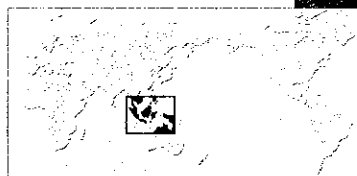


The Environmental Management Center



Project Sites Sulpon

1. Background of Project

The Government of Indonesia constituted the Basic Environmental Protection Law in 1982 in order to contend with the deteriorating environmental situation in Indonesia. In 1983, the Indonesian Government made some effort to develop a framework for environmental administration, and established The Ministry of State for Population and Environment was also established in June 1990. However, these measures were not sufficient to address environmental concerns because of a shortage of engineers and researchers specialized in the environment, and their low level of technical expertise. Under these circumstances, the Indonesian Government planned and requested financial and technical assistance from Japan for the foundation of the Environmental Management Center (EMC), which was expected to be the central institution for environmental management as a part of the Fifth Five-Year National Development Plan.

Responding to the request, the Government of Japan supported the construction of buildings and facilities of EMC under the Grant Aid program and began five-year Project-type Technical Cooperation in the areas of air pollution, water pollution, toxic substances and environmental information in January 1993. Later, in response to the terminal evaluation of 1997, technical cooperation was extended for two years and three months aiming at further strengthening of EMC to facilitate carrying out of its mandate.

2. Project Overview

(1) Period of Cooperation

- 1 January 1993-31 December 1997
- 1 January 1998-31 March 2000 (extension)

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organizations

Environmental Impact Management Agency (BAPEDAL)
Environmental Management Center (EMC)

(4) Narrative Summary

- 1) Overall Goal
Environmental monitoring system is established at the national and local levels.
- 2) Project Purpose
EMC acquire basic capability to work as a central institution for environmental monitoring in Indonesia.
- 3) Outputs
 - a) Environmental monitoring technologies and system established in the fields of water, air and toxic substances at EMC.
 - b) Appropriate laboratory management system of EMC is established.
 - c) Network technologies and environmental database system of EMC is developed.
Management capability of local laboratories concerning environmental monitoring system for water, air and toxic substances is strengthened through training sessions.
 - d) Management system at EMC is established.
- 4) Inputs

Japanese Side

Long-term experts	17
Short-term experts	48
Trainees received	58
Equipment	approx. 370 million yen
Local cost	approx. 80 million yen

Indonesian Side

Counterparts	96
Land and facilities	
Local cost	approx. 6.8 billion rupiah (approx. 250 million yen)

3. Members of Evaluation Team

Team Leader:

Kuninori OTSUBO, Investigator, Water and Soil Environment Division, National Institute for Environmental Studies, Environment Agency

Environmental Cooperation:

Sadao NAKAO, Deputy Director, Office of Overseas Environmental Cooperation, Control and Cooperation Division, Global Environment Department, Ministry of Environment

Environmental Monitoring:

Kiyoshi IMAMURA, Senior Research Engineer, Research Section, Environmental Pollution Control Center, Osaka Prefecture

Evaluation Planning:

Toru UEMACHI, First Technical Cooperation Division, Social Development Cooperation Department, JICA

Evaluation Research:

Manabu FUJIKAWA, Regional Planning International Co.,Ltd.

4. Period of Evaluation

22 November 1999-2 December 1999

5. Results of Evaluation

(1) Efficiency

The skills and the dispatch period of both long-term and short-term experts were appropriate, which contributed to the success of the technology transfer to the counterparts. The quantity and type of equipment provided through the project was also appropriate. The inputs on the Indonesian side were also suitable. The number of counterparts actually allocated was larger than initially planned and the labor turnover rate was low. Based on these findings, the project was implemented efficiently in terms of the timing, quality and quantity of the inputs on both the Indonesian and the Japanese sides.

(2) Effectiveness

EMC fully acquired the basic and integral technologies of environmental monitoring and information management. In particular, in terms of QA/QC activities, the reference laboratory division was in the process of acquiring ISO 25 accreditation, one of the international environmental standards in water quality. This achievement contributed to promote the same processes for air quality and toxic substance standards. As such, the project purpose was, in general, accomplished.

(3) Impact

According to the technical advice of EMC,

appendices of the two environmental laws were revised. The necessity of environmental management was recognized by the Indonesian people through their participation in monitoring the haze of forest fires. Furthermore, EMC, as an environmental education facility or a research institute, was opened to high school and university students, contributing to the development of human resources in the area of environmental management.

(4) Relevance

The overall goal of the project was in accordance with Indonesia's national policies including the Sixth Five-Year National Development Plan. The role of EMC in the fields of environmental management and information as well as in technical training continued to grow after the Basic Environmental Protection Law was enforced in September 1997. Therefore, relevance of the project was high.

(5) Sustainability

It was evaluated that EMC would be able to carry out its role independently since it had become an established institution with a high level of technical expertise. EMC's sustainability in terms of the financial aspect was also deemed to be high. An increased budget from the government was expected, and this would be supplemented by generating revenue through research works contracted by government agencies and private institutions after FY 2000.

6. Lessons Learned and Recommendations

(1) Lessons Learned

The cooperation was mainly focused on technical training since the basic technologies of environmental management had not been fully established in Indonesia. It was recommended that the plan should include applied activities: that training achievements would be applied to actual environmental management and administration.

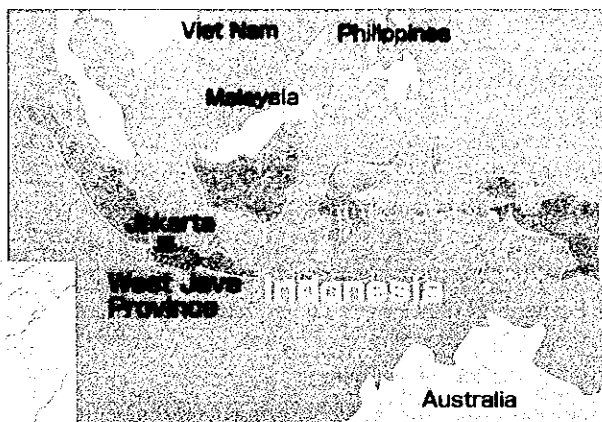
(2) Recommendations

Based on the prospect that the project purpose would be achieved, it was concluded that it would be appropriate to terminate the project on 31 March 2000 as initially planned. At the same time, EMC had already proposed further technical cooperation focusing on the fields of environmental research and the maintenance of analytical instruments. The formulation of model environmental projects in local areas where the environmental deterioration was serious and the development of human resources for environmental management in local laboratories were suggested by the evaluation mission as possibilities for further cooperation.

The Agricultural Statistical Technology Improvement and Training Project

Project sites

Jakarta, West Java Province
(Sukabumi, Serang)



1. Background of Project

Agriculture is an important sector for economic development and providing employment opportunities in Indonesia. Appropriate policies and development plans and their implementation, including the provision of accurate agricultural statistics, are necessary for agricultural development. The Center of Agricultural Data (CAD) was established in 1990 with the main mandate of coordinating the agriculture information system within the Ministry of Agriculture (MOA). However, the accuracy, reliability and timeliness of surveys were found to be lacking largely due to poor survey design and an unskilled survey staff.

In 1993, the Government of Indonesia requested the Government of Japan to implement Project-type Technical Cooperation for the improvement of statistical technology in the agricultural and fisheries sector.

2. Project Overview

(1) Period of Cooperation

1 October 1994-30 September 1999

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Center of Agricultural Data (CAD)

(4) Narrative Summary

1) Overall Goal

To conduct the statistical activities in MOA effectively and efficiently by applying new methodologies in food crops and fisheries statistics.

2) Project Purpose

To improve the agricultural statistics activities in CAD.¹⁾

3) Outputs

- a) Capability of the statistics staff is improved.
- b) Data collection methodology of agricultural statistics is improved.
- c) Data processing methodology for agricultural

statistics is improved.

- d) Computers are well utilized in CAD, DGF, two Model Districts and West Java Province Office.

4) Inputs

Japanese Side

Long-term experts	10
Short-term experts	30
Trainees received	22
Equipment	approx. 630 million yen
Local cost	approx. 101 million yen

Indonesian Side

Counterparts	60
Buildings and facilities	
Local cost	

3. Members of Evaluation Team

Leader/Food Crop Statistics:

Hisao HIRATO, Director, Planning and Coordination Division, Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries

Fishery Statistics:

Kenichi ODA, Chief, Fishery Statistics Office, Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries

Data Processing/Training:

Ryouichi KAKIZAKI, Assistant Director, Information System Division, Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries

Cooperation Evaluation:

Kazuyo HIRAKATA, Chief, Technical Cooperation Division, International Affairs Department, Economic Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries

Evaluation Analysis:

Shigeru KOBAYASHI, System Science Consultants Inc.

Planning Evaluation:

Tsuyoshi NOZOE, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

4. Period of Evaluation

18 July 1999-31 July 1999

5. Results of Evaluation

(1) Efficiency

All Japanese inputs were provided on time following the prepared plan. The Indonesian side could not afford to allocate the budget for the project due to the economic crisis in 1997. However, the Japanese Government promptly allocated this necessary budget, in order to avoid any negative impact of the economic crisis. As a whole, the project was implemented efficiently and according to schedule.

(2) Effectiveness

Data collection methodologies, such as sample survey and data processing methodologies, including statistical software for rice harvesting area surveys, were developed in two model areas in the West Java Province.

Regarding the food crop statistics, overestimation of the hitherto eye-estimation methodology and better accuracy of the sampling survey methodology were recognized by the Indonesian counterparts.

In addition, survey manuals for various types of fisheries were completed and a National Improvement Plan for fisheries statistics was drafted by the Directorate General of Fisheries (DGF) of MOA.

As a whole, the agricultural statistics activities of CAD were improved and the project purpose was achieved.

(3) Impact

As a result of recognition of the accuracy of the sample survey, the Directorate General of Livestock and Agribusiness agency in MOA also requested the improvement of their statistical technology by the introduction of sampling survey methodology. The necessity of closer cooperation among the related institutes, central government and local governments for the establishment of a more accurate statistical system was also recognized. Furthermore, the project contributed to institutional strengthening through the redefinition of responsibilities of related agencies and their organizational reform.

(4) Relevance

The purpose and activities of the project were highly relevant to the needs and policies of Indonesia. The Indonesian Government emphasized the necessity of accurate agricultural statistics and capacity development of agricultural staff in its Sixth Five-Year National Development Plan (REPELITA VI: 1994 to 1998). In addition, the improvement of fisheries statistics is also relevant to national policy since the Government of Indonesia has had the responsibility to manage fishery resources in Indonesian waters since the ratification of "United Nations Convention on the Law of the Sea" in 1994.



A farmer harvesting rice

(5) Sustainability

All agencies related to the project including CAD are trying to allocate the necessary budget. However, it is expected that the funding for statistical activities will not be secure as local governments are expected to allocate most parts of the budget after decentralization. Therefore, continuous financial aid by the Japanese Government is necessary. On the other hand, CAD is expected to have the technical capability to continue training activities independently. Through the training activities of this project, a TOT (Training of Trainers) system was established. Most counterparts acquired the necessary skills through technology transfer and have remained in the same organization.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Establishment of a TOT system is recommended. The TOT system enables beneficiary countries to continue training activities independently after the end of the project. Thus, it is very effective to establish this system in terms of strengthening technological sustainability.

(2) Recommendations

Indonesia needed to import rice due to the drop in paddy production at the time of the economic crisis. However, the lack of a high-quality statistical system made it difficult to identify the necessary amount of rice.

In order to cope with the above situation, it is recommended to conduct a Follow-up cooperation in the field of food crop statistics.

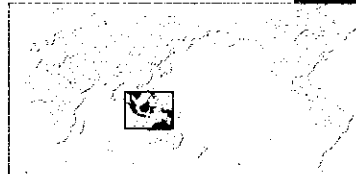
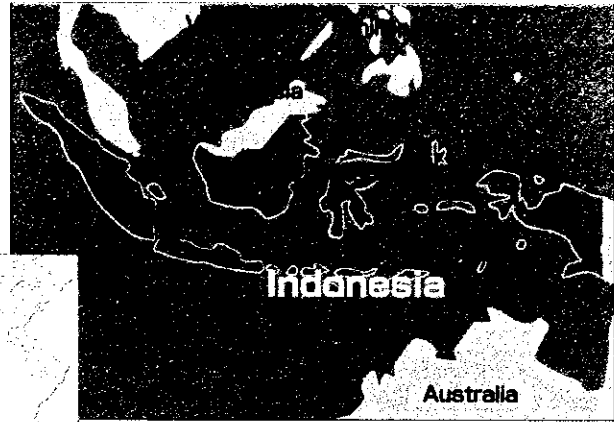
As for the field of fishery statistics, termination is desirable at the end of the planned cooperation period.

7. Follow-up Situation

In response to the above-mentioned recommendations, two-year Follow-up cooperation on paddy production estimation was conducted until 30 September 2001.

¹⁾ This activities include fishery statistics

The Tropical Rain Forest Research Project (Phase III)



Project Sites

Samarinda (East Kalimantan)

1. Background of Project

Indonesia, one of the most forest-rich countries, confronted a severe decrease in tropical rain forests due to illegal cutting of forests along with other factors such as economic development, inappropriate slash-and-burn farming, and forest fires. In 1981, the Government of Japan supported the construction of the Tropical Rain Forest Research Center at Mulawarman University by Grant Aid. Japan also implemented the technical cooperation "Tropical Rain Forest Research Project Phase I and II" for ten years from 1985. The project resulted in the establishment of a research organization and improvement of the counterparts' research capability. The Government of Indonesia requested continuous support from the Government of Japan to foster research activities and to enhance education and training programs at Mulawarman University.

