

Project for Promotion of Computer Systems at National Railway Management College

Project Sites

Beijing



1. Background of Project

From the late 1980s, the Chinese railroad system developed very quickly, and due to the expansion of tracks, the improvements in travel time, and the increase in the number of passengers and amount of freight transported, it became an urgent issue to manage the railroad system with computers. At the same time, the cultivation of executives and technicians in order to improve the comprehensive railroad transport function also became an urgent issue.

Based on these conditions, in 1985 the Chinese Government established the National Railway Management College, and, in order to cultivate executives and technicians at the college, requested project-type technical cooperation from Japan for the transfer of computer-guided railroad management technology and the provision of necessary equipment.

Japan implemented the Project for Promotion of Computer Systems at the National Railway Management College for four years starting in 1987, and after cooperation was extended for an additional year, the project was completed in 1991. Afterwards, because further improvements in railroad management technology were necessitated by the rapid development of the Chinese economy, Japan implemented after-care cooperation for one year starting in 1994.

2. Project Overview

(1) Period of Cooperation

- 1 July 1987-30 June 1990
- 1 July 1990-30 June 1991 (extension)
- 1 June 1994-31 May 1995 (after-care cooperation)

(2) Type of Cooperation

Project-type technical cooperation

(3) Partner Country's Implementing Organization

Ministry of Railways

(4) Narrative Summary

1) Overall Goal

To improve China's railroad transport capability.

2) Project Purpose

To cultivate executives and technicians in railroad management at the National Railway Management College.

3) Outputs

- a) To introduce computers into the railroad management system at the National Railway Management College.
- b) To establish a training system targeted at executives and technicians in railroad management at the National Railway Management College.

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	38
Trainees received	8
Equipment	320 million yen

Chinese Side

Counterparts	40
Construction of research institute, office, and computer lab	
Local cost	3.02 million yuan (approx. 44 million yen)

3. Members of Evaluation Team

JICA China Office
(Commissioned to Jingye Congyan Co. Ltd.)

4. Period of Evaluation

December 1998-January 1999

5. Results of Evaluation

(1) Efficiency

Although temporarily interrupted by the Tiananmen incident, excluding this period, this project progressed relatively smoothly. Various equipment with good results in Japan was selected as the equipment to be provided, and because individuals experienced in the handling of this equipment were dispatched as experts, technology transfer was able to proceed smoothly.

In this project, the Chinese side constructed research facilities and placed 40 counterparts. Because, at the time,

efficiency and modernization of railroad transport were important issues in the field of Chinese railroads, the Chinese side were extremely proactive in the introduction of technology from foreign countries, which was a primary factor in increasing efficiency of project implementation.

(2) Effectiveness

The introduction of computers into China's railroad management system at that time was a huge turning point.

In this project, as a result of the implementation of training of a railroad management system involving computers, targeted at executives and technicians in railroad management, the level of railroad management technology in railroad executives was increased. It can therefore be said that the project has fulfilled its objective of cultivating human resources in the railroad field.

(3) Impact

As a result of this project, the introduction and application of computers into the Chinese railroad system was facilitated, and great contributions were made to improvements in Chinese railroad technology.

Additionally, through improvements in railroad management technology, a greater number of passengers and goods are being transported via railroads, and the goods can now be transported over a longer distance.

(4) Relevance

Due to the rapid growth in the Chinese economy, massive improvements were called for in railroad transport capabilities. Therefore, the needs for digitalization of the railroad management system and improvements in operation and application technologies are high.

However, although the system established through this project was considered advanced at the time of project implementation, because the software was not updated frequently enough to correspond to the quick advancements in computer technology, there was a decrease in demand for training that involved the use of these systems.

