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付属資料１．MINUTES

MINUTES OF DISCUSSIONS
BETWEEN JAPANESE ADVISORY TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE REPUBLIC OF INDONESIA
ON JAPANESE TECHNICAL COOPERATION
FOR
THE IRRIGATION ENGINEERING SERVICE CENTER PROJECT

JAKARTA, DECEMBER 19, 1996

MINUTES OF DISCUSSIONS
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The Japanese Advisory Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Katsuro SHIODA visited the Republic of Indonesia from December 9 to December 20, 1996.

The Team conducted an overall review and interim evaluation on the performance of the Irrigation Engineering Service Center Project (hereinafter referred to as "the Project") and provided necessary advice for the smooth implementation of the Project.

The Team had a series of discussions with the relevant authorities of the Government of Indonesia on the Project from technical and administrative points of view.

As a result of the discussions, the Team and Indonesian authorities agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Jakarta, December 19, 1996

Mr. Katsuro SHIODA
Team Leader
Japanese Advisory Team
Japan International Cooperation Agency
Japan

Mr. Soeparmono
Director General of
Water Resources Development
Ministry of Public Works
The Republic of Indonesia

WITNESS

Dr. Koensatwanto Inpasihardjo
Chief of Bureau for
Water Resources and Irrigation
National Development Planning Agency
The Republic of Indonesia

ATTACHED DOCUMENT

AN INTERIM EVALUATION REPORT
BY JAPANESE ADVISORY TEAM
FOR
THE IRRIGATION ENGINEERING SERVICE CENTER PROJECT
IN
THE REPUBLIC OF INDONESIA

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APPENDIXES

ANNEXES

1. INTRODUCTION

The Government of Indonesia requested technical assistance to the Government of Japan to establish a center which would give advice, guidance, and training to engineers on construction techniques in irrigation and drainage.

Technical type cooperation project named as The Construction Guidance Service Center Project (hereinafter referred to as "the CGSC project") has been carried out for seven (7) years from April, 1981 to March, 1988 and for two (2) more years from May, 1990 to May, 1992.

After the successful completion of the CGSC project, the Government of Indonesia requested to the Government of Japan further technical cooperation to the Irrigation Engineering Service Center Project (hereinafter referred to as "the Project") in April, 1991.

Both Governments have been undertaking the Project since June, 1994 for five years.

2. ACTIVITIES OF THE PROJECT

In accordance with the Record of Discussions (hereinafter referred to as "R/D") and Tentative Schedule of Implementation (hereinafter referred to as "TSI") signed on March 8, 1994, following activities are implemented.

(1) Development and improvement of technical standard(s), guideline(s) and manual(s)

① I,P&D

Improvement of technical standards for Investigation, Planning and Manuals

② O&M

Improvement of guidelines and/or manuals for Operation and Maintenance

③ R&U

Development of guidelines and/or manuals for Rehabilitation and Upgrading

④ SD

Improvement of System Development for investigation, planning, design, operation and maintenance, and rehabilitation and upgrading

(2) TRAINING

①Preparation of training plan, curriculum and materials

②Implementation of training

3. MEMBERS OF THE ADVISORY TEAM

(1) Katsuro SHIODA: Team Leader
Director, Tone River Basin Agricultural Land & Water Planning and Management Office, Kanto Regional Agricultural Administration Office, Ministry of Agriculture, Forestry and Fisheries (M.A.F.F.)

(2) Shin IMAI: Investigation, Planning and Design / System Development
Deputy Director, Overseas Land Improvement Cooperation Office, Agricultural Structure Improvement Bureau, M.A.F.F.

(3) Makoto MIYAKAWA: Rehabilitation and Upgrading/Operation and Maintenance
Construction Manager, Kutchan Agricultural Office, Otaru Development and Construction Department, Hokkaido Development Bureau, Hokkaido Development Board

(4) Hisatomo KANAYA: Technical Cooperation
Deputy Director Technical Adviser, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

(5) Masakazu SONOYAMA: Coordinator
Staff, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

4. OBJECTIVES OF THE EVALUATION

This interim evaluation aims at assessing the accomplishment of the Project at the middle stage of the cooperation period and making recommendations on the Project, for more effective technical cooperation during the remaining cooperation terms, to relevant authorities of both the Governments.

5. EVALUATION OF THE PROJECT

5-1. ITEM OF THE EVALUATION

5-1-1. Project inputs

(1) Japanese inputs
(a) Dispatch of Experts
(b) Acceptance of Indonesian Counterpart Personnel in Japan for training
(c) Provision of Machinery and Equipment
(d) Supplementary Expenditure for Local Cost
(e) Dispatch of Survey Teams

(2) Indonesian inputs

(a) Assignment of Counterpart Personnel and Administrative personnel

(b) Provision of Recurrent Expenses

(c) Implementation of Security measures

5-1-2. Project Activities and Accomplishments

5-1-3. Project Impact

5-1-4. Prospects for Sustainability

5-2. EVALUATION METHOD

This evaluation was conducted in accordance with the R/D and the TSI by the Team through report analysis, field visit and interviews and discussions with personnel involved in the Project.

