COUNTRY -WISE EVALUATION STUDY ON JAPANESE COOPERATION PROJECTS ...

COUNTRY-WISE EVALUATION STYDY ON JAPANESE COOPERATION PROJECTS IN THE REPUBLIC OF THE PHILIPPINES

MARCH,1994

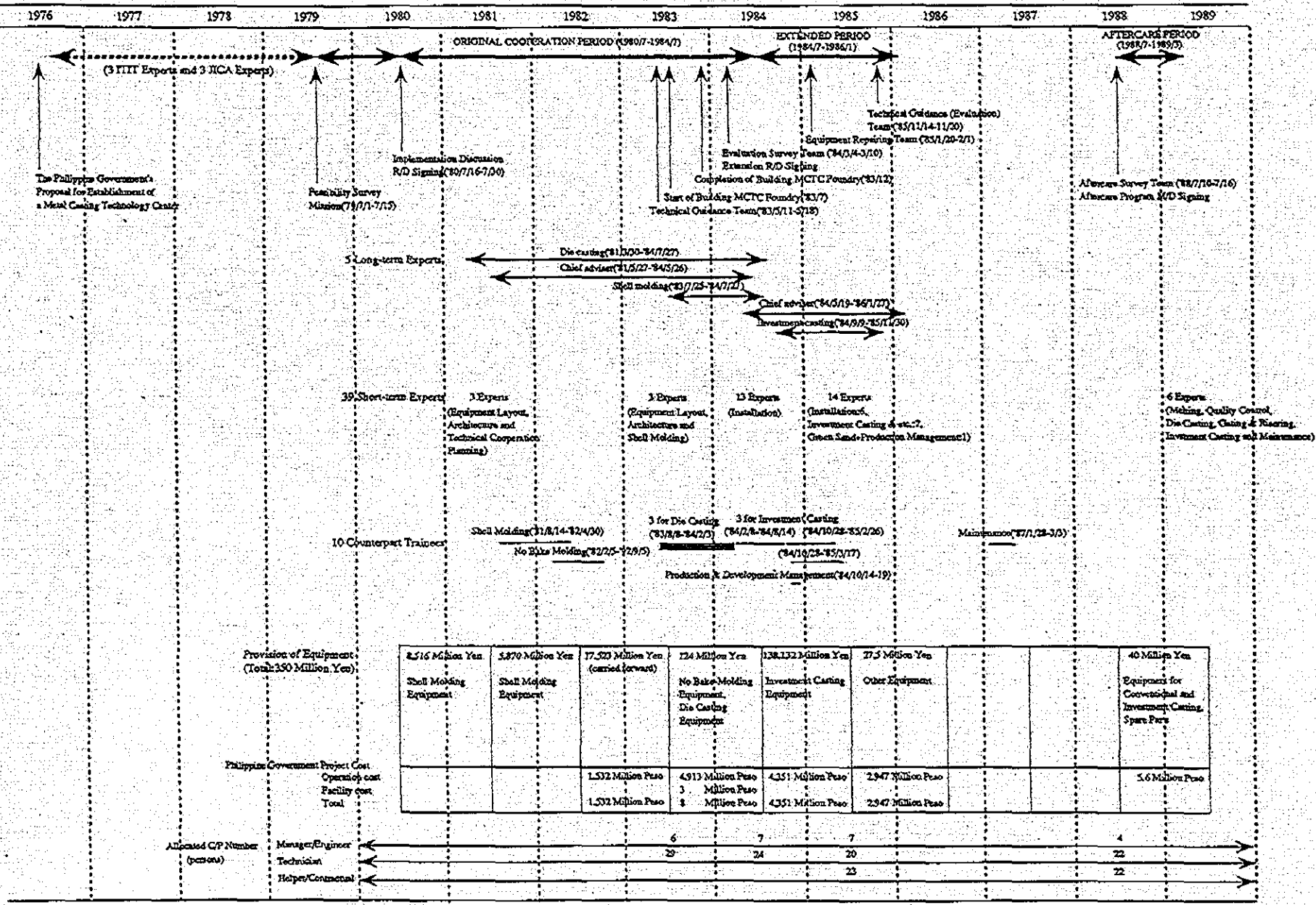
JAPAN INTERNATIONAL COOPERATION AGENCY

LIST OF COMPLETED COOPERATION PROJECTS WHICH WERE SUBJECTED TO POST-EVALUATION AND DISCUSSED DURING THE SEMINAR

Sector	Name of Project	Duration of Project
1.Agriculture	Cagayan Agricultral Pilot Project	Feb.76-Mar.84
2 Agriculture	Bohol Agricultural Promotion Project	Feb.83-Feb.90
3.Industry	Technology Development for Particle Board	Mar.77-Mar.83
4.Industry	Metal Casting Technology Center	Jul.80-Jan.86
5.Health	Research Institute for Tropical Medicine	Oct.80-Mar.88
6.Health	Integrated Family Planning and Maternal and Child Health Project	Mar.74-Mar.89
7.Human Resource Development	Integrated Research and Training Center	Nov.82-Nov87
8.Human Resource Development	Telecommunications Training Institute	Apr.81-Oct.86
9.Human Resource Development	Transport Training Center	Apr.77-Apr.84
10.Human Resource Development	Philippine Human Resources Development Center (PHRDC)	Sep.82-Mar.91
	Program I -PHRDC	Oct.82-Mar.91
	Program II-Seafarming Research Developement Center	Oct.82-Mar.91
	Program III-Construction Manpower Developement Center	Oct.82-Mar.91
	Program IV-National Cottage Industry Training Center	Oct.82-Oct.87

I. THE EVALUATION FINDINGS FOR INDIVIDUAL PROJECTS

The Metal Casting Technology Center(MCTC) Project: a Technical Cooperation Project



Logical Frame of the Metal Casting Training Center (MCTC) Project R/D:'80/7/28, Extension:'84/3/9, Completion:'86/1/27, Aftercare:'88/7/15-'89/3/31 Jurisdiction : NSDB->MTB->NSTA

	Indicators	Results	Major Assumptions	Changes in Major Assumptions
I. Super Goal 1. Contribution to the development of the economy of the Philippines				
II. Overall Goal 1. Contribution to the development of the casting industry in the Philippines	1.a Production of casting industry 1.b Number of small- and medium-sized factories in the casting industry and their production 1.c Products using the new casting technology and improvement in quality	1.a [Under survey] 1.b [Under survey] 1.c According to the hearing from MIAP, the quality of casting products from small and medium foundries has not improved much	(1) Support of the Philippine Government on the casting industry.	
III. Project Purpose 1. Establishment of the MCTC which will serve as the focal point of spreading the casting technology	[After the project] 1.a Expenditure of MCTC 1.b Sustainability of research and development [Number of MCTC staff members and number of Researches] 1.c Technical transfer to the private sector [Joint-researches, seminars, technical guidance, training courses] 1.d Number of factories using the developed technology 1.e Number of factories planning to introduce the developed technology	1.a When MIRDC was under DTI, it was a corporation and MCTC put stress on production. 1.b In '93, 40 staff(5 engineers) and 13 researches(2 joint with private sector). 1.c Many seminars, training courses, technical guidance and incubators, but more services for users than small foundries. 1.d About 10 factories. 1.e 3 factories.	(1) Full support of the Philippine Government on MCTC activities. (2) Enough market for the casting industry. (3) Enough supply of raw materials. (4) Trained engineers stay in the casting industry.	(1)There was a period that MCTC had to put stress on production, due to lack of adequate financial support.
IV. Outputs 1. Conducting research and development in the fields of bake mold, shell mold, die casting and investment casting (sand casting was added in 1983) 2. Extension of technological advisory to the casting industry 3. Organization of the MCTC	[During the project] 1.a Number of technical manuals developed 1.b Turnover rate of C/P 1.c Operation and maintenance of the machinery and equipment 1.d Achievement of technical transfer to C/P 1.e Number of researches conducted 2.a Public relations 2.b Seminars and technical guidance 3.a Expenditure of MCTC 3.b Number of MCTC staff members	1.a 13 operational manuals. 1.b Out of 17 C/P engineers, 14 left MCTC by 1988. 1.c Level A/B on operation and A on maintenance, according to the report. 1.d Level C/D, according to the report. 1.e and 2.a,b Not much during the project. 3.a Delay of construction due to budgetary problem. 3.b 48 in 1988 (27 positions unfilled).	(1) Allocation of enough skilled staff. (2) Enthusiasm among foundries for new technology and quality improvement.	(2) MIRDC competed with the foundries so they did not rely much on MIRDC.
Activities 1.1 Technical cooperation in the fields of - design technology - mold making technology - casting production technology 1.2 Training for concerned local personnel 2. Provision of technical guidance for the transfer of technology to the private sector 3. Establishing the MCTC	**Inputs** **JICA side:** Machinery and equipment — 322 million yen Long-term experts(Original/Extension) — 5 experts Long-term experts(Aftercare) — none Short-term experts(Original/Extension) — 33 experts Short-term experts(Aftercare) — 6 experts Training in Japan — 10 trainees **the Philippine side:** Land/Buildings/Facilities Allocation of C/P — 48 persons Operational costs — 13,743 thousand peso As of 1988		(1) The technology is appropriate and C/P stay in MCTC. (2) Machinery and equipment are properly maintained. (3) MCTC's organization and operation are appropriate. **Basic Assumptions** (1) The Government of the Philippines allocates necessary budget and staff for the project.	

Results of Evaluation by Evaluation Points

Evaluation Points	Cell Number for Analysis	Evaluation Results
Attainment of Project Purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	- The technical levels of MCTC personnel who also belong to MIRDC were improved and a system of technical support in various technical fields for foundries was established in coordination with other sections of the MIRDC.
Impact - Direct Impact	2(3)	- MIRDC's incubator program, training courses, technical advisory, testing, production and other services has served as a focal point in improving the technical levels of the industry, introducing new technology, and assisting new comers in the casting industry. - MIRDC's activities have been limited in improving the quality and efficiency of existing small foundries. - Lengthy testing services, high training fees, and a location which is far from existing foundries are some of the complaints voiced by companies.
- Indirect Impact	1(3)	- MIRDC services has enabled local production of spare parts for streetcars and machinery used by mining and sugar industries. - Companies which have benefited from MIRDC's production services have developed high value added products and contributed to Philippine exports. - MIRDC testing services, particularly third party certificates, have been high evaluated by large metal casting firms.
Efficiency of Implementation	4(3) and 3(3)	- The project was extended approximately two years due to bureaucratic changes pertaining to MIRDC and construction delays of the MCTC building. - Due to MIRDC budget shortages, the MCTC supplemented its budget through revenue generated from its production services, thereby competing with private foundries. As a result, it was unable to obtain active cooperation from the metal casting industry.
Sustainability	4(4), 3(4), 2(4), 1(4)	- There is high turnover rated of engineers at MIRDC due to low salaries. However, engineers remain in the casting industry and technology is transferred to the private sector. - The technology at MCTC has become firmly established and has been passed on to new staff members. - MIRDC has been allocated a higher budget since its transfer back to DOST as a public agency. As a result it has been able to provide sufficient services. - MIRDC is actively pursuing research and development , in addition to its incubator program, training courses, technical advisory services, testing services,regional extension, etc.
Relevance of Initial Planning	4(4), 3(4), 2(4), 1(4)	- Metal casting technology is vital and basic for all industries and it has been given priority in the Investment Priorities Plan(IPP)1993. Improving the production and quality of small foundries is an immediate issue and the need for a technical center in metal casting is high.

Factors Contributing to Implementation and Generation of Project

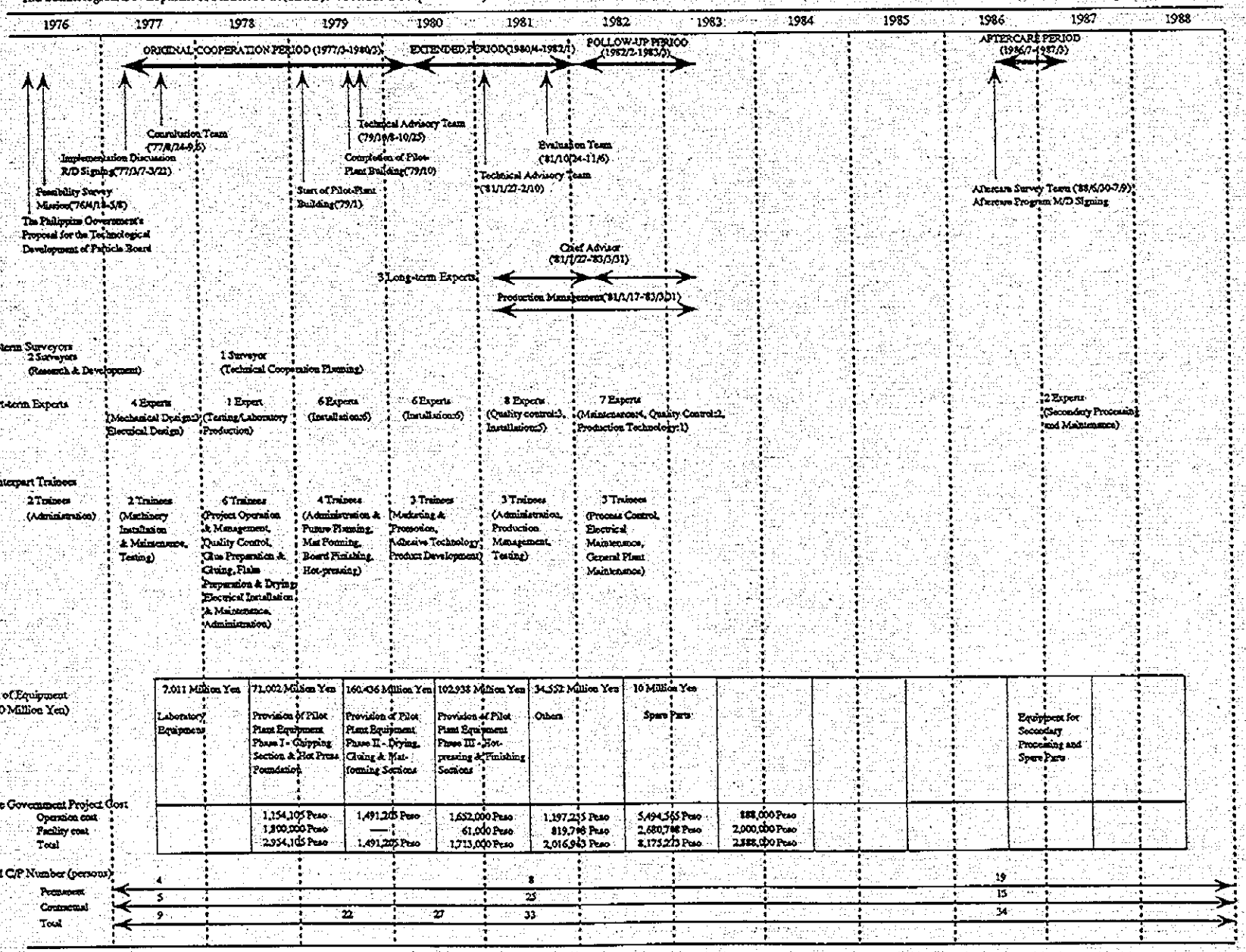
	Project Identification	Appraisal	Implementation Design	Implementation	Others
Due to JICA side	- The project was formulated on ITIT(1976 to 1979) and the results complied by JICA experts.			- The necessity for (1) consignment and joint research with the private sector, (2) seminars, (3) supervisory inspections, and (4)training courses by OJT was pointed out by the evaluation team.	
Due to GOP side	- Priority was placed on improvement measures in the metal casting industry and fostering small and medium scale enterprises.			- Following the project extension period, guidance and services to the private sector were gradually resumed. - Since its retransfer to DOST as a public agency, the MIRDC reduced its production services and placed priority on R & D and providing technical services to the private sector.	- By utilizing assistance from other organizations such as JETRO, UNIDO, GTZ, etc., opportunities to receive machinery, equipment, training, and experts have increased.