(5) Sustainability

Although the National Railroad Management College was a new facility established for the purposes of this project, as mentioned above, the demand for training that involved the use of the systems established through this project decreased. Therefore, as part of administrative reforms and restructuring within the railroad system, in 1997, the National Railroad Management College was assimilated into the Transportation College Automatic System Research Center.

placed on the development and fixing of specialized computer systems the most appropriate cooperation approach will be to implement cooperation as intensively as possible in order to end the cooperation meeting with good results in the short term. On the other hand, in cases where importance is placed on the cultivation of human resources, it is appropriate that the project's activities focus not only on utilization methods of specialized systems but also promote a more wide-ranging development of target human resource capabilities over a longer period of time. Before the start of cooperation, it is necessary to take care to thoroughly investigate which is the most suitable approach.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Because computer technology progresses very rapidly, in cases of technical cooperation in the field of computers, there is a risk that the transferred technology will not be able to respond to social demands that occur several years after the end of the cooperation. In technical cooperation in the computer field, which carries this risk, in cases where importance is

Elisa Reader and Elisa Washer Supply Project

Project Sites

Maharashtra State



1. Background of Project

Since AIDS was discovered in Madras in 1986, the number of AIDS patients in India has been steadily increasing year after year. According to the 1997 report of the National AIDS Control Organization (NACO), 71,400 people tested positive in blood tests conducted on 3.2 million people, 22.10 out of every 1,000 people had a positive reaction to blood serum tests, and 5,145 people were confirmed as AIDS patients. While the largest incidence, 74.1%, of AIDS infections were from contact with the opposite sex, blood transfusion infections had been reported to be at 7%. The Indian Government is working to establish a blood testing system as part of its governmental AIDS policy.

55% of India's total Human Immunodeficiency Virus (HIV)-infected patients lived in the state of Maharashtra, where 104.7 out of every 1,000 people tested positive in blood serum tests and the number of AIDS patients reached close to 2,500. In particular, because Maharashtra had the highest rate of infections due to blood transfusions in India, an urgent response was needed to combat this problem. As a result, Japan was asked to supply equipment related to AIDS testing.

2. Project Overview

(1) Period of Cooperation

FY1996

(2) Type of Cooperation

Provision of equipment

(3) Partner Country's Implementing Organization

Directorate of Health Services (DHS), State of Maharashtra

(4) Narrative Summary

1) Overall Goal

- To secure safe blood for use in transfusions.
- To prevent AIDS infections through transfusions.

2) Project Purpose

- To establish a system of blood testing.

3) Outputs

- a) To enable the operation of blood testing equipment.
- b) To enable the maintenance of blood testing equipment.

4) Inputs

Japanese Side

Blood testing equipment 20 machines

Indian Side

Machinery operation training and maintenance staff
Local cost

3. Members of Evaluation Team

JICA India Office

(Commissioned to Data Research and Transcription Services)

4. Period of Evaluation

16 December 1998-15 January 1999

5. Results of Evaluation

(1) Efficiency

This project provided machines to 20 of the 46 blood transfusion centers under the management of the DHS of the State of Maharashtra. The procurement of blood testing equipment was implemented appropriately and in a timely manner, and the suppliers conducted on-site training in operation methods. The DHS of the State of Maharashtra regularly conducts training in testing methods to doctors and lab technicians in and outside the Directorate, and this type of training was conducted at all of the 20 transfusion centers to which blood testing equipment had been supplied.

(2) Effectiveness

At the 20 transfusion centers, through the placement of testing equipment and training in operation methods, HIV testing abilities on donated blood improved and a blood testing system was established.

(3) Impact

Through the establishment of a blood testing system, it became possible to gather uncontaminated blood and AIDS infection through blood transfusions in Maharashtra State began to level off. Hepatitis B infections from blood transfusions also sharply fell.

(4) Relevance

Because this project was able to set up a blood testing system through the provision of blood testing equipment in a region with a high number of AIDS patients and a high frequency of blood transfusions, it was extremely effective. However, because 96 of the 205 blood banks (including transfusion centers) in Maharashtra State have not yet obtained blood testing equipment, the machinery provided through this project is extremely important and the relevance of the plan can be said to be high.

