The Summary of Terminal Evaluation

1. Outline of the Project		
Country: Malaysia		**Project Title**: Technical Cooperation Project for Development Project of Malaysia-Japan International Institute of Technology
Issue/Sector: Education (Higher Education)		**Cooperation Scheme**: Technical Cooperation
Division in Charge: Higher Education and Social Security Group, Human Development Department		**Total Cost** (at the time of Terminal Evaluation) : 330 million yen
Period of Cooperation	3 July 2013-2 July 2018: 5 years (60 months)	**Partner Country's Implementation Organization**: Ministry of Higher Education (MOHE), Universiti Teknologi Malaysia (UTM), Malaysia-Japan International Institute of Technology (MJIIT)
		Supporting Organization in Japan: Ministry of Foreign Affairs (MOFA), Ministry of Education, Culture, Sports and Science and Technology (MEXT), Ministry of Economy, Trade and Industry (METI), 27 Universities and 2 Research Institutes of Japanese University Consortium (JUC)

1-1 Background of the Project

In Malaysia, education is highly valued as a growth engine[1]. The 10th Malaysia Plan (2011-2015) aims to build a cross-sectoral "cluster for leading-edge technology, science, and innovation" for the 12 National Key Economic Areas (NKEAs) such as energy and business services. According to the 10th Malaysia Plan, the industrial sector shows a strong need to develop more highly skilled human resources with research and development capacity. The lack of soft skills such as work ethics, communication skills, teamwork, and leadership abilities was also identified[2].

To address these issues, Malaysia-Japan International Institute of Technology (MJIIT) was established under the Universiti Teknologi Malaysia (UTM) in 2010 to introduce Japanese-style engineering education in Malaysia, as a project between Government of Malaysia (GOM) and Government of Japan (GOJ), after nearly ten years of planning. In December 2011, JICA signed a Japanese ODA loan agreement with GOM to provide up to a total of 6.7 billion yen for the Development Project of MJIIT which supports procurement of educational and research equipment as well as consulting services. The total cost of the Development Project is 20.2 billion yen with the funds from GOM which cover cost to run education programs including remuneration for academics, construction cost of the MJIIT building, and fellowships for the MJIIT students for short-term study in Japan.

To support the operation of MJIIT, Ministry of Foreign Affairs of Japan has organized the Japanese University Consortium (JUC), which consisted of 25 Japanese universities as of Mar 2013. JUC has been assisting curriculum development, nomination of Japanese academics to be employed by MJIIT, and acceptance of MJIIT students for joint supervision. Four sub-committees have been set up under JUC matching with the four departments of MJIIT, namely Mechanical Precision Engineering, (MPE), Electronic Systems Engineering (ESE), Environmental Engineering and Green Technology (EGT), and Management of Technology (MOT). Each sub-committee is led by a leading university in each field. In addition, JICA has dispatched two JICA experts as Deputy Dean of MJIIT and Project Coordinator / Industrial Linkage to support the smooth operation of MJIIT.

As the Project progresses, new frameworks have become being needed for recruiting Japanese academics for increasing positions, such as a short-term dispatching scheme and recruiting academics from outside JUC. In addition, there is an urgent need for accelerating internationalization and industrial linkage through closer communication between JUC member universities and MJIIT, in order to develop mechanisms for the joint supervision, internship program in Japan and Malaysia, and so on.

UTM and JICA agreed to strengthen technical cooperation to address the above issues and to support the smooth implementation of the Development Project of MJIIT with additional inputs from JICA. "Technical Cooperation Project for Development Project of Malaysia-Japan International Institute of Technology in

[1] Source: The 10th Malaysia Plan (2011-2015)
[2] Source: The National Higher Education Strategic Plan 2007-2020

Malaysia" (hereinafter referred to as "the Project") was thus formulated.

In response to flood damage in Malaysia at the end of 2014, importance and necessity of education and research in the disaster prevention field have been reaffirmed and cooperation for the field in MJIIT was decided. The new sub-committee on disaster prevention was established in JUC, thus currently JUC is composed of 27 universities and 2 research institutes. Since one JICA expert on disaster management center management was newly assigned, the Project now has 4 JICA experts.

1-2 Project Overview

(1) Overall Goal

To cultivate human resources with high level of technological and research capability and inculcated with good working culture through the establishment of Malaysia-Japan International Institute of Technology (MJIIT) as a new Center of Excellence for conducting Japanese-style engineering education and disaster management under Universiti Teknologi Malaysia (UTM), thereby contributing to enhancement of international competitiveness in Malaysia as well as facilitation of regional cooperation in ASEAN region.