Factors Inhibiting Implementation and Generation of Project

	Project Identification	Appraisal	Implementation Design	Implementation	Others
Due to JICA side			- Sand casting was added in the middle of the project and priority was given to the introduction of new technology. As a result, the impact on existing small foundries was limited.	- Due to the language barrier, Japanese experts in the project were enable to fully communicate with their Philippine counterparts.	
Due to GOP side			- Due to the lack of communication between the MCTC and the industry associations at the initial implementation of the project, technology transfer to the private sector was not carried out smoothly.	- As a corporation, MIRDC placed priority on revenue generating production activities that competed with private foundries. - Due to construction delay of the MCTC building, the project was extended for two years.	- Although the R & D budget has increased, the MIRDC will continue to experience a high turnover rate of staff members due to low salaries.

Lessons Drawn from Evaluation Study and Suggestions for Future Cooperation

	Lessons Drawn from Evaluation Study	Suggestions (short-term)	Suggestions (mid-term)	Suggestions (long-term)
Due to JICA side	- A more comprehensive study on management and organization as well as technical levels of existing foundries is required during the project identification stage. - Greater effort is required to upgrade existing technology, in comparison to introducing new technology or assisting new comers in the industry.			- It is necessary to formulate a concrete plan on technology transfer to the private sector during the initial planning stage. - A more comprehensive preliminary training course for Japanese experts which includes communication skill is required.
Due to GOP side	- Greater effort is required to upgrade existing technology, in comparison to introducing new technology or assisting new comers in the industry. - Interactive ties between the private sector and relevant public agencies are required in order to promote the industry as well as to carry out technology transfer activities.		- A system to secure continued improvement of the technical skills and knowledge of staff members should be established. - A sufficient budget should be allocated for periodic upgrading of required equipment. - Interaction with the private sector and industry associations is essential in order to cope with industry needs.	- It is necessary to collaborate with industry associations from the initial stage of the project. - It is necessary to formulate a concrete plan on technology transfer to the private sector during the initial planning stage. - A system of financial assistance for small and medium scale enterprises should be enhanced.


1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
ORIGINAL COOPERATION PERIOD (1977/3-1980/2)
EXTENDED PERIOD(1980/4-1982/1)
FOLLOW-UP PERIOD (1982/2-1983/3)
APTERCARE PERIOD (1986/7-1987/3)
Consultation Team ('77/8/24-9/5)
Implementation Discussion R/D Signing('77/3/7-3/22)
Possibility Survey Mission('76/4/18-5/8)
The Philippine Government's Proposal for the Technological Development of Particle Board
Start of Pilot Plant Building('79/1)
Technical Advisory Team ('79/10/8-10/25)
Completion of Pilot Plant Building('79/10)
Technical Advisory Team ('81/1/22-2/10)
Evaluation Team ('81/10/24-11/6)
Aftercare Survey Team ('86/6/30-7/8)
Aftercare Program M/D Signing
Chief Advisor ('81/1/22-'83/3/31)
3 Long-term Experts
Production Management('81/1/17-'83/3/31)
3 Long-term Surveyors
2 Surveyors (Research & Development)
1 Surveyor (Technical Cooperation Planning)
34 Short-term Experts
4 Experts (Mechanical Design:2, Electrical Design)
1 Expert (Testing/Laboratory Production)
6 Experts (Installation:5)
6 Experts (Installation:5)
8 Experts (Quality control:2, Installation:5)
7 Experts (Maintenance:4, Quality Control:2, Production Technology:1)
2 Experts (Secondary Processing and Maintenance)
23 Counterpart Trainees
2 Trainees (Administration)
2 Trainees (Machinery Installation & Maintenance, Testing)
6 Trainees (Project Operation & Management, Quality Control, Raw Preparation & Giving, Flake Preparation & Drying, Electrical Installation & Maintenance, Administration)
4 Trainees (Administration & Future Planning, Mat Forming, Board Finishing, Hot-pressing)
3 Trainees (Marketing & Promotion, Adhesive Technology, Product Development)
3 Trainees (Administration, Production Management, Testing)
3 Trainees (Process Control, Electrical Maintenance, General Plant Maintenance)
Provision of Equipment (Total:400 Million Yen)
7.011 Million Yen
Laboratory Equipment
71.002 Million Yen
Provision of Pilot Plant Equipment Phase I - Chipping Section & Hot Press Foundation
160.436 Million Yen
Provision of Pilot Plant Equipment Phase II - Drying, Giving & Mat-forming Sections
102.938 Million Yen
Provision of Pilot Plant Equipment Phase III - Hot-pressing & Finishing Sections
34.552 Million Yen
Others
10 Million Yen
Spare Parts
Equipment for Secondary Processing and Spare Parts
Philippine Government Project Cost
Operation cost
Facility cost
Total
1,154,105 Peso
1,800,000 Peso
2,954,105 Peso
1,491,205 Peso
—
1,491,205 Peso
1,652,000 Peso
61,000 Peso
1,713,000 Peso
1,197,235 Peso
819,708 Peso
2,016,943 Peso
5,494,565 Peso
2,680,708 Peso
8,175,273 Peso
188,000 Peso
2,000,000 Peso
2,188,000 Peso
Allocated C/P Number (persons)
Permanent
Commercial
Total
4
5
9
8
25
22
27
33
19
15
34

Logical Frame of the Technological Development of Particleboard(TDPB) Project R/D:'77/3/18, Extension:'80/3/17, Follow-up:'82/2/1-'83/3/31, Aftercare:'86/7/3-'87/3/31 Jurisdiction : NSDB >> NSTA

	Indicators	Results	Major Assumptions	Changes in Major Assumptions
I. Super Goal 1. Contribution to the development of particleboard industry, low-cost housing policy and exporting				
II. Overall Goal 1. Commercialization of the technology of producing particleboard using woodwaste	1.a Production of raw particleboard 1.b Production of processed particleboard	1.a Not increased because there are no new particleboard factories. 1.b Import of particleboard and export of the product by the furniture industry have been increasing.	(1) Support of the Philippine Government on the particleboard industry. (2) Particleboard technology is appropriate for low-cost housing.	(1) No special promotion measures have been taken for the particleboard industry. (2) Because of its price and marketability, particleboard is appropriate for furnitures rather than for low-cost housing.
III. Project Purpose 1. Establishment of a center which will serve as the focal point of spreading the technology of producing particleboard	[After the project] 1.a Expenditure of particleboard division 1.b Sustainability of research and development [Number of the staff members of the division and number of researches] 1.c Technical transfer to the private sector [Seminars, technical guidance, training courses] 1.d Number of particleboard factories 1.e Number of particleboard factories under consideration	1.a In the absence of sufficient budget and manpower, FPRDI leases the pilot plant to a private company on a time-sharing arrangement. 1.b Although C/P reduced to a half, sufficient R & D are continuing. (Ex.:Test production of cementboard) 1.c No regular seminars or training 1.d 2 factories established before the project 1.e 3 factories	(1) Full support of the Philippine Government on FPRDI activities. (2) Enough market for particleboard. (3) Enough supply of uniform woodwaste (4) Trained engineers stay in the industry.	(1) FPRDI can continue R & D only by leasing the pilot plant. (2) There was almost no demand while the price of plywood was low, but now particleboard is competitive. (3) Woodwaste is usually not enough for commercial production of particleboard and plantation is necessary.
IV. Outputs 1. Operation of the particleboard pilot plant and conducting research and development in the technology of producing particleboard 2. Establishment of a technical guidance system for the existing particleboard factories	[During the project] 1.a Number of C/P trained in Japan 1.b Operation and maintenance of the machinery and equipment 1.c Achievement of technical transfer to C/P 1.d Number of researches 2.a Seminars and technical guidance 2.b Number of staff members	1.a 23 persons 1.b Well maintained and operated, according to the report. 1.c It was about 50% of the plan at the end of original period, but was almost fully transferred by the end of extension, according to the report. 1.d About 40 researches in 3 years 2.a 11 seminars in 3 years 2.b Number of C/P had increased from 9 to 34 (but reduced to 14 now)	(1) Allocation of enough skilled staff. (2) Enthusiasm among the industry for new technology and quality improvement.	(1) Not enough budget was allocated to operate and maintain the pilot plant.
Activities 1.1 Technical cooperation of producing particle board in the fields of - Analysis and testing of raw materials - Production techniques - quality control techniques - marketing research (- secondary processing was added in 1986 at aftercare) 1.2 Training of manpower 2. Research for the modernization of the existing particle board factories	**Inputs** **JICA side:** Machinery and equipment 386 million yen Long-term experts(Original/Extension/Follow-up 3(2/1) experts Short-term experts(Orig./Ex./Follow./After.) 34(25/7/2) experts Long-term surveyors 3 surveyors Training in Japan(Original+Extension/Follow-up, 23(20/3) trainees **the Phillippine side:** Land/Buildings/Facilities Allocation of C/P(Permanent/Contractual) 34(19/15) persons Operation cost 11,063 thousand pesc As of 1982		(1) The technology is appropriate and C/P stay in FPRDI. (2) Machinery and equipment are properly maintained. (3) Enough power and water are supplied. (4) FPRDI's organization and operation are appropriate. **Basic Assumptions** (1) The Government of the Philippines allocates necessary budget and staff for the project.	

The Technological Development of Particleboard(TDPB) Project

Results of Evaluation by Evaluation Points

Evaluation points	Cell Number for analysis	Evaluation Results
Attainment of Project Purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	- The technology to produce particleboard was established, in addition to testing of particleboard materials, quality testing of products, and sending technical experts to the existing particleboard factories was achieved. - Aside from delays in the schedule, the project was successfully completed.
Impact - Direct Impact	2(3)	- Analysis and testing of raw materials and their effect on product quality was clarified and particleboard technology was established. - FPRDI training and consulting services rehabilitated a factory and fostered private industries capable of managing FPRDI pilot plant independently.
- Indirect Impact	1(3)	- New particleboard factories have not been established due to high initial costs, high production costs for imported glue, and difficulties in securing raw materials. - In recent years, the price of plywood has risen which has made particleboards price competitive. As a result, three companies have plans to establish particleboard factories. - Cementboard were developed by applying particleboard technology.
Efficiency of Implementation	4(3) and 3(3)	- Project implementation was delayed due to construction delays of the building for the pilot plant and power and water shortage. - Machinery and equipment were provided under a three-year installment plan which delayed research and development. - NHC's particleboard factory enabled FPRDI to undertake research and development activities.
Sustainability	4(4), 3(4), 2(4), 1(4)	- The FPRDI pilot plant was leased to a private company due to a limited operational budget. The number of staff members of the composite panel materials division has decreased from 35 to 14 members. - The technology has become firmly established and three specialists who were educated in Japan and two of them with Ph.D.'s have continued to spearhead research and development. - Research and development have continued with emphasis on applying particleboard technology to cementboard production in low-cost housing projects.
Relevance of Initial Planning	4(4), 3(4), 2(4), 1(4)	- Due to change in national conditions, commercialization of particleboard technology in the Philippines has not progressed unlike its neighboring countries. However, the demand has been increasing recently and the project has been deemed relevant, although its timing may have been slightly early. - As low-cost housing was the major target of this technology, FPRDI was slow to grasp the needs of the furniture industry. Application of particleboard technology to low-cost housing was not feasible, due to its high cost.

The Technological Development of Particleboard(TDPB) Project

Factors Contributing to Implementation and Generation of Project

	Project Identification	Appraisal	Implementation Design	Implementation	Others
Due to JICA side	- The project was formulated in order to prevent depletion of forestry resources.				
Due to GOP side	- The project was formulated in order to prevent depletion of forestry resources.			- The majority of contractual employees have remained at FPRDI as permanent staff members throughout the project period. - The capabilities of FPRDI researchers were high. - Shortage of equipment were overcome with the assistance of NHC during the initial stages of the project.	

The Technological Development of Particleboard(TDPB) Project

Factors Inhibiting Implementation and Generation of Project

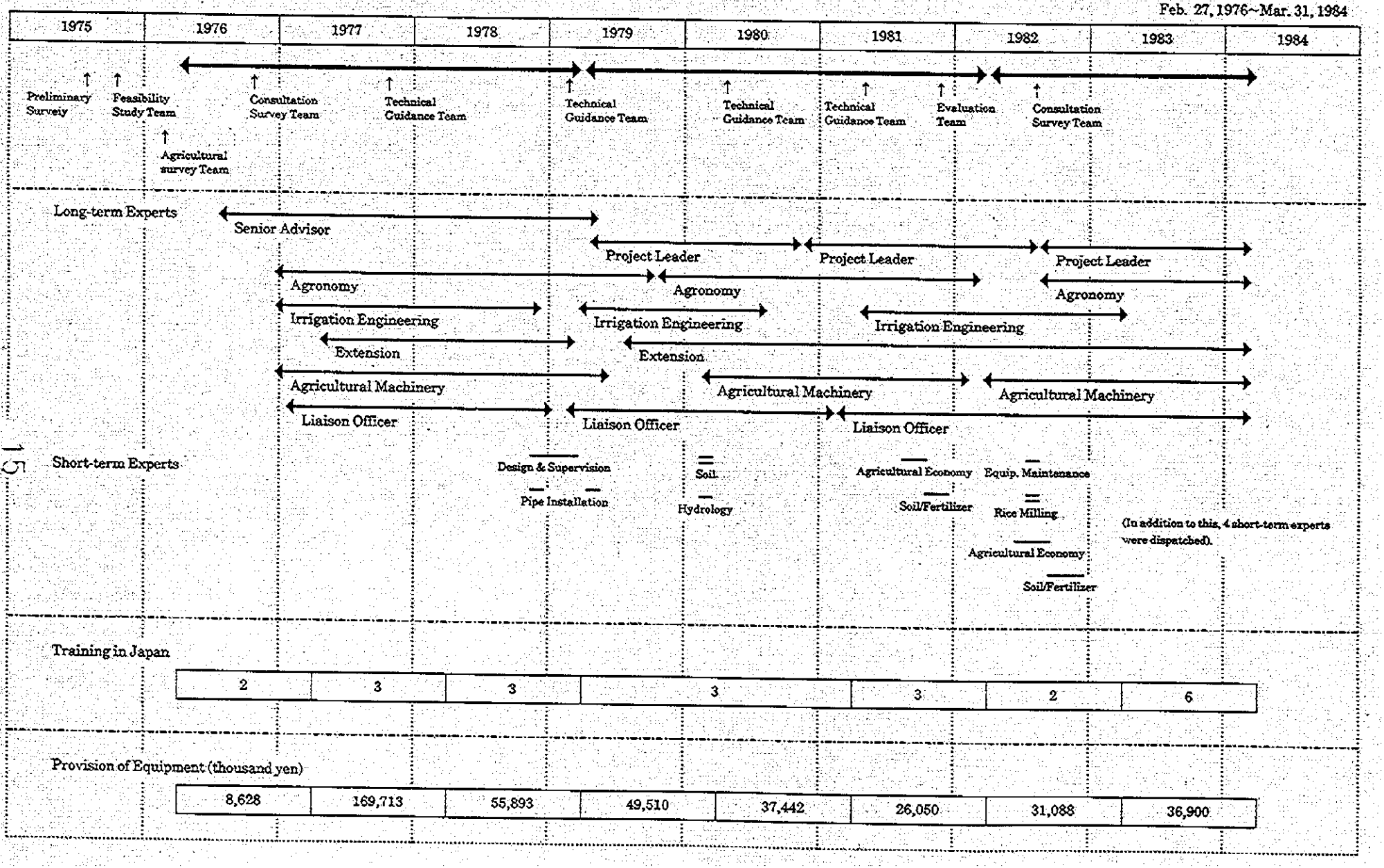
	Project Identification	Appraisal	Implementation Design	Implementation	Others
Due to JICA side		-The feasibility study on particleboard firms in the Philippines was insufficient.	-Machinery and equipment were provided under a three-year installment plan which delayed research and development.	-Due to the language barrier, Japanese experts in the project were unable to fully communicate with their Philippine counterparts.	
Due to GOP side		-The feasibility study on particleboard firms in the Philippines was insufficient.	Lack of communication with wood and furniture industry associations during project implementation was one of the reasons for the delay in commercializing the particleboard.	-Although seminars and training programs were implemented in the aftermath of the project, they were untimely and the results were not satisfactory. -Although interest in the particleboard has risen recently, FPRDI's public relations activities have been insufficient. -Construction of the pilot plant building was delayed.	-The Philippine government did not allocate an adequate budget for pilot plant operations. -The particleboard industry has not been designated as a strategic industry by the government of the Philippines. As a result, measures to actively promote the industry have not been taken.