The scientific and technological aspects of rehabilitation and sound management of tropical rain forest are provided by PUSREHUT.

3) Outputs

- a) Research activities on tropical rain forests at PUSREHUT are promoted.
- b) Linkages with other forestry-related research institutions are facilitated.
- c) Human resources are developed through research collaboration at PUSREHUT.

4) Inputs

Japanese Side

Long-term experts	7
Short-term experts	23
Trainees received	8
Equipment	approx. 108.5 million yen
Local cost	approx. 72 million yen

Indonesian Side

Counterparts	19
Land, building and maneuvering forest	
Equipment	
Local cost	approx. 1.26 billion rupiah (19 million yen)

2. Project Overview

(1) Period of Cooperation

1 January 1995-31 December 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Tropical Rain Forest Research Center, Mulawarman University (PUSREHUT)

(4) Narrative Summary

1) Overall Goal

The research outputs of PUSREHUT are applied for the rehabilitation and sound management of tropical rain forests.

2) Project Purpose

3. Members of Evaluation Team

Team Leader/Animal Ecology:

Toshiya IKEDA, Director of Forest Biology Division, Forestry and Forest Products Research Institute (FFPRI), Ministry of Agriculture, Forestry and Fisheries (MAFF)

Forestry Soil Science:

Seiichi OHTA, Director of Forest Environment Division, FFPRI, MAFF

Forest Ecology/Silviculture:

Nobuyuki TANAKA, Chief of Regeneration Process Laboratory, Silviculture Section, Forestry Technology Division, FFPRI, MAFF

Planning Evaluation:

Akinao ONISHI Forestry Cooperation Division, Forestry and Fisheries Development Cooperation Department, JICA

Evaluation Analysis:

Hiroyuki KAWASAKI, I.C.Net Limited

4. Period of Evaluation

11 July 1999-24 July 1999

5. Results of Evaluation

(1) Efficiency

Inputs by the Japanese Government were appropriate as a whole. As for the inputs by the Indonesian Government, counterparts should have included more junior staff, as most of the counterparts were 40-50 years old researchers who also worked as university teachers. Another obstacle to research activities was that the Indonesian Government could not fund the project implementation due to the economic crisis.

(2) Effectiveness

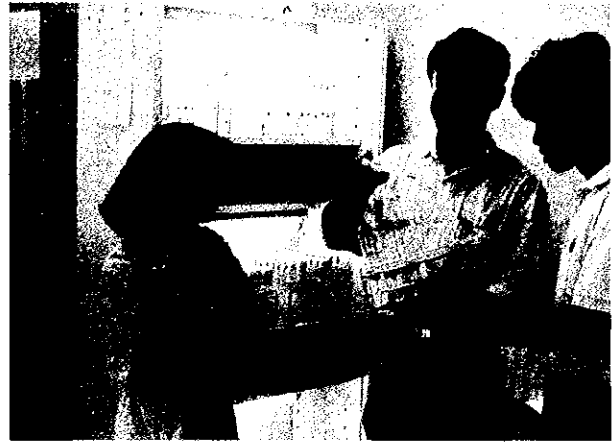
Under the project, sufficient data was gathered on all of the research topics (long-term monitoring of natural forests, secondary growth forests and plantations, monitoring of fauna and improvement of silvicultural techniques). Based on the research data, especially regarding the monitoring of fauna, the project achieved outcomes to a greater degree of success than was expected. Research outcomes include 118 theses, publications and presentations in symposiums, among others. Thus, the project purpose was substantially achieved.

(3) Impact

The research outcomes are to be published as a scientific book by a well-known international publisher. It is expected that the research findings will be utilized around the world. In addition, the equipment that was provided to faculty and students of the University, as well as counterparts, contributed to other research activities that were not covered by the project.

(4) Relevance

The priority of the nation's development policy



A counterpart teaching tissue cultivation techniques

shifted from planting for industry to the conservation of the natural environment and residential environment. Also, the study of forest ecology became recognized as important. Therefore, the project purpose is relevant to the needs of Indonesia.

(5) Sustainability

The capacity of the PUSREHUT research staff was improved, and reached a level at which they were able to conduct research without outside support. Thus, sustainability, in technical terms, is judged as high. However, the Government of Indonesia cut the budget allocation for the running costs of PUSREHUT due to the economic crisis. PUSREHUT, therefore, needs to generate its own finances, for example, by conducting collaborated research projects.

6. Lessons Learned and Recommendations

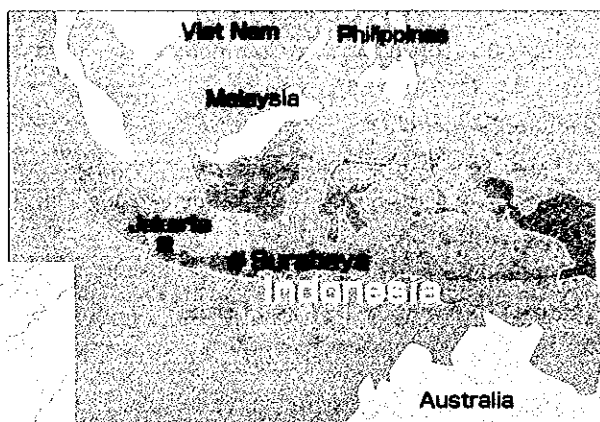
(1) Recommendations

It was recommended that Indonesia identify an autonomous revenue source and assign junior researchers to the research center.

7. Follow-up Situation

The Japanese Government has dispatched an Individual Expert on "Cooperation of prevention and management research for disasters of tropical forest" from 2000 to 2001, which aims to utilize the data related to the change of the ecological system collected by the project for the conservation of tropical forests and the prevention of natural disasters.

The Project for Upgrading the Emergency Medical Care System of the Dr. Soetomo Hospital in Surabaya/ East Java



Project Site Surabaya

1. Background of Project

In the national health plan of Indonesia, the Dr. Soetomo Hospital, in Surabaya, East Java Province, is positioned as a core hospital of Eastern Indonesia that plays a central role in the policy to strengthen the health-care system at the national level. Specifically, the plan puts emphasis on upgrading the emergency-care unit of the hospital so that it will be a model hospital in this field, and thus contains measures such as the improvement of facilities, training of emergency-care personnel and improvement of services.

Under such circumstances, the Government of Indonesia requested Japan to provide cooperation in the construction of the emergency ward through Grant Aid and Project-type Technical Cooperation for capacity building of the emergency-care unit division of the Hospital.

2. Background of Project

(1) Period of Cooperation

1 February 1995-31 January 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organizations

Ministry of Health
Dr. Soetomo Hospital

(4) Narrative Summary

- 1) Overall Goal
The system of emergency medical care is upgraded in Surabaya and eventually in East Java.
- 2) Project Purpose
Function of the emergency care unit of the Dr. Soetomo Hospital is upgraded.
- 3) Outputs
 - a) Emergency patient transportation system is established in Surabaya.

- b) Quality of emergency nursing in the hospital is improved.
- c) Information system for the emergency-care unit and the main hospital is developed.
- d) Level of maintenance of equipment in the emergency-care unit is improved.
- e) Emergency-care services are highly regarded by the general public.

4) Inputs

Japanese Side

Long-term experts	14
Short-term experts	36
Trainees received	19
Equipment	approx. 218 million yen
Local cost	approx. 43 million yen

Indonesian Side

Counterparts	51
Land and facilities	
Equipment	approx. 1.8 billion rupiah (approx. 27 million yen)
Local cost	

3. Members of Evaluation Team

Team Leader:

Iwao TATEUCHI, Director, New Business Development Department, St. Mary's Hospital

Emergency care:

Daisaku URABE, Chief, Department of Pediatrics, St. Mary's Hospital

Emergency nursing:

Kimiko YAMADA, Director, Nursing Department, St. Mary's Hospital

Emergency Transportation:

Kuniaki MIYAKE, Section Chief, Ambulance and Rescue Service Division, Fire and Disaster Management Agency, Ministry of Home Affairs

Cooperation Planning:

Hajime UETAKE, First Medical Cooperation Division,

Medical Cooperation Department, JICA

Project Evaluation:

Kanji HOSHINO, PADECO, Co., Ltd.

4. Period of Evaluation

26 July 1999-11 August 1999

5. Results of Evaluation

(1) Efficiency

Inputs such as the Dispatch of Experts, Acceptance of Trainees and provision of equipment were implemented as initially planned. It was judged that the provided equipment was being fully utilized for effective technology transfer.

(2) Effectiveness

As a result of the project activities such as the training of a total of more than 300 ambulance crews and the creation of an ambulance network, whose member hospitals expanded to 13 in the Surabaya city area, an improvement was seen in the system of emergency transportation. Emergency nursing and maintenance of equipment also improved. With regard to the information system for the entire hospital, some components such as the in-hospital LAN system were still under development. However, records such as nursing records and medical charts were processed by computers in each division and were ready to be retrieved when necessary.

(3) Impact

Dr. Soetomo Hospital became an important central emergency hospital not only in Surabaya or East Java provinc but also throughout Eastern Indonesia through activities such as radio-transmitted instructions on emergency care and dispatch of its medical personnel to other hospitals. Also, the Ministry of Health expressed its intention to adopt the techniques transferred through this project as the nursing standard in Indonesia and to disseminate them nationwide.

(4) Relevance

In the National Health Development Plan of 1999, the Government of Indonesia gave the development of the emergency care system a high priority and regarded the Dr. Soetomo Hospital as a "strategic base of the development of the emergency-care system in East Java Province." Therefore, it was evaluated that the project was implemented in accordance with the national plan and strategy and that the timing for implementation was also highly relevant.

(5) Sustainability

From an organizational aspect, since the establishment



Pre-hospital educational activities utilizing audio-visual materials in the waiting room of a hospital



Nursing Seminar

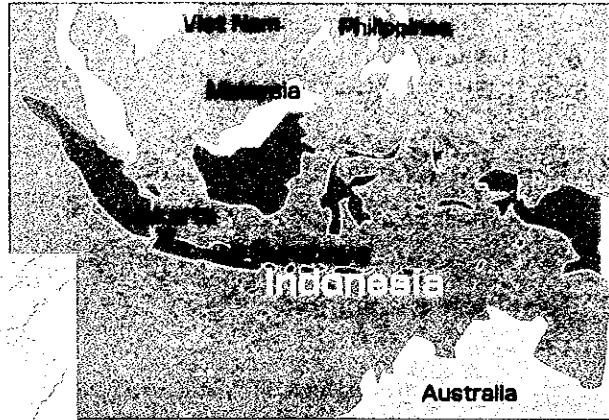
of an emergency-care system was in conformity with the policy of East Java Province, it was considered that the provincial government would likely continue to develop the system. Regarding technological aspects, the project would be sustainable if the counterparts remain in their positions and disseminate the techniques transferred through the project to other staff members of the hospital using the manuals and textbooks developed, continuing seminars and by other means. In terms of the financial aspect, despite a possible reduction in the provincial subsidy, sustainability was considered to be secured by the efforts of the hospital to strengthen its financial base.

6. Lessons Learned and Recommendations

(1) Recommendations

It was concluded that the project was successfully implemented with close cooperation between the Japanese side and the Indonesian side. Therefore, it was judged that this project be terminated in January 2000. In the future, it was hoped that the Dr. Soetomo Hospital, as a model hospital of Indonesia, would be able to handle individual problems on its own.

The Project for Construction of Tropical Disease Center at Airlangga University



Project Site Surabaya

1. Background of Project

The major cause of death in Indonesia had been tropical diseases such as diarrhea and malaria. The eastern part of Indonesia, which was particularly underdeveloped, had high infection rates for tropical diseases while medical standards remained low. Therefore, the prevention and early detection of tropical diseases, and the establishment and extension of primary care became urgent issues in order to reduce the number of patients of tropical diseases.

The National University of Airlangga in Surabaya, the capital city of East Java State, tackled these issues and had been playing a significant role as a major research institution of tropical diseases. Japan also carried out cooperation under provision of facilities and dispatch of team of experts (1991-1994).

Under these circumstances, the University planned to establish a general center in order to improve the diagnosis of patients with tropical diseases, apply the results of basic research to medical treatment and the clinical sector, and extend prevention methods. In response to this situation, the Government of Indonesia requested funding from Japan to construct facilities and purchase the equipment necessary for project implementation under the Grant Aid program.

2. Project Overview

(1) Period of Cooperation

FY 1996

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organizations

Airlangga University, Ministry of Education

(4) Narrative Summary

1) Overall Goal

Quality of health services for tropical diseases is improved in Indonesia.

2) Project Purpose

Tropical Disease Center is established.

3) Outputs

- a) Facilities of Tropical Disease Center are established.
- b) Various types of medical and analytical instruments, research and training facilities including microscope are provided.

4) Inputs

Japanese Side

Grant	856 million yen
	(E/N amount)

Indonesian Side

Land

3. Members of Evaluation Team

Operation and maintenance:

Tomoyuki NAITO, Grant Management Department, Project Monitoring and Coordination Division, JICA

Procurement study:

Toru TAKAGI, Japan International Cooperation System

4. Period of Evaluation

5 April 2000-11 April 2000

5. Results of Evaluation

(1) Efficiency

The period of construction was partly delayed due to adjournment of foundation work during the wet season, drought in 1997 which hindered water supply, and

insufficient budget allocation on the Indonesian side. However, as a whole, it was evaluated that the project was implemented as initially planned and efficiency was high since execution and management were appropriately carried out, equipment was obtained locally and meetings concerning facilities and design were held between the Indonesian side and the Japanese side as needed.