(2) Project Purpose

To support the smooth implementation of the Development Project of MJIIT, whose objective is to establish MJIIT as a new Center of Excellence for conducting Japanese-style engineering education and disaster management under UTM.

(3) Outputs

1. Curricula of education programs and other activities are developed and implemented.
2. iKohzas and Disaster Preparedness and Prevention Center (DPPC) are established and operated.
3. Japanese academic staff are appointed.
4. Promotion and marketing is strengthened towards universities and industries in Japan and ASEAN.
5. Joint supervision program is implemented.
6. Double Degree program is implemented with Japanese universities.
7. Industrial training program with industries in Japan and Malaysia and the JUC member universities is implemented.
8. Linkage with Japanese industry is strengthened.
9. Linkage with universities in Japan and other ASEAN countries is strengthened.
10. Student exchange program with JUC member universities is implemented.

(4) Inputs

【Japanese side】

1) JICA Expert Team: A total of 10 experts dispatched (191.7 MM)

2) Training: A total of 61 counterparts participated in 8 country-focused training courses in Japan

3) Expenses for administrative and clerical personnel from the leading universities in JUC: A total of JPY 9,059 thousand disbursed

4) Other expenses: A total of RM 1,563 thousand (equivalent to JPY 46,053 thousand) disbursed for local consultants, travel expenses, miscellaneous costs, etc.

【Malaysian side】

Counterpart Personnel (C/P): A total of 29 major C/P at MJIIT appointed.

2. Terminal Evaluation Team

Members of Terminal Evaluation Team

Japanese side

Role	Name	Organization
Leader	Mr. KUMAGAI Masato (Duration: 11 Feb.-16 Feb.)	Deputy Director General, Higher Education and Social Security Group, Human Development Department, JICA
Higher Education	Dr. NAKANO Kyoko (Duration: 11 Feb.-16 Feb.)	Senior Advisor, JICA

Cooperation Planning	Ms. MIURA Yoshiko (Duration: 11 Feb.-16 Feb.)	Senior Deputy Director, Technical and Higher Education Team, Human Development Department, JICA
Evaluation Analysis	Mr. ITO Haruo (Duration: 4 Feb.-16 Feb.)	Senior Consultant, ICONS Inc.

Malaysian side:

Designation	Name
Dean	Prof. Dr. Ali Selamat
Deputy Dean (Academic)	Prof. Dr. Ezzat Chan bin Abdullah
Deputy Dean (R&I)	AP Dr. Shahrum Shah bin Abdullah
Head of MPE	Dr. Pauziah Muhamad
Head of EGT	Dr. Shaza Eva binti Mohamad
Head of CPE	Dr. Roshafima bt. Rasit Ali (Acting)
Head of MOT	AP Dr. Mohammad Ali Tareq
Head of ESE	Dr. Hairi bin Zamzuri
Director of DPPC	Prof. Masafumi Goto

Period	From 4 to16 February 2018	**Type of Evaluation**: Terminal Evaluation

3. Results of Evaluation

3-1 Achievement of the Project

(1) Output

Output 1: Curricula of education programs and other activities are developed and implemented

- 5 education programs (Target: 6) and 41 other activities (Target: 28) were initiated.【**Achieved**】

Output 2: iKohzas and Disaster Preparedness and Prevention Center (DPPC) are established and operated

- Number of established iKohza as of January 2018 reached only 19 (Target: 31) and establishing a new iKouza by the end of the Project is not likely to happen.【**Not achieved**】
- The function of DPPC has been enhanced as a research center and 14 major activities (Target: 4) have been implemented.【**Achieved**】

Output 3: Japanese academic staff are appointed

- Both Long and Short-term 31 academic staff (Target: 32) were officially appointed by UTM at peak in 2016.【**Almost achieved**】

Output 4: Promotion and marketing is strengthened towards universities and industries in Japan and ASEAN

- Only 161 applications (target: 814) from Japan and ASEAN countries have been submitted due to insufficient provision of scholarship, lack of marketing, and high level of English requirement.
  【**Not achieved**】

Output 5: Joint supervision program is implemented

- Number of students who have started to study under joint supervision based on the result of matching reached 152 (Target: 226) due to the lower number of postgraduate students than planned.
  【**Not achieved**】

Output 6: Double Degree program is implemented with Japanese universities

- With the Double Degree program with Yamaguchi University and the Joint Degree program with Tsukuba University, a total of 2 programs (Target: 6) have been implemented, and a Double Degree program with Kyushu University is currently under discussion.【**Not achieved**】

