No.

Ex-Post Evaluation Report

The Academic Development of the Graduate Program at the Faculty of Agricultural Engineering and Technology, INSTITUT PERTANIAN BOGOR

September 2002

Japan International Cooperation Agency
Planning and Evaluation Department

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Preface

In regard to the ODA evaluation, it has been pointed out that the establishment of a consistent evaluation system from the preliminary stage to ex-post is important. Therefore, JICA has been implementing full-fledged ex-ante evaluations for each project-type technical cooperation project[1)], grant aid project and development study since fiscal 2001 after going through an experimental introduction in fiscal 2000. On the other hand, terminal evaluation has been implemented for each project—mainly project-type technical cooperation projects—in the past. However, the effects arising at a certain period after the end of the cooperation (impacts) and sustainability at that time have not necessarily been verified or analyzed. In order to implement projects more efficiently and effectively, it is important to conduct ex-post evaluation for each project and to also give feedback of the evaluation results to the recipient countries.

Against this background, it was determined that the "ex-post evaluation for individual projects" would be implemented for project-type technical cooperation projects and grant aid projects from fiscal 2002. In preparation for full-fledged implementation, the evaluation was experimentally implemented for Indonesia and China in fiscal 2001. The knowledge acquired through the evaluation was organized to prepare the "Manual for Implementing Ex-post Evaluation for Individual Projects (Compendium of Case Studies)." This report is a compilation of the results of ex-post evaluations for projects that were subject to experimental implementation[2)].

In the past, the monitoring survey (post-project monitoring) had been carried out for project-type technical cooperation projects, grant aid projects and the independent provision of equipment (already abolished as a cooperation form) at a certain period after the end of cooperation (after two years and six years). Materials acquired through post-project monitoring have been utilized to consider the implementation of follow-up cooperation. The new "ex-post evaluation for individual projects" is a progressive reorganization of the "post-project monitoring." In the survey, post-project conditions are surveyed and an evaluation is made, as mentioned above, through the more comprehensive survey and analysis of the effects of cooperation and sustainability by the recipient countries.

September 2002

Hiroshi Fukada

Managing Director of the Planning and Evaluation Department

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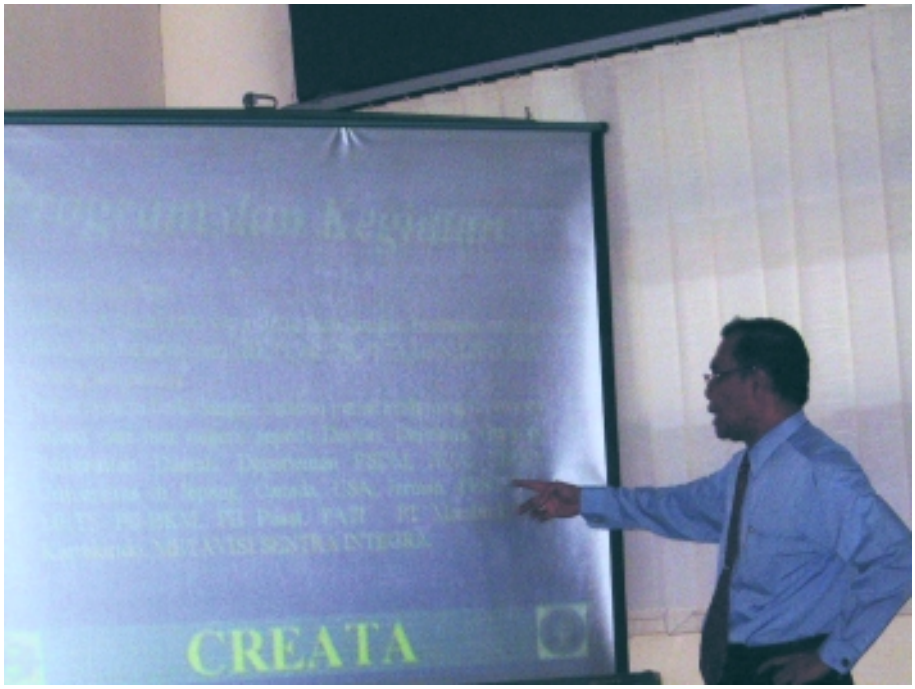
1) The name was changed to "technical cooperation project" in fiscal 2002.

2) Three ex-post evaluations (two for project-type technical cooperation and one for grant aid cooperation) were implemented in Indonesia and China respectively, and separate reports were made.