(2) Effectiveness

The construction of facilities and procurement of equipment proceeded as originally planned and the activities of the Tropical Disease Center were also launched. Since the budget of Airlangga University was reduced due to the economic crisis in 1997, it was unavoidable that the number and scale of planned seminars and classes also were reduced. However, the University implemented activities using the established facilities and equipment as best it could under the circumstances. Thus, it was considered that the project purpose was accomplished.

(3) Impact

After establishment of the Tropical Disease Center, application research of tropical diseases was advanced and this enabled effective implementation of awareness-raising activities for medical staff and the public concerning the treatment and prevention of tropical diseases. In addition, the results of the research and seminars carried out at the Center directly benefited the local people through the Dr. Soetomo Hospital, a tertiary medical institution in East Java Province. Furthermore, seminar participants at the Center made use of acquired knowledge in their work at local medical institutions and government administrative organizations and contributed to the project purpose of quality improvement of health and medical services.

(4) Relevance

The activities of the Tropical Disease Center corresponded to the Prevention and Alleviation Program of Epidemics, a major policy of the Sixth Five-Year Plan of National Development of the Government of Indonesia. Therefore, it was highly relevant.

Also, this project attempted to obtain equipment of the same type and level as Airlangga University already possessed. Facilities were designed to provide a sufficient environment to implement research activities and seminars. As such, the appropriateness of facilities and equipment was high as well.

(5) Sustainability

Although the budget of the Tropical Disease Center allocated by the Ministry of Education increased annually, it was still too low to sustain the Center, at slightly more than 20 percent of the amount the Center requested. The Center had been making efforts to expand financial resources independently through procuring funds from other governmental organizations, collecting seminar participation fees, income from referee examination of hospitals and referral research for private companies. However, continuous effort would be necessary, as financial sustainability was not considered sufficient.

Although activities at the center were scaled down from the initial plan, there were some unplanned innovative activities, such as the establishment of working groups in each research area. However, the number of personnel for maintaining facilities and equipment was inadequate and the technical ability of the agency in charge of repair work was insufficient; therefore, it was thought desirable to put more effort into establishing a maintenance system.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is necessary to ensure the capacity of the implementing agency to operate and manage facilities at the Basic Design Study stage in order to secure the sustainability of the project. In particular, it is important to design the scale of cooperation based on the partner country's ability to allocate the necessary budget for running and maintaining the project as planned. Therefore, it is necessary to pay close attention to the allocated budget of existing facilities and the political and economic current of partner countries from the stage of Basic Design Study. Also, it would be an effective measure to build a partnership with Project-type Technical Cooperation to improve maintenance skills.

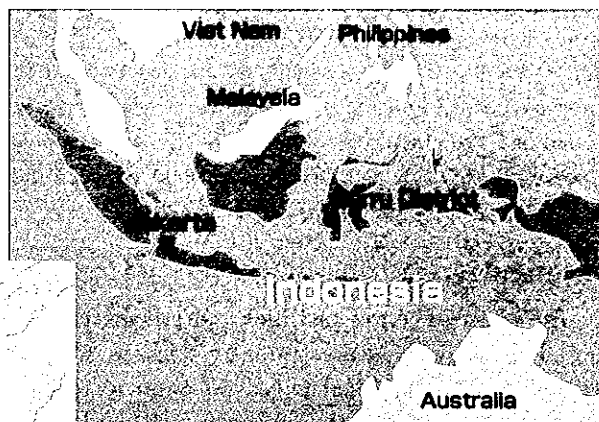
(2) Recommendations

Many precision instruments for research and examination were provided to the Center; therefore, the Indonesian side was urged to immediately establish maintenance and management systems via maintenance contract for major instruments with local agents, securing suppliers for procurement of necessary supplies, and training the staff of the center in basic operation and maintenance methods. The dispatch of an expert of funding cooperation to examine the management and financial situation and give advice for the improvement of the Center's management system was also suggested.

Implementation Support for Integrated Area Development Project in Barru District

Project Site

Barru District
(South Sulawesi Province)



1. Background of Project

The Sixth Development Plan of Indonesia identified three issues that were 1) improving the quality of human resources, 2) economic development and economic structural adjustment, and 3) equality of income distribution and alleviation of poverty, and then set measures for eliminating regional disparities and alleviation of poverty with a central focus on the Eastern region. An Integrated Area Development Program, which was initiated by the Ministry of Home Affairs, had been carried out with the policies of human resources development, upgrade of living standards, and the combination of environment and development; however, in local areas, there was a lack of experience and personnel who could contribute to the effective implementation of the project and the resolution of regional-specific issues. Under these circumstances, the Government of Indonesia requested Japan to provide cooperation through the dispatch of a team of Japan Overseas Cooperation Volunteers (hereinafter referred to as JOCV)¹⁾ to support implementing the Integrated Area Development Program in the Barru District, South Sulawesi Province.

2. Project Overview

(1) Period of Cooperation

1 January 1995-31 December 1999

(2) Type of Cooperation

JOCV Team Dispatch Program

(3) Partner Country's Implementing Organizations

Regional Development Planning Board (BAPPEDA Tk. I)

South Sulawesi of Province Regional development Planning Board (BAPPEDA Tk. II) of Barru District

(4) Narrative Summary

- 1) Overall Goal
Productivity of economic activities in the targeted villages is increased.
- 2) Project Purpose
Economic activities in the targeted villages are

fostered.

3) Outputs

- a) Farming system is improved.
- b) Human resources are developed.
- c) Quality of local governmental apparatus related to the regional development is improved
- d) Farming support system (infrastructure, etc.) is improved.

4) Inputs

Japanese Side

Junior experts	25 (7 were Senior volunteers and 2 were short-term volunteers)
Trainees received	9
Equipment	approx. 43 million yen
Local cost	approx. 41 million yen

Indonesian Side

Counterparts	
Land and facilities	
Local cost	1.35 billion rupiah (approx. 43 million yen)

3. Members of Evaluation Team

Team Leader:

Yoshihiko NISHIMURA, Professor, Graduate School of International Development, Nagoya University

Evaluation Planning:

Yoshie YAMASHITA, Deputy Director, First Overseas Assignment Division, Secretariat of JOCV, JICA

Project Evaluation:

Kiyoka FUJITA, First Overseas Assignment Division, Secretariat of JOCV, JICA

Evaluation Analysis:

Ikuo YAMAMOTO, IC Net Limited

4. Period of Evaluation

25 November 1999-8 December 1999

5. Results of Evaluation

(1) Efficiency

The dispatch of JOCVs was carried out almost on schedule and the composition and scale of the JOCV Project were also appropriate except for the one-year late dispatch of the JOCV of irrigation engineering due to difficulty in identifying an appropriate person.

The implementing organizations on the Indonesian side did not have sufficient understanding of the role of the JOCV program in JICA's cooperation and in some cases they requested large-scale inputs as well as outputs that the JOCV program could not cover. At the same time, the counterparts considered that JOCVs were students in training. Such misunderstandings hindered the smooth progress of the project. In addition, it was difficult to coordinate relevant local organizations in order to run such a cross-sectored project, since Indonesia had a strict vertical administrative system; therefore, regrettably, the project was often isolated.

Furthermore, both crops and irrigation infrastructure, which were provided through the project, were heavily damaged by natural disasters, such as floods and droughts, which occurred between 1997 and 1999. Some JOCVs were forced to evacuate their project sites due to the deterioration of public security in 1998, and this caused a delay in some activities, particularly the planting of melons.

(2) Effectiveness

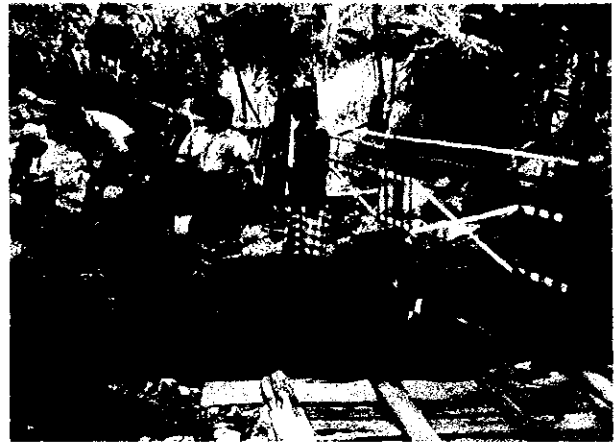
As mentioned above, there were some delays in activities due to natural disasters and other external conditions. However, methods of crop planting, improvement of markets, cattle and goat raising, construction of domestic water systems, raising seedlings, and other assistance and information for the regeneration of rural economies were provided to the farmers. In addition, the activities of farmers' organizations, such as the management of facilities and group crop planting, became more active; therefore, project purposes were achieved for the most part.

(3) Impact

There were some positive impacts, such as an increase in agricultural productivity resulting from the establishment and improvement of agricultural infrastructure, and an increase in the number of businessmen visiting villages due to the improvement of markets. In particular, the establishment of infrastructure brought the impacts of secured domestic water use, saved work hours and reduced diseases. On the other hand, there was also the negative impact that the project enhanced people's mental dependence towards aid.

(4) Relevance

The Barru district was still one of the poorest districts in Indonesia at the time of the evaluation; thus, the goal and purpose of this project were relevant to farmer's needs as well as the development policies of Indonesia.



The Project promoted women's participation in income generation activities through breeding of goats

(5) Sustainability

It was assumed that individual local offices would take responsibility for the activities that were expected to be continued after the completion of the cooperation period; therefore, the management system and the budget were secured. Independent systems for management of domestic water facilities and markets for farmers were also established through technology transfer of this project. It was also evaluated that expected inputs, such as land for facility installation, resources obtainable in villages, a portion of funds, and labor power, were appropriately provided by farmers as a result of participatory activities of the project. As such, these factors enhanced the sustainability of the project.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is necessary to start implementing a project after establishing a common understanding of the project purpose, details of activities and inputs among the relevant actors of the project through preliminary research and successive discussions with partner countries.

The method of coordination among the relevant governmental organizations responsible for the different sectors covered by the project is also required in order to run a cross-sectored project in a country with a strict vertical administrative structure.

(2) Recommendations

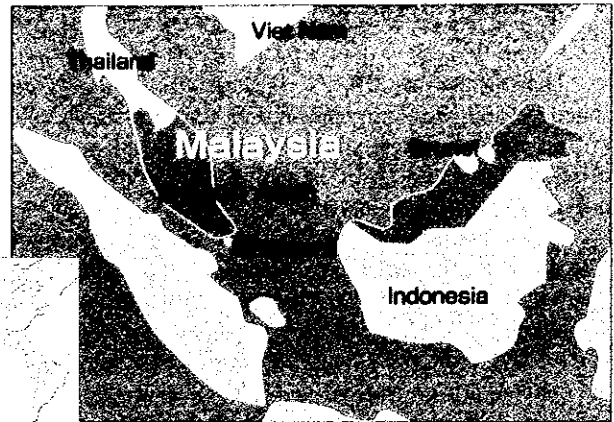
It was recommended that the project be terminated at the end of December 1999 as planned. However, it was considered reasonable that restrictive and complementary cooperation be carried over for the activities that began late and were behind schedule.

7. Follow-up Situation

Based on the above recommendations, Follow-up cooperation was carried out from 1 January 2000 to 31 December 2001.

¹⁾ JOCV is called as Junior Experts in Indonesia

Standards and Conformity Assessment of PFP



Project Site Shah Alam

1. Background of Project

At the Asia Pacific Economic Cooperation (APEC) Conference in 1994, the Government of Japan proposed the Partners for Progress (PFP) plan for economic cooperation. The PFP aims at a more effective promotion of economic and technical cooperation based upon mutual assistance and independence, and thus, it was officially adopted in the APEC high-level meetings and accordingly in the Cabinet Member Conference of the APEC held in Osaka in 1995. At the APEC High Level Meetings held in Manila in February of 1996, the Government of Japan proposed training plans for human resources development in the three areas of Industrial Property Rights, Competition Policy, and Standards and Conformity Assessment, as a PFP project to contribute to liberalization and facilitation of trade and investment.

In response to this, joint cooperation with Thailand and Malaysia was proposed, and accordingly, JICA's Third-country Training Programs for Standards and Conformity were planned to be held in Malaysia.

2. Project Overview

(1) Cooperation Period

FY 1996-FY 2000

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

Standards and Industrial Research Institute of Malaysia (SIRIM Berhad)

(4) Narrative Summary

1) Overall Goal

Participants in the training programs play a key role in the work of improvement and systematization of standards and certification in their home countries.

2) Project Purpose

Trainees' knowledge of standards and certification is enhanced.

3) Outputs

- a) Participants in the training programs recognize the present situation and issues regarding standards and certification in the APEC member countries.
- b) Participants in the training programs understand the present conditions of facilities of the organizations for certification.
- c) Participants in the training programs have deep understanding of how to improve the systems of standards and certification.

