

Terminal Evaluation

Asia

1. Outline of the Project

Country:

Malaysia

Project title:

Japan-Malaysia Technical Institute (JMTI)

Issue/Sector:

Education/Vocational Training

Cooperation scheme:

Project-type Technical Cooperation

Division in charge:

First Technical Cooperation Division,
Social Development Cooperation Department

Total cost:

1,230 Million Yen

**Period of
Cooperation**

15 January 1998 - 14 January
2003

Partner Country's Implementing Organization:

Manpower Development Minister of Human Resources (HRS)

Supporting Organization in Japan:

Human Resources Development Bureau, Ministry of Health, Labour
and Welfare

Related Cooperation:

Project Type Technical Cooperation; "CIAST"
Dispatch of Expert; "Development of Vocational Training"

1-1 Background of the Project

During the term of the Second Long-term Comprehensive Plan implemented (1991 - 2000) by the Malaysian government, the production of the manufacturing industry in 2000 was estimated to have increased to 37% of the gross domestic product, accounting for approximately 81% of the overall exports. Against the background of this industry-led economic growth, the Sixth Malaysia Plan (1991 - 1995) placed its emphasis on human resources development, to meet the needs of the labor market and to expand the chances for educational training. The Seventh Malaysia Plan (1996 - 2000) emphasizes promotion of technical education and human resource development in high-tech areas in response to the change in the growth path from investment-led economic growth to productivity-led economic growth. Under these circumstances, as it recognized the urgency of developing skilled workers and catching up with advancing technologies in the increasingly sophisticated industrial world, the Malaysian government laid out a plan to establish a vocational training center (the Japan-Malaysia Technical Institute: IMTI) to develop highly skilled engineers equipped with a knowledge of advanced technologies, and requested Japan to provide a project-type technical cooperation.

1-2 Project Overview

To foster highly-skilled industrial technologists in the fields of advanced technology which support industry-oriented economic growth in Malaysia, the project aims to develop training curriculum in the fields of manufacturing, electronics, computer, or mechatronics, and to establish systems to recruit and select students, to equip with machinery, and to develop a management system within the Japan-Malaysia Technical Institute (JMTI).

(1) Overall Goal

To satisfy the industrial needs for industrial technologists in the field of advanced technology.

(2) Project Purpose

To foster highly skilled industrial technologist (L4* or equivalent) in the fields of advanced technology in manufacturing, electronics, computer and mechatronics at the Japan-Malaysia Technical Institute (JMTI).

* A level of instructors. There are seven levels, from L1 to L7.

(3) Outputs

- 1) Systematic vocational training is planned at JMTI.
- 2) Measures to enroll qualified trainees are established.
- 3) Necessary numbers of qualified instructors in the above fields are trained for JMTI.
- 4) Necessary training courses in the above fields are defined, prepared and conducted.
- 5) Adequate facilities, machinery and equipment for training are prepared and made operational.
- 6) JMTI is well managed in terms of organization, personnel and finance.

(4) Input

Japanese side:

| | | | |
|--------------------|----|-------------------|-----------------|
| Long-term Experts | 7 | Equipment | 559 million yen |
| Short-term Experts | 24 | Trainees received | 66 |

Malaysian Side:

Counterparts 158

Facilities and Equipment

Local Cost RM 108 million

2. Evaluation Team

Members of Evaluation Team

Team Leader: Kayoko MIZUTA, Special Technical Advisor, JICA
Training Administration: Yasuhiro HARUYAMA, Deputy Director, Overseas Cooperation Division, Human Resources Development Bureau, Ministry of Health, Labour and Welfare
Training Method : Mitsunori FURUTA, Advisor, International cooperation Division, Employment and Human Resources Development Organization of Japan
Cooperation Planning: Junichiro IKEDA, First Technical Cooperation Division, Social Development Cooperation Department, JICA
Project Analysis: Hiroshi WATANABE, Consultant

Period of Evaluation 21 July 2002 - 3 August 2002 **Type of Evaluation:**
Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

The project purpose, "to foster highly skilled industrial technologist," matched with the policies such as the Seventh Malaysia Plan (1996 - 2000) and the Eighth Malaysia Plan (2001 - 2005) that focused on the vocational training in the field of advanced technology. It also matched the country assistance program of the government of Japan, "to support the upgrading and expanding of higher education institutes and high-level vocational training in both quality and quantity." Thus, the project purpose was relevant.

(2) Effectiveness

At the terminal evaluation, a total of 103 graduates of JMTI was approved to be L4, high-level technologists (40 graduates from the Computer Engineering Technology Department, 10 graduates from the Manufacturing Engineering Technology Department, 10 graduates from the Mechatronics Engineering Technology Department, and 43 graduates from the Electronics Engineering Technology Department). Fifty-one (51) graduates were employed by various industries, and 10 graduates proceeded to the next stage of education. The skills were well transferred to JMTI instructors (the counterparts). As the recruitment and selection

of students were properly implemented, the number of new students in 2002 was more than expected. Judging from such information, the project was effective. However, the Malaysian side failed to procure and allocate training equipment as planned for the Electronics Engineering Technology Department, the Mechatronics Engineering Technology Department and the Manufacturing Engineering Technology Department, and therefore, the technical transfer in the initial plan was delayed.