Explanation by the Director of CREATA

1. The Outline of the Ex-post Evaluation Study

1-1 Background and the Purpose of the Study

The Indonesian government promoted plans to establish a graduate school in the Bogor Agricultural University (IPB) which prioritizes advanced agricultural education in order to improve graduate level education in the field of agricultural research and foster degree holders. As part of this, the government received a grant from Japan to establish graduate facilities in the agricultural sciences division, which were completed in 1986. To improve the agricultural sciences graduate school, the Indonesian government has continued to receive grants not only for maintaining facilities but also for making the necessary improvements in the skills of the teaching staff and strengthening the graduate education, and has also requested Japan's technical cooperation in education research for Bogor Agricultural University's agricultural sciences graduate school. Based upon the Record of Discussions (hereinafter referred to as the R/D) signed on December 24, 1987, the project was implemented from April 1, 1988 to March 31, 1993.

The ex-post evaluation study, which is to start in a full scale from FY 2002, has been conducted in China and Indonesia in trial basis. The objectives of this study are to verify mainly the sustainability and impact of some projects after certain periods have past since the completion of JICA cooperation. Through the activities above, this study seek to obtain lessons in order to utilize them to feed back for the formulation of similar projects in the future.

1-2 Evaluation Team and the study period

Name	TOR
Mr. Yuji Otake (JICA Indonesia Office)	Supervision of the local consultant
Mr. Kazuhiro Yoshida (Office of Evaluation and Post-project Monitoring, Planning and Evaluation Department, JICA Head Office)	Evaluation Method (Feb.17 - 23)
Mr. Kaneyasu Ida (IC Net Limited)	Ex-Post Evaluation (Feb.17 - Mar.2)
Mr. Lutfi Bakhtiyar (Japan Central Strudies)	Data collection

Field study: February 17 - March 2, 2002

SCHEDULE: Ex-post Evaluation Study for Individual Projects in Indonesia

Date & Time	Activities		Accommodation	
Feb.17 (Sun)	10:50 Arrival at Jakarta (16:25, JL725)		Jakarta	
Feb. 18 (Mon)	8:30 Meeting with JICA Office 9:00 Internal Meeting with local consultant 14:00 Courtesy call and meeting with Director General of Post & Telecommunications, Min. of Communication Internal Meeting		Jakarta	
Feb. 19 (Tue)	9:00 Meeting with Head of TV Training Center (TVTC) 12:00 Courtesy call and meeting with Sekretaris Perusahaan 12:30 Interview persons concerned of TVTC Internal Meeting		Jakarta	
Feb. 20 (Wed)	8:00 Move to Bogor by car 9:00 Meeting with Dean Faculty of Agricultural Engineering and Technology, Institut Pertanian Bogor (IPB) 10:00 Meeting with Director of Centre for Research on Engineering Applications in Tropical Agriculture (CREATA) 13:00 Interview persons concerned of IPB 15:30 Move to Bundung		Bandung	
Feb. 21 (Thu)	9:00 Meeting with Head of Training Division, PT Telekomunikasi Indonesia 10:30 Interview with persons concerned of the Telephone Outside Plant Construction Center Project 11:30 Visit the Center Move to Jakarta by car		Jakarta	
Feb. 22 (Fri)	Arrange materials		Jakarta	
Feb. 23 (Sat)	Mr. Ida	Mr. Yoshida	Mr.Ida	Mr. Yoshida
	Internal Meeting Discussion with local consultants to clarify the framework of the following supplementary survey	Internal Meeting Moves to Jakarta by car Leave Jakarta (14:55, CI672)		(Hong Kong)
Feb. 24 (Sun)	Arrange materials and write necessary reports			
Feb. 25 (Mon) - Feb. 28 (Thu)	Conduct supplementary survey			
Mar. 1 (Fri)	Conduct supplementary survey Report to JICA Office Leave Jakarta (23:45, JL726)		(in airplane)	

2. Study Methods

2-1 Outline of the Project

PDM (From the evaluation report: 1993)

Summary	Indicator	MoV	Assump-tion
Overall goals • Joined the ASEAN university consortium program, SEARCA • Establishment of annual meetings of ISAE • Establishment of IPB as center of AE in tropical areas • Suggestions of standard curriculum for other universities on AE, Post-harvest Technology and Food Science • The Project publications are used by about 30 universities • Improved IPB's status in AE by organizing seminars and publications • Increased acknowledgement of the importance of AE and technology by the Government and relevant organizations • Ideas suggested by IPB staff to establish AE departments in other universities • More support from the Ministry of Education, Science and Culture, Japan • More ties with Tokyo universities and other universities and private sector	Not specified.	Not specified.	Not specified.
Project purpose 1. Upgrading of the academic level 2. Obtaining Ms and Dr. degrees 3. Academic exchanges between the IPB and other institutes in Indonesia	Not specified.	Not specified.	Not specified.
Output	Not specified.	Not specified.	Not specified.