6. RESULT OF THE EVALUATION

6-1. ACCOMPLISHMENTS IN TERMS OF INPUT

6-1-1. JAPANESE INPUTS

6-1-1-1. Dispatch of Experts

A total of six (6) long term experts have been dispatched well accorded with the R/D and the TSI. They include Team Leader, Coordinator (holding the post of "Training" concurrently), and experts in the field of "Investigation, Planning and Design", "Operation and Maintenance", "Rehabilitation and Upgrading", and "System Development" which are as stated in the R/D.

Fourteen (14) short-term experts have been dispatched. (ANNEX 1)

6-1-1-2. Acceptance of Trainees

Training of Indonesian counterpart personnel in Japan started in the Japanese fiscal year of 1994. Since then, nine (9) counterparts have visited Japan to participate in technical training. The duration of the training term in Japan was one (1) month in average. All the training programs have been efficiently conducted. More detailed information is given by ANNEX 2.

6-1-1-3. Provision of Machinery and Equipment

Machinery and equipment shown in ANNEX 3 were provided in order to carry out the Project activities effectively. All machinery and equipment provided have no doubt contributed to the Project activities.

6-1-1-4. Supplement of Local Cost Expenditure

The Japanese side paid part of the project management cost in order to implement the Project activities more effectively within the limited time allocation. Supplementary expenditure made by the Japanese side is shown in ANNEX 4.

6-1-1-5. Dispatch of Survey Teams

(1) Preliminary Survey Team

The Preliminary Survey Team was dispatched from October 13 to October 25, 1992 in order to asses the feasibility of the technical cooperation of the requested project.

(2) Long Term Survey Team

The Long Term Survey Team was dispatched from September 7 to October 10, 1993 in order to collect necessary background information and to formulate a tentative master plan of the proposed Project.

(3) Implementation Survey Team

The Implementation Survey Team was dispatched from February 27 to March 9 of 1994 in order to finalize the master plan and the tentative schedule of implementation of the Project.

The R/D and the TSI were then singed on March 8, 1994.

(4) Consultation Survey Team

The Consultation Survey Team was dispatched from March 7 to March 18, 1995 in order to formulate the detailed TSI as well as discussing the major issues related to the Project. (especially, the desirable measures to be taken by both Governments after the reorganization of Water Resources Development)

6-1-2. INDONESIAN INPUTS

6-1-2-1. Provision of Land, Buildings and Facilities

Facilities of the CGSC Project have been very effectively utilized for the Project.

6-1-2-2. Allocation of Budget

The Indonesian side allocated approximately 25 million Japanese yen (equivalent to 224 thousand dollars) in the last two years since the commencement of the Project.

6-1-2-3. Assignment of Counterparts and Other Personnel

Indonesian counterparts and other personnel were assigned to the Project as shown in the ANNEX 5.

6-2. PROJECT ACTIVITIES AND ACCOMPLISHMENTS

6-2-1. DEVELOPMENT AND IMPROVEMENT OF TECHNICAL STANDARDS GUIDELINES AND MANUALS

6-2-1-1. IMPROVEMENT OF TECHNICAL STANDARDS FOR INVESTIGATION, PLANNING AND DESIGN (I, P & D)

(1) Guideline for Irrigation Investigation and Planning

Task Force members completed the first draft of guideline for irrigation investigation and planning. This guideline describes the items and techniques of feasibility study (refer to appendix 1).

(2) Guideline for Fill Type Dam Design

Task Force members completed the part of survey and investigation of the first draft of guideline of fill type dam. This guideline describes the necessary items and techniques of fill type dam design. (refer to appendix 2).

(3) Updated guideline for irrigation facilities

To be eliminated, because of two (2) years remaining is not enough, and this will be the responsibility of Indonesian side.

(4) Technical Analysis

Following technical analysis programs were completed ; (i)Water hammer analysis for simple pipeline system and (ii)Drainage analysis of unsteady flow for coastal /swamp area.

(5) Case Studies

Following case studies were completed; (i)Survey of runoff analysis, (ii)Study of runoff analysis, (iii)Survey of water requirement at on-farm level, (iv)Survey of sedimentation, (v)Survey of seismic coefficient, and (vi)Study of finite element method.

(6) Seminar

Following seminars were conducted.

1994 - Operation rule of reservoirs

1995 - Operation rule of reservoirs , Sedimentation in dam reservoir, Tank model method , Long and short term runoff model , Finite element method for fill type dam

1996 - Operation of Seismography and its related software
- Dynamic analysis of fill type dam
- Geotechnical issues related to Hyogoken Nanbu Earthquake

6-2-1-2. IMPROVEMENT OF GUIDELINES AND / OR MANUALS FOR OPERATION AND MAINTENANCE (O & M)

(1) Improvement of Technical Guideline for Water Management and Maintenance of Irrigation Facilities

(a) Basic technical O&M guideline

The first draft of guideline was completed and discussed at work shop. The review and revise works for the finalization of the guideline have being carried on.