The Technological Development of Particleboard(TDPB) Project

Lessons Drawn from Evaluation Study and Suggestions for Future Cooperation

	Lessons Drawn from Evaluation Study	Suggestions (short-term)	Suggestions (mid-term)	Suggestions (long-term)
To JICA side	- A comprehensive marketing study, including international competitiveness should be included in the feasibility study when technical cooperation is implemented for a pilot plant..			- Commercialization measures should be included in the project design when technical cooperation is provided for pilot plants. - A more comprehensive preliminary training course for Japanese experts which includes communication skills is required.
To GOP side	- Technology which is in line with national industrial development policies should be selected in order to achieve rapid commercialization. - Ties with the private sector and relevant public agencies should be strengthened in addition to technology transfer activities, in order to promote the industry.		- A sufficient budget should be allocated to operate the pilot plant. - An adequate budget to upgrade required machinery and equipment should be allocated. - Interaction with the private sector and industry associations is essential in order to cope with industry needs.	- It is necessary to collaborate with industry associations from the initial stage of the project. - In order to achieve commercialization of a technology with high initial costs, long-term and stable promotion policies are essential. - Commercialization measures should be included in the project design for technical cooperation concerned with a pilot plant.

I-3 Cagayan Agricultural Pilot Center



Cagayan Agricultural Pilot Center Project : APC

Feb. 27, 1976~Mar. 31, 1984

	INDICATOR	REALIZATION	MAJOR ASSUMPTION	CHANGES IN ASSUMPTION OBSERVED AT EVALUATION
I. SECTOR GOAL 1. To increase rice production and improve living standard in Cagayan Province	1.a Rice harvesting area and unit yield in Cagayan 1.b Farmer's income in Cagayan	1.a Rice harvesting area and unit yield Harvesting Area (1,000ha) / Unit Yield (ton/ha) 1973 130.3 (Dry 55.5, Wet 74.8) 1.6 1980 98.5 (Dry 55.5, Wet 74.8) 1.9 1984 123.6 (Dry 55.5, Wet 74.8) 2.2 1991 84.5 (Dry 55.5, Wet 74.8) 2.3 1.b Farmer's income (Target: 14,600 pesos) 1971 1,527 pesos 1975 3,000 pesos 1991 6,060 pesos	(1) Unusual weather and natural calamities would not occur. (2) Agricultural development policy would not be changed. (3) Rice market would be secured.	(1) The project area has been attacked by typhoons and floods, and rice harvesting area is affected by natural calamities. (2) The project area had high priority as Integrated Regeonal Development.
II. PROJECT PURPOSE 1. To develop and extend double cropping technology in order to increase paddy production	1.a Double cropping area of paddy 1.b Unit yield of paddy	1.a Paddy double cropping area increased remarkably in LEA I, but relatively low in LEA II. 1.b In APC and LEA I, unit yield of paddy exceeded the target.	(1) Water source and agricultural water would be secured. (2) Counterparts and trained extension staff would work continuously.	
III. OUTPUT [Pilot Center] 1. Establishment of paddy double cropping technology 2. Improvement of technical level of APC staff 3. To foster leading farmers [Leading Extension Areas] 4. Infrastructure development in LEAs 5. Extension of paddy double cropping technology	1. Unit yield of paddy 2. Number of counterparts trained 3. Number of farmers trained 4. Irrigable area in LEAs 5. Double cropping area and average yield of paddy	1. Max. 5.7 t/ha in the trial farm (dry season) 2. Cumulative number of counterparts: 31 3. Cumulative number of trainees: 719 4. Irrigable area: 127ha (LEA I: 54ha, LEA II: 73ha) 5. Double cropping area and average yield of paddy LEA I: Area (ha) / Yeald (t/ha); LEA II: Area (ha) / Yeald (t/ha) 1974 - 1.2 - 1.2 1980 87 3.3 27 4.3 1984 718 3.9 67 4.3 1992 1,290 - 187 -	(1) Leading farmers would cooperate with the project. (2) The project could coordinate with existing extension services.	(2) Basic technology of paddy production was indicated by "Masagana 99". Paddy double cropping varieties had been developed by IRRI.

Ⅳ ACTIVITY	INPUT			
[Pilot Center] 1.1 Cultivation traial program a. Seed variety adaptation test b. Fertilizer/manure input test c. Water use management test d. Introduction/adaptation test of agricultural machinery e. Prediction test disease and insect damage 1.2 Extension program of high-grade seed a. Seed production trial b. Training of seed production farmers 2, 3 Extension program a. Training of APC staff and leading farmers b. Development of manuals [Leading Extension Areas] 4, 5 Guidance and demonstration of paddy double cropping technology.	1. Japanese Side (1) Technical Cooperation 1) Long Term Experts 2) Short Term Experts 3) Counterpart Trainee 4) Equipment 5) Pilot Center Buildings 6) Trial Farm 2. Philippine Side 1) Land for APC 2) Land cost 3) Total operation cost 4) Total number of personnel	 18 persons 17 persons 22 persons 415 million yen 2,400 m² 4.9 Ha 10 ha 9,828 thousand pesos 44,114 thousand pesos 140 persons (C/P: 31)	(1) The Philippines Government established support system for the project. (2) Financial conditions would not be worse. (3) The public peace could be maintained. BASIC ASSUMPTION (4) Agricultural infrastructure and social infrastructure would be developed in lower Cagayan. (5) The Philippines Government would provide land, buildings, fund and manpower necessary to the Project.	(1) Insufficient coordination among agencies concerned affected smooth implementation of the project (3) It was difficult to maintain public peace in LEA II. (4) Infrastructure development was delayed (5) Local budget was fallen shortage.

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell no. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	◦ Paddy double cropping technology using irrigation was established, target yields were surpassed, and technology transfer was completed. ◦ Demonstrations and extension activities of this technology were carried out in LEA I where irrigation was implemented, in order to expand the area of double cropping production and to improve harvest yield. However, in LEA II located in the Lower Cagayan area, double cropping production activities were lowered due to numerous floods and an undeveloped social and production infrastructure.
案件の効果Impact 直接の効果 Direct impact	2(3)	◦ Varieties of high yielding rice have become widely used by nearly 90 percent of the farms in LEA I; and improvements in farm management can be seen in conjunction with the spread of double cropping technology and higher production yields. ◦ Basic technology such as cropping pattern, organic control, etc. have been initiated in order to introduce and disseminate double cropping technology through substations set up in LEA II.
間接の効果 Indirect impact	1(3)	◦ Although the unit yield of rice in Cagayan Province is low, it has improved and stabilized. ◦ Introduction of an irrigation system has helped to create farmer organizations on water use. ◦ Findings obtained from trial testing of various types of paddy production and technical development can be applied to other areas in the country with similar conditions.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	◦ Delays in project implementation (securing personnel, improving facilities) stemming from inadequate organization of the APC and insufficient funds to cover local costs, greatly hindered the implementation and progress of the technical cooperation and they were the major reasons for the extensions in R/D and M/A. ◦ Equipment which was unsuited to C/P was provided in a few cases, and it was not effectively utilized. ◦ Although a variety of high yield rice was selected, full-scale production and distribution of these varieties was not carried out due to a lack of coordination with relevant government agencies.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	◦ APC was removed from the management of the CIADP and converted to a Regional Office of the Department of Agriculture following project termination. Subsequently, it has been able to secure a stable budget for maintenance and operations. ◦ Ties between international institutions and domestic agricultural testing and research institutes have been promoted in basic rice production technology and activities have diversified into different fields. ◦ Paddy double cropping production will expand over a wide area if the social infrastructure (roads, flood prevention measures, etc.) is improved, an appropriate system of water distribution is implemented, and effective support services and reduction of production costs are carried out.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	◦ The project has fulfilled a major role as an agricultural development base for an undeveloped region. ◦ LEA where irrigation pumps are used, consume twice the volume of water used in manually irrigated LEA. As a result, when production is discontinued during the dry season or when the area of land production is reduced, implementation and progress of double cropping technology are hindered.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	◦Paddy double cropping technology is an appropriate field of cooperation for the Japanese side, due to an accumulated technical knowledge of the subject.		◦A method of feeding back the results of trial operations in the LEA was employed.		◦Although the project was delayed, economic cooperation from OECF enabled irrigation activities to proceed in the LEA.
相手方に起因する due to Phil. side	◦A comprehensive plan to develop regional agriculture and farming communities in order to increase rice production was implemented under the national development plan of the Philippines. Cagayan region was designated as a priority development area. As a result, the project received political support.			◦The Philippine counterparts showed a high volition to absorb the technical cooperation provided; and they have gone on to acquire master's degrees from other institutions following their training program in Japan. They have returned to the APC in supervisory positions and the turnover rate has been low.	◦In addition to preparing a basic technical manual on high yield rice production of Masanaga 99, basic tests and research findings by the IRRI have been utilized.

問題惹起要因

Factors inhibiting implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side		・It was necessary to study and implement countermeasures to deal with the numerous typhoons and floods that occurred in the project area, in order to expand double cropping production over a wide area. Subsequently, study and deliberation of the pre-feasibility survey were inadequate regarding site selection, especially when the objective was to implement technical extension work over a wide area.			・There were differences of opinion between APC staff members and the JICA project team regarding the need for development measures in LEA II; and the project ended without having reached a consensus between the two parties. As a result, a development policy for this area has not been consolidated.
相手方に起因する due to Phil. side				・There were many relevant agencies such as the DA, BAEx, API, BS, NIA, etc. and a division of roles was not clearly defined in the implementation plan. In particular, measures to coordinate production of high yield rice varieties between the BPI and APC were not taken. As a result, production and distribution of high yield rice in accordance with project plans were difficult. ・Delays in project implementation stemming from inadequate organization of the implementing agency and insufficient funds to cover local costs, extended the R/D and M/A.	・There were differences of opinion between APC staff members and the JICA project team regarding the need for development measures in LEA II; and the project ended without having reached a consensus between the two parties. As a result, a development policy for this area has not been consolidated.

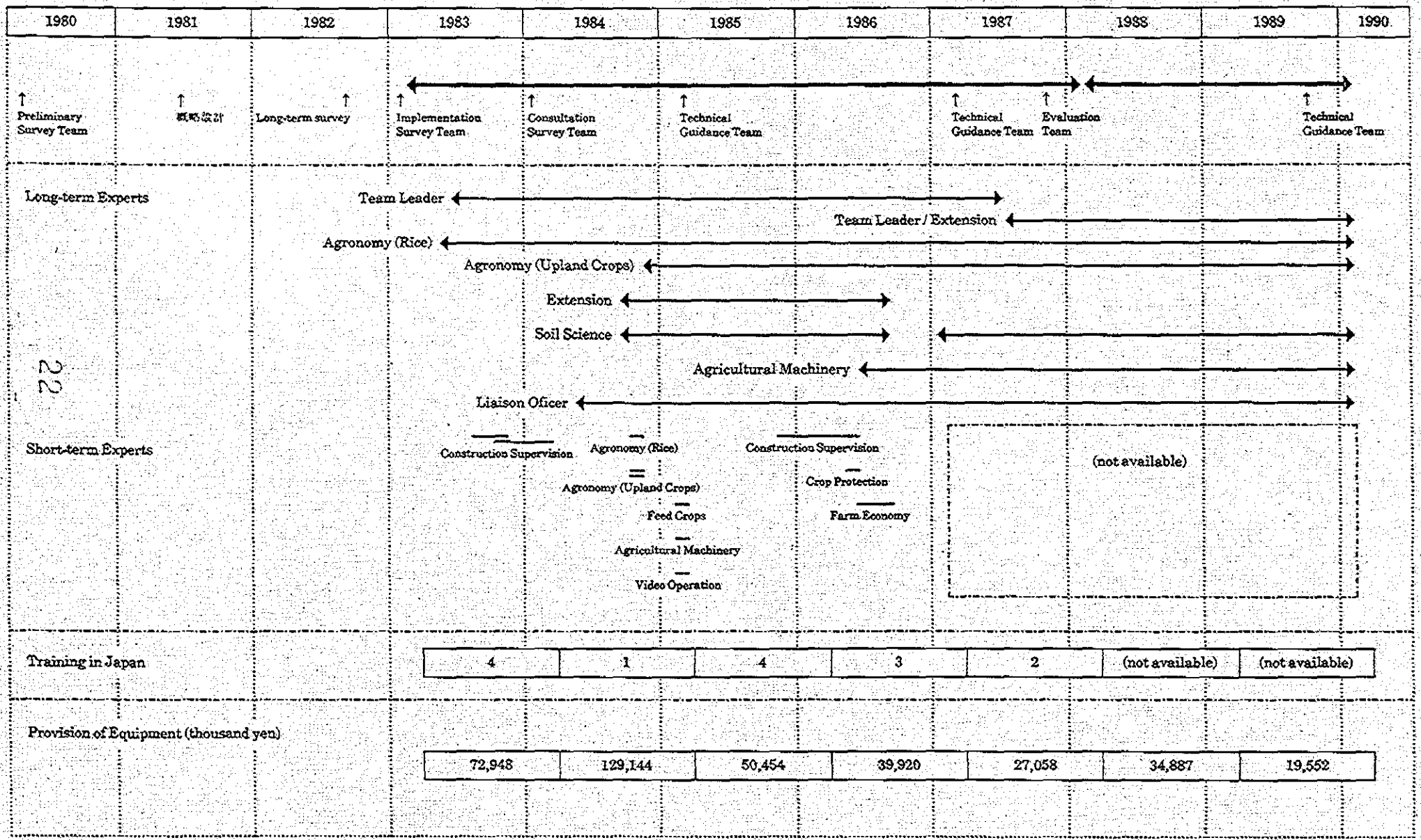
教訓と提言

Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言(一年以内に対応すべき) Suggestions (short term)	中期的提言(1~3年以内に対応すべき) Suggestions (mid term)	長期的提言(今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	• For projects like the CIADP which aim to expand the area of indirect beneficiaries, a detailed construction and financial plan must be formulated in the planning stage and a basic condition is to select a project site where effective results can be produced. • In order to achieve the objectives of the project's master plan, the project theme was enlarged, tests, research, and corroborative programs became complex, while supervision and extension activities based on research findings to the general farming communities became secondary.			• When it has been determined that actual conditions of the project area differ greatly from conditions anticipated at the initial start of the project, it is necessary to carry out monitoring surveys through periodic inspections, etc. and to quickly shift to technical development suited to actual conditions.
相手方に対する To Phil. side	• Organizational delays and a shortage of funds to cover local costs greatly affected technology transfer and effective results. • Strong ties between the APC and relevant public agencies is a crucial factor in implementing technical extension activities over a wide area and to discover effective results.			• When it has been determined that actual conditions of the project area differ greatly from conditions anticipated at the initial start of the project, it is necessary to carry out monitoring surveys through periodic inspections, etc. and to quickly shift to technical development suited to actual conditions.