2-2 Stakeholders and Study Methods

Based on the joint evaluation report produced by the Indonesian and Japanese sides at the termination of the Project in 1993, the Team produced an evaluation plan and then prepared evaluation questions to respective stakeholders as shown below.

Stakeholders	Study method
Responsible agency:	
Ministry of National Education	Formal questionnaire & interviewing
Implementing agency:	
IPB Administration	Formal questionnaire
AET (Faculty)	Formal questionnaire & interviewing
Former counterparts	Interviewing
CREATA	Formal questionnaire & interviewing

3. Study Results

3-1 Sustainability

(1) Current situation of Counterpart Personnel

In the Project, 60 counterpart personnel were assigned to work with the Japanese experts. At present, 53 still remain at IPB while five are away from IPB pursuing higher degrees, taking sabbaticals or participating in exchange programs. Retention of IPB counterpart personnel is very high due to the Government's bond system for scholarship and also because many of the counterparts had been IPB undergraduate students and researchers before the Project began.

(2) Organizational Aspects

The Center for Research on Engineering Applications in Tropical Agriculture (CREATA) was formed in 1994 in order to carry on the work of the JICA-DGHE/IPB Project (ADAET) in developing and strengthening graduate program in the field of Agricultural Engineering Science at IPB. At CREATA, researchers can focus on the development of appropriate technologies by conducting research activities, organizing seminars and workshops, strengthening academic exchanges with other research institutes and universities and taking advantage of the upgraded facilities and equipment.

Currently, 43 Department staff spend 15 – 25 hours per week in CREATA. Researchers in the post-harvest technology study program are also involved in CREATA activities. Another center for the study of Food Science was established with support from the World Bank.

(3) Financial Aspects

Currently, the Ministry of Education and Culture gives Indonesia's four leading universities a greater discretion on how they allocate their budgets. The will enable IPB to allocate more budget to items with higher priorities. Therefore, this will be also very positive for the Faculty of Agricultural Engineering in sustaining financial sustainability.

(4) Sustainability of Project Effects

The sustainability of the Project effects from completion to present is expressed below.

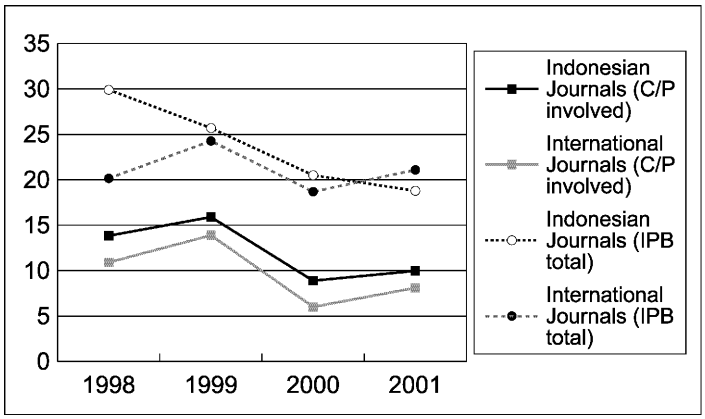
(↗ : very high; ➔ : maintained, sustained; ↘ : lower than at completion.)

1) Higher Academic Level:

① Academic papers: ➔

The faculty researchers have been active in producing academic papers. During the last four years, they have produced an average of 45 academic papers each year, and the former counterpart personnel are involved in about one in every two papers produced by the faculty members.

Academic papers produced by the Faculty members



(Source: AET, IPB)

Although the contributions to Indonesian journals are on the decrease, the researchers' contributions to international journals have been maintained at an average of 22 papers a year. This can be attributed to the following reasons:

- Researchers are more confident in their research ability and apply for research funds as shown in the table below.
- There have been more academic exchanges with other research institutes and universities. In particular, some of the former short-term experts from the Japanese universities continue joint research with former counterpart personnel.