(2) Examination and introduction of irrigation water management technology for efficient use of water resources

(a) Case study to know actual water management situation

The report on the water balance analysis was made. The seminars to present analyzed result were held.

(b) Introduction of torrent intake structure

Totally 5 text books were provided. The seminars were held to diffuse the appropriate types of torrent intake structures. Three (3) torrent intake structures have been already constructed and one (1) is under construction as a result of the diffusion work.

(3) Improvement of operational procedure directive

To be eliminated, because of the organizational change of DGWRD, Directorate of Water Utilization & Conservation carried out this activity.

(4) Improvement of irrigation information system for O&M

This item is conducted with system development field. Following activities have been carried out; (i) development of the first version of the system and (ii) introduction of the system to 12 stations and user's training for 1.5 months at Metro Regional Irrigation Office.

Following activities have being carried on ; (i) test running of the system, (ii) after care and monitoring works and (iii) basic study concerning the improvement points towards the second version.

6-2-1-3. DEVELOPMENT OF GUIDELINES AND / OR MANUALS FOR REHABILITATION AND UPGRADING (R & U)

(1) Development of guideline for Rehabilitation and Upgrading Works

(i) The draft of R&U work guideline for open canal was conducted.

(ii) The data collection for R&U work guideline for head work has being carried on.

(2) Case study for evaluation system

A study on evaluation method of deteriorated structure was conducted.

(3) Case study for canal lining work

Materials test in Bekasi laboratory has been conducted.

(4) Seminar

Following two seminars were held ;

(i) Evaluation model for deteriorated structure

(ii) Asphalt materials test for irrigation canal

6-2-1-4. IMPROVEMENT OF SYSTEM DEVELOPMENT (SD) FOR INVESTIGATION, PLANNING DESIGN, OPERATION AND MAINTENANCE, AND REHABILITATION AND UPGRADING

(1) Improvement of Technical Calculation System

(a) Structure Design

Following activities have been carried out ; (i) Stability analysis on fill type dam, (ii) Stability analysis on head work and (iii) Calculation of torrent intake structure.

Following activity is to be eliminated, because of time limitation ; Stability analysis on concrete dam .

(b) Hydraulic analysis

Following activities have been carried out ; (i) Water level calculation on canal and (ii) Calculation of dimension of canal.

Following activities are to be eliminated, because of time limitation ; (i)Pipeline network system and (ii) Calculation of dimension of syphon.

(2) Improvement of data base system

(a) Inventory system for main irrigation facilities

Data base items were decided, detailed design of the system was made. Collection of sample data and development of the system have been carrying out.

(b) Filing system for irrigation scheme map

Existing mapping system was obtained. Sample maps have been carrying out for development of the system.

(c) Irrigation information system for O&M

This item is conducted in cooperation with O&M field.

(refer to 6-2-1-2 (4))

6-2-2. TRAINING

6-2-2-1. PREPARATION OF TRAINING PLAN, CURRICULUM AND MATERIALS

Training plan, Curriculum and Materiais for seminars and training were prepared by each field cooperated with Experts.

6-2-2-2. IMPLEMENTATION OF TRAINING

Ten (10) seminars and four (4) training courses have been conducted. The total number of participants reached 1,087. (refer to appendix 3)

Further, Japanese Experts of IESC have taken part in Third Country training between Developing Countries (TCDC) program as lecturers every year, that is nevertheless not included in the activity of IESC project.

6-3. PROJECT ACTIVITIES TO BE COMPLETED

6-3-1. DEVELOPMENT AND IMPROVEMENT OF TECHNICAL STANDARDS GUIDELINES AND MANUALS

6-3-1-1. I,P&D

Technical capability of engineers concerned IESC will be strengthened through following major five activities.

(1) Guideline for Irrigation Investigation and Planning

This guideline except financial and economic appraisal have been agreed by the Working Group. However, whole guideline in this field will be finalized by workshop and so forth.

(2) Guideline for Design of fill type dam

This guideline will be finalized after examined by the Working Group, workshop and so forth. Earthquake resistance design will be included in the design of dam body and foundation as well.

(3) Technical Analysis

Developed technical analysis programs of water hammer analysis and drainage analysis will be disseminated to central and local engineers.

(4) Case Study

Surveys on following items will be continued. Method of survey and analysis will be disseminated to central and local engineers.

(i) Survey of Runoff Analysis
(ii) Study of Runoff Analysis
(iii) Survey of Water Requirement at on-farm level
(iv) Regulating Gate
(v) Survey of Sedimentation
(vi) Survey of Seismic Coefficient

(5) Guideline for Counter Measures on Soft Soil

This item is to be added. Expected activity is to formulate the guideline which describes the basic measures of survey and design on soft soil.

6-3-1-2. O&M

(1) Improvement of Technical Guideline for Water Management and Maintenance of Irrigation Facilities

(a) Basic technical O&M guideline

The improvement of the first draft of the guideline will be completed. The guideline will be disseminated to central and local engineers.