Output 7: Industrial training program with industries in Japan and Malaysia and the JUC member universities is implemented

- The number of participants of industrial training programs reached 541, and 210 students (Target: 578) are planning to join the industrial training programs by the end of the Project.【**Achieved**】

Output 8: Linkage with Japanese industry is strengthened

- Number of major university-industry collaborative activities with Memorandum of Agreement (MOA) / Letter of Agreement (LOA) with Japanese industries reached just 5 cases (Target: 6), however partnership between MJIIT and other Japanese companies has been significantly progressed since 2017.【**Almost achieved**】

Output 9: Linkage with universities in Japan and other ASEAN countries is strengthened

- Number of collaborative activities (Conference, Symposium, Workshop and Seminar) reached 69 (Target: 25).【**Achieved**】

Output 10: Student exchange program with JUC member universities is implemented

- Number of students for the exchange program reached 980 (Inbound: 397, Outbound: 583) (Target: 100).【**Achieved**】

(2) Project Purpose:

To support the smooth implementation of the Development Project of MJIIT, whose objective is to establish MJIIT as a new Center of Excellence for conducting Japanese-style engineering education and disaster management under UTM

- The total number of enrollment in 2017/18 is only 1,158 (Target: 2,075) due to insufficient marketing, delay of equipment procurement and delay of new student recruitment at the early stage of the Project.【**Not achieved**】
- The number of research publications for indexed journals per academic staff was 2.1 (Target: 2) on average from year 2013 to 2017.【**Achieved**】

(3) Overall Goal:

To cultivate human resources with high level of technological and research capability and inculcated with good working culture through the establishment of MJIIT as a new Center of Excellence for conducting Japanese-style engineering education and disaster management under UTM, thereby contributing to enhancement of international competitiveness in Malaysia as well as facilitation of regional cooperation in ASEAN region

- Total number of graduates is 532 (Target: 1,062[3]) from 2013/14 to 2017/18. It is anticipated that the target of 3,163 by 2020 will not be achieved considering the current number of enrolled students (Project Purpose). A major factor of this non-attainment is that student enrollments were not as high as expected as explained earlier in "(2) Project Purpose".【**Not likely to be achieved**】
- For employment rates, 100% of undergraduate students in both the 1st and 2nd cohorts, and 98.1% in the 3rd cohort were in employment or attend further study after their graduation. 79% of graduates were hired by private sector and 56% of them were engaged in Japanese affiliate companies in 2017.【**Likely to be achieved**】

3-2 Summary of Evaluation Results

(1) Relevance: <u>High</u>

- The Project is consistent with the policies in Malaysia, Japanese ODA policy and needs of MJIIT as a Center of Excellence for conducting Japanese oriented engineering education. The approach of the Project is also relevant, therefore the Relevance of the Project is high.

[3] The target number of graduates in 2017 was calculated by using the target number of 3,163 graduates in 2020 for Overall Goal.

(2) Effectiveness: Relatively high

- The Project Purpose is partially achieved in light of the indicator of number of student enrollment. The number of enrollment has been affected by delays in procurement and installation of equipment as well as budget constraints on Malaysian side. However, it is confirmed that the basis for conducting Japanese oriented engineering education has been introduced and already started functioning at MJIIT, and therefore the Effectiveness of the Project is evaluated as relatively high.

(3) Efficiency: Moderate

- About half of the Outputs have not been achieved yet by the time of Terminal Evaluation, and most of Japanese academics who selected equipment have already left from iKohza. These have negatively affected the efficiency of the Project. On the other hand, as the Project has been implemented with existing and external resources to minimize the project cost, the Efficiency is evaluated as moderate.

(4) Impact: Relatively high

- Positive impacts in improving the university ranking of UTM and promoting collaboration with Japanese universities and private sectors through the Project have already been confirmed. The indicators of Overall Goal are also expected to be achieved by 2020, except the number of graduates which is affected by lack of current enrollment. Therefore, the Impact of the Project is relatively high.

(5) Sustainability: Moderate

- The policy and institutional sustainability are expected to be secured. However, the organizational and technical aspects are facing issues of human resources as well as continuation of industry linkage and joint research in Japan. The financial aspect is also still a major risk factor for sustainability, thus the Sustainability of the Project is rated as moderate.