I-4 Bohol Agricultural Promotion Center

Feb. 2, 1983~Feb. 1, 1990



Bohol Agricultural Promotion Center Project : APC

Feb. 2, 1983~Feb. 1, 1990

	INDICATOR	REALIZATION	MAJOR ASSUMPTION	CHANGES IN ASSUMPTION OBSERVED AT EVALUATION
I. SECTOR GOAL 1. To increase agricultural production and improve living standard in Bohol island	In the area of Bohol island. 1.a Production and unit yield of rice 1.b Production of upland crops 1.c Farmer's income	1.a Rice production and unit yield Production (1,000ton) / Unit Yield (ton/ha) 1983: 34.3 / 1.7 1987: 46.0 / 2.0 1990: 75.6 / 2.3 1.b Production of upland crops 1.c Farmer's income Rice (Pilot farmer) / Upland crop (Demonstration farmer) 1986: 1,279 / 5,300 1988: 11,000 / 8,700		
II. PROJECT PURPOSE 1. To develop and extend appropriate local agricultural technology in order to increase production of rice and upland crops	1.a Extension of improved agricultural technology developed by the research works 1.b Production and unit yield of rice and upland crops.	1.a, 1.b Improved agricultural technology is extended in almost all Bohol island, and production and unit yield have increased stably.	(1) Agricultural land would not decrease. (2) Water resource would be secured. (3) Agricultural products market would be secured.	(3) Market study is not implemented fully.
III. OUTPUT [Research] 1. Improvement and establishment of paddy double cropping technology 2. Improvement of upland crops production technology 3. Introduction and establishment of vegetable production technology [Training in APC] 4. To foster leading farmers 5. Strengthening extension workers [Extension Servise in Pilot Farm and Demonstration farm] 6. Development of pilot farm and demonstration farms 7. Establishment of agricultural management fund	1. Unit yield of rice 2. Unit yield of upland crops 3. Number of introduced vegetables 4. Number of leading farmers 5. Number of extension workers trained 6. Area of developed farms and number of demonstration farms 7. Usage of agricultural management fund	1. Unit yield of rice (Pilot farmer) / (Demonstration farmer) 1983: 1.7 t/ha / 2.2 t/ha 1989: 5.2 t/ha / 5.0 t/ha 2. Unit yield of rice (Maize) / (Cassava) 1983: 1.0 t/ha / 8.4 t/ha 1989: 2.9 t/ha / 27.1 t/ha 3. 13 kinds of vegetable were introduced. 4. 719 leading farmers were trained. (1985-1989) 5. 405 extension workers were trained. (1985-1989) 6. Pilot farm: 16.2 ha, Traial farm: 6.8 ha Small pump irrigation farm: 24.5 ha Demonstration farms: 374 (Paddy: 283, Upland crops: 48, Vegetables: 43) 7. 2,382 Farmers used agricultural management fund.	(1) Irrigation facilities would be developed. (2) Counterparts and extension staff would work continuously.	

IV ACTIVITY	INPUT		
[Research] 1.a Selection of suitable varieties (high yielding and diseases resistance) 1.b Fertilizer control test 1.c Guidance of water management 1.d Development/improvement of appropreate agricultural machinery 1.e Soil improvement test 2.a Selection of suitable varieties (high yielding and diseases resistance) 2.b Improvement of cultivation methods 3.a Vegetables cultivation test in high land area [Training in APC] 4, 5 a. Training cources b. Post-training c. Development of training materials and manuals [Extension Servise in Pilot Farm and Demonstration farm] 6.a Development of agricultural fields 6.b Introduction and guidance of small pump irrigation system 6.c Guidance and extension of improved agricultural technology 6.d Lending of agricultural machinery 7.a Utilization of the Fertilizer Revolving Fund	1. Japanese Side (1) Technical Cooperation 1) Long Term Experts 11 persons 2) Short Term Experts 13 persons 3) Counterpart Trainee 24 persons 4) Equipment 373 million yen 5) Local cost financing 326 million yen (2) Grant Aid 1) Agricultural Promotion Center 970 million yen 2) Capayas Irrigation Facility 1,433 million yen 2. Philippine Side 1) Land for APC 10 ha 2) Operation cost 24 million pesos 3) Number of personnel 96 persons (in 1984)	(1) The Philippines Government established support system for the project. (2) The public peace could be maintained. (3) Social infrastructure would be developed. BASIC ASSUMPTION (4) The Philippines Government would provide land, buildings, fund and manpower necessary to the Project.	

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell no. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	◦Paddy double cropping and field crop production (including vegetable cultivation) technology suited to regional conditions were established and technology transfer was completed. ◦Extension activities in improved farming technology was carried out throughout the entire island by setting up trial farms and selecting and fostering farms for the training program. ◦Water management technology in conjunction with improved irrigation facilities are undeveloped. As a result, introduction of full-scale paddy double cropping technology and extension activities of year around field crop cultivation cannot be carried out without the introduction of water management technology.
案件の効果Impact 直接の効果 Direct impact	2(3)	◦A basic organizational system was established at the APC, the comprehensive agricultural agency of this province which is responsible for research, training, and extension activities in agricultural technology. ◦The pilot farm, the farming community in the trial farm area, and farms under the training program have increased their yields in rice and other field crops by employing improved technology (high yield rice varieties, observing fertilizer standards, etc.).
間接の効果 Indirect impact	1(3)	◦Increased production of rice and field crops throughout the island was achieved and a system of self-sufficiency was established which has made marketing of agricultural products to Central Visayas possible. ◦The agricultural extension system for the entire island was strengthened by training extension officers of the DA and relevant agencies. ◦Revenue of the pilot farm and farms in its region have risen due to increased yields of rice and field crops. ◦Introduction of vegetable cultivation has contributed to improved management of small petty farms in the remote mountainous areas unsuited for rice cultivation.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	◦Delayed construction of the main center which is the focal point of APC activities, affected the implementation and progress of technical cooperation and extended R/D. ◦The introduction of a revolving fund to purchase fertilizer was effective and efficient in terms of technical extension activities.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	◦The introduction of technology suited to regional conditions enabled the center to improve its basic organizational system, as the implementing agency for agricultural research, training, and extension activities for the entire province. ◦It is feared that increases in the maintenance and operational budget of the center, stemming from depreciation of vehicles and other equipment used in extension activities and expansion of technical subjects, will affect the center's self-supporting development.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	◦Joint management of the center's research, trial operation, training of farm leaders and extension personnel, and trial farm with the DA, and relevant provincial public agencies were effectively and efficiently carried out since coordination between the center and these agencies were incorporated during the project planning stage. ◦Research development of practical farming technology suited to the technical levels of the farmers and cultivation patterns suited to the particular soil conditions of the region were given priority during the project planning stage.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	・The Japanese side had accumulated technical knowledge of paddy and field crop technology. Therefore, Japanese technical cooperation was appropriate for the project. ・Bohol Province was appropriate in scope for Japanese technical cooperation to produce effective results. ・The chosen project site was appropriate in terms of infrastructure, particularly the roads, which were fairly well developed and there were very few natural disasters in the region.	・The natural conditions and topographical characteristics of Bohol Island were considered and areas with soil or insufficient land area unsuited for paddy cultivation were utilized by introducing revenue earning vegetable cultivation or other cash crops.		・Research activities concerned with developing technology suited to the region and development of practical technology were given priority. ・Trial farms were established in island-wide; and technical supervision and extension activities suited to the island's special soil conditions were implemented. ・Retraining programs for ex-trainees were carried out to upgrade their technical knowledge and skills. ・A revolving fund for purchasing fertilizer was introduced and implemented to support farm management as part of extension activities.	・The Dao, Biral, and Ubay trial farms and the Carmen demonstration farm were improved as model infrastructural operations. ・The irrigation project is progressing under the OECF loan assistance.
相手方に起因する due to Phil. side	・Since the project was in line with the basic policy of the Philippine government's integrated regional development plan, it received support from relevant public agencies.	・Bohol Island was a food supply source for Central Visaya.	・The project was implemented and coordinated with the DA, IRRI, and other public agencies as well as existing agricultural institutions.	・The project was able to secure active cooperation from the regional public offices of the DA. ・The Philippine counterparts exhibited a high volition to absorb the technical cooperation provided; and they have gone on to acquire master's degrees from other institutions following their training program in Japan. They have returned to the APC in supervisory positions and the turnover rate has been low.	

問題惹起要因

Factors inhibiting implementation and production of impact

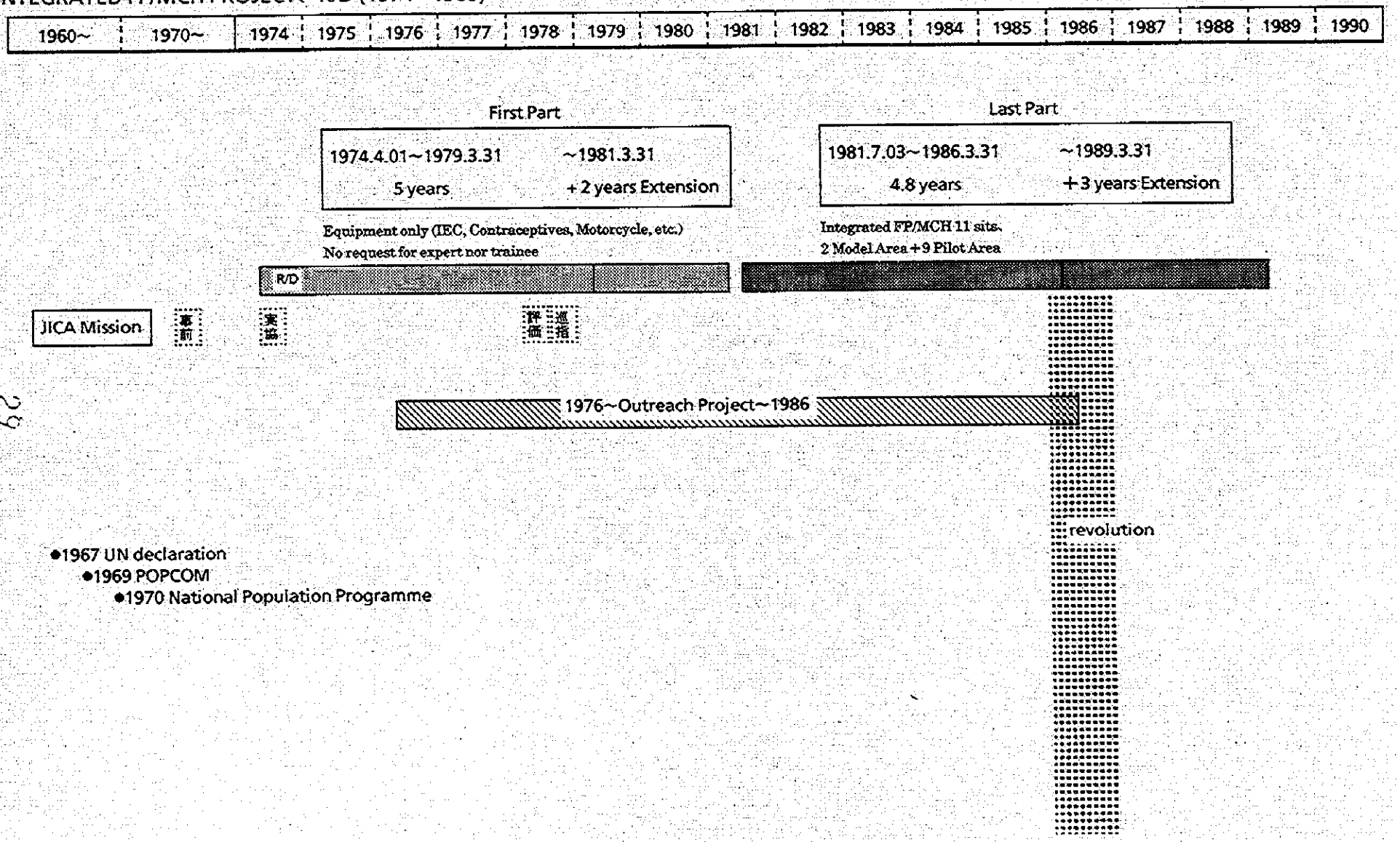
	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side				• Extension activities in water management technology have remained undeveloped, due to insufficient irrigation water. • Technology on year around field crop cultivation has not been established, due to insufficient irrigation water. As a result, large harvest losses are incurred, stemming from inadequate adjustments in planting and production for the year.	
相手方に起因する due to Phil. side			• Due to an inadequate implementation budget (to cover local costs), construction of the center's facilities was delayed and R/D was extended.		

教訓と提言
Lessons drawn from evaluation study and suggestions for future cooperation

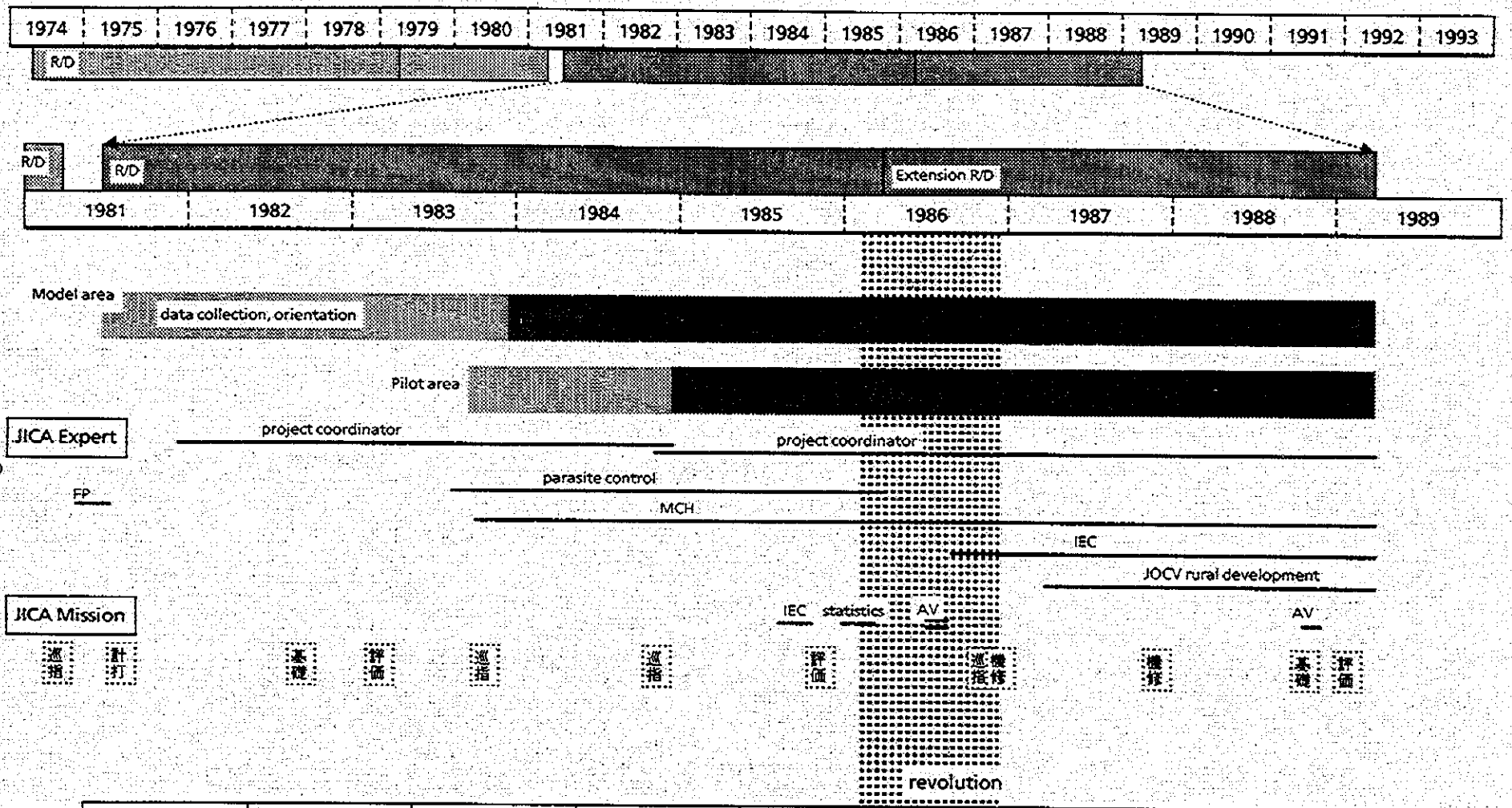
	教訓 Lessons drawn from evaluation study	短期的提言(一年以内に対応すべき) Suggestions (short term)	中期的提言(1~3年以内に対応すべき) Suggestions (mid term)	長期的提言(今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	・It is essential that natural conditions pertaining to agricultural production, social infrastructure, etc., and project site selection are considered during the planning stage of projects such as these, which expect an expansion of the direct effects of technical cooperation.			
相手方に対する To Phil. side	・Active participation of existing public agencies relevant to the project has a great bearing on the success of the project.		・Although the demand for rice is relatively stable, the demand for field crops is inconstant due to an undeveloped marketing system. Subsequently, it is necessary to implement a basic study on distribution to support the project. ・A review of cultivation patterns based on a secure labor force and continued testing of improved seed varieties as well as water management suited to irrigation conditions is required.	