(2) Examination and Introduction of Irrigation Water Management Technology for Efficient Use of Water Resources

(a) Case study to know actual water management situation

The necessary data collection and analyses will be continued for the analysis of water balance and water management in general.

(b) Guidance paper making to increase irrigation efficiency (for efficient water management)

The guidance paper will be made based on the result of above-mentioned case study.

(c) Introduction of torrent intake structure

The diffusion work will be continued. Manual will be prepared.

(3) Improvement of irrigation information system for O&M

Following activities to achieve the objective (supporting system for efficient water management) will be carried out during the project period.

(i) Improvement of the system as second version

(ii) Development of the graphic system

(iii) Monitoring works

(iv) User's training courses will be held

6-3-1-3. R&U

(1) Development of the guidelines

Activities on following R&U guidelines will be conducted.

(i) Head works

(ii) Small dam

(iii) Technical specification for R&U works

(2) Case study for evaluation system

Developed evaluation model will be tested in Lampung, West and Central Jawa, and other places.

(3) Case study for canal lining work

In accordance with the result of the laboratory material test , field test for canal lining work will be conducted in Lampung. This field test should be carried out on the responsibility of Indonesia. Further monitoring will be continued by Indonesian side (IESC Project).

6-3-1-4. SD

(1) Improvement of Technical Calculation System

(a) Structure design

Following activities are to be added ; (i) Stability analysis on gravity retaining wall and (ii) Stability analysis on invert T-type wall.

(b) Hydraulic analysis

The developed systems will be diffused to the engineers of DGWRD and Provinces through training.

(2) Improvement of Data Base System

(a) Inventory system for main irrigation facilities

Development of the system and training for users will be carried out.

(b) Filing system for irrigation scheme map

The following activities will be carried out (i) collecting sample maps, (ii) making detailed design, (iii) development of the system & the manual, and (iv) training for users.

(c) Irrigation information system for O&M

The activities will be conducted in cooperation with O&M field (refer to 6-3-1-2 (3)).

6-3-2. TRAINING

6-3-2-1. PREPARATION OF TRAINING PLAN, CURRICULUM AND MATERIALS

Training plan, Curriculum and Materials for seminars and training will be prepared in each field in coordination with the Training Working Group.

6-3-2-2. IMPLEMENTATION OF TRAINING

Seminars and training for each field will be mainly conducted through the Training Program of Middle-Level Technicians.

The training will be organized by Training Working Group in cooperation with Working Group of each related field. The training will be organized by the Training Working Group in cooperation with the Working Group of each related field.

6-4. PROJECT IMPACT

6-4-1. IMPACT

(1) Technical Impact

Technical guidelines for Investigation/Planning & Designing, Operation & Maintenance and Rehabilitation & Upgrading have been/are being developed or improved. Technical calculation and Data base systems also have been/are being developed to support them.

Those guidelines and programs are to be accomplished by the time of the project termination.

Through these activities, expertise of counter parts and task force members of IESC is being strengthened. Developed guidelines and computer programming systems and so on are being diffused through enlightenment/training programs etc.

It is expected that the activities of developing guidelines and the activities of training and diffusion using these developed materials will be continuously conducted after the project termination as well.

(2) Institutional Impact

In accordance with the progress of activities of developing guidelines and conducting training courses etc. for diffusion of the outputs, organizational systems is being strengthened to continue these activities which will serve for the human resources development.

6-4-2. EXTENT OF IMPACT

Technology transfer has being achieved through the development of technical guidelines. Further cooperative work between JICA experts and counterparts is needed. Also, strong and system-wide support of the DGWRD is required for the continuous dissemination of the project outputs.

Torrent intake structures of an improved type introduced as a part of the IESC program have been constructed in Aceh Province and other places.

O&M information system has been established in Lampung as a case study, and has verified its tremendous effect, though it is still on test run stage.

These technologies have a high probability to be spread over various places of the country.

It is well recognized that the irrigation efficiency will be surely increased through appropriate implementation of irrigation projects by using the Guidelines and O&M information system to be made by IESC.

In addition, O&M information system, improved type of torrent intake structure and R&U evaluation system of trial stage have been presented at academical meetings and seminars as the outputs of IESC project.

6-5. PROSPECTS FOR SUSTAINABILITY

There is no doubt in the anticipation that the activities of IESC project currently implemented with main site at Bekasi and sub-site at DGWRD will be continuously carried on even after the termination of Japanese cooperation under the responsibility of DGWRD, and the permanent body which will serve as Irrigation Information/Engineering Center of Indonesia, under DGWRD will be established in the near future.

Equipments provided by JICA and installed at DGWRD, Bekasi Office, Lampung and other places have been well maintained and continuation of good maintenance is expected in the future too, by the effort of Indonesian government (DGWRD).

7. CONCLUSIONS AND RECOMMENDATIONS

7-1. CONCLUSIONS (SUMMARY OF EVALUATION)

During the several months after the initiation at June 14, 1994, IESC Project faced with some difficulties and the project activities delayed compared to the schedule due to the re-organization of DGWRD, particularly the change of the handling Directorate, and to some other reasons.

