



Asia Thailand



# Thailand-Japan Technology Transfer Project

Support of academic exchange between leading universities of Thailand and Japan by development of human resources and research facilities

### [External Evaluator]

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### Rating

Effectiveness, Impact	a	Overall Rating <b>A</b>
Relevance	a	
Efficiency	a	
Sustainability	b	

### Project Objectives

To improve the level of science and technology (S&T) education and research and development (R&D) activities at the Faculty of Science and Faculty of Engineering of Chulalongkorn University situated in the capital city of Bangkok by improving the academic standard of instructors as well as enhancing educational and research facilities, thereby contributing to the industrial development of Thailand.

### Outline of the Loan Agreement

- Loan amount / Disbursed amount: 7,308 million yen / 6,444 million yen
- Loan agreement: September 1995
- Terms and conditions: 2.7% interest rate (consulting services: 2.3%); 25-year repayment period (including a 7-year grace period); general untied
- Final disbursement date: October 2006
- Executing agency: Chulalongkorn University
- Website URL: <http://www.chula.ac.th/cuen/index.htm>

### Effects of Project Implementation (Effectiveness, Impact)

The number of instructors holding PhD degrees largely increased at both the Faculty of Science and Faculty of Engineering from 44% prior to implementation of the project to 70% after the project. The 37 instructors who received degrees from this project have all remained at Chulalongkorn University and are included in the above increase in PhD holders.

As a result of this project, more than 30 new courses were established and coursework improved in total 93 existing courses. The numbers of research publications in 2008 were 231 and 136 from Faculties of Science and Engineering, respectively. The rates of increase of publications issued from those Faculties are higher than that of the entire University. Many of the research outputs, based on new methods acquired by instructors through the project's academic exchanges, and from equipment purchased through this project, have already been published. 80% of the equipment purchased under this project were used at the time of the ex-post evaluation. As external evaluation related to this project, the THES-QS World University Rankings, a leading international ranking for universities, ranked Chulalongkorn University in 30th place in natural sciences and 24th in technologies among Asian universities in 2009. Also, the target faculties and their members involved in this project have received a number of awards.

Regarding the impact on industries, the contribution by academic services from Faculties of Science and Engineering to companies' R&D activities were observed. Meanwhile, concrete R&D outputs such as patents and licensing agreements with companies, are expected in the future.

At the time of the ex-post evaluation, a satisfaction survey to instructors of the Faculties of Science and Engineering found that 82% of total 92 respondents are either "highly satisfied" or "satisfied" with both the implementation process and the outcomes of the project. The survey also showed high satisfaction with the creation of opportunities to collaborate with Japan.

Therefore, this project has largely achieved its objectives, and its effectiveness is high.

### Relevance

This project has been highly relevant with Thailand's national policies and development needs at the times of both appraisal and ex-post evaluation. The national development plan has included human resource development and promotion of high-level education and research activities through expansion of S&T at the times of both appraisal and ex-post evaluation.

### Efficiency

Both project period and costs were almost as planned; therefore, efficiency of the project is high.

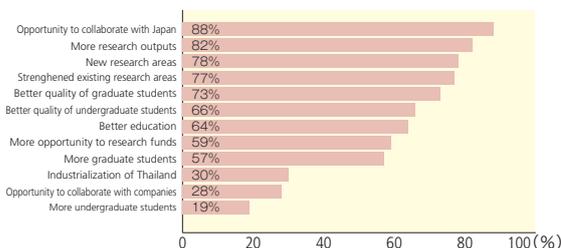
### Sustainability

There is some concern as to whether the education and research equipment improved under this project will be properly operated, updated, and maintained until such time the long-term impact (particularly transfer of technology to the industrial sector) of the project occurs; therefore, sustainability of this project is fair.

### Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. One of the lessons learned from this project is that it effectively combined human resource development ("soft" aspects) and facility development ("hard" aspects), which should serve as a good reference for other projects. It is recommended that Chulalongkorn University utilize unused equipment, execute effective and sustainable operation and maintenance, and promote technology transfer to industries.

### Satisfaction of instructors (beneficiaries) with project effects



[Source] Beneficiary survey

\*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" ([URL:http://www.jica.go.jp/english/operations/evaluation/oda\\_loan/post/](http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/))

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