

Summary Sheet

Ex-Post Evaluation Conducted by JICA Malaysia Office

1. Outline of the Project		
Country: Malaysia		Project title: JAPAN-MALAYSIA TECHNICAL INSTITUTE PROJECT IN MALAYSIA
Field: Manufacturing/Mechatronics/Computer and Electronics		Cooperation scheme: Project-type Technical Cooperation
Section in charge: Manpower Department, Ministry of Human Resources, Malaysia, Japan International Cooperation Agency (JICA)		
Period of Cooperation	i) 15 January 1998 – 14 January 2003	Partner Country's Related Organization(s): Japan Malaysia Technical Institute (JMTI)
	ii) 15 January 2003 -14 January 2004 (Follow up)	Supporting Organization in Japan: Ministry of Labour
Total Cost: 1397million Japanese yen		
Related Cooperation: none		

1-1 Background of the Project

Since the late 1980s, the Malaysian economy experienced rapid and continued growth owing to the successful government efforts for attracting foreign investment. Faced with intensifying shortages of manpower and increasing dependency on foreign labour, in the early 1990s, the government changed its policy focus on the development of high-tech industries. In the 7th Malaysia Plan, 1996-2000, more emphasis was placed on restructuring the country's manufacturing sector by encouraging foreign investment in high-tech areas and upgrading of the skill levels of its workforce.

A Human Resources Development Plan was formulated to meet the manpower demand and requirements of this sector and this entails training more workers for high-tech jobs. In line with this policy, the Manpower Department under the Ministry of Human Resources took positive steps to achieve the targets of the Plan by establishing new Advanced Technology Training Centres (ADTEC), among which is the Japan-Malaysia Technical Institute (JMTI).

In 1993, the Malaysian Government's proposal to establish JMTI was conveyed to the Japanese Government. In August the following year, the then Japanese Prime Minister, Mr Muruyama, during his tour of Malaysia and the ASEAN countries, promised his Malaysian counterpart that the Japanese Government would cooperate to realise the proposal. Subsequently in 1997, a Technical Cooperation Accord for the establishment of JMTI was concluded and signed by representatives of both governments. This technical cooperation based on the Accord started in January 1998 as a government-government Project extending over the next five years.

However towards the end of the initial five-year period, some activities in certain important technical fields have not been completed due to late delivery of equipment. The Project was then extended by a year and was terminated only on 14th January 2004.

This ex-post evaluation is conducted three years after the completion of the follow-up Project to gain an understanding of the impact and sustainability of the Project.

1-2 Project Overview

The JMTI project is featured by the provision of wide range of services making use of professional expertise of several Japanese technical experts in the relevant fields, Malaysian Instructors trained in Japan and several high-tech training equipment donated by the Japanese Government. The services cover diploma courses for high-school leavers, short-term technical and supervisory courses for company employees as well as technical consultancy for SMI managers.

JMTI is sited on a plot of land at Bukit Minyak Industrial Park in the State of Penang, a center of the electronics industry in the country, and the land (with an area of 6.5 hectare) was donated by the State Government in 1997 through Penang Development Corporation (PDC).

The primary objective of JMTI is to produce highly skilled technologists in the fields of advanced technology in manufacturing, electronics, computer and mechatronics. In addition, JMTI aims to assist in the development of local industries, particularly SMIs, through provision of supervisory and continuous skill training for their employees and individual technical consultancy services for their entrepreneurs and managers.

To verify the important issues relating to the project impact and sustainability observed three (3) years after the completion of the Project.

(1) Overall Goal	To satisfy the industrial needs for industrial technologists in the field of high technology.			
(2) Project Purpose	To produce highly skilled industrial technologist (L4 equivalent) in the field of high technology in manufacturing, electronics, computer and mechatronics in the Japan-Malaysia Technical Institute (JMTI) (15 th January 1998-14 th January 2003) To enhance the training ability of the instructors to meet the changing industrial needs in the fields of high technology in manufacturing, electronics and mehatronics in the Japan-Malaysia Technical Institute (JMTI) (<i>Follow up Period</i>)			
(3) Outputs	<ol style="list-style-type: none"> 1) Systematic vocational training is planned at JMTI. 2) Measures to enrol qualified trainees established. 3) Necessary numbers of qualified instructors in the above fields are trained for JMTI. 4) Necessary training course in the above fields are identified, 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) Inputs	<p>Japanese side:</p> <table border="1" data-bbox="502 1951 1428 2002"> <tr> <td data-bbox="502 1951 778 2002">Long-term Expert</td> <td data-bbox="778 1951 1428 2002">16</td> </tr> </table>		Long-term Expert	16
Long-term Expert	16			