I-5

INTEGRATED FP/MCH PROJECT、R/D (1974~1989)



INTEGRATED FP/MCH PROJECT、Last Part (1981~89)



Trainee send to Japan	1981F.Y.	1982F.Y.	1983F.Y.	1984F.Y.	1985F.Y.	1986F.Y.	1987F.Y.	1988F.Y.
	2	2	3	3	3	2	3	2
Input (×￥1,000)	88,874	87,466	154,943	118,763	96,128	109,848	113,901	19,960

THE INTEGRATED FAMILY PLANNING AND MATERNAL AND CHILD HEALTH PROJECT

OBJECTIVES	OVI	ACHIEVEMENT	ASSUMPTION
to reduce the population growth rate to levels that promote national welfare and individual well-being	1. population growth rate 2. total fertility rate	1. 2.97%(1970)→2.3% (1990) 2. 5.72(the late 60s)→4(1990)	
to strengthen and expand community-based FP and MCH services as well as promoting community development activities	1. Maternal Mortality Rate 2. Infant Mortality Rate 3. Major diseases (mortality/morbidity) 4. Immunization coverage 5. Nutrition status (low birth weight) 6. Intestinal parasite prevalence rate 7. Contraceptive Prevalence Rate	1. 1.69 per million population (1982)→0.95(1987), Tuba 2. 81 per thousand live birth (1979)→29(1991), Dagupan 3. Pneumonia; Cardiovascular Diseases; Cerebrovascular Accident (1987)→Cardiovascular; Pneumonia; Cancer (1992), La Trinidad 4. 78%(1983)→88%(1991), Gubat 5. 10%(1988)→6%(1991), Tuba 6. 87%(1983)→69%(1991), Gubat 7. 17.4(1973)→36.1(1988), National	UNFPA, USAID etc., keep their support to the programme.
1. Health Services 2. Family Planning Services 3. Nutrition 4. Community Development 5. Information, Education & Communication 6. Training (project management, community development, FP technology and FP IEC)	1. number of prenatal care visit 3. parasite prevalence rate 4. motivation and commitment of TDWs, latrine utility, assistance at sick 5/2. Contraceptive Prevalence Rate, FP knowledge 5. number of IEC materials developed, distributed, utilized	*(compare with control area)* 1. number of prenatal care visit ↑ 3. parasite prevalence rate ↓ 4. motivation and commitment of TDWs, ↑ latrine utility, ↑ assistance at sick ↑ 5/2. Contraceptive Prevalence Rate, ↑ FP knowledge ↑ 5. (data not available)	catholic church accept/overlook the family planning.
1-a. deworming of children 1-b. immunization 1-c. pre- and post- natal care 1-d. medical and health consultation 1-e. maintenance of environmental sanitation 1-f. home visits to high risk mothers and newborn babies 1-g. food sanitation campaign 2-a. recruitment of acceptors and maintenance of continuing users 2-b. provision of contraceptives 2-c. provision of sterilization services through itinerant service team 2-d. domiciliary IUD insertion 2-e. medical checkup 3-a. conduct or assist in children's weighing operation (operation timbang) 3-b. assist in school lunch program 3-c. provide nutrition guidance 4. (a TDWs will be mobilized and organized) initiate and support self-help projects in the community 5-a. interpersonal communication will be used to motivate the people to actively participate in the Project 5-b. utilize mass media in support to interpersonal communication 6. training for Project personnel in project management, community development, FP technology and FP IEC	Expert (long-term): 5 (project coordination②, MCH, parasite control, IEC) Expert (short-term): Total 6 JOCV: 1 Trainee: 20		
			less political unrest.

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell No. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	- Local FP/MCH services were strengthened and expanded and community development was enhanced.
案件の効果 Impact 直接の効果 Direct impact	2(3)	- Contraceptive Prevalence Rates (CPR) were improved, but the effects of the Population Growth Rate (PGR) and the Total Fertility Rate (TFR) could not be objectively evaluated. - A significant impact on community awareness to promote public health was achieved through mass deworming activities.
間接の効果 Indirect impact	1(3)	- Developed the community through community member participation. - Promoted community awareness of public sanitation. - Established cooperative network activities among public officials in the areas of public health, population, agriculture, education, etc.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	- Although a segment of the equipment provided by the project was stolen during the change in government administration, equipment and activities by experts served to activate existing development resources. As a result, the project was effectively implemented for the regional community.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	- Mass deworming activities ceased in conjunction with project termination, due to financial constraints. - The network among the TDWs has been continued. - Some municipalities (Benguet, Roxas) plan to expand the integrated community development approach.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	- Understanding FP as not only contraceptive but broader concept as community health, the project transfers Japanese experienced community development way to the project area, not only physical facility and equipment.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	- The people's interest was maintained by including deworming, MCH, nutrition, hygiene awareness activities, etc. in addition to contraceptive activities.		- The TOR of Japanese experts were clearly defined (parasite control, prenatal care, etc.).	- Many more community members became involved in the project after training in inter-personnel communication skill (ICS) were given to health workers. - Adequate supplies of consumables (anthelmintics, field kits) were provided.	
相手方に起因する due to Phil. side	- The people 's interest was maintained by including deworming, MCH, nutrition, hygiene awareness activities, etc. in addition to contraceptive activities.		- A sufficient number of counterparts were assigned to the project, despite its small scope. (POPCOM)	- The project was able to recruit the enthusiastic cooperation of a mayor concerned with community member participation in community development.	

問題惹起要因

Factors inhibiting implementation and production of impact

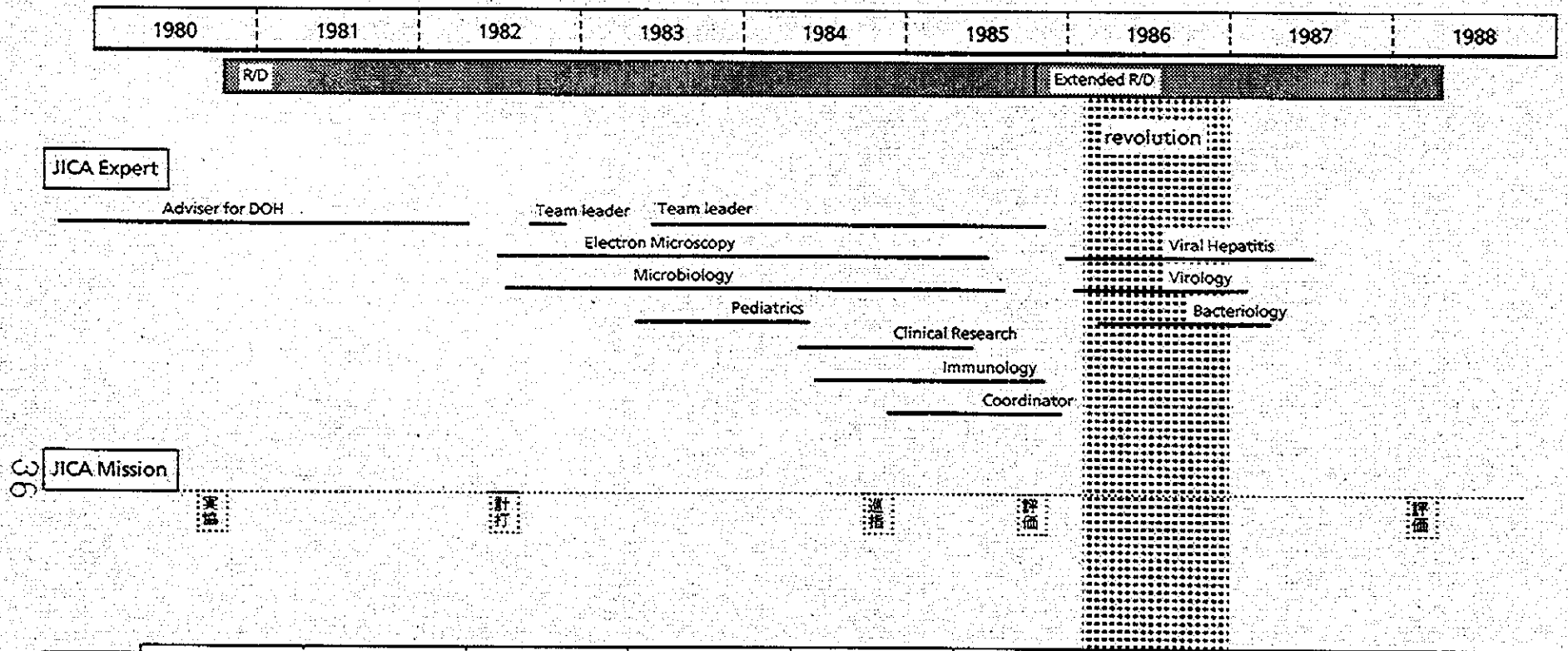
	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	-		- Although a needs assessment survey was carried out, the base line survey was inadequate.	-	
相手方に起因する due to Phil. side				- The project director was changed in conjunction with the change in government. - There were a few cases where equipment provided by the project was monopolized by certain individuals which prevented their use by project team members.	- The activities of POPCOM was markedly diminished due to the influence of the church during the Aquino administration.

教訓と提言

Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言 (一年以内に対応すべき) Suggestions (short term)	中期的提言 (1~3年以内に対応すべき) Suggestions (mid term)	長期的提言 (今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	- Deworming activities had a great impact on the populace. - ICS training program for staff members was very helpful in recruiting community member participation in community development activities. - Baseline indicator would make it easy to monitor the project. - The TOR for experts were clearly defined and easily understood by all people concerned.	- Utilize the evaluation findings of the previous project in the Tarlac FP project.	- The coordinators played an important roll in the FP/MCH project; and it is important to utilize community development personnel rather than medical or demographic experts.	- Consider future *collaboration with* NGOs.
相手方に対する To Phil. side	-	- Analyze data obtained from the study on living conditions and awareness levels of Roxas residents and utilize it in future community development measures. - Utilize the evaluation findings of the previous project in the Tarlac FP project.	- Evaluate NGO activities in community development and establish coordinated functions.	-

RESEARCH INSTITUTE FOR TROPICAL MEDICINE



Trainee send to Japan	1980F.Y.	1981F.Y.	1982F.Y.	1983F.Y.	1984F.Y.	1985F.Y.	1986F.Y.	1987F.Y.	1988F.Y.
	3	1	3	2	4	4	3	1	0

Input (×￥1,000)								
	3,457	56,799	91,698	100,898	180,013	150,467	120,755	100,106

RESEARCH INSTITUTE FOR TROPICAL MEDICINE

OBJECTIVES	OVI	ACHIEVEMENT	ASSUMPTION
to develop widely applicable control measures against major tropical diseases.	number of control measures developed	clinical diagnosis; 1, laboratory assay; 8, curative measure; 8, preventive measure; 4	information and experience of the research on tropical diseases are accumulated in the RITM. enough materials are supplied. laboratory equipment is well maintained. to participate in international research network.
to strengthen research activities on major tropical diseases	1. number of research papers, 2. seminars/symposiums	1. 16(1987) 2. 4(1987)	
1. to conduct research training on microbiology, parasitology, epidemiology, pathology and biochemistry 2. to conduct clinical activities on internal medicine, pediatrics, pediatric surgery, general out-patient and emergency service 3. to administer the institute	1. number/hours of research training done by experts 2. number of out/hospitalized patients, mean hospitalized period, bed occupancy rate, bed turn over ratio 3. managerial aspects	1. 16 courses, 34 hours (1987) 2. out-patient; 4,427 hospitalized; 1,039 average 10 days, 80% (1987) 3. see annex	
1. to supply materials/equipment for research activities, to set up research themes, to provide research information 2. to train medical/co-medical personnel 1.3. to establish research organization	GRANT: Building Construction Expert (long-term): 10 (public health, microbiology, electron microscopy, virology, immunology, pediatrics, coordination, etc.) Expert (short-term): Total 28 Trainee: 21		
			less political unrest, the tropical diseases stay as major health problems.

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell No. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	- The project contributed greatly to improving the medical research capabilities in tropical infectious diseases in the Philippines.
案件の効果 Impact 直接の効果 Direct impact	2(3)	- Improved research techniques in the field of tropical infectious diseases. - Established a research organization in tropical infectious diseases. - RITM provides a high standard of medical services for the poor, not available at other public medical institutions.
間接の効果 Indirect impact	1(3)	- RITM provides a medical solution to problems in implementing public health programs. - RITM empowered national health programme by demonstrating efficacy and necessity of EPI scientifically in the field.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	- The Third-Country Training Program is conducted in RITM. - RITM has broad network among other universities and institutes, and exchange information, technology and personnel frequently.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	- RITM is highly renown internationally as a research institute in tropical infectious diseases; and it has secured consignments or research projects from WHO, UNICEF, IDRC, AIDAB, and other agencies. - RITM manages its own revolving fund which enables it to invest in research projects with a variety of highly capable researchers.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	- The project was implemented at a time when world wide concern over infectious diseases was being manifested. - RITM has earned the trust of government and international donors and research institutes by seeking and tackling the practical problem continuously since its establishment.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	- Consultation with other donor agencies (USAID) was carried out and supplementary support was received before the start of the project.				
相手方に起因する due to Phil. side	-		- Having established a reputation as a research institute with highly talented and capable researchers, RITM was able to attract further talented staff members.	- RITM has been able to support its research activities through revenue from its own revolving fund.	- RITM successfully established a broad international network.

問題惹起要因
Factors inhibiting implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	-		- Maintenance and procuring spare parts for Japanese made equipment was difficult.	- Some of the Japanese experts who were recruited by the support committee in Japan, did almost nothing to contribute to the project.	
相手方に起因する due to Phil. side				- The project director was forced to resign her post in conjunction with the change in government.	- Maintenance of the electron microscope cannot be carried out because the maintenance technology was not transferred from predecessor to successor.