4) Inputs

Japanese Side

Short-term experts	17
Training expenses	approx. 0.95 million ringgit (approx. 30 million yen)

Malaysian Side

Lecturers and administrative staff
Training/Accommodation facilities and equipment
Training expense

3. Members of Evaluation Team

Team Leader:

Iwao TATSUMI, Senior Advisor to the Managing Director, Partnership Promotion Department, JICA

Co-operation Policy:

Keiichi YOKOTA, Assistant Director, Technical Co-operation Division, Economic Co-operation Bureau, Ministry of Foreign Affairs

Standard/Conformity Assessment:

Kazuma YOKOTA, Assistant Chief of General Coordination Section, Technical Co-operation Division, International Trade and Industry

Co-operation Planning:

Kazuya OUSUKA, Southeast Asia Division, Regional Department I, JICA

4. Period of Evaluation

12 December 1999-16 December 1999

5. Results of Evaluation**(1) Efficiency**

Although the staff in SIRIM who became the training secretariat made efforts for efficient training implementation, the participants in the training programs repeatedly pointed out weaknesses in time management of lectures and curriculum development in accordance with needs. The same problems were raised every year, so these points were not reflected in later training programs.

(2) Effectiveness

For four years from fiscal year 1996 to 1999, a total of 116 persons (21 from Malaysia) participated in the training. At the initial stage of the training course, it seemed that the participants lacked understanding in some of the training areas due to the shortage of preparation time, overlapping of some lectures, lack of arrangement for all programs, and short lecture time since extra time was used for discussion. But the participants responded in the questionnaires that they could know the other countries' situation of standards and conformity which was the original purpose of the training, and the training courses were useful for work in their home countries. Seventy-eight percent of the participants in the third (1998) and fourth (1999) training period responded that the training purpose was achieved; thus, it is perceived that the project purpose was mostly achieved.

(3) Impact

According to the questionnaires, the participants who returned to their countries already used training materials and documents in their work and lent them out to their colleagues or circulated them in the office. They also gave lectures on what they learned, thereby further disseminating the knowledge and information learned through the training. After their return, there were cases where participants exchanged information and there were comments from participants that they were eager to learn more on the subject.

(4) Relevance

The training purpose matches the ultimate goal of APEC activity "All members in APEC achieve liberalized and open trade and investment in the regions by 2020" (Bogor Declaration), so the project had relevancy.



Interview at Standards and Industrial Research Institute

(5) Sustainability

Although there were problems explained in⁽¹⁾, the capacities for training implementation and lecturer arrangements in SIRIM were generally high. Financially speaking, the SIRIM became a public corporation in 1996 and, furthermore, the training section became independent so that it has a self-supporting accounting system in all training conducted in SIRIM.

As this training course, the framework of APEC is non-profit making, in order to continue similar types of training in the future, and it is necessary for an outside source to pay the costs of implementation, travel and hotel/daily allowances for participants.

6. Lessons Learned and Recommendations**(1) Lessons Learned**

In order to realize impacts efficiently in accordance with the requests of trainees, follow-up investigations following training are important.

When the training evaluation is developed, one of the indicators to identify is to make sure there is a system whereby feedback is reflected in subsequent training.⁽¹⁾

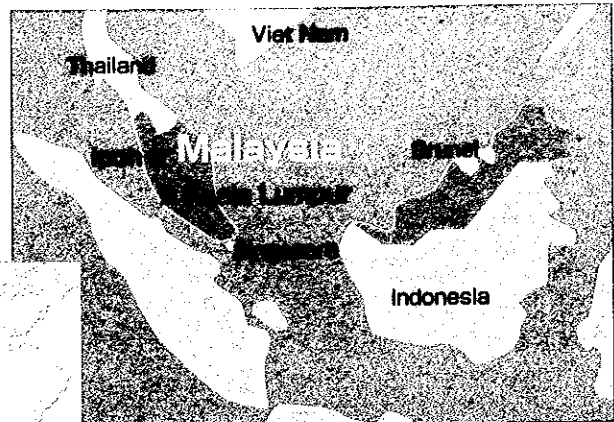
(2) Recommendations

It was judged that the initial training purpose was achieved. Therefore, there was an agreement with the Government of Malaysia that the Third-country Training Program for "Standards and Conformity Assessment" would end at the completion of the fourth training in 2000.

However, the skills of Standards and Conformity did not reach the international standards level, and there were many countries at the same technical level in the APEC regions. Therefore, it was considered important to conduct similar training for these countries.

¹⁾ Note: This Evaluation Study was conducted at the same time as that of "third-country training program in Thailand, PFP Industrial Property Rights". So readers are referred to the lessons learned and recommendations from that evaluation study for further information.

ASEAN Course on Specialized Diagnostic Techniques on Poultry Diseases



Project Site Ipoh

1. Background of Project

As the need was growing for the latest technical knowledge and techniques in the field of poultry diseases in ASEAN countries, the Government of Malaysia established the ASEAN Poultry Diseases Research and Training Center (APDRTC) within the compounds of the Veterinary Research Institute (VRI) of the Ministry of Agriculture. Japan assisted APDRTC through the Grant Aid project "Construction of the ASEAN Poultry Diseases Research and Training Center" (1986/1987), Project-type Technical Cooperation, "ASEAN Poultry Diseases Research and Training Project" (April 1986-April 1993, and after-care cooperation in August 1996-August 1998). Furthermore, Japan supported a Third-country Training Program from FY1991 to FY1995 for the purpose of disseminating the research results and technology of APDRTC to other ASEAN countries. Through such cooperation, APDRTC came to play an important role in the improvement of poultry diseases research, training and dissemination in ASEAN countries. Thus, with the aim of further disseminating knowledge and technology related to poultry diseases control, Malaysia requested that the Third-country Training Program be extended another five years.

2. Project Overview

(1) Period of Cooperation

FY1996-FY 2000

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organizations

Veterinary Research Institute (VRI), Ministry of Agriculture
 ASEAN Poultry Diseases Research and Training Center (APDRTC)

(4) Narrative Summary

1) Overall Goal

Knowledge and techniques in the field of specialized diagnosis of poultry diseases are upgraded in ASEAN countries.

2) Project Purpose

Trainees acquire knowledge and techniques in the field of specialized diagnosis of poultry diseases.

3) Outputs

- a) Trainees acquire specialized diagnostic techniques and research methodology of major poultry diseases.
- b) Trainees acquire specialized knowledge such as vaccine making.

4) Inputs

Japanese Side

Short-term experts	4
Training equipment	
Training expenses	approx. 0.42 million ringgit (approx. 12 million yen)

Malaysian Side

Instructors and management staff
 Training facilities and equipment

(5) Participant Countries

Brunei, Cambodia Indonesia, Malaysia, Philippines, Thailand, Viet Nam

3. Members of Evaluation Team

JICA Malaysia Office
 (Commissioned to IC Network Malaysia)

4. Period of Evaluation

March 2000

5. Results of Evaluation

(1) Efficiency

The inputs were implemented as planned and the management-system of training program was appropriate. Although the financial management could have been improved in some points such as the inclusion of the purchase of audio and visual equipment which could be used for years, in recurring costs, it was judged that the overall efficiency of the training program was high.

(2) Effectiveness

A total of 47 persons participated in the training courses for four years from 1996 to 1997. Since the instructors constantly monitored the training process and addressed problems immediately, most of the participant understood the subjects taught. According to the survey conducted at the end of each course, an average of over 90 percent of ex-participants answered that they were satisfied with the course contents. From this and the analysis of the course reports, it was judged that the objective of each course was achieved.

However, in order to assess its effectiveness more accurately, there should have been an indicator to objectively verify the participant's acquisition of the knowledge and techniques, e.g., an achievement test to be conducted at the conclusion of the course.

(3) Impact

There was no visible impact of the training program confirmed at the time of evaluation. However, since the knowledge and relevant techniques of poultry diseases diagnosis and research that the trainees acquired from the courses were the ones that would be applicable to most of them in their countries, it was expected that the outcomes of the training program would contribute to the upgrading of technology in this field in the participating countries.

(4) Relevance

The course contents designed at the initial stages contained techniques that were deemed too advanced for use in some countries mainly due to the lack of facilities and equipment to adopt them. However, most of the techniques taught were in conformity with the situation of the livestock industry in the participating countries and were, thus, relevant.

(5) Sustainability

After the withdrawal of the cooperation from Japan, the Malaysian side would likely continue training activities utilizing the existing VRI facilities. However, additional funds would be needed to conduct training using advanced equipment and biologics.



Experimentation in the laboratory

6. Lessons Learned and Recommendations

(1) Lessons Learned

Certain techniques taught were too advanced for use in some of the participant countries. Hence, it was advisable that the implementing institution use a more thorough selection process to ensure that participants from certain countries have access to adequate facilities. The implementing institution should initiate research into the type of facilities available in the participating countries, categorize them in terms of technological sophistication and tailor the course to suit the countries needs accordingly.

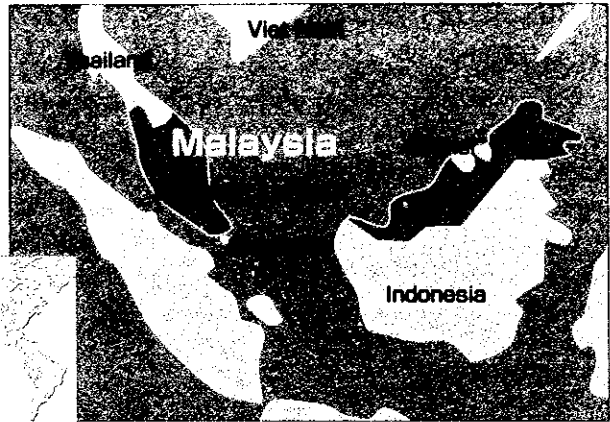
(2) Recommendations

It was considered desirable that APDRTC training be continued. For that, the Government of Malaysia should continuously support and promote training in this field. An extension of this training program or acquisition of other external assistance was also recommended.

7. Follow-up Situation

The cooperation to training activities was terminated as planned. In order to further enhance the outcome of the cooperation, Research Cooperation entitled "Nipah Virus" is being planned for three years from October 2001 to September 2004 for the purpose of improving diagnostic techniques and epidemiological surveys of Nipah virus.

Training on Enhancing Women's Economic Participation through Scaling-up of Micro Enterprises to Small-scale Enterprises



Project Site Kuala Lumpur

1. Background of Project

The Government of Malaysia emphasized enterprise development for rural women as part of the measures to achieve poverty eradication, an important national development issue. In practice, the Government implemented a variety of income generation projects for rural women through the Ministry of Agriculture, Farmers Associations, higher education institutions and other organizations within the framework of the entrepreneurship development plan for poverty alleviation and alternative income sources that started in the early 1980s. The University Putra Malaysia (UPM), the implementing organization of this training program, had experience in providing advice and training related to Women in Development (WID) for the Government of Malaysia. With the aim of disseminating this experience to other Asian and Pacific countries, the Government of Malaysia requested Japan to implement this training program.

2. Project Overview

(1) Period of Cooperation

FY1997-FY1999

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

University Putra Malaysia (UPM)

(4) Narrative Summary

1) Overall Goal

Participation of women in economic activities is enhanced in countries in the Asia-Pacific region.

2) Project Purpose

Capabilities of trainees to prepare and offer training programs targeting small-scale women entrepreneurs are strengthened.

3) Outputs

- a) Trainees learn development theories on the economic role and empowerment of women.
- b) Trainees acquire business skills for upscaling enterprises.

4) Inputs

Japanese Side

Short-term experts	5
Training expenses	0.52 million ringgit (approx. 15 million yen)

Malaysian Side

Instructors and management staff
Training facilities and materials

(5) Participant Countries

Indonesia, Laos, Philippines, Sri Lanka, Thailand, China, Bangladesh, Viet Nam, Maldives, Nepal, Iran, Myanmar, Pakistan, Bhutan, Fiji, Mongolia, Papua New Guinea, Tonga

3. Members of Evaluation Team

JICA Malaysia Office
(Commissioned to IC Network Malaysia)

4. Period of Evaluation

February 1999-March 1999

5. Results of Evaluation

(1) Efficiency

Due to the lack of funding by the Malaysian side, most of the Malaysian instructors were nominated from faculty of UPM and they engaged in training as volunteers. However, as the regional characteristics of Malaysia are similar to those of the participating countries, a combination of local and regional knowledge provided by Malaysian instructors and methods introduced by Japanese experts was more than adequate to provide the necessary knowledge and skills to trainees. Also, the training facilities of UPM were fully utilized. Therefore, the implementation of this training program was considered to be efficient.

(2) Effectiveness

It was difficult to objectively verify the extent of the improvement of capabilities of trainees in planning training programs. Nevertheless, effectiveness was evaluated to be high from indirect evidence that trainees developed various action plans to be implemented after returning to their respective countries.

(3) Impact

Although trainees developed a variety of action plans as mentioned above, it would take time for these plans to be implemented and lead to improved economic activities for women. Therefore, impact could not be thoroughly assessed at the time of this evaluation.

(4) Relevance

Considering the expected impact and sustainability, the initial training plan could be evaluated as being relevant.

(5) Sustainability

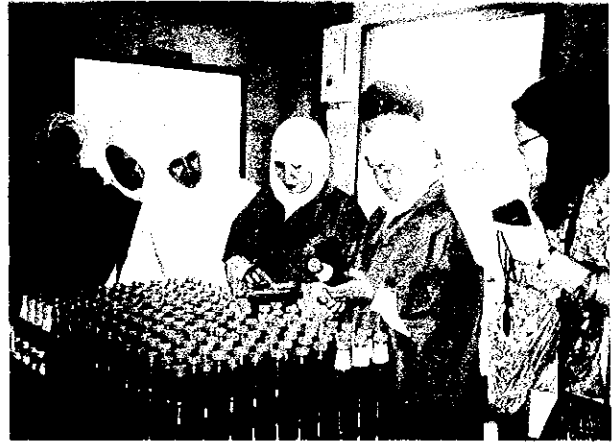
The management system of the training was well organized and firmly in place as the quality of human resources of the implementing organization was high and the organization had been established long before the training program started. Therefore, the program was deemed fully sustainable.