(5) Sustainability

Maintenance conditions of the machinery are administered to by the DHS, but due to a lack of a system to respond to simple breakdowns, it appears that some of the equipment remain in a state of disrepair.

The DHS, operating under the budget of the state government, manages blood bank and AIDS monitoring with assistance from the World Health Organization (WHO) and the World Bank. Also, as the DHS operates the government hospitals located throughout the state and conducts training for the technicians who maintain the various types of hospital equipment, it has the sustainability from both financial and technological aspects. However, issues remain concerning the purchase of spare parts and responses to the repair of broken machinery.

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

It is desirable that training for responding to simple machine breakdowns to be conducted at the time the equipment is provided. At the same time, it is also important to ensure an after-care system through the suppliers.

(2) Recommendations

While the project was incredibly effective, the need for blood testing machines at the site is greater than ever. With a verification of the DHS's maintenance system, investigating the possibility of granting additional machines in the future would be desirable.

Automobile Engineering Training Institute

Project Sites

Colombo



1. Background of Project

Sri Lanka's transportation system is primarily road transport, and following import liberalization, the number of cars has rapidly increased. However, as most automobile maintenance factories are small-scale and the level of maintenance technology is low, there has been an increase in traffic accidents caused by vehicular defects.

As a result, the cultivation of automobile mechanics became an urgent issue for the Sri Lankan Government, which requested grant aid from Japan for the construction of the Automobile Engineering Training Institute (AETI) and the provision of training equipment.

2. Project Overview

(1) Period of Cooperation

FY1987-FY1988

(2) Type of Cooperation

Grant aid, Individual experts

(3) Partner Country's Implementing Organization

National Apprentice and Institutional Training Authority (NAITA)

(4) Narrative Summary

1) Overall Goal

To reduce the number of automobile accidents in Sri Lanka by cultivating high-quality automobile mechanics.

2) Project Purpose

To implement training in automobile maintenance at the AETI.

3) Outputs

- To construct an automobile maintenance training building.
- To provide equipment for automobile maintenance training.
- To develop a training curriculum.
- To cultivate training lecturers and instructors.

4) Inputs

Japanese Side

Grant	total 2.144 billion yen (E/N amount)
Long-term experts	3

Sri Lankan Side

- Counterparts
- Land
- Local cost

3. Members of Evaluation Team

JICA Sri Lanka Office
(Commissioned to the IDEAS)

4. Period of Evaluation

15 September 1998-30 November 1998

5. Results of Evaluation

(1) Efficiency

Although construction of the facility through grant aid was delayed approximately two months later than the original plan because of strikes, it was completed within the construction period and handed over to the Sri Lankan side.

Following the handover, Japan immediately dispatched experts, who developed a curriculum and conducted technical guidance in the effective use of the facilities and equipment. Additionally, Japan dispatched two experts in 1995 who transferred cutting-edge automobile maintenance technology. Because the Sri Lankan side assigned instructors with sufficient technical ability and also satisfactorily bore the local cost, the cultivation and retraining of automobile mechanics at the AETI got off the ground smoothly and high-quality training activities were developed.

In this way, this project was an effective coordination between grant aid and technical cooperation, and was therefore very efficient.

(2) Effectiveness

The AETI conducts a training course (full-time) which is combined with a one-year training held at the AETI and a two-year training at a company. Between 1989, when the first 69 graduates left the AETI, and the present (1998), 1,058 people have graduated, comprising about 1.5% of workers in all automobile maintenance factories in Sri Lanka.

In addition to the full-time course, the AETI also offers short-term courses with the objective of improving the skills of those presently employed as maintenance workers (about 300 people every year), and training commissioned by businesses (about ten companies every year). It can therefore be said that this project has attained its objective.

(3) Impact

The industry is highly satisfied with the skills gained by the graduates of the AETI, which possesses upgraded training equipment and facilities and high-quality instructors. In particular, at the time of its establishment, the AETI was the only organization in Sri Lanka capable of providing skill training for automobile maintenance. Given this situation, it is extremely meaningful that the AETI was capable of providing maintenance workers to many automobile maintenance factories immediately after its establishment.

