

Ex-Ante Evaluation (for Japanese ODA Loan)**1. Name of the Project**

Country: Malaysia

Project : Development Project for the Malaysia-Japan International Institute of Technology

Loan Agreement: December 27, 2011

Loan Amount: 6,697 million Yen

Borrower: The Government of Malaysia

2. Background and Necessity of the Project**(1) Current State and Issues of the Higher Education Sector in Malaysia**

In Malaysia, higher education institutions have been expanded and improved since late 1990s and the population of enrollment in higher education has increased from 530,000 in 1996 to 870,000 in 2010 with an annual average growth rate of bachelor's, master's and doctorate programs at 11 percent, 17 percent and 20 percent, respectively.

Although the number of enrollment has increased as the figures above show, their employment rate has been low. For example, 27 percent of those who completed higher education programs in 2009 were yet to be employed six months after graduation. Although the population of engineers in production management has increased as the rate of enrollment has increased, there is a shortage of human resources with advanced skills capable of research and development activities, needed for knowledge-intensive production centers.

For steady economic growth to be a member of advanced countries, as an effort to narrow the gap of supply and demand in labor market, Malaysia needs to improve the quality of higher education and satisfy the need for development of human resources whom the industry is looking for: human resources with advanced skills and knowledge capable of research and development as well as work ethics.

(2) Development Policies for the Higher Education Sector in Malaysia and the Priority of the Project

The Government of Malaysia aims to become a member of advanced countries by 2020 in its 2020 national development plan, Vision 2020. In the 10th Malaysia Plan (2011-2015), it regards the creation and maintenance of foundation of first-rate human resources as one of key programs for achieving high-income economy and creating innovation. Particularly, the government intends to improve higher education programs to increase supply of human resources with advanced knowledge to meet industrial demand. It plans to establish the Malaysia-Japan International Institute of Technology (MJIIT) to enable students to acquire technical knowledge and labor ethics from such Japanese education style as the "Kohza" system in order to develop human resources with high productivity and competitiveness.

(3) Japan and JICA's Policy and Operations in the Higher Education Sector

In the Country Assistance Program for Malaysia formulated in April 2009, the focal area is

enhancement of mutual interests of Japan and Malaysia, and one of the development goals is promotion of exchanges of people and human resources development. In the Assistance Program, it is mentioned that Japan will pursue the cooperation for the MJIIT framework, centered by the Project. JICA has provided assistance in the field of higher education sector in the following projects: technical cooperation such as Centre for Instructor and Advanced Skills Training (CIAST) (1982 to 1991), The Networked Multimedia Education System (NMES) (2001 to 2005), and ASEAN University Network/Southeast Asia Engineering Education Network (I) (2003 2008) and (II) (2008 to 2013), and yen loan projects such as Look East Policy (1999), Universiti Sarawak Development Project (1999), and Higher Education Loan Fund Project (I) (1992), (II) (1999), and (III) (2006).

(4) Other Donors' Activity

No other donor has provided assistance for Malaysia in recent years. Past assistance projects in higher education include a technical education project by the Asian Development Bank approved in 1997 and an education sector assistance project by the World Bank approved in 1999.

(5) Necessity of the Project

As described above, because the Project is in the priority area of Malaysian development policy and it is consistent with Japanese and JICA's assistance policy, Implementation of the Project is highly needed and relevant.

3. Project Description

(1) Project Objective(s)

The Project is to establish undergraduate and graduate schools that introduce Japanese-style engineering education in Malaysia with a purpose to develop human resources with practical and advanced technological development and research capacities as well as labor ethics to meet industrial demand, thereby enhancing its international competitiveness and contributing to economic and social development.

(2) Project Site/Target Area: Kuala Lumpur

(3) Project Component(s)

① Equipment procurement

- A set of educational and research equipment and materials to be provided from FY2012 to 2015 for opening bachelor's, master's, doctorate, and Kohza programs in the fields of Mechanical Precision Engineering, Electrical System Engineering, Environmental and Green Process Engineering, and Technology Management and Business.

② Consulting service (dispatch of teaching staff, assistance for fellowship, collaborative assistance with private firms, detailed design of equipment to be procured, review and bidding assistance).