	Short-term Expert	27
	Equipment	565 million yen
	Malaysia's side:	
	Counterparts trained	92 persons
	Cost of Construction	Ringgit Malaysia (RM) 53,230,000 (all by Malaysian Side) RM38,812,000 (Main Building)
	Equipment	RM 53,056,000
2. Evaluation Team: PE Research Sdn Bhd (commissioned by JICA Malaysia Office)		
Members of Evaluation Team	Yoshinobu IKURA (JICA Malaysia Office) Lim Pao Li (consultant) Lim Ai Lee (researcher)	
Period of evaluation	March 1– March 30, 2007	Type of Evaluation: Ex-Post Evaluation
3. Results of Evaluation		
3-1 Summary of Evaluation Results		
(1) Impact		

a. Achievement of the Overall Goal:

JMTI has continued to produce graduates at the L4 level for all four fields of study. JMTI has started course for L5 level. From the July 1998 intake of 58 students, 15 have graduated from the Electronics Engineering Technology Department (EETD) and 23 from Computer Engineering Technology Department (CETD). From the July 2003 intake of 223 students, 35 graduated from EETD, 42 graduated from CETD, 44 graduated from Mechatronics Engineering Technology Department (METD) and 35 graduated from Manufacturing Engineering Technology Department (MfETD). The total number of graduates has increased by four-fold from 38 graduates to 156 graduates.

The majority of the graduates have managed to find jobs with industry, while some proceeded for further studies. Feedback from the employers interviewed rated JMTI's training programme as comparable or better compared to the other training institutions. So it is concluded that the Project Purpose has been kept and achieved.

b. Unintended Effects:

Positive Impact

Many of the counterpart staff have been upgraded in their posts while some have been promoted to head other Industrial Training Institutes (ITIs) throughout the country. This has not only benefited the individual career development but has enabled the Ministry of Human Resources (MoHR) to staff the new Vocational Training Institutions (VTIs) (both ITIs and Advanced Technology Training Centres (ADTECs)) that have been set up.

JMTI has been able to offer services to private sector: Renting out computer labs and measuring equipments; providing consultancy services through the engineering consultancy services department; and short-term training course to approximately 300 participants each year. Services rendered to the private sector, especially the customised short-term training courses have earned income for the JMTI Trust fund.

Feedback received from firms surveyed indicated that all the employers were satisfied with the training at JMTI and that they would hire more graduates from JMTI as well as will recommend JMTI training / graduates to other employers. In addition, the employers suggested JMTI that the industrial training (on-the-job training) be extended to at least four months, to give the trainees more time to gain working experience and exposure.

Negative Impact

Transfers and promotions of the ex-counterparts meant that JMTI has lost many of the experienced instructors.

(2) Sustainability

a. Institutional and Management Aspect:

Demand for JMTI courses has been high and more than a thousand applications are received each year. The skills learned during the Project have been widely shared with other new staff as well as with other MoHR institutes. The sustainability of the Project is shown in the ability of counterpart staff to develop (i) programme curricula for Levels 4 and 5; (ii) in-house training programmes; (iii) syllabi and written instruction material for teaching; and (iv) internship programmes.

b. Technological Aspect:

Overall 68% of Project staff received training to upgrade and expand their skills and knowledge which they have acquired through the Project since Project completion. Eleven project staff have received training in other countries (Japan, Germany and UK); seven were trained in Malaysia while ten received in-house training. Most of the equipments in the METD (100%), MfETD (83%) and CETD (73%) are still in use; but only 47% of those in EETD are still in use. Some of the equipments in CETD require repairs, but in other cases, they are broken beyond repair and therefore are not in use.

For Electronics and Mechatronics, all the counterparts felt that Project skills were adequate to meet the current needs of the industry. However, for the Manufacturing and Computer departments, a fifth of the respondents felt that their skills are no longer relevant to today's industrial needs and demand.

Plans to expand and to develop more Advanced Programmes are constrained by equipment as well as the need to train more instructors.

Under the 9th Malaysia Plan (9MP) tenders are being called for new equipment worth RM17 million to expand the programmes at JMTI.

c. Economic and Financial Aspects:

Allocations for operational and development expenditure are provided by the government, through the MoHR. While the government budget allocation has made JMTI sustainable for operational expenses, the development budget allocated to JMTI under the five-year 9MP amounted to only a quarter of the allocation requested for. JMTI is applying for additional funding under the Mid-term Review of the 9MP.

d. Other Aspects:

JMTI is currently working towards achieving ISO 9001. This will enable JMTI to monitor processes to ensure they are effective, keep adequate records, regularly reviewing performance through internal audits and meetings and the quality system itself for effectiveness. JMTI are able to facilitate continual improvement with the documented records. The purpose of acquiring ISO 9001 is to promote standardisation to grow systematically while assuring the quality of their services to customers (in the case the students)

3-2 Factors that have promoted Project

(1) Impact

JMTI's capability has moved beyond training at the L4¹ level and has moved to the L5² level.