6. Lessons Learned and Recommendations

(1) Lessons Learned

When implementing a Third-country Training Program, the preparation period must be long enough to allowed for communication and coordination with foreign participants.

The course evaluation filled in by trainees at the



Site visit to a small-scale enterprise (ketchup factory)



Lecture in the classroom.

conclusion of each training course tended to focus on questions about logistics of management such as whether the course proceeded smoothly. However, in order to obtain more useful feedback from trainees, the evaluation questionnaire should have more questions concerning relevance of training objectives and teaching methods.

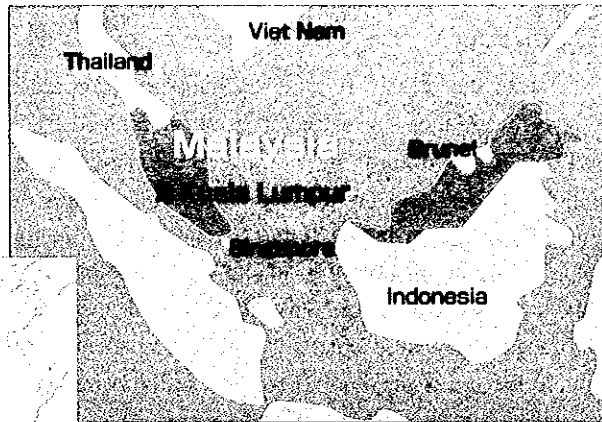
(2) Recommendations

It was considered desirable to extend the training program in response to strong requests from neighboring countries. Holding a follow-up symposium or issuing newsletters would be effective as well. Also, visits of instructors of the implementing organization to participating countries would contribute to better identification of training needs.

7. Follow-up Situation

Based on the above recommendation, the training program was extended for a period of three years until 2002.

Malaysia AI System Development Laboratory



Project Site Kuala Lumpur

1. Background of Project

The Government of Malaysia announced its intention in "Vision 2020" to become an industrialized country by the year 2020, and launched "The Second Outline Perspective Plan 1991-2000 (OPP2)." OPP2 emphasizes the importance of science and technology, particularly strategic knowledge-based technology and research and development. In line with the above move, the Government is aiming to create an advanced information society. IT is recognized as one of the most important strategic technologies for national development.

Based on these goals, the Malaysian Government requested technical cooperation from the Japanese Government to implement the "AI System Development Laboratory (AISDEL) Project". The Project was designed to establish the AISDEL to develop and promote an Expert System using AI (Artificial Intelligence) technology which is the core of IT. The Expert System is a total program with technical knowledge and judgment methods, which enables a computer to reason and deduce appropriate answers to given issues.

2. Project Overview

(1) Period of Cooperation

1 March 1995-29 February 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

SIRIM Berhad

(4) Narrative Summary

- 1) Overall Goal
AI technology is promoted in Malaysia.
- 2) Project Purpose
The AISDEL is able to develop an AI system and promote AI technology.
- 3) Outputs
 - a) The AISDEL's personnel are trained for AI system development.
 - b) The prototype of AI system (the Expert System)

is developed.

- c) The AI technology of Malaysian industry is promoted.

4) Inputs

Japanese Side

Long-term experts	12
Short-term experts	36
Trainees received	21
Equipment	390 million yen
Local cost	21 million yen

Malaysian Side

Counterparts	approx. 41
Buildings and facilities	
Local cost	8.80 million ringgit (approx. 259 million yen)

3. Members of Evaluation Team

Team Leader:

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

Technical Cooperation Program:

Osamu SANO, Researcher, Industrial Electronic Division, Machinery and Information Industries Bureau, Ministry of International Trade and Industry

Expert System:

Atsuo MIYAZAKI, General Manager of Computer Education Division, Center of the International Cooperation for Computerization (CICC)

Evaluation Management:

Kenji TOBITA, Deputy Director, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Training Course Evaluation Analysis:

Mayumi MUROTA Special Advisor, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:

Shinichiro TSUJI, Researcher, Social Development Department, Global Link Management, Inc.

4. Period of Evaluation

1 November 1999-18 November 1999

5. Results of Evaluation

(1) Efficiency

The quality, quantity and timing of Japanese inputs were appropriate. The Malaysian inputs such as facilities, machinery and equipment, and budget were also appropriate. During the first three and a half years, the number of Malaysian counterparts was about half the target number mainly due to the great demand for IT engineers in the Malaysian labor market. A total of fifteen (15) out of forty-one (41) counterparts resigned, thus the technology transferred through the project was not retained at the research institute. In order to mitigate the negative impact of staff shortages, numerous efforts were made such as information sharing among counterparts and compilation of technical documents and textbooks. As a result of these efforts, the rate of resignation among counterparts decreased.

(2) Effectiveness

With regard to the technical transfer, the Malaysian staff has upgraded technical competency in the field of AI technology, although some items were not fully transferred at the time of evaluation, especially in the upper stream of AI system development such as planning and designing new projects, and proposing prototype development for clients. Twenty-two (22) AI prototype systems were developed by the project participants, and these prototype systems received a good response from clients in their trial use. Therefore, it can be said that AI technology was transferred on the whole.

In addition, the dissemination activities such as AI training courses and seminars were actively implemented with a good response from participants. Through these, the project purpose was considered to be almost achieved.

(3) Impact

While foreign companies appear to lead information technology in Malaysia, the AISDEL demonstrates the competency of Malaysian engineers to develop AI systems inside and outside of the country. Moreover, the AISDEL has the potential to become a national focal point for AI system development to stimulate Malaysian IT industries towards the achievement of "Vision 2020".

(4) Relevance

Human resources development in the field of IT is an absolute imperative in Malaysia. And this is accelerated by the Multimedia Super Corridor (MSC)¹⁾ initiated during the project period. In view of this, the timing and objectives of the project were considered to be highly relevant.

(5) Sustainability

The SIRIM is promoting the functional enhancement of the AI Center with the high-level technology of the



An expert giving a lecture on system development

AISDEL. The SIRIM will apply the transferred technology to new income generation activities such as the development of Smart Card²⁾ applications, while continuing original strategic activities of AI R&D. Under these circumstances, the sustainability of the AISDEL is expected to be maintained with financial support from the Malaysian Government and IT projects.

Regarding the AI-related technologies that were not fully transferred, the Malaysian counterparts continue self-help efforts to develop AI systems with the help of manuals compiled by the project. Thus, the improvement of technology was predicted to be sustainable.

6. Lessons Learned and Recommendations

(1) Lessons Learned

In many IT related projects, it is difficult to allocate a sufficient number of qualified counterparts due to a high demand for IT engineers in the labor market. For a project that requires extensive group work such as system development, it is necessary to secure an initial training period for improving the technical capability of counterparts. And, in order to minimize any negative impact caused by the resignation of counterparts, it is necessary to share information and technology and to develop textbooks and manuals in collaboration with all counterparts concerned.

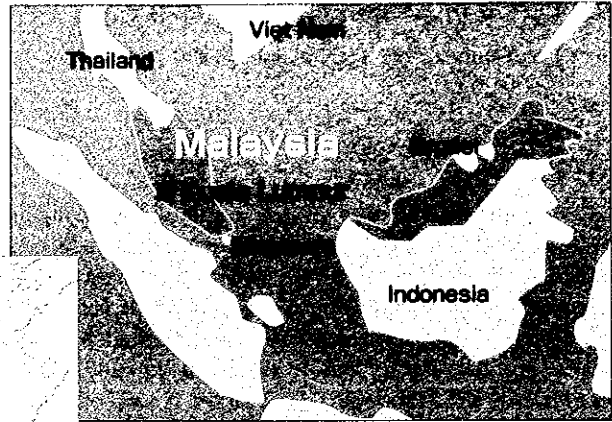
(2) Recommendations

It was recommended that the SIRIM continues improving its technical expertise in IT through 1) accumulating experience in system development, 2) encouraging self-education of counterparts, and 3) sharing knowledge among the staff. Thus, the SRIM will become a focal point for development of IT systems and AI technologies in Malaysia.

¹⁾ Urban development plan coupled with multimedia technology for the area of 15km × 50km in Kuala Lumpur.

²⁾ Card mounted with CPU or memory chip, called an "IC Card" in Japan.

Measurement Center of SIRIM (Phase II)



Project Site Kuala Lumpur

1. Background of Project

The National Metrology Center (NMC) of the Standard and Industrial Research Institute of Malaysia (SIRIM)¹⁾ was established by the JICA-SIRIM Metrology Project implemented for four years from 1981. Because production technology of medium and small-sized businesses advanced rapidly with the fast pace of industrialization of Malaysia, the existing facilities and technologies of the NMC quickly became obsolete and could not cope with the requirements of examination, measurement and calibration from industries. Therefore, the Malaysian Government requested the Government of Japan to implement Project-type Technical Cooperation aiming at enhancement of functions of the NMC.

2. Project Overview

(1) Period of Cooperation

1 March 1996-29 February 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

National Metrology Center (NMC)
SIRIM Berhad

(4) Narrative Summary

1) Overall Goal

The National Measurement Standards System is established both technologically and legally.

2) Project Purpose

Measurement standards of length, pressure, electricity and vibration with higher accuracy are maintained by the National Metrology Center (NMC) of SIRIM Berhad.

3) Outputs

- a) Project operation unit will be established.
- b) Machinery and equipment are provided, installed, operated and maintained.
- c) Technical capability of counterparts is upgraded.
- d) Accuracy of measurement standards is improved.
- e) Calibration system and technique are improved.

4) Inputs

Japanese Side

Long-term experts	7
Short-term experts	24

Trainees received	14
Equipment	350 million yen
Local cost	11 million yen

Malaysian Side

Counterparts	27
Buildings and facilities	
Local cost	10.01 million ringgit (approx. 300 million yen)

3. Members of Evaluation Team

Team Leader:

Mitsuru HAGINO, Development Specialist, JICA

Technical Cooperation Planning:

Takashi USUDA, Measurements Standards & Technology Infrastructure Division, Agency of Industrial Science & Technology, Ministry of International Trade and Industry (MITI)

Measurement Standards:

Yoshiaki AKIMOTO, Senior Officer of International Relations, National Research Laboratory of Metrology, MITI

Evaluation Management:

Hironori KIMURA, First Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA

Evaluation Analysis:

Akira MATSUMOTO, IC Net Limited

4. Period of Evaluation

13 October 1999-30 October 1999

5. Results of Evaluation

(1) Efficiency

The timing, quality and quantity of inputs from the Japanese side were satisfactory. Although there was a delay in delivery of some equipment, by extending the dispatch period of experts and increasing the number dispatched, the expected technology transfer was successfully carried out. The Malaysian side inputs were also largely appropriate. However, relocation and the resignation of some counterparts caused a shortage of personnel. Also, environmental conditions for measurement, such as air-conditioning, did not meet the

requirements for highly accurate measurement in some laboratories. But, as a whole, the equipment provided from Japan was effectively utilized and the project was efficiently implemented.

(2) Effectiveness

With the appropriate inputs from Japan, the types and range of measurement standards were widened in each field of length, pressure, electricity and vibration. Accuracy of measurement standards is maintained at a high level. With these results, it was concluded that the project purpose would be achieved by the end of the cooperation period.

(3) Impact

The NMC improved its technical competency with the help of the project, and was able to provide higher-level calibration services for customers. In addition, through participation in international comparisons²⁾, the NMC confirmed its own technical capability and realized the equivalence and transparency of measurement standards. This progress of the NMC contributed to the realization of the overall goal of the project, i.e. technological and legal establishment of the national measurement standards system in Malaysia.

(4) Relevance

It was internationally recognized that in order to remove trade barriers, equivalence and transparency of measurement standards should be promoted, and mutual recognition arrangements in the field of measurement standards should be concluded between the countries concerned. The Government of Malaysia also recognized the importance of the above and set up the 7th Malaysia Plan (1996-2000), stressing the importance of measurement standards. Consequently, the overall goal of this project was highly consistent with the national policy.

It was a global trend to establish a quality assurance and management system of institutions based on ISO9000 series and ISO/IEC17025. However, at the preliminary study stage of this project, the management system of the NMC as a measurement standard institution was not fully understood by the study team; thus, measurement control was not clearly stated under the scope of cooperation. For this reason, although there was a high necessity from the beginning, an expert on measurement control was dispatched only in the final year of the project. This indicated that the relevance of the original plan of the project could have been further improved.

(5) Sustainability

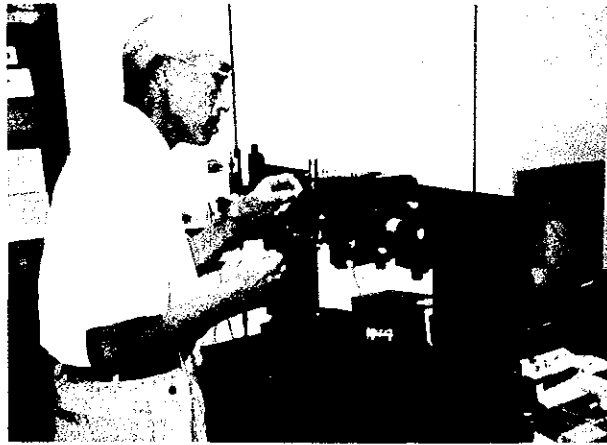
The NMC's annual budget had been allocated by the government. Considering the government's recognition of the importance of measurement standards, this situation was expected to continue under the 8th Malaysia Plan (2001-2005).