(3) Efficiency

Inputs from the Malaysian side were delayed at the initial stage of the project, which was an obstacle against a smooth technical transfer to the counterparts from the Japanese experts. For example, installation of the new facilities at JMTI was delayed by six to ten months, and as of six months prior to the termination of the project, only 90.2% of the scheduled equipment was provided. It was also observed that the replacements or the shortage of counterparts adversely affected the efficiency. However, great efforts were made by both sides to overcome the delay of technical transfer, such as implementing training courses by purchasing and using the minimum amount of equipment.

(4) Impact

In order to accomplish the overall goal ("to satisfy the industrial needs for industrial technologists in the field of high-level technology"), JMTI implemented seminars on information technology to local people and transferred skills to other vocational training schools, as well as produced highly skilled technologists. The graduates of JMTI were recognized as having an equivalent of L4-level skills by the National Vocational Training Council, and were recognized to be highly skilled technologists by governmental organizations. This affected the employment of the graduates in a positive manner. JMTI was sensitive to the gender issue, and as a result, the ratio of women among JMTI students was higher compared than the ratio in other vocational training schools.

(5) Sustainability

In the Eighth Malaysia Plan, the Malaysian government has secured a managing budget for JMTI. Therefore, the project has the financial support of the government for the time being. JMTI has periodically gathered information on the needs of the industry and information on new technology through the Technical Advisory Committee, which consisted of experts in the industrial and academic fields.

3-2 Factors that Promoted the Realization of Effects

(1) Factors Concerning the Planning

N/A.

(2) Factors concerning the Implementation Process

Compared to other vocational training schools in Malaysia, JMTI had more instructors, and the budget was fully assured, which promoted the realization of the project effects.

3-3 Factors that Impeded the Realization of Effects

(1) Factors Concerning the Planning

N/A.

(2) Factors concerning the Implementation Process

The construction of facilities, and the procurement of equipment by the Malaysian side were delayed, and the counterparts were replaced, which impeded the technical transfer from the Japanese side. To cope with the situation, the project transferred techniques by using the facilities of other training schools near project sites, purchased minimum equipment locally, and shortened the technical transfer period.

3-4 Conclusion

The project met the policies of both the Japanese and the Malaysian sides and, at the terminal evaluation, as it was expressed in the project purpose, the graduates of JMTI in every field were recognized as having the equivalent level of L4, becoming high-level technologists. Although the training plans were changed, necessary equipment for training was mostly procured, and the techniques are expected to be transferred during the rest of the project period. In particular, in the field of communication engineering, in order to achieve the overall goal, JMTI conducted seminars, third-country training and technical transfer to other vocational training schools. However, because the input of the equipment and the construction of the facilities were delayed and the counterparts were replaced, the Malaysian side requested additional technical transfer, including new techniques that will help in coping with the future technical innovation.

3-5 Recommendations

(1) Recommendation by the End of the Project

- 1) The installation of training equipment was 90.2% at the time of terminal evaluation. The Malaysian side should complete the installation of the training equipment as soon as possible.
- 2) Both the Japanese and the Malaysian sides should speed up the technical transfer of on-going activities.
- 3) The Malaysian side should not replace the counterparts.

(2) After the Termination of the Project

- 1) Economic Planning Unit, the Manpower Department Ministry of Human Resources and the Public Service Department should provide continuous support to JMTI.
- 2) JITI should pay closer attention to the new techniques.
- 3) In response to the industrial needs, cooperation in the field of several new subjects is recommended to complement the results of the technical transfer.
- 4) The Malaysian side should replace the key counterparts according to plan.
- 5) Ministry of Human Resources the Public Service Department should pay attention to the further study for instructors at JMTI.

3-6 Lessons Learned

(1) Technical Advisory Committee of the project was established, and experienced members provided information on the demands of the industry and on new techniques. It is useful to set up such a committee from the beginning of the project.

(2) In the project, because the Malaysian side failed to construct facilities and to input equipment on time, the technical transfer from the Japanese side was delayed. It is necessary to consider the input plan thoroughly and monitor it for a smooth facilities construction and equipment installment.

3-7 Follow-up Situation

Based on the above recommendations, a one-year follow-up cooperation has been implemented to last until January 2004, with the aims of coping with the development of technical innovation in the industry, fostering a competitive labor force, and increasing the possibilities of employment in the fields of manufacturing engineering technology, electronics engineering technology, and mechatronics engineering technology.