

Terminal Evaluation

Asia

1. Outline of the Project

Country:

Thailand

Project title:

The Research Center for Communication and Information Technology (ReCCIT), King Mongkut's Institute of Technology, Ladkrabang, (KMITL)

Issue/Sector:

Education (Higher Education)

Cooperation scheme:

Project-type Technical Cooperation

Division in charge:

First Technical Cooperation Division,
Social Development Cooperation Department

Total cost:

700 Million yen (not including the cost for 9 Long-term Experts, 119 Short-term Experts, 40 Trainees)

Period of Cooperation

1 October 1997 - 30
September 2002

Partner Country's Implementing Organization:

King Mongkut's Institute of Technology, Ladkrabang, (KMITL), Ministry of University Affair, Department of Technical and Economic Cooperation (DTEC)

Supporting Organization in Japan:

Ministry of Public Management, Home Affairs, Posts and Telecommunications,
Ministry of Education, Culture, Sports, Science and Technology,
Tokai University, Tokyo Institute of Technology

Related Cooperation:**1-1 Background of the Project**

While the industrial structural innovation toward construction of industrialized society has been promoted in the Kingdom of Thailand, it was the prime task to train engineers and researchers with advanced knowledge. Recently, along with the continuous economic development in Thailand, it became necessary to train those who could respond to the technical upgrading in industries, and research and development of advanced techniques were also necessary. Particularly the needs of human resources in the field of the telecommunication and information technology were rapidly increasing. King Mongkut's Institute of Technology, Ladkrabang, (KMITL) planned to establish the Research Center for Communication and Information Technology (ReCCIT) on its campus with aims of improving the education of graduate school and satisfying the international standard in research and development in the field of advanced technologies. Under these circumstances, the government of Thailand requested the government of Japan for the project-type technical cooperation in the fields of the telecommunication system, information technology, signal processing, semiconductor circuit and control.

1-2 Project Overview

For the development in the field of information technology in Thailand, the project implements the cooperation to the fourteen laboratories in the fields of the telecommunication system, information technology, signal processing, semiconductor circuit and control with the aims of improving the education of graduate school their research capabilities.

(1) Overall Goal

KMITL reaches to the international level in the field of telecommunication and information technology and their related fields (the Field) at the ReCCIT and laboratories.

(2) Project Purpose

- 1) The research capability in the Field at the ReCCIT and laboratories is strengthened up to the international level.
- 2) The research program of the Field at the ReCCIT and laboratories for graduate students are upgraded to the international level.

(3) Outputs

- 1) More advanced researches of the Field are conducted at the ReCCIT and laboratories under the appropriate research management system.
- 2) The updated facilities/equipment/materials are available in the ReCCIT and laboratories.
- 3) Revised research programs for graduate studies of the Field are conducted in the ReCCIT and laboratories.
- 4) Cooperation in the research of the Field is expanded between the ReCCIT and other domestic and international organizations.
- 5) Administrative management of the ReCCIT is established.
- 6) Financial source of the ReCCIT is secured.

(4) Inputs

Japanese side:

Short-term Experts	119	Trainees received	40
Long-term Expert	9	Equipment and Facilities	648 Million yen
Short-term Experts	5		
Local Cost	16 Million baht (52 Million yen)		

Brazilian Side:

Counterparts	89		
Local Cost	62 Million baht (201 Million yen)		

2. Evaluation Team

Members of Evaluation Team

Team Leader/General: Hiroaki NAGASAWA, Director, Planning Division, Social Development Cooperation Department, JICA
Communication Information Technology: Tadashi MIYAMOTO, Technical Director, Technology Policy Division, Information and Communications Policy Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications
Circuit, Signal Processing and Network: Toshio WAKABAYASHI, Professor, Head, Electrical Engineering Graduate School of Tokai Engineering University
Network, Information Technology and others: Kiyomichi ARAKI, Professor, Department of Electrical and Electronic Engineering, Graduate School of Science and Engineering, Tokyo Institute of Technology
Project Evaluation: Naoya AZEGAMI, IC Net Limited.
Evaluation Planning: Yuka MITSUMA, First Technical Cooperation Division, Social Development Cooperation Department

Period of Evaluation

19 May 2002 - 25 May 2002

Type of Evaluation:
Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

The overall goal and project purpose were in line with the policies of the Thai government such as the "IT 2010 Framework" formulated by the National Information Technology Committee, the expansion of telecommunication infrastructures such as installation of the public long distance telephone lines in the rural areas and submarine fiber optic cables, and the demands of information-telecommunication technology industry such as rapidly expanding telecommunication services like the cellular phone market. The project matched with the strategy of KMIT aiming at contributing to the industry and society by producing

qualified human resources as the project implemented the advanced researches in the field of telecommunication and established the research programs whose level is as high as the level of graduate school. Therefore, the implementation of the project was relevant at the terminal evaluation.

(2) Effectiveness

The project significantly contributed to the upgrading of the research capacity and the research program for graduate students to the international level. This achievement was clearly observed by the fact of the increased number of research papers published in international journals, presentations at international conferences, and the number of doctor's and master's degrees obtained by the trainees. In addition, one of the associate professors from the ReCCIT has already become a professor and another is currently applying for this position.