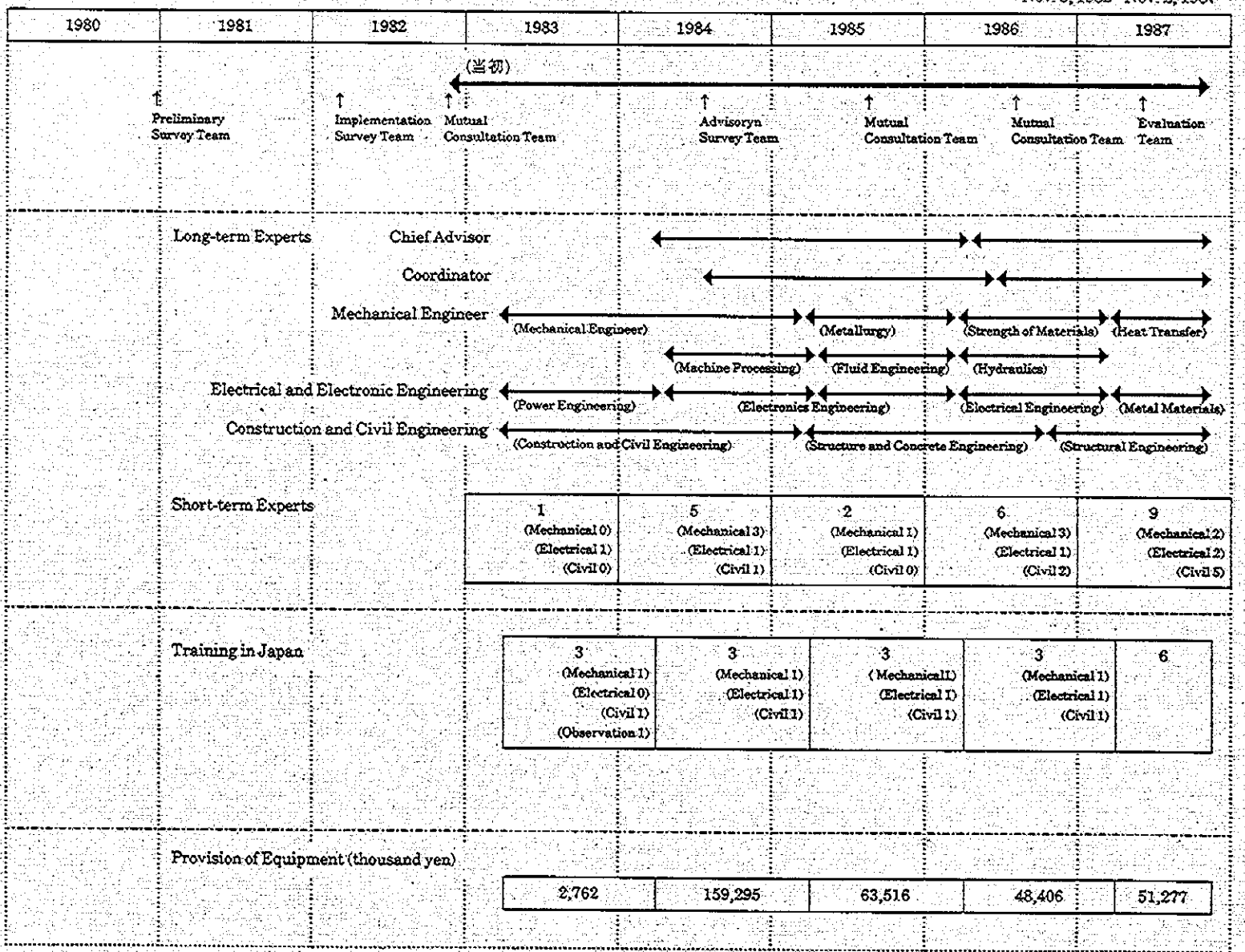
教訓と提言

Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言 (一年以内に対応すべき) Suggestions (short term)	中期的提言 (1~3年以内に対応すべき) Suggestions (mid term)	長期的提言 (今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	- The factors behind the continued success of RITM are its efforts to continuously pursue practical solutions to the public health program and its focus on identifying practical problems rather than biotechnology.		- Study the need for further assistance in the area of facilities, research equipment, and library which are relatively lacking in the face of expanded RITM activities.	- Study methods to evaluate the ability of Japanese expert to carry out technology transfer.
相手方に対する To Phil. side	- The factors behind the continued success of RITM are its efforts to continuously pursue practical solutions to the public health program and its focus on identifying practical problems rather than biotechnology.		- In conjunction with expanded RITM activities, and coordination with BPS and BFAD, conclusions will be reached on their respective roles in future public health development plans, including future plans on the Alabang health complex.	-

I-7 Integrated Research and Training Center

Nov. 3, 1982~Nov. 2, 1987



Integrated Research and Training Center, Technological University of the Philippines: IRTC-TUP

Nov. 3, 1982~Nov. 2,1987

	INDICATOR	REALIZATION	MAJOR ASSUMPTION	CHANGES IN ASSUMPTION OBSERVED AT EVALUATION
I. SECTOR GOAL 1. Education level of engineering and technology improved	1.a Social recognition for graduates trained in undergraduate's course 1.b Condition of graduates trained in undergraduate's course 1.c Social recognition for graduates trained in trainor's course 1.d Number of graduates trained in trainor's course who are still working for engineering education	1.a, 1.b Graduates are accepted by the industries. 1.c Ex-trainees of trainor's course are applying the knowledge acquirerd in each institute. 1.d (not available)		
II. PROJECT PURPOSE 1. IRTC's training course operation system established and its course program constantly implemented by itself	(After the Project) 1.a Implementation of undergraduate's course 1.b Number of Laboratory Studies 1.c Implementation of trainor's course 1.d Number of C/Ps and technicians still working 1.e Number of research result 1.f Number of textbooks & training materials developed by the staff 1.g Evaluation on the staff-developed textbooks & training materials 1.h Number of Steering Committee meetings held and main topics of their agenda 1.i IRTC's budget	1.a Undergraduate's course 1988 1992 No. of course 9 95 No. of graduates 165 925 Some courses are implemented under regular curricula. 1.b No. of Laboratory Studies 1988 1992 5 3 1.c Trainor's course 1988 1992 No. of course 12 25 No. of graduates 157 412 1.d Many C/Ps and technicians went to private industry. 1.e 50 researches are completed from 1987 to 1991. 1.f IRTC developed new training courses and materials with industries. 1.g Graduates are still using textbooks and manuals in their job. 1.h Steering Committee meeting is held once a year to discuss IRTC management. 1.i IRTC's budget (unit: 1,000 pesos) 1988 1993 1,853 3,872	(1) Graduates trained in trainor's course will work fir engineering education.	

Ⅲ. OUTPUT 1. Trained TUP students 2. Trained Trainers 3. Research Output 4. Developed training method, textbook and training materials 5. Established IRTC's effective management system	(During the Project) 1.a Implementation of undergraduate's course 1.b Number of Laboratory Studies 2.a Implementation of trainor's course 3.a Number of Research Result 4.a Number of textbooks & training materials developed by the Project 4.b Utilization of the Project-developed textbooks & training materials 5.a Number of Joint Steering Committee meetings held and main topics of their agenda 5.b Number of Sub Steering Committee meetings held and main topics of their agenda. 5.c IRTC's budget	1.a Undergraduate's course 1983 1985 1987 No. of course 5 15 6 No. of Graduates 121 256 145 1.b No. of Laboratory Studies 1983 1985 1987 0 2 3 2.a Trainor's course 1983 1985 1987 No. of course 10 2 16 No. of Graduates 134 21 190 3.a 11 researches were conducted from 1984 to 1987. 4.a No. of textbooks and manuals developed Mechanical 11 Electrical 7 Civil 10 4.b Graduates are uding textbooks and manuals. 5.a Joint Steering Committee The committee meeting was held once a year to discuss IRTC management. 5.b Sub Steering Committee Since 1983, the committee meeting was held once a month to discuss progress and problems. 5.c IRTC budget (unit: 1,000 pesos) 1983 1985 1987 1,717 1,608 2,466 The total ammont was 11,481 thousand pesos from 1982 to 1987.3	(1) Quantity/quality of C/Ps and technicians to be maintained (2) Telecommunication development projects will be implemented as schedule	(2) Spareparts of some equipment required to purchase abroad and it took long time to repair. And it was difficult to allocate the budget due to high repairing cost.
Ⅳ. ACTIVITY (Mechanical Engineering, Electric and Electronics Engineering, Construction and Civil Engineering) 1.1 Basic and Advanced Training Courses for Undergraduates 1.2 Laboratory Studies Supervise 2.1 Training Course for Trainor's Upgrading 3.1 Study and Research Works 4.1 Development of Textbooks and Training Materials 4.2 Supplying of Training Equipment 5.1 Management of IRTC	INPUT 1. Japanese Side (1) Technical Cooperation 1) Long Term Experts 20 persons 2) Short Term Experts 23 persons 3) Counterpart Trainee 18 persons 4) Equipment 325 million yen (2) Grant Aid 1,850 million yen 2. Philippine Side 1) Land/Buildings/Facilities 2) Operation Cost 3) Manpower(C/P)		(1) C/Ps training is technically appropriate and C/Ps will continue to work for IRTC. (2) Facilities/equipment to be properly maintained (3) Undergraduate's courses are conducted under regular curricula (4) IRTC to be properly operated BASIC ASSUMPTION (5) Philippine Government to provide fund and manpower necessary to the Project	(3) At the biginning of the project, under graduate's courses were conducted independently. However, the courses were conducted under the regular curricula gradually.

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell no. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	・A systematic training program at IRTC for both students and teachers has been established and training activities have continued in conjunction with active research work carried out by IRTC faculty members.
案件の効果Impact 直接の効果 Direct impact	2(3)	・IRTC training activities have expanded through development and revision of textbooks and measures to foster newly recruited instructors.
間接の効果 Indirect impact	1(3)	・Student training graduates of IRTC have entered the industrial sector and teacher training graduates have become employed in educational institutes specializing in engineering. ・In addition to student and teacher training programs, IRTC is engaged in its own research activities and carries out research and technical services commissioned by the private sector. The center is capable of coping with a wide spectrum of activities which promote the industrial sector of the Philippines.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	・Training Philippine counterparts required a long period of time during project implementation. However, the time available for them to provide training was restricted. ・University caliber training equipment was provided.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	・When the project was terminated in 1989, a Computer Department was established independently of the Electrical Engineering Department. In addition, a postgraduate course was established in 1992 which greatly broadened the educational content of the IRTC. ・Training programs and technical services are provided for private industries and universities other than TUP. Revenue generated from these programs and services go into a trust fund to purchase spare parts, etc. ・Although simple parts can be fabricated by IRTC, spare parts for advanced sophisticated equipment must be purchased from Japan. However, due to budgetary constraints, such purchases have been difficult to procure. ・The capabilities of instructors have been furthered by study abroad in Japan and other countries after the project was terminated.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	・Although the three fields of mechanical, electrical, and civil engineering were covered in the project, the demand for training programs in mechanical and electrical engineering was particularly high. Presently, training activities have concentrated in these two fields and activities in civil engineering have centered on research. ・The project mainly provided basic technological equipment which is still being utilized in practical training activities of the IRTC's university educational program. The quality and volume of equipment are higher than those of other universities. However, the center must purchase advanced equipment, in order to carry out research and training services commissioned by private industries.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side				• Equipment which was suited to the educational level and research needs of the university was provided. As a result, the equipment is still in use today.	
相手方に起因する due to Phil. side				• Due to the high technical capabilities of faculty members, the equipment provided by the project is being actively utilized in research activities. • With the exception of CNC, electronic microscopes, and other specialized equipment, all equipment is maintenanced at IRTC.	• In addition to JICA, IRTC is actively seeking to build cooperative ties with Japanese industries and universities, in order to learn new technology and to improve the capabilities of its faculty members. • An IRTC fund was established to strengthen the institute's financial base.

問題惹起要因
Factors inhibiting implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side			• IRTC training programs and academic curriculum were not clearly differentiated. As a result, the T/R for Japanese experts was not properly defined and experts were forced to carry out technology transfer independently in their own fields.	• Some of the equipment provided by the project could not be repaired in the Philippines. Subsequently, it is necessary to invite a maintenance technician from Japan or Singapore to repair the equipment. Due to a limited budget, the IRTC has been unable to cope with mechanical breakdowns in such equipment.	
相手方に起因する due to Phil. side			• During the initial stages of the project, training activities which were separate from the university were implemented, due to the lack of a clearly defined role of the IRTC within TUP.	• Due to a high turnover rate of Philippine counterparts, technology transfer could not be effectively implemented.	

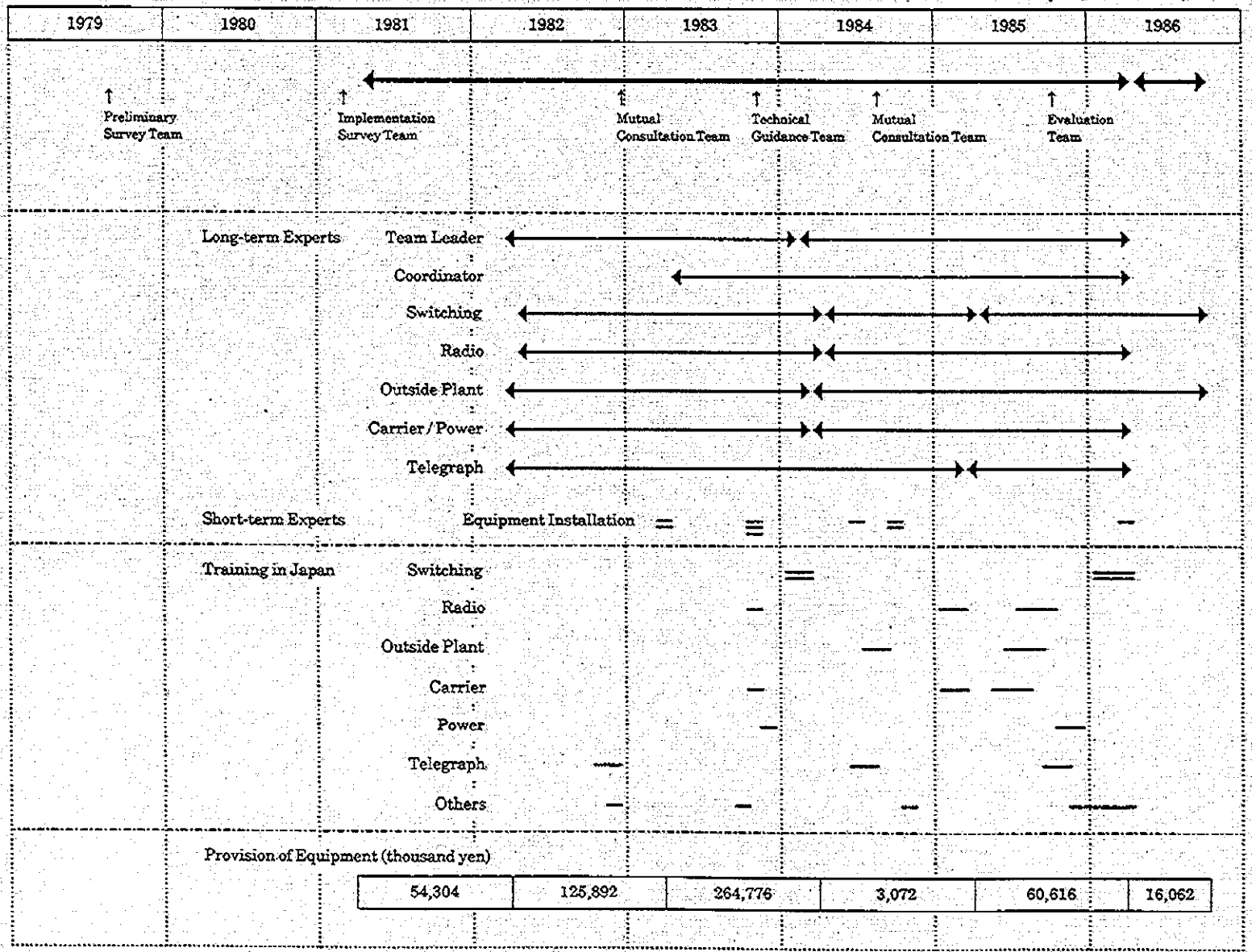
教訓と提言

Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言(一年以内に対応すべき) Suggestions (short term)	中期的提言(1~3年以内に対応すべき) Suggestions (mid term)	長期的提言(今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	◦Due to the high standards of the IRTC and superior capabilities of its faculty members, training activities have continued to expand after project termination. It is essential that the capabilities of the implementing agency are fully understood prior to project commencement in future.			◦In the area of higher education, it is necessary to clearly define the scope of cooperation within the academic system. ◦In the field of engineering, cooperation should not be based on direct incorporation of Japanese technology. It is essential that a sufficient period of preparation is allocated to determine the technology appropriate for the recipient.
相手方に対する To Phil. side	◦In addition to technical cooperation with JICA, the IRTC has maintained ties with Japanese universities. Improved capabilities of faculty members are made continuously possible through inter-academic exchanges. ◦Technology which is both appropriate and essential in the Philippines can be obtained through research commissioned to IRTC by private industries. This technology is also reflected in its educational and training programs. It is necessary to enhance interaction with industries, in order to continue training and research activities that will promote industrial development.		◦It is necessary to coordinate with other institutes, in order to avoid duplication. ◦Employment conditions for instructors should be improved to stimulate recruitment and reduce the turnover rate.	