(2) Sustainability

JMTI has acquired additional land to expand the facilities. The bulk of the development budget allocation under the 9MP has been committed or spent.

3-3 Factors that have inhibited Project

(1) Impact

None

(2) Sustainability

More than half of the counterpart staff that were trained under the Project are no longer with JMTI. Furthermore the large number of vacancies means that the staff: student ratio is high.

The main issue that has affected sustainability is the status of equipment: equipment outdated; unavailability of parts/accessories locally, no local maintenance/repair services etc. This pushes up the maintenance costs as well as upgrading costs which directly affects sustainability.

¹ SKM Level 4 - Supervisory Level (Diploma/Diploma Technology) - "Competent in performing a broad range of complex technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present."

² SKM Level 5 - Management Level (Diploma/Advance Diploma Technology) - "Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation accountabilities for analysis and diagnosis, design, planning, execution and evaluation."

3-4 Conclusion

The Project purpose of producing skilled industrial technologists at the L4 equivalent level continues to be met. As a result of the Project, JMTI is regarded as one of the leading VTIs in the country. Overall JMTI has managed to be sustainable from the institutional and management, technological, industrial as well as the economic and financial aspects. The Project has enabled the MoHR to expand its vocational training infrastructure and for the counterparts (and ex-counterparts) to train up the skilled industrial technologists to meet the needs of industry.

3-5 Recommendations

(1) Recommendations for Malaysian Government

Financial: In order to sustain the Project outcomes, adequate budget must be made available to support the expansion plans of the institute. It is not enough to provide for operational budgets for if there is insufficient development budget allocation provided to replace and upgrade equipments and facilities, the quality of training at JMTI will be impaired and its institutional competency to other vocational training institutions will be reduced.

Institutional: In order to maximise the gains from the training and capacity development of the instructors, MoHR should ensure that the trained counterparts are not transferred, at least for a few years. The suggestion of instituting a "banded scheme" to promote the instructors but keeping them in the institute will ensure that the instructors do not lose out in their career development but at the same time will enable JMTI to benefit from their expertise and grow.

Continuous Training: The MoHR and JMTI should continue to send the instructors for periodic training both locally and abroad to ensure that they are abreast with technological changes. Arrangements for them to be attached to industry will also augment their experience and will bring much added skills to the training environment.

Maintenance: Sufficient funds must be made available for JMTI to conduct periodic preventive maintenance of the equipment and facilities. This also entails ensuring that the instructors are sufficiently equipped and trained to be able to troubleshoot and to carry simple maintenance. A maintenance schedule should also be drawn up and adhered to.

(2) Recommendations for JICA

Organisation: For concluding the Record of Discussions for the technical cooperation, it is recommended that JICA insists that the implementing bodies do not transfer out trained counterpart staff for at least five years to ensure that the Project benefits from the capacity building provided to the counterpart staff.

Technical Support: The arrangement for the JICA Senior Volunteers to assist in the development of JMTI should be continued to ensure that the technological aspects of the Project will be sustained.

Further Training Opportunities: To ensure that the counterparts are keeping up with the technological developments, JICA could continue to provide them opportunities for further training (in Japan) on a cost-shared basis.

3-6 Lessons Learned

Financial: Need sufficient development budget allocation in addition to operations budget for sustainability of the Project.

Institutional: The transfer of the trained counterparts, reduces the benefits of the Project as they do not have the opportunity to put into practice what they have been trained nor to share their new skills with their colleagues. The transfers of the trained counterparts have affected the plans for JMTI to grow into a centre of excellence for the training of skilled technologists for industry. Some form of “banded scheme” needed to enable the trained counterparts to be “promoted” but to remain in JMTI for a few years to pass on the skills to others.

The training of counterparts has to be on an on-going basis. Instructors have to keep up with technological changes and need periodic training. The attachment of JICA Senior Volunteers at JMTI has helped, but a longer term arrangement will have to be put in place.

Technological: To meet the changing needs of industry, JMTI always has to keep up with technological changes and this means having up-to-date equipment and facilities and to keep abreast with the requirements and expectations of the market to ensure the relevance of the training courses.

Others: There is a need to include industrial attachment as part of the training programmes for instructors to ensure that they can relate the training with industry needs.

Programmes for preventive maintenance of equipment and facilities on a regular basis should be included in future projects.

3-7 Follow-up Situation

Senior Volunteer Programme