Judging from the results of activities, it was believed that the NMC would continue playing an important role in the field of measurement standards in Malaysia. Thus, institutional sustainability was considered high.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Because the number of Japanese experts in the field of measurement is relatively limited, when a project in



An expert arranging measuring equipment

this field is planned, it is desirable 1) to assess the availability of human resources in Japan, 2) to identify the needs of the recipient country, 3) to determine an appropriate scope and duration of cooperation with due consideration of the above. Particularly, when cooperation is to be provided for a national measurement standard institution, it is necessary to assign management system experts in the preliminary study stage, understand the management structure of the institution, and to clarify the scope of cooperation.

(2) Recommendations

For sustainable development of the MNC, it must continue taking part in international comparisons. Through participation, the NMC will not only be able to identify its own technical level among the participating countries, but also, by securing the equivalence and transparency of measurement standards, be recognized as one of the international measurement standards institutions in the world.

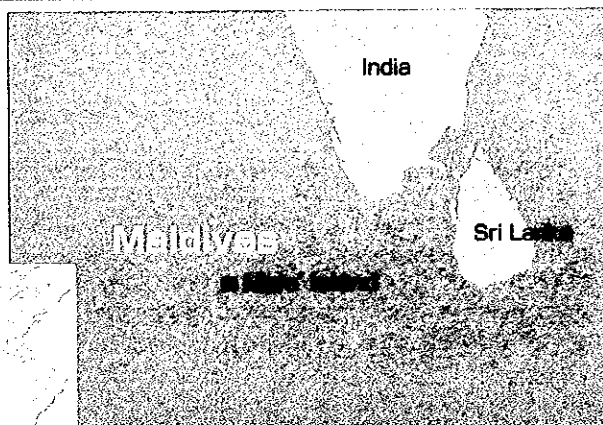
The SIRIM Berhad is constructing a new building and the NMC will transfer there in April 2002. When the NMC relocates, the measurement equipment must be disassembled, transferred and reassembled, which could affect the accuracy of the equipment. In view of this, the Malaysian side requested additional technical assistance for handling the highly accurate measurement equipment. The Japanese Evaluation Team shared their concern and confirmed the necessity of Japanese assistance.

7. Follow-up Situation

Dispatch of an expert for follow-up in the project to transfer technology relating to installation of the equipment is planned when the construction of the new building is completed.

1) SIRIM altered its name to SIRIM Berhad from September 1996
 2) International comparison : Comparison of measurement standards among several countries. There are two types of international comparison. One is the Key Comparison stipulated by the international organizations as the Consultative Committees of the International Committee of Weights and Measures or regional organizations such as the Asia-Pacific Metrology Programme (APMP). The other is the Supplementary Comparison that covers the individual comparisons not covered by the key comparison.

The Project for the Seawall Construction in Male' Island (Phase II)



Project Site Male' Island

1. Background of Project

The rise in the sea level brought about by global warming was a serious issue concerning survival for a state such as the Maldives which has an average elevation of 1.6 meters. When high tides flooded the capital city of Male' in 1987 and 1988, more than half of the area of Male' flooded, an outbreak of cholera occurred, and almost six million dollars' worth of damage was caused. Against this background, Japan carried out a Development Study on the "disaster prevention plan of the coast of Male' island" between 1991 and 1992, in response to the request by the Government of Maldives. Then, in order to follow up on recommendations in the study, the Government of the Maldives requested Grant Aid from Japan for seawall construction on Male' island.

2. Project Overview

(1) Period of Cooperation

FY1995-FY1997

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organization

Ministry of Construction and Public Works

(4) Narrative Summary

1) Overall Goal

Stable living, administration in the capital and economic activities are secured for the people of Male'.

2) Project Purpose

Submergence of the coast on the east side of Male' island is prevented.

3) Outputs

Seawall facilities about 1,266 meters long are constructed on the eastern coast of Male' island.

4) Inputs

Japanese Side

Grant	Total 1.18 billion yen (E/N amount)
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Maldivian Side

Local cost

3. Members of Evaluation Team

Investigation of Facilities:

Goro SAKAI, Deputy Director Project Monitoring and Coordination Division, Grant Aid Management Department, JICA

Investigation of Management:

Yasuhiro MORIMOTO, Deputy Director, Follow-up Division, Grant Aid Management Department, JICA

4. Period of Evaluation

29 June 1999-7 July 1999

5. Results of Evaluation

(1) Efficiency

No serious problems occurred during the implementation of the project, and procurement and execution were carried out as planned.

(2) Effectiveness

A permanent concrete seawall including wave control structures were constructed as part of the project. Therefore, the shore was protected from high seas and waves and the seawall was expected to prevent disaster.

As such, effectiveness of this project was considered to be high.

(3) Impact

The protection of basic living and public facilities in the eastern area of Male' island was attempted through the construction of the seawall. Also, the artificial beach installed in response to the request of the Government of Maldives, was used for swimming, jogging and other sport activities including that of enjoying the cool evening breeze. In addition, the seawall facilities had the additional effect of preventing sediment discharge which would result from the high tides in the reclaimed land area where the Government of Maldives implemented reclamation work as a measure to address congestion. Furthermore, since the seawall facilities were durable, repair costs would be negligible, which would save the Government of Maldives the large costs conventionally needed for restoration of existing seawalls including those constructed during phase I of the project of Seawall Construction on Male' Island.

(4) Relevance

This project was implemented based on the Disaster Prevention Plan of the Seawall in Male' Island formulated by JICA's Development Study. Although there were some opinions that the type of seawalls, i.e. wave control structures, spoiled the scenery, the plan itself was highly evaluated as it took into consideration the specificities of the condition of the urban areas and lifestyle on Male' island. The town had quite a large population (64,000 people) although it was frequently damaged by waves, in contrast to other local islands and resort islands. Seawall facilities constructed by the project had the primary role of coastal protection without damaging the scenery, and the seashore areas built provided a place for recreation and relaxation where people could enjoy walking and exercising.

As these results showed, the project was considered to be relevant to the needs of the Maldives.

(5) Sustainability

At the time of this evaluation study, problems such as distortion, damage, sinking, erosion, and breakdown, which would affect the seawall's function, were not realized. Cracks were found at the part of the augmented concrete wall that is hit continually by waves, but certain measures and repair work were already completed.

In terms of other aspects, restoration would not be needed for a while since the seawall facilities were



Male' Island



Seawall

durable, as mentioned above.

6. Lessons Learned and Recommendations

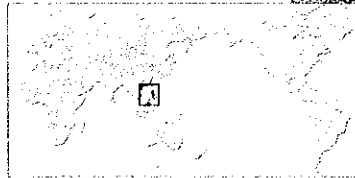
(1) Lessons Learned

The site of this project, Male' island, was overpopulated and easily affected by floods. The design and methods of execution of similar shore protection projects must also consider the specific conditions of partner countries in order to produce the desired effects.

(2) Recommendations

It was considered that this project did not need Follow-up cooperation at present.

Diagnosis and Management of HIV Infection/ AIDS and Other STDs



Project Site Metro Manila

1. Background of Project

Following the agreements concerning the "Global Issues Initiative (GII) on Population and AIDS" made at the Japan-U.S. Framework for New Economic Partnership in July 1993 and the Japan-U.S. summit meeting of February 1994, Japan expressed its active commitment to the promotion of cooperation in the fields of population and family planning and AIDS, and for implementation allocated a total of 3 billion dollars of ODA for a period of seven years from 1994.

Since the Philippines was one of the GII priority countries, Japan dispatched a Basic Study Team on AIDS in the Philippines in March 1994 for the purpose of surveying and analyzing the epidemiological situation and relevant policies of AIDS in the Philippines, thereby contributing to the planning of Japan's cooperation activities in this field.

The results of this study pointed out the need for training of personnel engaged in AIDS control in the Philippines in appropriate laboratory techniques, diagnosis and control of AIDS and other relevant diseases by the Research Institute for Tropical Medicine (RITM).

Based on this report, the Government of the Philippines requested Japan to implement an In-country Training program on HIV/AIDS and other sexually transmitted diseases (STDs).

2. Project Overview

(1) Period of Cooperation

FY1995-FY1999

(2) Type of Cooperation

In-country Training Program

(3) Partner Country's Implementing Organization

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

(4) Narrative Summary

1) Overall Goal

The system of diagnosis and control of HIV infection/AIDS and other STDs in each region in the Philippines is strengthened.

2) Project Purpose

Capabilities of doctors, nurses, social workers and medical technologists in the Philippines in prevention and control of HIV infection/AIDS and other STDs are strengthened.

3) Outputs

- a) Trainees acquire general knowledge on the etiology, epidemiology and pathogenesis of HIV infection/AIDS.
- b) Trainees acquire adequate knowledge and skills on the prevention, diagnosis and management of HIV infection/AIDS and other STDs.
- c) Trainees gain awareness and understanding of the social, economic, ethical and medico-legal issues in HIV infection/AIDS and other STDs.

4) Inputs

Japanese Side

Training expenses	approx. 9.8 million pesos (approx. 77 million yen)
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Philippine Side

Instructors and management staff
Training facilities, equipment and materials
Training expenses

3. Members of Evaluation Team

JICA Philippines Office
(Commissioned to Mr. Tito T. Oria, Sr., Local Consultant)

4. Period of Evaluation

14 February 2000-15 March 2000

5. Results of Evaluation

(1) Efficiency

All planned activities were carried out smoothly within the confines of the agreed training expenses.

(2) Effectiveness

A total of 242 persons attended the training courses for five years, which was 97 percent of the targeted 250 trainees. This rate should not be regarded as low considering the geographical condition of the Philippines (i.e., transportation difficulties inherent to island nations) and other factors.

Scores on the pre-training and post-training tests showed an average increase of about 20 percent for all training courses. From this, it was confirmed that trainees gained knowledge, skills and interest in the subjects taught. Also, the results of the survey showed that 88 percent of the 81 ex-participants responding said that they had gained their skills by attending the course, and 93 percent of the 55 Superiors of the ex-participant responding said that the techniques of the ex-participant in diagnosis and control of HIV/AIDS and other STDs were upgraded. Therefore, it was concluded that the purpose of the training program was fully achieved.

(3) Impact

Former trainees shared the acquired knowledge and techniques from the training course with colleagues in their respective hospitals/medical institutions. By doing so, they were regarded as invaluable assets within their region. Also, they started information campaigns, counseling, hygiene clinics and several other attempts to reach out to those who were potential candidates for the infection.

Trainees were supposed to form HIV/AIDS Core Teams (HACT), each of which would consist of a doctor, a nurse, a social worker and a medical technologist of respective regions, and train local health personnel. For the future dissemination of knowledge and techniques in the related field, financial support from the central

government would be indispensable.

(4) Relevance

As HIV/AIDS-related issues are one of the top priorities of the national health policy of the Philippines as well as in the global context, the purpose to strengthen regional capabilities in the prevention and control of HIV infections/AIDS and other STDs in the Philippines remained highly relevant.

Also, according to the results of the survey of supervisors of trainees, at least 430 officials in the Philippines would need training of this kind. This confirmed a continuing great need for this program.

(5) Sustainability

It was obvious from the performance of the training courses that RITM was highly capable of training management. Therefore, with regard to management aspects, it was considered possible that RITM would implement similar training programs.

6. Lessons Learned and Recommendations

(1) Recommendations

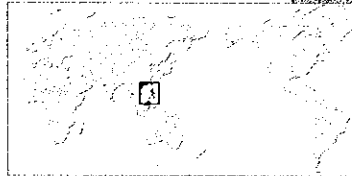
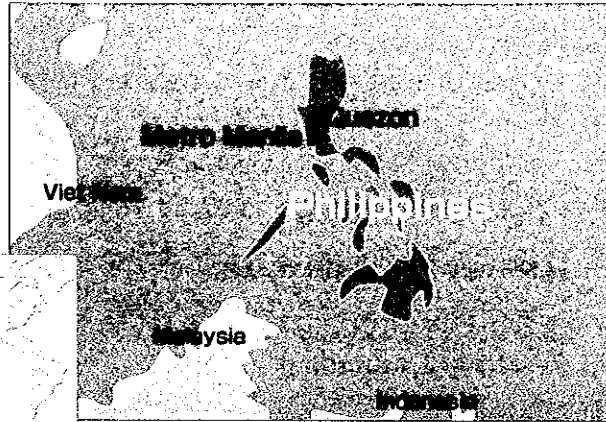
Despite the high level of training needs and the management capacity of RITM, outside cooperation in technical and financial aspects would still be needed. Therefore, it was desirable that Japan continues cooperation with RITM either as an extension of this training program or as a new training program

A new training program should include a component of training of trainers for HACT members. Then, the trained HACT members should take initiative as leaders to form mobile HACTs for specific target areas and carry out seminars or other activities to disseminate the importance of change in knowledge, skills and attitudes for the prevention and control of HIV infection/AIDS and other STDs.

7. Follow-up Situation

Based on the above recommendations, the extension of this In-country Training program for another five years from 2001 is under way.

Improvement of Occupational Safety and Health in Small and Medium-sized Enterprises



Project Site Quezon

1. Background of Project

In the Philippines, occupational accidents occur frequently mostly due to the adoption of new technologies and the emergence of new toxic chemicals as a consequence of industrialization. In response to a request from the Government of the Philippines, Japan supported the strengthening of the management and functions of the Occupational Safety and Health Center (OSHC), an organization responsible for technical services, education/training, research and public relations related to occupational safety and health, through Grant Aid, "the project for establish the occupational Safty and health Center" (1986) and Project-type Technical Cooperation, "the occupational Safty and health Center project" (April 1988-March 1995).