I-8 Telecommunications Training Institute

Apr. 2, 1981~Oct. 1, 1986



Telecommunications Training Institute: TTI

Apr. 2, 1981~Apr. 1, 1986

	INDICATOR	REALIZATION	MAJOR ASSUMPTION	CHANGES IN ASSUMPTION OBSERVED AT EVALUATION
I. SECTOR GOAL 1. Telecommunication facilities and equipment operation and maintenance system developed	1.a Number of telecommunication facilities and equipment 1.b Share of TTI graduates in telecommunication engineers & technicians 1.c Share of TTI graduates working in operation & maintenance of new telecommunication system	1.a Capacity of changing equipment 1982 1988 1992 Digital 0 38 410 Analog 583 599 477 Total 583 637 887 1.b (not available) 1.c (not available)		
II. PROJECT PURPOSE 1. TTI's training course operation system established and its course program constantly implemented by itself	(After the Project) 1.a Implementation of courses 1.b Number of course graduates 1.c Technical level of graduates 1.d Number and technical level of instructors 1.e Textbooks & training materials developed by the staff 1.f Number of Steering Committee meetings held and main topics of their agenda 1.g Number of the three Internal Committee meetings held and main topics of their agenda 1.h TTI's expenditure	1.a At present, all technical training courses are based on courses developed by the project. 1.b Number of technical course graduates 1987 1992 607 1,375 1.c Graduates are accepted by the industries. 1.d Number of instructors 1987 1992 48 28 Number of instructers decresed, but each instructor can cover multi-field. 1.e TTI can revise textbooks developed by the project and develop textbooks for new courses. However, it is required to revise based on new technologies. 1.f, 1.g The meetings are not held after completion of the project. 1.h TTI expenditure (unit: 1,000 pesos) 1987 1992 1,285 9,881	(1) No big changes of organization in operation and maintenance of telecommunication system (2) TTI graduates to continue to work for their original organization (3) Same telecommunication facility and equipment will be introduced as in TTI.	(1) Telecommunication industry was privaertized, and TTI accepted trainees from private industries. (2) Some graduates went to abroad. (3) Digital equipment are populized in the Philippines.

Ⅲ. OUTPUT	(During the Project)			
1. Trained telecommunication engineers and technicians 2. Developed training method, textbook and training materials 3. Established TTI's effective management system	1.a Number of course implemented 1.b Number of course graduates 2.a Number of textbooks & training materials developed by the Project 2.b Utilization of the projrect-developed textbooks & training materials 3.a Number of Steering Committee meetings held and main topics of their agenda 3.b Number of the three Internal Committee meetings held and main topics of their agenda 3.c Number of the TTI-JICA Staff Joint Meeting held and main topics of their agenda 3.d TTI's budget	1.a No. of courses 1983 1985 Engineer 6 9 Technician 4 14 Total 10 23 1.b No. of graduates 1983 1985 Engineer 86 112 Technician 42 265 Total 128 377 2.a In total, 41 textbooks which had 3,831 pages were developrd. In addition, some teaching guidebooks were developed. 2.b Ex-trainees are still using textbooks on their jobs. 3.a Steering Committee was organized in Jan.m 1983 and 10 meetings were held to discuss basic policy on TTI. 3.b Since 1984, 43 meetings were held to discuss training programs and equipment. 3.c Since 1984, 5 meetings were held to discuss progress and problems on the project. 3.d TTI's budget became tight gradually with public finance deficit.	(1) Quantity/quality of C/Ps to be maintained (2) Telecommunication development projects will be implemented as schedule	(1) Number of instructors decreased due to the inability to get replacement for instructors who have resigned because of civil service rule on attrition. (2) Even Northern Luzon project was delayed, telecommunication development projects are implemented continuousely.
Ⅳ. ACTIVITY	INPUT		(1) C/Ps training is technically appropriate and C/Ps will continue to work for TTI. (2) Facilities/equipment to be properly maintained (3) TTI to be properly operated BASIC ASSUMPTION (4) Philippine Government to provide fund and manpower necessary to the Project	
1.1 Training for Telecommunication Engineers and Technicians (Telegraph, Outside Plant, Carrier, Radio, Switching, Power) 2.1 Development of Training Method 2.2 Development of Textbooks and Training Materials 2.3 Supplying of Training Equipment 4.1 Management of TTI	1. Japanese Side 1) Long Term Experts 14 persons 2) Short Term Experts 10 persons 3) Counterpart Trainee 21 persons 4) Equipment 525 million yen 2. Philippine Side 1) Land/Buildings/Facilities 2) Operation Cost 3) Manpower(C/P)			

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell no. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	・A system of training for telecommunication engineers and technicians was established at the Telecommunications Training Institute (TTI). The institute provides training courses which were developed by the project and courses which were originally offered by the institute were eliminated. In 1992, 1,221 engineers and technicians were trained in 34 courses which were given 66 times that year.
案件の効果Impact 直接の効果 Direct impact	2(3)	・Graduates of TTI are engaged in the telecommunications industry in the Philippines. Some graduates went abroad to work, but they have resumed employment in the industry after their return.
間接の効果 Indirect impact	1(3)	・The nation suffers from a shortage of telecommunication lines which has spurred continuous development measures in this area. TTI continues to play an important role in fostering human resources in the industry. ・Practical training programs in telecommunications are inadequate in university curriculums. Hence TTI provides the practical training which supplements the education of university graduates and contributes to improving their employment opportunities.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	・Despite the high technical level of Japanese experts, problems in communication arose between these experts and their counterparts. ・Equipment appropriate to the technical development level of the Philippines was supplied and the technology taught in the training courses was applied by ex-trainees in the industry. ・Maintenance technology transferred in the project is currently being applied at TTI to equipment supplied by the project. ・However, some spare parts must be ordered from Japan which has prolonged the period of time required to repair the equipment.
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	・Training courses which were originally developed by TTI before the project were reduced and replaced with courses developed by the project. New courses (data communication) have since been developed and technically, the institute has achieved self-sufficiency. ・Although basic technology remains unchanged, equipment which is in actual use within the industry today is much more technically developed. As a result, training equipment used in the institute needs to be replaced, but due to insufficient budget allocation, TTI continues to utilize equipment provided by the project. ・Despite the existence of a system to revise textbooks and manuals, printing materials and other training materials (cables, etc.) are in shortage due to a limited budget.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	・Implementation of the project was timely, in view of development trends in telecommunications which were prevalent in the Philippines. Digital technology which was the most advanced field of technology at that time, has since become widely applied and disseminated throughout the nation. ・The field of telecommunications continues to expand and the demand for skilled manpower is high. Confronted with a growing demand to train university graduates, the number of TTI applicants is large. ・At the initial start of the project, separate training courses for engineers and technicians were established. However, the demand for technician courses which focused on practical training rather than theory was high; and presently, the training is centered on technician courses. As a result, students are a mix of engineers and technicians with varying backgrounds and capabilities which has created some difficulties in course management.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

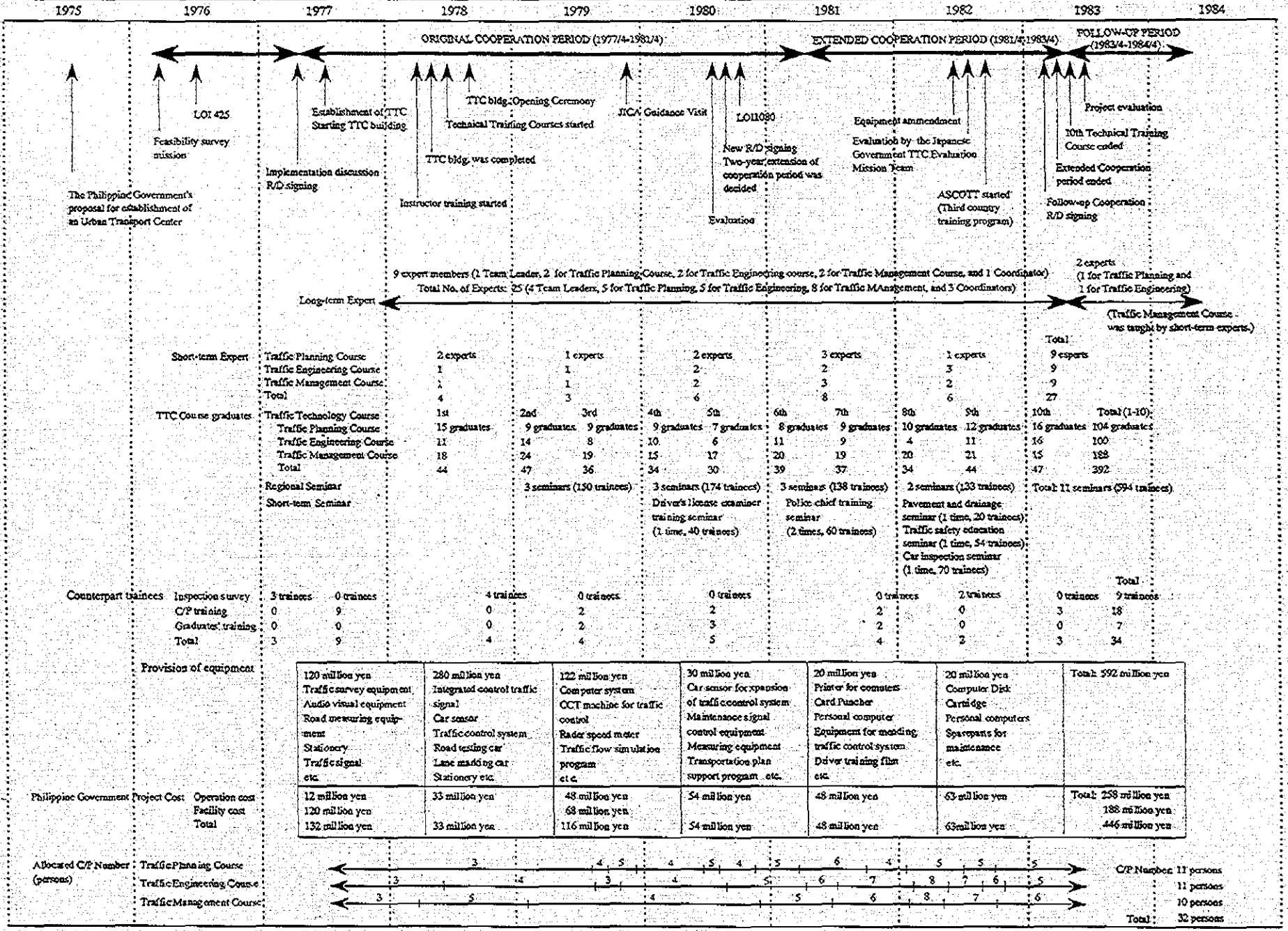
	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	・Development trends and prevailing conditions in the Philippines were grasped through feasibility studies of development projects in telecommunications.		・Technical training programs were formulated to meet the needs of the telecommunications industry of the Philippines.	・Equipment maintenance technology was also transferred in the project and a system of maintenance was established within TTI for daily maintenance of training equipment.	・After termination of the project, technical advice and spare parts have been provided through individual Japanese experts who have been sent to TTI.
相手方に起因する due to Phil. side	・The project was requested to train technical personnel within the framework of a development plan in telecommunications.			・Due to the high capabilities of instructors, a instractor can cover various technical fields and training courses have continued uninterrupted, despite the decrease in the number of instructors. ・TTI accept government staff, private employees and individual persons (new graduates of universities), and contributes to provide skilled persons for the industry.	

問題惹起要因
Factors inhibiting implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side			◦Due to inadequate consideration of development projects in telecommunications by other donor agencies, the Japanese cooperation project was affected by delay of Japanese cooperation projects.	◦Due to an inadequate understanding of the needs in engineering courses, emphasis was placed on theoretical training which resulted in a low number of course applicants. ◦Spare parts for some of the equipment provided by the project had to be shipped from Japan due to the lack of a service distributor in the Philippines, which required a long period of time for the equipment to be repaired. ◦Some problems in communication arose between Japanese experts and their Philippine counterparts stemming from a language barrier.	
相手方に起因する due to Phil. side				◦Technology transfer became difficult when many of the Philippine counterparts left TTI during the project period.	◦Due to construction delays in the telecommunications development project, the start of newly developed training courses was also delayed. ◦Purchase of spare parts, printing of textbooks, etc. were inadequate, due to the deteriorating public finances of the Philippine government.

教訓と提言
Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言(一年以内に対応すべき) Suggestions (short term)	中期的提言(1~3年以内に対応すべき) Suggestions (mid term)	長期的提言(今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	◦The content of the project appropriately met the actual needs of the telecommunications industry in the Philippines, since the project was implemented on a thorough understanding of the prevailing conditions, which were grasped through related feasibility studies.			◦In order to upgrade the language capabilities of Japanese experts, selection and language training programs should be improved.
相手方に対する To Phil. side	◦The project was able to coordinate with and promote the telecommunications industry, since it was formulated as part of the sector development plan.		◦In addition to deepening ties with private industries and grasping their needs, measures to strengthen TTI's financial base by collecting training fees, etc. from these industries will be studied. ◦Systematic recruiting and training of instructors will be carried out in order to maintain and improve the accumulated technology of TTI. ◦Training equipment replacements will be on par with the technical level of equipment used by private industries. ◦The role of human resource development will be clarified in the overall development plan in telecommunications; and TTI's long-term plan of operations will be formulated. In addition, a reorganized training system appropriate to its needs will be instituted in coordination with educational institutions and private industry.	