However, owing to the effort of the DGWRD and, particularly, the Directorate of Technical Guidance, the handling directorate, IESC has been gradually recovering the pace of progress.

Counterparts have been properly stationed at Bekasi and DGWRD sites. Working Groups and Task Force groups have been well established.

Under such working system, each activity group experienced various kinds of trial and error to find appropriate way of conducting activities, in the early stages of the program. However, now they are carrying on their activities of making guidelines and data bases smoothly along the implementation schedule.

Such epoch making trials as O&M Information System in Lampung and Improved Torrent Intake Structure have been well conducted as a case study and have been gradually showing successful results.

On the other hand, some items have been delayed due to some constraints such as difficulty of appropriate data/information collection.

Taking these actual conditions into consideration , and also considering the importance of shifting the effort of IESC to the enlightenment and diffusion activities for the better utilization of the project outputs by central and local organizations concerned, the Detailed Tentative Schedule of Implementation (DTSI) for the remaining duration of the project was set up.

As described before, project activities have been well conducted in general by the effort of the concerned personnel of the both sides, and the expectation for the final result has been increasing, although there are some pending problems to be solved.

7-2. RECOMMENDATIONS

1. The Project should be implemented by the Indonesian side as its owner, and accordingly, the Indonesian side will make efforts to achieve the Project purpose.

2. Indonesian side should make effort to improve and strengthen the expertise by continuing the work of making appropriate guidelines and also should make effort for the enlightenment and dissemination activities so that these technology will be well used in all over the country.

3. More efforts of the Indonesian side is expected and required for;

(i) the project management during the remaining period including the effort to ensure the necessary budget for properly conducting project activities.

(ii) obtaining the necessary budget for the operation and maintenance of the equipments provided by Japanese side after the termination of Japanese cooperation, and,

(iii) taking necessary measures to establish a permanent organization that will sustainably function as the Irrigation Information /Engineering Center, after the project termination.

To put it concretely, DGWRD will have to start the preparation for establishing/strengthening the permanent body , so that;

(a)the project outputs, such as guidelines , technical programs and data bases will be sustainably and properly utilized, and

(b)the reliable basic data/information will be continuously collected.

4. The flow measurement devices related to Way Sekampung Irrigation Information System will be provided properly by Indonesian side.

5. The Japanese side will continue its cooperation as described in the R/D.

<Appendix 1> ----------→Accomplishment

CONTENTS OF GUIDELINE FOR IRRIGATION INVESTIGATION AND PLANNING (Contents of Guideline for pre F/S and F/S)

1. General

Purpose and Scope of Guideline/ Irrigation Development/ Explanation of Pre F/S/ Explanation of F/S

2. Data

Topography/ Geology/ Water Resources/ Agriculture and Land/ Social and Economic

3. Structure Planning

Water Resources Structure/ Canal/ Benefited Area/ Distribution Facilities

4. Social and Economic Survey

General/ Scope of Survey/ Items of Survey/ Analysis of data/ Process of Results

5. Agricultural Conditions

Crop/ Farmers Requirement/ Agricultural Facilities/ Farmers' Economic Survey

6. Water Balance

Available Water/ Water Requirement/ Water Balance Calculation

7. Land Use

Ownership/ Land Suitability/ Land Use Map

8. Environment

Analysis of Environmental Conditions/ Management and Conservation of Environment

9. Financial and Economic Appraisal

Financial Appraisal/ Economic Appraisal →Activity to be added

10. Report

Preliminary Report/ Progress Report/ Interim Report/ Final Report

<Appendix 2>----------→Accomplishment

CONTENTS OF FILL TYPE DAM DESIGN

1.General

General/ Scope of Application/ Definition of Terms/ Type of fill type dam/ Design and Construction of fill type dam

2. Investigation

2.1 Investigation Plan

Investigation Plan/ Items of Investigation

2.2 Investigation

Meteorology and Hydrology/ River Condition/ Topography/ Geology/ Material

3. Design

3.1 Selection of Dam Site and Dam Type

Dam Site/ Dam Type

3.2 Dimensions of Dam Body and Reservoir

Design Flood and Flood Level/ Reservoir Capacity/ Normal Full Water Level and Surcharge Water Level/ Non-Overflow portion and Dam Crest Elevation

3.3 Design of Dam Body and Foundation

3.4 Design of Spillway

3.5 Design of Outlet and Intake Facilities

3.6 Incidental Facilities

4. Construction

→Activity to be added

<Appendix 3>

A NUMBER OF PARTICIPANTS FOR SEMINARS AND TRAINING

FIELD		THEME	NUMBER OF PARTICIPANTS	TOTAL
I,P&D	Seminars	(1994) - Creager equation and its related topics (1995) - Operation rule of reservoirs, Sedimentation in dam reservoir - Tank model method, Long and short term runoff model - Finite element method for fill type dam (1996) - Dynamic analysis of fill type dam, Geotechnical issues related to Hyogoken Nanbu Earthquake	93 105 45 50 50	343
	Trainings	(1996) - Operation of Seismography and its related software	6	6
O&M	Seminars	(1995) - Torrent Intake Structure and O&M of Irrigation System - Operation and maintenance technology (1996) - Torrent Intake Structure - Water Balance Analysis in Way Sekampung Irrigation Area as Case Study	200 65 300 85	650
	Trainings	(1996) - Irrigation information system for O&M(=SD)	27	27
R&U	Seminars	(1995) - Rehabilitation and Upgrading	43	43
	Trainings	-----	-	-
SD	Seminars	-----	-	-
	Trainings	(1995) - LAN system - Map-Info, Map-Basic	16 2	18
TOTAL		Seminars	1,036	1,087
		Trainings	51	

