispatched, in response.