(4) Relevance

Because many similar training centers were established as part of an unemployment policy following the change of government in 1994, applications to the AETI have decreased in recent years.

Based on this situation, the AETI is devising courses to respond to changes in market demands, such as short-term courses. Currently, because high quality rather than high quantity is being required in the cultivation of automobile mechanics, it is hoped that the AETI will be able to respond appropriately to these sorts of needs.

(5) Sustainability

The authority responsible for the AETI was transferred from the Ministry of Industries and Scientific Affairs at the time of establishment, to the Ministry of Youth Affairs, and Employment in 1989, to the Ministry of Science and Technology in 1994 following the change in government. During that period, the staff at the AETI increased from 30 to 58 and the budget was also extended by a factor of approximately 1.3. However, personnel conditions are somewhat unstable: 8 of the 58 staff positions are vacant, and since 1994, the president has changed six times due to poor conditions.

Additionally, because the Governing Council, which is made up of representatives from the industry, does not function adequately, the AETI is losing its long-term prospects and relationships with the industrial sector.

6. Lessons Learned and Recommendations

(1) Lessons Learned

This project was a good example of effective coordination between grant aid and technical cooperation. However, in order



Trainees performing repairs at the AETI



Trainees being instructed in the use of testing devices for diesel engines

to secure project sustainability, it is necessary to conduct technology transfer, including improvements in project management capabilities.

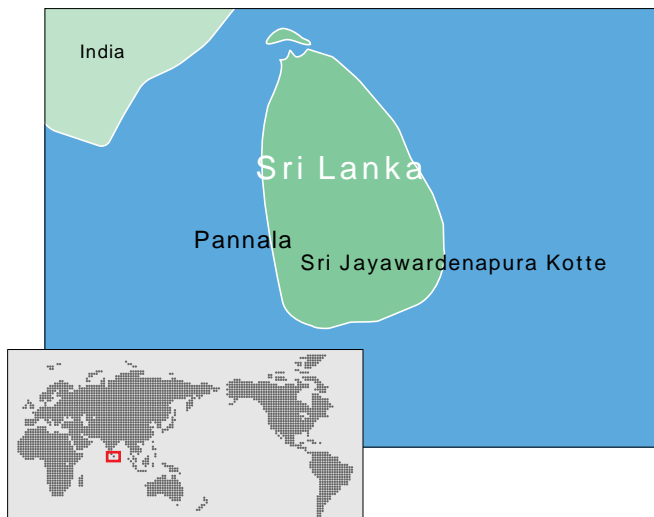
(2) Recommendations

In order for the AETI to be able to conduct training which responds precisely to the market needs, strengthening cooperation with the industrial sector will be essential. It will be necessary to hold regular meetings of the Governing Council and to introduce evaluation and monitoring of individuals who have completed training at the AETI.

Appropriate Technology Research and Development Centre

Project Sites

Pannala



1. Background of Project

In order to promote the rural development, the Sri Lankan Government had been attempting to foster small-and medium-sized companies, and to activate small-scale farming. As part of the measure, they had planned the production of small-scale machinery and parts and development of low-cost energy resources, as well as the spread of those developments to rural areas.

In order to realize this plan, the Sri Lankan Government requested project-type technical cooperation from Japan for the establishment of the Appropriate Technology Research and Development Center (ATRDC).

2. Project Overview

(1) Period of Cooperation

- 7 January 1982-6 January 1986
- 7 January 1986-31 March 1987 (follow-up cooperation)
- 1 April 1992-31 March 1993 (after-care cooperation)

(2) Type of Cooperation

Project-type technical cooperation

(3) Partner Country's Implementing Organization

Industrial Development Board (IDB), Ministry of Industrial Development

(4) Narrative Summary

1) Overall Goal

To develop local industry in Sri Lanka.

2) Project Purpose

To spread appropriate technology developed at the ATRDC to local small-and medium-sized companies.