ANNEX 1. A LIST OF JAPANESE EXPERTS DISPATCHED

1. Long-term Japanese Experts

No.	NAME	SPECIALITY	PERIOD
1	Mr. Masaki Shimizu	Leader	1994.6.14～1997.6.13
2	Mr.Michihiko Sakaki	Coordinator	1994.6.14～1997.3.25
3	Mr.Nobuki Marumo	Investigation,Planning,Design	1994.6.14～1997.6.13
4	Mr.Narihide Nagayo	Operation,Maintenance	1994.6.14～1997.6.13
5	Mr.Iwao Oki	Rehabilitation,Upgrading	1994.6.14～1997.6.13
6	Mr.Yasushi Hirasima	System Development	1994.6.14～1997.6.13

2. Short-term Japanese Experts

No.	NAME	SPECIALITY	PERIOD
1	Mr.Naritaka Kubo	Improvement of guidance or manuals for O&M, Development of guidance and manuals for R&U	1995.3.15～1995.4.12
2	Mr.Hideaki Tanaka	Improvement of technical Standard for Investigation Planning and Design	1995.4. 2～1995.4.20
3	Mr.Hiroyuki Taruya	Sedimentation in dam and river bed viability	1995.9.24～1995.10.7
4	Mr.Teruo Yamamoto	Water Utilization system by torrent intake structure	1995.9.17～1995.10.7
5	Mr.Naritaka Kubo	Evaluation system for rehabilitation upgrading	1995.9.20～1995.10.17
6	Mr.Hajime Hasegawa	System development for Irrigation Information system	1996.3.24～1996.4.20
7	Mr.Masami Ezaki	Operation and maintenance field	1996.1.16～1996.1.29
8	Mr.Hiroki Oue	Water distribution planning	1996.3.24～1996.4.20
9	Mr.Teruhiko Ota	Design mix & construction method for hydrauiic asphalt	1995.9.17～1995.10.16
10	Mr.Kazutake Yato	System development for Irrigation information system	1995.11.2～1995.11.30
11	Mr.Akira Murakami	Analysis for dam	1996.1.31～1996.2.10
12	Mr.Teruo Yamamoto	Planning and design of torrent intake structure	1996.10.27～1996.11.16
13	Mr.Susumu Masukawa	Structure analysis for Dam by FEM	1996.11.22～1996.12.6
14	Mr.Hiroki Oue	Contemplation method for Water management facilities	1996.11.24～1996.12.14

ANNEX 2. A LIST OF COUNTERPART PERSONNEL ACCEPTED TO JAPAN

No.	NAME	SPECIALITY	PERIOD
1	Mr.M.Napitupulu, Dip.HE	Irrigation and Drainage	1994.10.30～1994.11.20
2	Mr.Suwardi,Dip,HE	Irrigation and Drainage	1994.10.30～1994.11.20
3	Mr.A.T.M. Sitompul, M.Erg	Irrigation and Drainage	1995.7.20～1995.8.20
4	Mr.Subari BE	Rehabilitation and Upgrading Irrigation Infrastructure	1995.7.20～1995.8.20
5	Mr.Subari ME	Irrigation and Drainage	1995.7.20～1995.8.20
6	Mr.Aid Pramudio	Investigation,Planning,Design	1995.8.20～1995.9.20
7	Mr.Bambang S	Rehabilitation&Upgrading Irrigation Infrastructure	1996.1.20～1996.2.19
8	Mr.Danang Baskoro	Irrigation and Drainage	1996.1.20～1996.2.19
9	Mr.Muryadi ,ME	Water Resources Development	1996.5.28～1996.7.21