To disseminate the outcome of the cooperation to other countries, the Government of the Philippines requested Japan to implement a Third-country Training Program with OSHC as the implementing organization.

2. Project Overview

(1) Period of Cooperation

FY1996-FY2000

(2) Type of Cooperation

Third-country Training Program

(3) Partner Country's Implementing Organization

Occupational Safety and Health Center (OSHC)

(4) Narrative Summary

1) Overall Goal

The status of national occupational safety and health in Asian countries is improved.

2) Project Purpose

Personnel who are in charge of the improvement of occupational safety and health in small or medium-sized enterprises (SMEs) gain relevant knowledge and skills.

3) Outputs

- a) Trainees acquire knowledge and skills to secure safety in the workplace.
- b) Trainees acquire knowledge and skills to improve the environment of workplaces where harmful materials are used.
- c) Trainees acquire the capability to implement training workshops on the improvement of SME work environments.

4) Inputs

Japanese Side

Short-term experts	4
Training expenses	approx. 5.94 million pesos (approx. 16 million yen)

Philippine Side

Instructors and management staff
Training facilities and equipment

(5) Participant Countries

Indonesia, Malaysia, Thailand, Viet Nam, China, Bangladesh, India, Pakistan, Sri Lanka

3. Members of Evaluation Team

JICA Philippines Office
(Commissioned to Mr. Rodolfo C. Menguita, Local Consultant)

4. Period of Evaluation

March 2000

5. Results of Evaluation

(1) Efficiency

It was impossible to select appropriate trainees for some courses because the number of applicants was below the target number, partly due to the short application period. Consequently, the position, age and working experience varied widely among trainees, which influenced the program and the degree of understanding of the training to some extent. Overall, however, the inputs and activities were implemented appropriately.

(2) Effectiveness

A total of 70 persons from ten countries attended the four annual training courses until 1999. The survey of trainees showed an average rating of 4.0 on a five-point scale for both the degree of achievement of course objectives and satisfaction. Considering this and the results of the survey of superiors of trainees, effectiveness was evaluated to be high.

(3) Impact

The majority of ex-trainees made use of the newly acquired knowledge on their job and disseminated it to their colleagues or others through training courses, lectures and producing articles and publications. According to the survey of their superiors, the outcome of the training was utilized in various activities on occupational safety and health in each of the participant countries.

(4) Relevance

In the Philippines and other participating countries, SMEs were consistently increasing and so was their importance in employment creation and national economic development. This training program provided an opportunity to exchange ideas and improve techniques for SMEs to secure workplace safety and health at a minimum cost. Therefore, relevance of the program was evaluated to be very high.

In addition, it was also highly evaluated that the training program incorporated some of the newly emphasized issues such as internationalization of SMEs and occupational safety and health for women and children in its curriculum.

(5) Sustainability

Potential sustainability from an organizational aspect was shown in the progress of the plan of OSHC to become officially linked with the Asian Occupational Safety and Health Association, thereby being a center of

this field in Asia.

6. Lessons Learned and Recommendations

(1) Lessons Learned

More appropriate nominees will be selected if the implementing organizations encourage the participating countries to nominate more applicants from a broader base. For that, enough time should be allowed from the announcement till the deadline. It would also be effective if JICA overseas offices and organizations sending personnel to the training scout appropriate nominees.

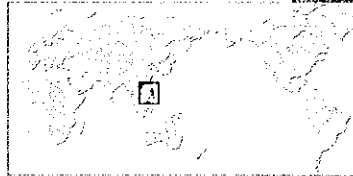
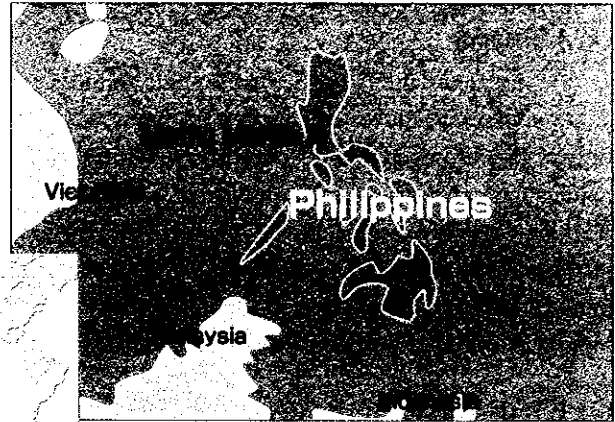
(2) Recommendations

Considering that there were still a great need in neighboring countries for training in occupational safety and that this training program was widely recognized in participant countries, it was recommended to extend the program for another five years with the participation of additional countries.

7. Follow-up Situation

Based on the above recommendation, a five-year extension of the Third-country Training Program from 2001 is under way.

Production of Functional Microcapsules for Improvement of Pinatubo Ejecta R&D



Project Site Metro Manila

1. Background of Project

The eruption of Mt. Pinatubo volcano, located in the middle of Luzon Island in the Philippines, destroyed the surrounding farmland, which produced grain. Following this, the Government of the Philippines established the Regional Rehabilitation Committee for Pinatubo Ejecta under the President to carry out institutional building and project formulation. Regarding the recovery of agricultural production capacities, the Ministry of Agriculture developed a rehabilitation plan, but soil containing volcanic ash and ejecta has few nutrients and no moisture and fertility. A community-based rehabilitation system including an efficient fertilization method was expected.

Under this situation, in order to rehabilitate the farmland affected by volcanic ash and ejecta, the Government of the Philippines requested the Government of Japan to provide Research Cooperation regarding the production of functional microcapsules that have long-lasting effects on soil recovery.

2. Project Overview

(1) Period of Cooperation

25 November 1996-24 November 1999

(2) Type of Cooperation

Research Cooperation

(3) Partner Country's Implementing Organization

Industrial Technology Development Institute (ITDI),
Department of Science and Technology

(4) Narrative Summary

1) Overall Goal

Pinatubo Lahar affected areas are rehabilitated.

2) Project Purpose

The processes for the production of functional microcapsules which can be utilized for the recovery and improvement of soil fertility and productivity of the areas covered with volcanic deposits are established.

3) Outputs

- a) Core material and capsule material are selected.
- b) Basic technology for the production of functional microcapsules is established.

4) Inputs

Japanese Side

Long-term experts	2
Short-term experts	8
Trainees received	4
Equipment	25 million yen
Local cost	15 million yen

Philippine Side

Counterparts	11
Equipment	
Land and Facilities	
Local cost	

3. Members of Evaluation Team

Team Leader:

Toshiyuki KUROYANAGI, Deputy Resident Representative of the Philippine Office, JICA

Technical Evaluation:

Kozo ISHIZAKI, Bioscience and Chemistry Division, Hokkaido National Industrial Research Institute, Ministry of Trade and Industry

Project Evaluation:

Tomoko SATO, Southeast Asia Division, Regional Department I, JICA

4. Period of Evaluation

16 November 1999-27 November 1999

5. Results of Evaluation

(1) Efficiency

The expert dispatch and training for the counterparts were properly achieved. However, as the delivery of the device to produce the microcapsule was late, this caused a delay in the production-technologies training. Also, due to the budget reduction by the Government of the Philippines, some of the counterparts participated in the project activities while holding additional research positions.

(2) Effectiveness

The production technologies for functional microcapsules were transferred to the counterparts. However, in order to build up the production process, it is necessary to further adapt the results of experiments to apply at the local level.

(3) Impact

After the developed microcapsule is adapted for making the best use at the local level based upon the results of experiments, the next step is determining how to distribute it to the farmers. The implementing organization, the Industrial Technology Development Institute, has made a concrete plan regarding this matter with the cooperating organization, the Central Luzon State University, and therefore, it is expected that the overall goal will be achieved in the near future. It is also expected that the function of the agricultural and forest lands in the affected areas will be recovered in the long run.

(4) Relevance

The overall goal and project purpose had relevance to the Pinatubo affected area that was an important matter to tackle, and therefore, it is considered that the activities to achieve the project purpose had a great relevance.

(5) Sustainability

From the Japanese side, it is necessary to continue support by the short-term experts in order to complete the delayed components.

Institutional sustainability appeared strong based on the cooperative relationship with the Central Luzon State University that was established in the process of Research Cooperation for the project. Further research activities

were already planned following the completion of project cooperation.

6. Lessons Learned and Recommendations

(1) Lessons Learned

In Research Cooperation projects, it is vital to plan how the developed technologies will be disseminated.

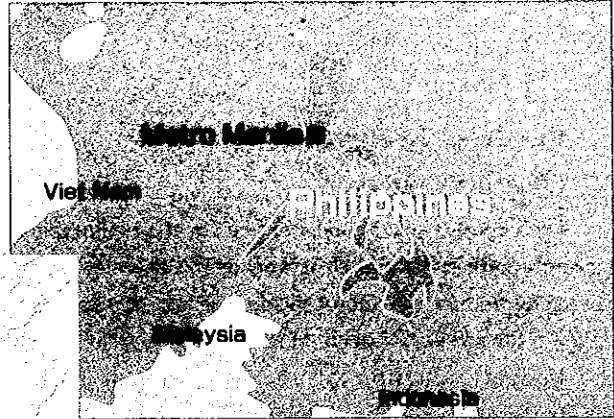
(2) Recommendations

In order to achieve the initial purpose of the Research Cooperation, it is necessary to continue conducting demonstrative tests of the microcapsule and adapt it to the local level. Therefore, the dispatch of two experts in the area of soil improvement (core material technology and coating material for encapsulation technology, respectively) was recommended.

7. Follow-up Situation

The experts for Soil Improvement Technology (Core Material for Microencapsulation Technology and Coating Material for Encapsulation Technology) were dispatched from August to October, 2000 to provide instruction on the localization of microcapsules. During this period, the effects of microcapsules were identified, so the Philippine side will handle the practical application on its own.

Technical Skills for the Operation and Maintenance of Navigation Aids



Project Site Metro Manila

1. Background of Project

More than 450 lighthouses are installed throughout the Philippines, but a considerable number of them are not functioning properly due to their age, and lack of maintenance and operation. Because this situation was a factor in frequent marine accidents, the need to improve the operation and maintenance of lighthouses to secure safe navigation was urgent. In response, the Government of the Philippines started to rehabilitate 37 principal lighthouses through the 17th OECF Loan Program in 1991, and established the Headquarters of Aids to Navigation Command (HANC) in order to enhance the technical capacities of lighthouse staff. In addition, another four were newly installed and 36 rehabilitated by the 20th OECF Loan Program.

However, because the technical level of the staff was not yet to a satisfactory level to operate and maintain navigation aids, the Government of Philippines requested cooperation from the Government of Japan to enhance the technical capacities of the staff and improve the operation and maintenance of navigation equipment.

2. Project Overview

(1) Period of Cooperation

1 December 1996-30 November 1999

(2) Type of Cooperation

Experts Team Dispatch Program

(3) Partner Country's Implementing Organization

Department of Transportation and Communications, Philippines Coast Guard (PCG)

(4) Narrative Summary

1) Overall Goal

Safety and efficiency of maritime navigation are improved.

2) Project Purpose

Lighthouse keepers are able to maintain and repair lighthouses.

3) Outputs

- a) Technical skills and knowledge of the lighthouse keepers in charge of maintenance of NAVAIDS are improved.
- b) Training materials and instruction manuals are developed.

4) Inputs

Japanese Side

Long-term expert	1
Short-term experts	7
Trainees received	5
Equipment	30 million yen

Philippine Side

Counterparts	10
Land and facilities	
Local cost	3.3 million pesos (90,000 yen)

3. Members of Evaluation Team

Team Leader:

Toshiyuki KUROYANAGI, Deputy Resident Representative, JICA Philippines Office

Technical Evaluation:

Shunji FUKUMITSU, Senior Engineer, Aids to Navigation Department, Maritime Safety Agency

Project Evaluation:

Akira SUDO, SANYU Consultants, Ltd.

4. Period of Evaluation

18 October 1999-28 October 1999

5. Results of Evaluation

(1) Efficiency

Overall, the inputs were appropriate in quality and quantity, but the delivery of equipment for the training by Japan was delayed due to the special order, and this caused the delay of dispatch of the short-term experts when the training course was held. Also regarding the inputs by the Philippine side, due to the lack of budget, only 10 percent of the local costs planned was disbursed, so there was a constraint to achieving all outputs.

(2) Effectiveness

The operation rate of maritime navigation in the PCG increased from 72 percent (before the project started) to 90 percent. Trainees certainly acquired the basic technologies and knowledge in terms of operation and maintenance of maritime navigation, and thus the project purpose was mainly achieved.

(3) Impact

Through project training, the lighthouse keepers, including the counterparts, gained a better understanding of the importance of maritime navigation, and the proper maintenance required. Also, trainees tried to disseminate what they learned through on-the-job training to staff who did not participate in the training.

(4) Relevance

As the Government of the Philippines promotes general maritime safety policy in its mid-term Development Plan, this project was relevant to the national policy.

(5) Sustainability

As the PCG was merged into the Ministry of Transportation and Communication in April 1998, and received autonomous authority regarding personnel issues and budgeting, the base for the necessary costs to continue training was secured. Also technically, as the basic technical transfer by this project was completed, it is perceived that it has enough sustainability to conduct and expand training on its own.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Delayed delivery of equipment leads to delays in the holding of training sessions and the Dispatch of Experts. It is important to carefully consider the time frame for delivery of equipment.