Short-term Expert	Traffic Planning Course	2 experts		1 experts		2 experts		2		3 experts		1 experts		3		2		Total 9 esperts			
	Traffic Engineering Course	1		1		2		2		3		2		9							
	Traffic Management Course	1		1		2		3		2		6		9							
	Total	4		3		6		8		6				27							
TTC Course graduates	Traffic Technology Course	1st		2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total (1-10)								
	Traffic Planning Course	15 graduates		9 graduates	9 graduates	9 graduates	7 graduates	8 graduates	9 graduates	10 graduates	12 graduates	16 graduates	104 graduates								
	Traffic Engineering Course	11		14	8	10	6	11	9	4	11	16	100								
	Traffic Management Course	18		24	19	15	17	20	19	20	21	15	132								
	Total	44		47	36	34	30	39	37	34	44	47	392								
	Regional Seminar			3 seminars (150 trainees)		3 seminars (174 trainees)		3 seminars (138 trainees)		2 seminars (133 trainees)		Total: 11 seminars (594 trainees)									
	Short-term Seminar					Driver's license examiner training seminar (1 time, 40 trainees)		Police chief training seminar (2 times, 60 trainees)		Pavement and drainage seminar (1 time, 20 trainees) Traffic safety education seminar (1 time, 54 trainees) Car inspection seminar (1 time, 70 trainees)											
Counterpart trainees	Inspection survey	3 trainees	0 trainees		4 trainees		0 trainees		0 trainees		0 trainees	2 trainees		0 trainees	Total 9 trainees						
	C/P training	0	9		0		2		2		2	0		3	18						
	Graduates' training	0	0		0		2		3		2	0		0	7						
	Total	3	9		4		4		5		4	2		3	34						

Provision of equipment	120 million yen Traffic survey equipment Audio visual equipment Road measuring equipment Stationery Traffic signal etc.	280 million yen Integrated control traffic signal Car sensor Traffic control system Road testing car Lane marking car Stationery etc.	122 million yen Computer system CCT machine for traffic control Rader speed meter Traffic flow simulation program etc.	30 million yen Car sensor for expansion of traffic control system Maintenance signal control equipment Measuring equipment Transportation plan support program etc.	20 million yen Printer for computers Card Puncher Personal computer Equipment for mending traffic control system Driver training film etc.	20 million yen Computer Disk Cartridge Personal computers Spareparts for maintenance etc.	Total: 592 million yen
Philippine Government Project Cost: Operation cost	12 million yen	33 million yen	48 million yen	54 million yen	48 million yen	63 million yen	Total: 258 million yen
Facility cost	120 million yen		68 million yen				188 million yen
Total	132 million yen	33 million yen	116 million yen	54 million yen	48 million yen	63million yen	446 million yen

PHILIPPINE TRANSPORT TRAINING CENTER: PROJECT-TYPE TECHNICAL COOPERATION

	INDICATOR	REALIZATION	MAJOR ASSUMPTION	CHANGES IN ASSUMPTION OBSERVED AT EVALUATION
SUPER GOAL 1. Urban transportation condition improved				
I. SECTOR GOAL 1. Development/implementation system for an integrated urban transportation plan established	1.a No. of developed urban traffic plans (Nationwide, Regional, and Provincial level) 1.b No. of cities which have developed traffic plans 1.c No. of TTC graduates working in the urban transportation planning/management field 1.d Frequency of TTC graduates' participation in urban traffic plan making 1.e No. of seminars for technology transfer from TTC graduates to their colleagues	1.a 3 nation-wide traffic plans and 49 regional traffic plans were developed. 1.b N/A 1.c 26 out of 45 interviewed graduates (57.8%) are working in the divisions related to traffic plan making. 1.d 20 out of 45 interviewed graduates "daily", 3="once a week" 1="Once a month", and 2="Rarely" 1.e 6 seminars were held by 6 graduates out of 26 interviewed.	(1) Urban transport plans to be properly planned and implemented (2) Traffic regulations to be fully obeyed (3) Vehicles to be kept in better repair	(1) Traffic plans have been developed. However, due to the budget shortage and the complicated political systems, the implementation of these plans have been facing lots of problems. (2) Because of the lack of traffic education and the shortage of power supply, the traffic regulations are not obeyed. (3) Actual data was not available. Judging from the observation of the street, the maintenance situation has not been improved.
II. PROJECT PURPOSE 1. TTC's training course operation system established and its course program constantly implemented by itself	[After the Cooperation Period] 1.a No. of courses implemented 1.b No. of TTC course applicants/participants/graduates and dropout ratio 1.c Technical level of TTC graduates (test records/evaluation by instructors & their supervisors) 1.d No. and technical level of instructors (evaluation by TTC staff and graduates) 1.e No. of C/P working for TTC courses 1.f No. of textbooks/training materials developed by TTC 1.g Evaluation on textbooks/materials developed by TTC 1.h No. of Steering Committee meetings held and main topics of their agenda 1.i TTC's balance of payment	1.a The traffic training courses have been implemented regularly twice a year except 1985 and 1986. The training contents are almost the same as the one during the cooperation period 1.b No. of trainees=644、No. of graduates=636 (1984~92) The dropout rate has been generally low. 1.c Evaluation by 9 instructors: Evaluation was relatively high Fair=4 instructors、High=4、Very high=1 Evaluation by 3 supervisors: Highly evaluated High=1 instructors、Very high=2 1.d No. of instructors: Full time=14、Part time=6 Evaluation by 38 graduates: Highly evaluated in general Fair=9 graduates、High=21、Very high=5、 1.e 6 out of 14 full time instructors are ex-C/P: gradually improved 1.f The textbooks developed during the cooperation period are still used. 1.g Evaluation by 38 graduates: Moderate evaluation Low=8 graduates、Fair=13、High=13、Very high=4 Evaluation by 9 instructors: Moderate evaluation Fair=7 instructors、High=1、Very high=1 1.h The committee was held once a year until Dec. 1992. 1.i N/A	(1) No big changes in the transportation technology (2) No beg changes in transportation related policies (3) The current government organization to be kept; organization which TTC graduates and transferred C/P belong to still responsible for transportation planning and management	(1) They still heavily rely on the road transportation. However, the computer technology has been newly introduced to the traffic simulation and traffic data analysis. (2) No big changes in the basic traffic-related policies. (3) No big changes in the traffic administration systems after the two big changes of political power. The internal organization of DOTC was changed.
III. OUTPUT 1. Training implementation system is established in TTC and traffic-related human resources are developed. 2. Counterparts who can train at the courses, make training plans and develop training materials are trained. 3. Training textbooks/materials and methods are developed. 4. Effective operation system is established in TTC.	(During the Cooperation Period) 1.a No. of courses implemented 1.b No. of TTC course applicants/participants/graduates and dropout ratio 1.c Technical level of TTC graduates (test records/evaluation by instructors & their supervisors) 2.a No. and technical level of C/P (evaluation by JICA experts/TTC staff/graduates) 3.a No. of textbooks/training materials developed by the Cooperation Project 3.b Evaluation on the Project-developed textbooks/training materials 4.a No. of Steering Commenee meetings held and main topics of their agenda 4.b TTC's balance of payment	1.a The traffic training courses were implemented regularly. 1.b No. of trainees=445、No. of graduates=434 (1978~83) Dropout ratio was very low; the highest one was 2.2%. 1.c Average point of the examinations: In the beginning=217/270、In the ends=182/270 Evaluation by 6 C/P: Fair=3 C/P、High=2、Very high=1 Evaluation by 3 supervisors: High=1、Very high=2 2.a No. of C/P: Full-time=9 (1977)、10~16 C/P every year Evaluation by 8 graduates: Fair=3 graduates、High=4、Very high=1 3.a 1 textbook was developed by the experts. 3.b Evaluation by 8 graduates: Fair=2 graduates、High=5、Very high=1 Evaluation by 6 C/P: Fair=4 C/P、High=1、Very high=1 4.h 27 meetings were held until 1980; 7~10 meetings until 1982. 4.i There was a budget shortage problem in FY1981.	(1) Quantity/quality of C/P to be maintained (2) Trainees' application not to be influenced by business fluctuation (3) Needs for transport expert training to continue to exist	(1) More than 10 C/P were provided every year; their technical level was sufficient in general. (2) The number of applicants was not influenced by the business fluctuations. However, the two big changes of the political power had serious effects on it. (3) The needs of traffic training has been high and there are no other organizations providing this kind of training. TTC is highly expected.
IV. ACTIVITY 4.1 Implementation of 3 training courses 2.1 Instructor training for course training, training plan making, and training material development. 3.1 Development of training textbooks/materials and methods 3.2 Provision of training equipment 3.3 Counterpart training for operation, management and maintenance of training equipment. 4.1 Counterpart training for TTC operation 4.2 TTC operation by the Philippine side	**I N P U T** **Japan:** Total Cost (as of end of the project) 1,129 million yen Equipment(as of 1983.4) 592 million yen Long-term experts (Original/extended period) 25 persons Short-term experts (Original/extended period) 27 persons Long-term experts (Follow-up period) 2 persons Short-term experts (Follow-up period) (na) Counterpart trainee 34 persons **Philippines:** Land/building/facilities Manpower (C/P) 32 persons Operation cost (as of 1982.12) 446 million yen	(1) C/P training is technically appropriate and C/P will continue to work for TTC after the instructor training (2) Facilities/equipment to be properly maintained (3) TTC to be properly operated **BASIC ASSUMPTION** (4) Philippine Government to provide fund and manpower necessary to the Project	(1) The training of C/P was technically relevant. However, the ratio of the instructors who continued to work for TTC was not high during the cooperation period. (2) Training materials/facilities were properly maintained. (3) The meeting of the Steering Committee was held regularly. Due to the budget shortage, the operation budget could not cover the maintenance of training equipment or the development of training materials. (4) The Philippine Government provided the operation budget and manpower as planned.

評価5項目に沿った評価結果
Evaluation result along the five points of evaluation

評価項目 Evaluation points	分析対象セル番号 Cell no. for analysis	評価結果 Evaluation result
目標達成度 Attainment of project purpose	4(1), 3(1), 2(1) and 4(3), 3(3), 2(3)	◦A technical training system in traffic control was established at TTC and training programs are implemented regularly (twice a year). (The training program was implemented only once in 1985 and 1986 during the change in government.)
案件の効果Impact 直接の効果 Direct impact	2(3)	◦TTC has contributed to human resource development in the field of traffic administration. A total of 1,099 traffic engineers were trained by the first half of 1993 (28th term) in regularly implemented training programs by instructors specializing in road traffic, who were fostered by the center. ◦The Third-Country Training Program has been established at TTC which has enabled the center to carry out courses for other countries, in addition to the Philippines.
間接の効果 Indirect impact	1(3)	◦The technical level of graduates has been upgraded and their acquired technical knowledge has been disseminated to colleagues. As a result, the government's integrated urban traffic plan has been strengthened. ◦Instructors have participated in traffic surveys implemented by UP, DOTC, and other external agencies and contributed to traffic plan development. ◦The establishment of TTC has enabled implementation of traffic related projects of JICA, OECF, World Bank, etc. ◦The national development plan for an integrated urban traffic system is particularly weak in the area of traffic control.
実施の効率性 Efficiency of implementation	4(3) and 3(3)	◦Language communication problems arose between some of the Japanese experts and their Philippine counterparts. ◦Although appropriate training equipment was provided by the project, a segment of advanced survey and other types of equipment was not fully utilized. In addition, road survey related equipment, etc. which were not relevant to training course content were also provided. ◦The TTC was jointly managed by the university (UP) and government ministries (MPH and MOTC from 1980).
自立発展性 Sustainability	4(4), 3(4), 2(4), 1(4)	◦Although an autonomous training system was established at TTC, a system to develop the center's own textbooks, teaching materials, and training methods has not evolved. As a result, TTC's training program is still centered on the textbooks developed during project implementation. ◦Instructors have gone on to study abroad to improve their capabilities after project completion. ◦The status of instructors remain unstable (temporary employment) and compounded by the discrepancy in salaries between the public and private sectors, the instructor turnover rate is high. ◦Despite growing demand, the budget remains low and much of it is allocated to personnel costs. As a result, the budget is unable to cover expenses related to facility and training material improvement. ◦In order to improve the practical skills of its instructors and to enhance its functions, the center has implemented traffic survey activities on a consignment basis from other institutions. ◦In conjunction with its upgraded status as the National Center for Transportation Studies, an official unit of UP, a new JICA project is being implemented to improve TTC's current management and training system, training equipment, etc.
計画の妥当性 Relevance of planning	4(4), 3(4), 2(4), 1(4)	◦TTC is the only training institute in traffic management and control recognized by the DOTC, DPWH, MMA, etc. Currently, the need for countermeasures in urban traffic control and the demand for TTC training are high. Thus, a constant supply of trainees from the aforementioned organizations is expected.

効果発現に貢献した要因
Factors contributing to implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side	◦Traffic administration and traffic conditions in the Philippines were well understood through study findings obtained from previous projects and the project was formulated in an area of high local needs.			◦The project was implemented in coordination with traffic related organizations in Japan.	
相手方に起因する due to Phil. side	◦The Philippine government requested the project based on a knowledge of Japanese traffic technology obtained from previous technical cooperation projects.			◦Sufficient TTC management personnel and counterparts were allocated and theoretical technology transfer was successfully carried out. ◦TTC was established as a special unit of UP, to be further upgraded as a regular unit in future, as stipulated in LOI. Hence the project received public policy support.	◦Instructors have gone abroad to improve their technical skills after the project was completed. ◦Each traffic related public agency has recognized the importance of external training and sent appropriately qualified staff members to TTC training courses. ◦TTC graduates have transferred their acquired skills to colleagues through seminars and reports.

問題惹起要因

Factors inhibiting implementation and production of impact

	発掘 Project Identification	審査 Appraisal	実行計画 Implementation design	実施 Implementation	その他 Others
当方に起因する due to JICA side			◦The technical level in the Philippines was not adequately assessed and advanced training equipment which were inappropriate to TTC needs was provided.	◦Spare parts for some of the equipment could not be supplied locally and coping with maintenance problems was difficult. In addition, English specifications were not provided for some equipment, which made instruction in its use time consuming. ◦There was some communication problems reported, due to the poor English ability of Japanese experts. ◦The role and duties of Japanese experts were not clearly specified. As a result, instruction on the use of some equipment was inadequate and technology transfer in some cases was impeded.	
相手方に起因する due to Phil. side			◦The preference for state-of-the-art technology inappropriate to the technical levels of the center was expressed by the Philippine side and equipment which could not be actually utilized were provided.	◦There was a high turnover of counterparts due to their status as temporary UP employees. ◦Due to an insufficient budget, mainframe computers and other facilities and equipment could not be properly maintained. In addition, development of textbooks and teaching materials was inadequate. ◦The majority of the instructors were young, new graduates with less training experience than the trainees.	◦The number of TTC trainees decreased when traffic related public organizations underwent a change in conjunction with the change in government administration. ◦A follow-up survey on graduates has not been well organized. ◦Implementation of the urban traffic plan has not progressed due to budget shortages and unspecified areas of jurisdiction by relevant agencies under a complex traffic administrative system.

教訓と提言

Lessons drawn from evaluation study and suggestions for future cooperation

	教訓 Lessons drawn from evaluation study	短期的提言(一年以内に対応すべき) Suggestions (short term)	中期的提言(1~3年以内に対応すべき) Suggestions (mid term)	長期的提言(今後の制度的改編が必要な) Suggestions (long term)
当方に対する To JICA side	・The contents of the plan met actual local needs, because the Japanese side had comprehended urban traffic conditions in the Philippines through previously implemented traffic-related projects. ・In order to avoid providing inappropriate equipment, local technical levels should be fully grasped during the preliminary survey. ・Autonomous development of the center was enhanced in conjunction with future plans to promote TTC to a regular unit of UP.			・In order to improve the language ability of Japanese experts, the selection system for experts and the language training program should be improved. ・In order to achieve efficient technology transfer, the role and duties of Japanese experts should be clearly specified.
相手方に対する To Phil. side	・The level of Japanese traffic technology was highly evaluated by the Philippine side through previously implemented traffic related projects which enabled acceptance of Japanese technology transfer. ・In order to avoid providing inappropriate equipment, local technical levels should be fully grasped during the preliminary survey. ・Autonomous development of the center was enhanced in conjunction with future plans to promote TTC to a regular unit of UP.	・Revise textbooks and other teaching materials.	・In order to maintain and improve the technical level of TTC, it is necessary to stabilize the status of instructors, carry out planned recruitment, and provide instructor training programs focused on both theory and practical application. ・The follow-up survey of graduates should be improved.	・Although a system to foster traffic technicians has been established and a system to develop urban traffic plans have been strengthened, coordination between relevant institutions is required for successful implementation.