ANNEX 3. A LIST OF MAJOR MACHINERY AND EQUIPMENT PROVIDED

FY	No.	ARTICLE	MODEL	Quantity
94	1	Car	Daihatsu HILINE 4WD	3
	2	Photo Copy Machine	NP-6060	2
	3	PC	IBM2406,4MB memory	1
	4	PC	IBM2406,4MB	2
	5	Printer	Canon,LBP-B406GII	2
	6	PC	Think pad	2
	7	AC	Sanyo SAP-c122	3
	8	Server	IBM,PC server	1
	9	UPS	Powercom	1
	10	Pan Evaporating	EA506	1
	11	Cambell Stocks Sunshine	0-40N	1
	12	Camera	Canon,EOS10	3
	13	Video Movie	Sony,video8	1
	14	PC	IBM PS/V	6
	15	Microsoft Visual Basic		3
	16	Calling System	Cable,Comcetrator	1
	17	Meteorological Box		1
	18	Tape Back Up	Wangtek 1GB	1
	19	Modem	Multitec	1
	20	White board	with photo copy function	1
	21	Sound slide movie		1
	22	Printer	HP Laser jet 4L	4
	23	Current Meter	EA520	1
	24	Solar Panel		1
	25	Calcomp Digitizer	3400	1
95	1	Software	Lotus,Word Perfect,dBase4	1
	2	Strong Motion Seismograph	Kinemeric, EX USA	1
	3	Watchman Gate	W=0.6m,B=0.5m	1
	4	Recording rain Gauge & Evaporator	ERR-101	1
	5	PC	IBM-Desktop DX2-66	1
	6	PC	IBM-Desktop DX4-75	2
	7	Canal for watchman gate	W=0.6m,B=0.5m,L=10m	1
	8	Parshall type level flow meter		1
	9	Water level meter	RR-200	1
	10	Analysis software	3011440	1
	11	Data processor	for SSA-2	1
	12	PC	IBM Pentium 60 MHz	1
	13	HP design jet	650c(Ao)	1
	14	Midland radio tranceiver	Freq 406-470MHZ,Supply10A	9

FY	No.	ARTICLE	MODEL	Quantity
95	15	PC	IBM-300,486,DX2	3
	16	PC	IBM-300,486,DX2	8
	17	Omnidirectional Whip Antenna	with connector and 50m	9
	18	Telematic Data Modem & Software	Cable	9
	19	PC	IBM-300,486,DX2	1
	20	Map-Info	for Windows	1
	21	Map-BASIC	for Windows	1
	22	Vibrating Plate Compactor	for Windows	1
	23	AutoCAD	Mikasa type MVC-60	1
	24	Precision Balance OHAUSE	1600G	1
	25	Sieve for asphalt aggregate	Coarse Set Aggregate	1
	26	Winch Merk Maxpul	GM-3 00Kg	1
96	1	Suzuki Escudo	1600cc	1
	2	Kenwood Radio Transceiver	TK-708	3
	3	Tasco Radio Modem & Software		3
	4	Omnidirectional Antenna Yagi 9 Element 25m	with connector and 50m Cable	3

ANNEX 4. A LIST OF SUPPLEMENT OF LOCAL COST EXPENDITURE

1. JAPANESE INPUT

(UNIT : 1,000 J.Yen)

No.	ITEM	FY 1994	FY 1995	FY 1996
1	Local running cost	4,996	6,863	6,030
2	Special local running cost	1,500		
3	Cost for technical exchange		2,058	
4	Cost for emergency measures		527	
5	Cost for enlightenment and extension		6,069	5,957
6	Cost for development of proper technology		2,343	6,819
7	Cost for maintenance of highly sophisticated equipment			1,932
8	Cost for training of middle-level technicians			9,000
	Total	6,496	17,860	29,738

2. INDONESIAN INPUT

(UNIT : 1,000 J.Yen)

No.	ITEM	FY 1994	FY 1995	FY 1996
1	Local running cost	about12,000	13,005	20,163

ANNEX 5. A LIST OF COUNTERPARTS ASSIGNED

<NAME>	<FIELD>	1994	1995	1996	1997
1. Mr.Soenarno	Leader	94.6.14~94.8.5			
2. Mr.Hardjono	Leader			94.8.5~95.3.31	
3. Mr.Ir.Napitupulu	Leader		96.4.1~		
4. Mr.Ir.Kaman	Leader	94.6.14~95.1.10		96.7.19~	
5. Mr.Ir.Sitompul	Leader		95.1.5~		
6. Mr.Redha	Coordinator	94.6.14~94.8.5			
7. Mr.Drs.Nazwir	Coordinator	94.8.5~			
8. Mr.Drs.Kamran E.	Coordinator	94.6.14~			
9. Mr.Dra.Sukarni	Coordinator	94.6.14~96.7.19			
10. Mr.Ir.Napitupulu	I,P&D	94.6.14~96.4.1			
11. Mr.Ir.Sutanto H.	I,P&D		96.7.19~		
12. Mr.Ir.S.Nahid	I,P&D	94.6.14~96.7.19			
13. Mr.Muryadi	I,P&D		96.7.19~		
14. Mr.Ir.Pramudio	I,P&D	94.6.14~			
15. Mr.Sabirin	I,P&D	94.6.14~94.8.5			
16. Mr.Ir.Kartono	I,P&D	94.8.5~			
17. Mr.Ir.Margo	I,P&D		96.7.19~		
18. Mr.Suseno	O&M	94.6.14~94.8.5			
19. Mr.Ir.Zainuddin	O&M	94.8.5~			
20. Mr.Budiantoro	O&M	94.6.14~94.8.5			
21. Mr.Ir.Lumbangaol	O&M		94.8.5~95.10.1		
22. Mr.Ir.Baskoro	O&M		95.10.1~		
23. Mr.Subari,ME	O&M	94.6.14~			
24. Mr.Pamungkas	O&M	94.6.14~			
25. Mr.Ir.Bambang W.	R&U	94.6.14~96.7.19			
26. Mr.Ir.Ketut Kaler	R&U		96.7.19~		
27. Mr.Hasan	R&U	94.6.14~94.8.5			
28. Ms. D.Usman	R&U	94.8.5~95.12.3			
29. Mr.Bambang S.	R&U		94.12.3~96.2.1		
30. Mr.Ir.Sitohang	R&U	94.6.14~			
31. Mr.Subari,BE	R&U	94.6.14~			
32. Mr.Sonny	R&U		96.2.1~		
33. Mr.Wahyu H.	SO		94.12.1~		
34. Mr.Suprapto	SO		94.12.1~96.7.19		
35. Mr.Supodo	SO		94.12.1~96.7.19		
36. Mr.Suwardi	SO	94.6.14~			
37. Mr.Sitompul	SO		94.6.14~96.1.5		
38. Mr.Dianto	SO		96.1.5~		
39. Mr.Hasan M.	SO		96.4.5~		
40. Ms.Midiah	SO		96.7.19~		
41. Mr.Darmono	IPD & RU		96.7.19~		