- ③ Assistance for establishment and operation of educational programs
 - ・ Acceptance of Japanese teachers
 - ④ Provision of fellowship
 - ・ Dispatch of Japanese students
 - ⑤ School building construction
- (4) Estimated Project Cost (Loan Amount)
20,129 million Yen (Loan Amount : 6,697 million Yen)
- (5) Schedule
December 2011 to June 2018 (79 months). The Project completion is the graduation of students who entered the undergraduate program in the fourth year (June 2018).
- (6) Project Implementation Structure
- 1) Borrower: The Government of Malaysia
 - 2) Guarantor: None
 - 3) Executing Agency: Universiti Teknologi Malaysia, hereinafter called UTM
 - 4) Operation and Maintenance System : The MJIT is established under the umbrella of the UTM. Undergraduate and graduate school curriculum is jointly developed by teaching staff dispatched by the MJIT University Consortium¹ (hereinafter called “Consortium”) established mainly by the Ministry of Foreign Affairs. The Kohza fields are decided through consultation between the MJIT and the Consortium. Educational and research materials to be procured in the Project are decided, purchased and maintained by the MJIT with support from the Consortium.
- (7) Environmental and Social Consideration/Poverty Reduction/Social Development
- 1) Environmental and Social Consideration
 - ① Category: C
 - ② Reason for Categorization:
The Project does not fall into the category of characteristics that are likely to give impacts or is not implemented in an area that is likely to be affected provided in the JICA guidelines for environmental and social considerations and thus the Project is likely to have a minimum level of unfavorable impact on the environment.
 - 2) Promotion of Poverty Reduction : No particular comment
 - 3) Promotion of Social Development (e.g. Gender Perspective, Measure for Infectious Diseases Including HIV/AIDS, Participatory Development, Consideration for the Handicapped etc.) : The school building to be constructed has a design that gives considerations to persons with disabilities based on the policy and plan for such people formulated by the Government of Malaysia in November 2007. The Ministry of Higher

¹ As of November 2011, 23 universities are members of the consortium and 14 of them are also members of a similar project, loan project for higher education fund. With the experience, cooperative scheme of the yen-loan project among the universities and collaborative scheme with concerned universities have been already established and it is an example of successful loan project for international students.

Education provides scholarship for such people (up to 5,000 ringgit per month) in bachelor's, master's, and doctorate programs to support their enrollment in higher education programs and the students who enroll the MJIIT are also qualified candidates of the scholarship.

(8) Collaboration with Other Donors : Technical assistance is planned for initial operation and enhancement of implementation system.

(9) Other Important Issues : There are 23 Japanese collaborative universities and they are studying the possibilities of dispatching teaching staff and collaboration among universities.

4. Targeted Outcomes

(1) Performance Indicators

1) Operation and Effect Indicator

Indicator (unit)	Baseline	Target (2020) 【Expected value 2 years after project completion】
Number of graduates (person)*	N.A.	4433
Enrollment (person)*	N.A.	2980
Number of enrolled international students (person)*	N.A.	1330
Employment rate of students six months after graduation (%) (employment with related fields is counted)	N.A.	80
Ratio of foreign teaching staff (%)	N.A.	25
Number of Kohza (Kohza)	N.A.	52
Number of students who acquired fellowship (person)	N.A.	1055
Publication of research paper of teaching staff (annual, per teaching staff) (number of publications) (international journal registered with ISI**)	N.A.	2
Number of collaboration programs with industry and universities (program)	N.A.	10
Number of research funds (fund)	N.A.	280
Number of double degree programs (program)	N.A.	10

* Total of undergraduate and graduate (master's and doctorate) schools

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2) Internal Rate of Return

It is not estimated because it is difficult to calculate social benefits of an educational program in monetary values.

(2) Qualitative Effect

- Development of human resources with advanced technological development and research capacities in science and technology in Malaysia
- Improvement of quality of education and research of UTM
- Promotion of exchange and joint research among universities in Japan and ASEAN (including Malaysia) nations
- Promotion of industry and enhancement of international competitiveness of Malaysia

5. External Factors and Risk Control

No particular comment

6. Lessons Learned from Past Projects
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Ex-post evaluations of similar projects in higher education point out the importance of paying attention to maintenance cost in selecting equipment when a project includes procurement of a large volume of equipment. They also point out the importance of use of consulting service for assisting the collaboration for establishing curriculum and fellowship between the university where the program is implemented and Japanese partner universities.

Based on the lessons learned from the past projects, in the Project, the consultant and the Consortium will communicate closely to assist the procurement of educational and research materials and equipment with full considerations given to their maintenance cost and plan. In addition to procurement, coordination of exchange programs between the MJIT and Japanese universities, which include dispatch of teaching staff and international students and credit recognition and transfer schemes, as well as assistance of everyday life of international students, will be subject to the consulting service.

7. Plan for Future Evaluation

(1) Indicators to be Used

- ① Number of graduates (person)
- ② Number of enrollment (person)
- ③ Number of enrolled international students (person)
- ④ Employment rate of students six months after graduation (%) (employment with related fields is counted)
- ⑤ Ratio of foreign teaching staff (%)
- ⑥ Number of Kohza (Kohza)
- ⑦ Number of students who acquired fellowship (person)
- ⑧ Publication o research paper of teaching staff (annual, per teaching staff) (number of publications)
- ⑨ Number of collaboration programs with industry and universities (program)
- ⑩ Number of research funds (program)

Attachment

① Number of programs of mutual recognition of degrees (program)

(2) Timing : 2 years after Project completion

End