Proposals submitted by the Faculty to MONE for grants (1994-2000)

	No. of proposals	
	Submitted	Granted
Journal	15	3
Article	109	47
International seminar	NA	5
Domestic collaborative research	NA	5
International research linkage	15	2
Basic research (1995-2000)	294	47

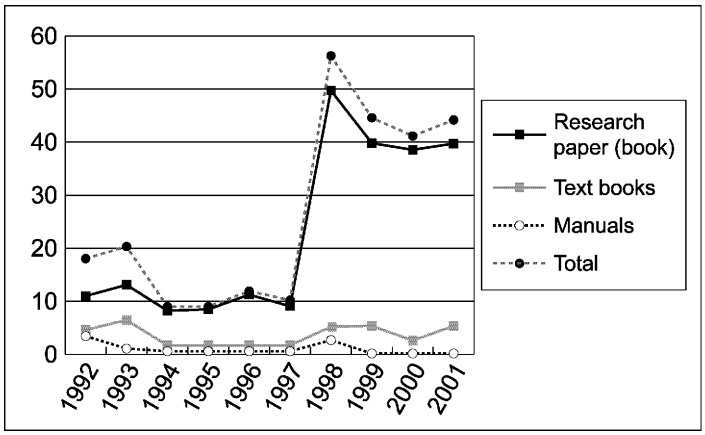
(Source: MONE)

② Publications:

Research papers: ↗

Textbooks: ↘

Faculty members have been more active in publishing research papers; the number has increased to around 10 at the end of the Project to more than 40 since 1998. The researchers have also produced textbooks, although whether these can be published depends on the availability of funds. Consequently, they are less enthusiastic about producing textbooks.



(Source: AET, IPB)

③ Seminars: ➔

Since its establishment, CREATA has organized 14 meetings and seminars, including three international seminars and annual meetings of Indonesian Society of Agricultural Engineering. All of them were held in Bogor and were mostly self-funded.

2) Obtaining Higher Degrees: ↗

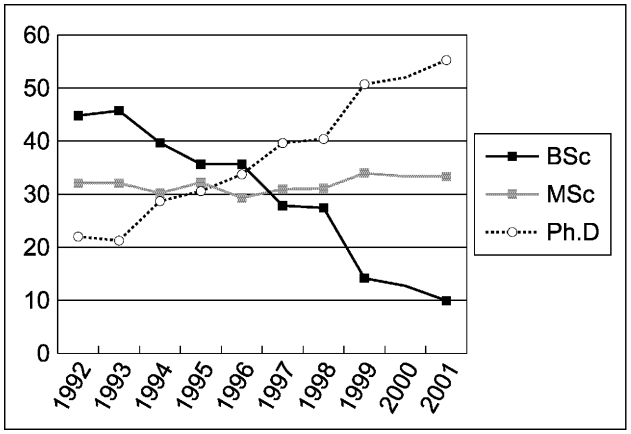
The table below clearly shows the increase in the number of higher degree holders. In particular, the Ph.D holders in the AE study program account for 56% of the total teaching staff, while that of the IPB faculty as a whole is 43%.

Changes in the number of teaching staff of AE study program by degree (1992-2001)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
BSc	28	30	23	23	23	18	18	9	8	6
MSc	20	21	17	21	19	20	20	22	21	20
Ph. D	14	14	17	20	22	26	26	33	33	33
Total	62	65	57	64	64	64	64	64	62	59

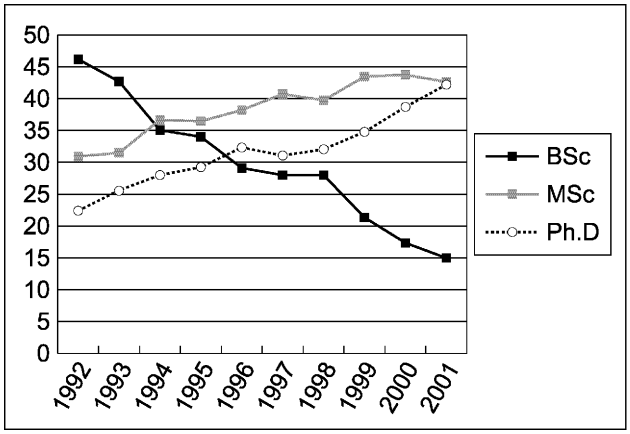
(Source: AE study program)

AE staff by degree



(Source: IPB)

IPB total by degree



(Source: IPB)

3) Academic Exchanges: ↗

Academic exchanges have expanded even more after the Project. Currently, the Faculty has academic exchanges under the Memorandum of Understanding (MOU) with 20 foreign universities and research institutes.