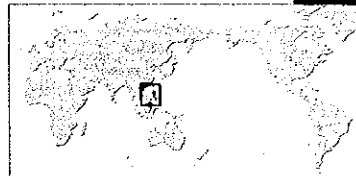
(2) Recommendations

As the basic technology transfer and project purpose were achieved, it was agreed with the Government of Philippines that the project would be completed as planned. However, as navigation technology advances rapidly, it is necessary for the Government of the Philippines to have access to information on the latest technologies and to revise the instruction manual completed during this project. Also, it is desirable to consider following up the electronic technology, applied technology, and building up the staff training system and organizational system. All are weak areas for the Philippines and difficult tasks for them to achieve alone.

7. Follow-up Situation

In view of the foregoing, it is expected that short-term experts for electronic technology and management technology will be dispatched within 2001.

Software Development Institute



Project Site Metro Manila

1. Background of Project

The Government of the Philippines under the Ramos administration formulated the document "Philippines 2000" as a development plan, which advocated the maximum use of information in propelling the country to the status of a NIES country by 2000. In line with this, the "National Information Technology Plan" (NITP) promulgated in 1989 was amended in 1993 as the NITP2000.

The goal set by the NITP2000 is computerization of all sectors in the Philippines. Education and training to develop high-level IT human resources are therefore essential in the pursuit of this strategy.

In this context, the Government of the Philippines established the Philippine Software Development Institute (PSDI) under the National Computer Center (NCC) in May 1993, and requested the Government of Japan to provide Project-type Technical Cooperation with the purpose of providing IT training courses to enhance the level of IT human resources in the country.

2. Project Overview

(1) Period of Cooperation

1 January 1995-31 December 1999

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

The National Computer Center (NCC)

(4) Narrative Summary

- 1) Overall Goal
Philippine IT industry is developed.
- 2) Project Purpose
High-level IT education/training program is provided at the PSDI.
- 3) Outputs
 - a) High-level facilities are effectively utilized.
 - b) Curriculum is developed and counterparts acquire curriculum development methods.

- c) Course materials are developed.
- d) The competency of the PSDI staff (faculty) is improved.
- e) High-level courses are implemented.

4) Inputs

Japanese Side

Long-term experts	8
Short-term experts	4
Trainees received	18
Equipment	334 million yen
Local cost	20 million yen

Philippine Side

Counterparts	33
Buildings and facilities	approx. 170 million pesos (approx. 530 million yen)
Local cost	28 million pesos (87 million yen)

3. Members of Evaluation Team

Team Leader:

Kyoko KUWAJIMA, Director, First Technical Cooperation Division, Mining & Industrial Development Cooperation Department, JICA

Technical Cooperation Program:

Hiroyuki HATADA, Assistant Deputy Director, Industrial Electronics Division, Machinery and Information Bureau, Ministry of International Trade and Industry (MITI)

Technical Transfer Program:

Takao HAGA, Project Manager, Knowledge Pool Business Promotion Office, Fujitsu Learning Media Limited

Training Course Evaluation Analysis:

Yoko IKEDA, Staff, Planning and Coordination Division, Center of the International Cooperation for Computerization (CICC)

Evaluation Management:

Hideo NODA, First Technical Cooperation Division, Mining & Industrial Development Cooperation Department, JICA

Evaluation Analysis:

Chiaki NAKAMURA, Global Link Management, Inc.

4. Period of Evaluation

28 June 1999-14 July 1999

5. Results of Evaluation**(1) Efficiency**

The inputs were planned and implemented adequately in both quantity and timing. Regarding the Dispatch of Experts, more short-term experts to complement long-term experts would have made it possible to provide up-to-date technology information for the counterparts since innovation of technology in the IT industry is unexpectedly rapid. On the other hand, all the counterparts were found to be engaged concurrently in other NCC functions besides the PSDI; thus, adequate hours for the project work could not be secured. Furthermore, turnover and resignation (six out of eleven technical counterparts trained in Japan had already left the NCC) caused a shortage of counterparts, which hindered efficient technology transfer.

(2) Effectiveness

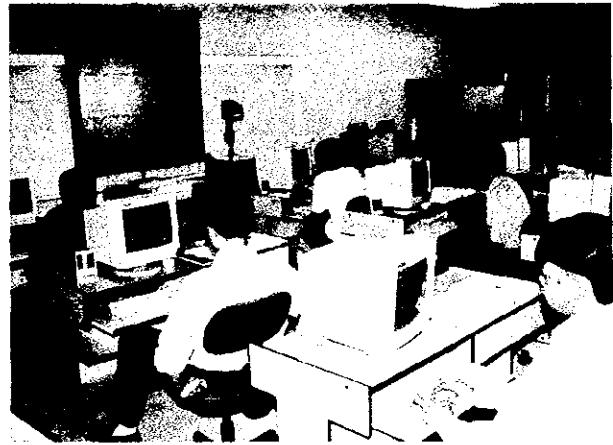
As a result of technology transfer, four training courses including "Client/Server Programming" and "IT Curriculum Design and Development" were conducted as planned. An additional five new courses including "Managing with the Internet (NET)" and "Introduction to Multimedia" were developed and implemented by the counterparts. As of June 1999, seven training courses were implemented and 284 people participated in them. By the end of the project, all nine courses are expected to be held. Consequently, it was concluded that the Project Purpose would likely be achieved.

(3) Impact

Because the NCC is providing systematic and practical high-level IT training courses, the NCC and its training courses have become better known in recent years. The transferred technology is disseminated to IT engineers in government agencies through the PSDI training courses and it is utilized in their organizations. Moreover, cooperative relationships with related organizations were established, and training courses newly planned and implemented with those organizations. For instance, courses were conducted for the teaching staff of Mindanao State University and the secretariat staff of the IT committee of the House of Representatives.

(4) Relevance

Since the NCC is the secretariat office of the NITP2000 and its supplemental action plan IT21 (National Information Technology Plan for the 21st Century), one of its main functions is the implementation of education and training for high-level IT engineers. The Philippine Government places a priority on enhancement



Training course in the computer training room

of the IT industry; thus, the Overall Goal of the Project is consistent with the national policy.

(5) Sustainability

The NCC became the sole executive agency to provide IT services to the government, as stated in an October 1998 Executive Order. The management skills and operation system to sustain high-level IT training courses was established in the NCC through the implementation of the project. Cooperation with external organizations was strengthened through providing training services that responded to specific needs. The budget necessary for management and operation of the project and for maintenance of machinery and equipment is adequately allocated, and the NCC is prepared for post-project financial arrangements. The technical level of counterparts was improved, and further enhancement and development of training courses can be expected. Consequently, it was concluded that the sustainability of the project as a whole reached a satisfactory level.

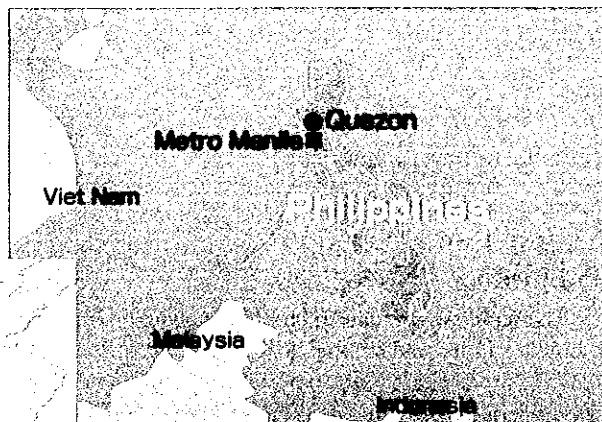
6. Lessons Learned and Recommendations**(1) Lessons Learned**

Considering the recent technological trend of IT, in order to cope with verified needs of technical guidance, more short-term experts should be dispatched as main players of technology transfer. The appropriate role for long-term experts is in coordination and management of the technology transfer process.

(2) Recommendations

Based on the overall success of the project, both parties, i.e. the Philippine side and the Japanese side, agreed that the project should terminate on schedule. It was anticipated that the NCC would continue to enhance its technical competency making use of external IT specialists, and updating the content of training courses to reflect the latest developments in technology, in order to meet the potential needs of the IT industry.

The Soil Research and Development Center Project (Phase II)



Project Site Quezon

1. Background of Project

Although the Government of the Philippines has been carrying out activities related to the production of a soil map, which is essential to the planning and implementation of agricultural development policy, progress has been limited due to the lack of appropriate survey and research methods, as well as suitable facilities.

The above-mentioned circumstances led the Philippine Government to make two requests to the Government of Japan in 1988: a Project-type Technical Cooperation program aimed at strengthening the human resources capability in research and development; and a Grant Aid program to set up research facilities and equipment through the establishment of the Soils Research and Development Center (SRDC).

In response to this request, phase I of the project was carried out from July 1989 to June 1994, achieving the purpose of transferring the basic technology of soil research. However, it was realized that the development of technologies for acid upland soils (the Ultisols), which account for 46 percent of the territory of the Philippines, was indispensable to achieve the desired outcome of the improved agricultural productivity. Therefore, the Philippine Government requested phase II of the project, which focused on the research and development of application technology.

Problem Soil including Ultisol (PSIU) is improved.

2) Project Purpose

Technologies of soil management for PSIU are improved.

3) Outputs

- a) Constraints for crop production are clarified and soil improvement technology for PSIU is developed.
- b) Technologies for soil erosion control for PSIU are improved.
- c) Method for Soil Productivity Capability Classification (SPCC) is developed.

4) Inputs

Japanese Side

Long-term experts	7
Short-term experts	19
Trainees received	23
Equipment	approx. 197 million yen
Local cost	approx. 57 million yen

Philippine Side

Counterparts	118
Buildings and facilities	
Local cost	96.3 million pesos (approx. 263 million yen)

2. Project Overview

(1) Period of Cooperation

1 February 1995-31 January 2000

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Bureau of Soil and Water Management (BSWM),
Department of Agriculture

(4) Narrative Summary

1) Overall Goal

Farmer's technology of soil management for

3. Members of Evaluation Team

Team Leader/Soil Conservation:

Naoto OWA, Director, Department of Agro-Environment Sciences, Hokkaido National Agricultural Experiment Station, Ministry of Agriculture, Forestry and Fisheries

Soil and Fertilizer:

Toshiro MATSUNAGA, Chief, Laboratory of Soil Resources and Plant Nutrition, Department of Agro-Environmental Management, Kyusyu National Agricultural Experiment Station, Ministry of Agriculture, Forestry and Fisheries

Soil Productivity Capability Classification:

Takashi KUSABA, Chief, Soil Fertility Evaluation Laboratory, Department of Soils and Fertilizers,

National Agriculture Research Center, Ministry of Agriculture, Forestry and Fisheries

Plan Evaluation:

Kenji KANEKO, Deputy Director, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

Evaluation Analysis:

Tsuyoshi ITO, IC Net Ltd.

Technical Cooperation:

Yukiyo MAEDA, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

4. Period of Evaluation

10 August 1999-18 August 1999

5. Results of Evaluation

(1) Efficiency

Although some incidents, such as typhoon, drought, delay of equipment delivery, and re-assignment of counterparts, affected the smooth implementation of some activities, in general, project staff managed these conditions adequately and the project was implemented efficiently. The development of the Soil Productivity Capability Classification (SPCC) method was completed ahead of schedule, and thus additional training for establishment of the Local Area Network was carried out. However, it would have been more efficient if the inputs toward this additional activity had been allocated to other project activities initially planned.

(2) Effectiveness

Soil constraints of PSIU on crop productivity were clarified. The application of chicken manure was found to be the most effective method for soil improvement that poor farmers can afford. The soil conservation technology and Soil Productivity Capability Classification method were transferred to counterparts. The manuals for these transferred technologies as well as the sample guideline for soil management are expected to be completed by the termination of the cooperation.

(3) Impact

Although it was still too early to verify the improvement of farmer's soil management technology at the time of project termination, the high-quality research on soil and land management which was carried out under this project is contributing to the Philippine's agricultural development. The training for farmers at the SRDC¹⁾ and the field visits to 85 farmers in 1998 for technology transfer were carried out. The farmer's training program, which some 800 farmers joined, was organized in collaboration with Xavier University. In addition, the project extended beyond the Philippines: One of the counterparts was sent to Bangladesh in 1999 as a Third Country Expert, and an international symposium was



A model field utilized chicken manure for cultivation

organized.

(4) Relevance

The project activity contributing to the productivity improvement of small-scale farmers in Ultisol areas complies with the national development strategy of the present administration which emphasizes support for small-scale farming areas.

(5) Sustainability

Follow-up studies on soil improvement through soil organic matter accumulation by legume-grass mixture is required. In addition to this study, three other types of soil control methods are expected to be studied in the next technical cooperation project which is already requested.

In terms of the institutional, financial and technical sustainability of the BSWM, it was found to be satisfactory. The BSWM established an appropriate organizational structure, as well as mechanisms for the dissemination of technology information, and funding.

6. Lessons Learned and Recommendations

(1) Lessons Learned

It is important to record changes in project documents for monitoring and evaluation purposes when a project progresses ahead of schedule as was the case with the development of the Soil Productivity Capability Classification (SPCC) method. This would ensure that available resources are used most efficiently.

(2) Recommendations

It was verified that the extension of the project and follow-up activities were unnecessary.

¹⁾ Counterparts of the project were composed of selected members from many departments among Bureau of Soil and Water Management, therefore, SRDC does not exist as an official unit.