3-3 Contributing Factors

(1) Factors related to planning

- Diverse JUC member schools provide concrete supports, consultation for program formulation, short-term academic staff dispatch, short-term training to provide right-person-in-right-place supports in response to the needs of MJIIT. The sub-committee of JUC on DPPC is composed of not only universities but also research institutions, namely Global Centre of Excellence for Water Hazard and Risk Management (ICHARM) and National Research institute for Earth Science and Disaster Resilience (NIED), to provide practical supports on policy technology knowledge and technical policy in the disaster prevention field.
- Regarding Japanese language, elective courses by MJIIT and compulsory courses by the UTM Language Academy have been provided, and it was confirmed that Japanese proficiency of students helps them find employment especially in Japanese companies.

(2) Factors related to implementation process

- As mentioned in Mid-term Review, active collaboration with JUC, Japanese academic staff, and Japanese Chamber of Trade and Industry in Malaysia (JACTIM) has promoted achievements of Outputs mainly related to linkages with Japanese industries and universities.
- MJIIT has established the Strategic Business Unit (SBU) and Marketing Unit for conducting marketing activities to attract more students, including international students to be enrolled, and initiated Global Mobility Program (GMP) for undergraduate students to offer an international experience in Japan, which successfully resulted in increase in number of enrollment.
- Based on requests from Japanese academic staff, the expert team has held monthly meetings among Japanese staff to share the latest information on management of MJIIT, activities related to industry linkage and JUC. The expert team also set up individual interviews between the Dean and Japanese

academic staff when needed, which has contributed to the smooth implementation of the Propjet.

3-4 Factors which have caused problems

(1) Factors related to planning

- MJIIT is run at 1:0.33 ratio of academic and administrative staff, and the rate of administrative staff is lower than that of similar faculties in UTM. Most of administrative staff are contract-based and their unstable employment has affected the university operations and transfer of some project activities by JICA experts.
- The lack of technical staff is becoming more critical. Some of the laboratories require skilled technical staff for operation and maintenance of their equipment. Lack of supervision on students while using the equipment may cause safety issues as well.
- MJIIT has very limited number of academic staff. It was initially planned for MJIIT to have 31 iKohza, each with 4 to 5 staff members including Japanese academics, in order to transfer technology. The iKohza was supposed to be the epitome of the Japanese oriented education adopted in MJIIT. However, with some iKohza having only one or two staff members, the system has not realized its full potential.
- The lack of academics with expertise is very obvious in DPPC where only 3 staff members have expertise directly related to Disaster Risk Management. This can be due to the fact that DPPC was established as lately as in the beginning of 2015.

(2) Factors related to implementation process

- For joint supervision, the current state of the joint supervision system is one-way and usually ends at the student graduation. By using the opportunity of joint supervision, MJIIT and Japanese universities need to enhance collaboration activity such as joint research.
- Budget cuts by Malaysian side mainly due to national fiscal setback caused by downfall in oil prices seriously impacted on the overall financial management. MJIIT has faced serious financial constraints which impacted negatively on the staff recruitment and retention, scholarships and all the education and research related activities at MJIIT.

3-5 Conclusions

The Terminal Evaluation Team concludes that the Project has been implemented smoothly in terms of introduction of Japanese oriented engineering education, although some indicators may not be achieved. Concerning the five criteria of evaluation, Relevance is high, Effectiveness and Impact are relatively high, and Efficiency and Sustainability of the Project are evaluated as moderate.

3-6 Recommendations

- The arrangement of internship program in Japan and joint supervision with Japanese universities should be handed over from the consultant (Asia SEED) to the Post Graduate manager in MJIIT through joint implementation practice.
- Joint supervision should be planned and followed up by both MJIIT and Japanese universities in cooperation with JUC so that collaboration such as joint research is promoted and/or sustained.
- Nominating personnel or establishing the unit in charge of industry linkage and supporting job placement of students should be carried out, and handing over the tasks from Japanese experts should be started.
- MJIIT should continue marketing activities to increase student enrollment.
- Discussion on active participation of JUC (especially exchanges of academic staff on research and dispatch of Japanese students) should be continued.
- iKohza information including members, research topics and publication should be regularly updated and shared with Japanese universities through JUC, apart from publicizing materials for industrial

cooperation.

- DPPC should develop a Strategic Plan for Multiple Years.

3-7 Lessons Learned

- The level of participation of JUC member universities differs depending on whether they have research themes in Malaysia or not. For instance, some universities which are interested in specific environmental issues or disaster cases occurred in Malaysia are more active in participating in JUC activities. Selection of research fields supported by higher education projects needs to take into account interests of host universities to obtain their cooperation.
- In order to minimize the negative impact by the delay of equipment procurement, planning and setting target level of indicators of technical cooperation projects need to be more flexible according to the actual schedule of procurement.