3-2 Impact of the Project

(1) Impacts Attained by Overall Goals

Impacts		Support information
IPB's participation in SEARCA	✓	The Faculty accepts exchange students in AE from ASEAN countries.
Establishment of annual meetings of ISAE	✓	Not only does ISAE hold regular meetings, but the Bogor chapter of ISAE also does.
Establishment of IPB as center of AE in tropical areas	✓	Establishment of CREATA and its active role in AE in tropical areas.
Suggestions of standard curriculum for other universities on AE, Post-harvest Technology and Food Science	✓	IPB is an active member of a graduate program consortium which sets standard, national curriculum for graduate studies.
Project publications are used by about 30 universities	✓	Due to lack of funding, project publications had been discontinued.
IPB's status in AE has been improved by organizing seminars and publications	✓	IPB is capable of organizing national as well as international seminars.
Increased acknowledgement of the importance of AE and technology by the Government and relevant organizations	✓	Increased research collaboration with government agencies and other universities
Ideas suggested by IPB staff to establish AE departments in other universities	✓	Although many of the researchers in the newly established AE departments are IPB graduates, IPB has no role in establishing AE departments in other universities.
More support from the Ministry of Education, Science and Culture, Japan	✓	Most of the junior staff receive scholarships from Japan.
More ties with Tokyo universities and other universities and private sector	✓	Since 1998, IPB and Tokyo U. have started joint research under DGHE program in applied sciences.

(2) Impact not Anticipated at Project Completion

Impact	Reasons/support information
More applicants from different disciplines apply for graduate programs.	More candidates from other disciplines apply to the faculty of Agricultural Engineering and Technology. Some seminar and workshop participants have been interested in the faculty programs.
IPB provides advice and consulting to the Government and relevant organizations.	Acknowledgement of the IPB - More IPB staff become advisors and consultants to the Government and are invited to become panelists.
More collaboration with business and communities	Before the Project, IPB was already implementing activities with businesses and local communities. However, the technical options were limited, and sometimes the applicability of a utilized technology was uncertain when it was tested due to the shortage of skill and knowledge, as well as lack of equipment and devices necessary to test the applicability. The Project provided a wide range of technologies and skill in AET to IPB. After the Project, IPB has had more technical options to be utilized in the field. Currently, several pilot projects are undertaken by IPB in collaboration with other research institutes and local micro-enterprises. One such example is “Small Product Processing Unit” - the use of renewable energy and biomass for businesses in areas that don’t have electricity. In this context, the training activities conducted for other universities and research institutes during the Project facilitated collaboration between IPB and other universities and research institutes. The effectiveness of the pilot projects is not concluded yet as IPB and its partners have not conducted evaluations of the pilot project. Also, whether or not the pilot projects can be scaled up depends on the availability of funds and the implementing agencies.
IPB researchers can assess their levels themselves. This makes it easy for them to plan research activities.	Through training activities and provision of scholarships to IPB staff for postgraduate degrees in Japan, IPB researchers have gained a common understanding of the academic standards in Japan. This has enabled them to assess where their own level stands in their respective fields and to understand what needs to be done to further improve their academic standards.

3-3 Analysis of Factors of Impact and Sustainability

(1) Contributing Factors:

- Academic exchange was facilitated by the fact that the Center has a deputy vice director for development and cooperation. Before him, the head of the center was directing coordination alone.
- Turnover of the staff members or C/P is low partly because most C/P worked for the Government before the project.
- The higher level of research activities is attributed to continuous support extended by the academic exchange program with Tokyo University and DRN/DHGH.
- The World Bank also extended assistance for joint research and provided scholarships for IPB researchers to pursue higher degrees during 1997 - 1999.

(2) The Factors Affecting IPB:

Researchers perform various functions now.

3-4 Issues, Problems

No serious problems were noticed by the study team. One problem pointed out by the Faculty members was the shortage of fund to renew the existing equipment and instruments.

3-5 Conclusion

The following findings permit the conclusion that the effects and achievements of the Project have been well sustained by the faculty.

- Most of the Project counterparts continue to work in the faculty.
- The establishment of the CREATA has facilitated research activities and organization of seminars.
- The faculty members have been active in producing academic papers and other publications.
- More researchers have obtained higher degrees.

Also, there have been positive impacts of the Project. One of the most important impacts is the implementation of several pilot projects initiated by the faculty. Currently, the researchers are developing appropriate

technologies in collaboration with other universities and local communities, utilizing the technical options provided through the Project activities.

4. Recommendations and Lessons

A strategic plan needs to be followed by an academic development project in order to disseminate project outcomes and maximize their impact. In IPB's case, the university can implement pilot projects in collaboration with rural micro-enterprises and women's groups; however, dissemination and scaling-up of the pilot project outcomes go beyond the university's abilities.