3) Outputs

- a) To improve and produce farming equipment and machinery.
- b) To develop low-cost energy resources (wind power and fuel batteries).
- c) To introduce the technologies developed in a) and b) to farmers and small-and medium-sized companies, and to conduct technical training.

4) Inputs

Japanese Side

Long-term experts	19
Short-term experts	15
Trainees received	9
Equipment	170 million yen

Sri Lankan Side

- Counterparts
- Local cost

3. Members of Evaluation Team

JICA Sri Lanka Office
(Commissioned to the TEAMS Ltd.)

4. Period of Evaluation

August 1998-November 1998

5. Results of Evaluation

(1) Efficiency

Although there were problems, such as the fact that the dispatch period of the short-term experts was short and there was not sufficient technical guidance, the technology transfer was conducted generally effectively. During the project, a joint committee made up of the IDB, JICA, and the ATRDC met regularly, and monitoring of the status of progress and results of the technology transfer was conducted, both of which contributed to the smooth operation of the project.

However, because the development and production of farm equipment was not completed within the original cooperation period, follow-up cooperation of 15 months was conducted, during which production was completed.

(2) Effectiveness

The ATRDC continues to respond to demands from small-and medium-sized companies in the district by producing machinery, tools and parts, and conducting technical guidance. ATRDC's services have expanded to 14 of Sri Lanka's 25 districts. Since 1995, about 900 of the 5,981 businesses and factories of the Kurunegala district (where ATRDC is located)

have received ATRDC's services, and 120 Training College leavers have received training at ATRDC's Center Workshop.

In this way, this project's objective, "to develop appropriate technologies and to spread those technologies to small-and medium-sized companies in rural areas," has largely been met.

(3) Impact

As many of the individuals who received training at the ATRDC have established their own factories or have been hired at factories, it can be said that this project is contributing to the promotion of local industry.

(4) Relevance

At the time of cooperation, this project corresponded with the Sri Lankan Government's policies to create employment, improve agricultural productivity, and correct geographical disparities. However, the Sri Lankan Government's industrial policy had since moved away from the protection of Sri Lankan industry to the opening of markets. Therefore, machinery cheaper than that developed by this project had begun to be imported. Also, because cheaper electricity and diesel fuel have been introduced to rural villages, most of the farm equipment and energy sources developed by this project had not been able to compete in price.

However, since this project attempted transfer of comprehensive technology from the identification of what was needed to the development and spread of technology, the ATRDC continues to work to respond to companies' demands, by producing and improving special machinery and parts which do not compete with imported goods.

(5) Sustainability

The ATRDC is flexibly continuing its activities despite the fact that many of the developed technologies in this project are not competitive, but its expansion and development as an organization are facing severe circumstances.

Because the ATRDC is located in a rural area away from the capital, living, transportation, and information-gathering are inconvenient. There were also insufficient supplies, such as for staff members' transportation fees and local allowances. As a result, at present, all of the original counterparts except one have left their positions, so there are many vacancies at the ATRDC. Because the Manager position also remains empty, management is in unstable circumstances¹⁾.

Financially, the budget allocated by the IDB is insufficient, covering only approximately 90% of personnel and maintenance expenses. Also, because all of the revenue from the ATRDC's various activities is deposited into the national treasury, it cannot be used for independent financing. As a result, there are virtually no funds for information-gathering, technological development, or renewal of machinery, and prospects for expansion are extremely grim.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Since technological needs are always changing, rather than



Trainees producing wood products as part of training at the ATRDC

focusing on technological transfer in specific fields, it is more important to plan for the advancement of comprehensive skills, from the identification of needs, to technological development, training, and spread of technology, in order to be able to respond satisfactorily to a shift in needs.

Also, in order to place counterparts after the end of the cooperation, it is necessary to start working with the partner country side during the cooperation period on sufficient measures and steps, including the provision of necessary allowances.

¹⁾ As of May 2000, a manager has been appointed and ATRDC's activities are progressing smoothly. Improvements in management are being planned.