(3) Efficiency

The long-term experts (five experts in total) were not dispatched as originally planned, but the number of the short-term experts was increased than that in the original plan to supplement the responsibilities of the long-term experts. One Japanese professor was assigned to each laboratory. They were dispatched as short-term experts to those laboratories and accepted training for the Thai counterpart in their laboratories in Japan. It had an advantage of securing the consistency of advice and the supervision by Japanese professors on their researches. However, difficulty of full commitment to the project was observed among some of the counterparts with the heavy load of duties. The majority of equipment was procured within the first three years of the project. However, there were some cases that the equipment was not readily available.

(4) Impact

A major impact of the project achieved was the strengthening of research capacities and the upgrading of the research programs for graduate students. Also, there seemed to be some cases that the staff of the laboratories and graduate students who conducted research at the ReCCIT contributed to the development of the curriculum and syllabus of faculties of other universities. The upgrading of the research capacities led to this contribution. In addition, though it was regarded as one of the project's outputs, the expansion of cooperation with other institutions could be assumed a ripple effect, which may have positive impacts on conducting more advanced research.

(5) Sustainability

The laboratory staff have gained the capacities to conduct more advanced research than before, though varying degrees of achievements were observed depending on the staff and laboratories. Many of the laboratories have firmly established the relationship with the Japanese counterpart professors and laboratories. If the laboratory can maintain this relationship, it will definitely contribute to the maintenance and enhancement of their research capacities. The ReCCIT has attained a sufficient level of managerial capacity for administering routine works and organizing such events as the international symposium. The KMITL is in the process of preparing to turn itself into an autonomous university. This is likely to have significant impacts on the ReCCIT, because KMITL are expected to have an autonomous management system as well and to introduce a performance evaluation system. The budget allocated by KMITL seems to be maintained, though a shift to autonomous university may have an impact on the financial condition of the ReCCIT, and it is necessary to watch for the process.

3-2 Factors that promoted realization of effects

(1) Factors Concerning the Planning

The project was efficiently conducted, because most of the issues such as research themes, Japanese professors in charge of each theme, and provided equipments were determined through the discussion with counterparts at the preliminary research.

(2) Factors concerning the Implementation Process

Each of the Japanese professors assigned to laboratories was periodically dispatched as a short-term expert, and they accepted the training for their Thai counterpart at their laboratories in Japan, which secured the consistency of research supervision.

3-3 Factors that impeded realization of effects

(1) Factors Concerning the Planning

As the project proceeded the realization of effects differed among laboratories, but, on the whole, the effects originally planned were accomplished.

(2) Factors concerning the Implementation Process

Some of the counterparts had difficulty to secure enough time for their own research and supervision of researches of graduate students due to the heavy duties required by their works other than ReCCIT' and related laboratories' such as lectures and supervision of undergraduates.

3-4 Conclusion

On the whole, the project purpose was achieved remarkably as it was clearly proved by the increased number of article issued in journals, presentation at conferences, and graduate degrees obtained. The ReCCIT also extended the network with other institutions, which contributes to further improvement in research capacities.

3-5 Recommendations

(1) It is necessary that the ReCCIT regards the possibility of introducing an incentive mechanism for the performances such as publication in journals and presentation in conferences. This recommendation will be effective to further motivate staff to conduct advanced research and also in line with the direction envisaged in the policies of shifting to autonomous university.

(2) It is necessary that the ReCCIT, combined with the incentive mechanism, considers establishing the environment to enable the laboratory staff to allocate more time on their own researches and supervision to their students at the laboratories by balancing the time allocation between the tasks of the laboratory and other duties. It will require intensive discussion and coordination with the Faculty of Engineering and the Faculty of Information Technology, taking into consideration such factors as financial resources.

(3) It is necessary that the ReCCIT prepares a proper management system of industrial property rights which may be approved during the project period.

(4) It is necessary that the ReCCIT, in close consultation with KMITL and under the policies of shifting to autonomous university, to strengthen its organizational base in order to enable itself to continue conducting advanced researches in the field of telecommunication and information technologies. To achieve the purpose, it is necessary that the ReCCIT makes every effort to ensure the budget within the KMITL, to recruit capable students and advisors, to improve research capabilities through presentations at international conferences and issue research papers in international journals.

(5) It is necessary that the laboratories make efforts to strengthen the network with other institutes especially when complementary and synergy effect can be expected in upgrading knowledge and skills.

3-6 Lessons Learned

The project should have been planned with careful assessment on the feasibility of the Japanese long-term experts and the provision of equipment. There existed the difficulty in recruiting Japanese long-term experts and the provision of equipment as described in 3-1 (1), which adversely affected the effectiveness of their contribution to the project. Careful preliminary assessment could have reduced such risks. In addition, the Project Design Matrix (PDM) should have been reviewed periodically to reduce the discrepancy between actual activities and planned activities.

3-7 Follow-up Situation

In order to improve the research capacities of some laboratories and to help graduate students, who were the target of the project, to obtain a doctor's degree, the two-year follow-up cooperation has been implemented and will terminate in September 2004.