ANNEX 6. REVISED DETAILED TENTATIVE SCHEDULE OF IMPLEMENTATION
(June 14, 1994 - June 13, 1999)

Items of Activities	1994	1995	1996	1997	1998	1999
1. Investigation Planning and Design Field						
1-1 The Technical Guidelines						
1-1-1 Guideline for Irrigation Investigation and Planning						
1-1-2 Guideline for Design of Fill Type Dam						
1-1-3 Review and Improvement for Guidelines for Design of Irrigation Facilities (eliminated)						
1-1-4 Review and Improvement for Typical Design Book (eliminated)						
1-1-5 Guideline for Counter Measure for Soft Soil (added)						
1-2 Technical Knowledge and Method						
1-2-1 Technical analysis (*1)						
(a-g : eliminated, h-i : added)						
a) Stability analysis on fill type dam						
b) Stability analysis of concrete dam						
c) Stability analysis on head work						
d) Water level calculation on canal						
e) Calculation of dimension of canal						
f) Hydraulic analysis for Pipeline networks						
g) Hydraulic analysis for Siphon						
h) Water hummer for simple pipeline						
i) Drainage analysis for coastal / swamp area						
1-2-2 Case study						
a) Survey of water requirement at on-farm level						
b) Survey of seismic coefficient						
c) Survey of runoff analysis method						
d) Study of runoff analysis method						
e) Survey of Sediment						
f) Study of Finite Element Method						
g) Regulating Gate (added)						

* 1)Technical calculation systems developed in the field of SD are reflected and utilized in the field of IPD.

plan as of a visit of consultation survey team .....
plan of development as of a visit of advisory team ———
plan of dissemination as of a visit of advisory team ———

Items of Activities	1994	1995	1996	1997	1998	1999
2. Operation and Maintenance Field						
2-1 Complementary of existing O&M guidelines to be National Guidelines and its diffusion						
2-1-1 Review and Revise through the feedback from the fields and training module making						
+ Basic technical O&M guideline						
+ Operational procedure directives for (eliminated)						
- Technical irrigation scheme						
- Semi technical irrigation scheme						
- Simple irrigation scheme						
2-1-2 Trial, Training and Diffusion of Basic technical O&M guidelines						
2-2 Examination and introduction of irrigation water management technology for efficient use of water resources.						
2-2-1 Case study to know actual water management situation						
2-2-2 Guidance paper making to increase irrigation efficiency						
2-2-3 Introduction of the torrent intake structure						
2-3 Improvement of O&M information procedure as model						
2-3-1 Computerization of O&M procedure sheets and communication system						
2-3-2 Application of computerized O&M information procedure in case study area						
2-3-3 Monitoring and Evaluation						

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plan of development as of a visit of advisory team ═══

plan of dissemination as of a visit of advisory team ———

Items of Activities	1994	1995	1996	1997	1998	1999
3. Rehabilitation and Upgrading Field						
3-1 Development of guideline						
3-1-1 Open Canal						
3-1-2 Head Work						
3-1-3 Small Dam						
3-1-4 Technical Specification of the R&U work						
3-2 Case study and examination for evaluation system for R&U planning						
3-3 Case study and examination of the canal lining work						

plan as of a visit of consultation survey team .....
plan of development as of a visit of advisory team ———
plan of dissemination as of a visit of advisory team ———

Items of Activities	1994	1995	1996	1997	1998	1999
4. System Development Field						
4-1 Technical calculation system						
4-1-1 Structure design program						
4-1-1-1 Stability analysis on fill type dam						
4-1-1-2 Stability analysis on concrete dam (eliminated)						
4-1-1-3 Stability analysis on head work						
4-1-1-4 Calculation of torrent intake structure(added)						
4-1-1-5 Stability analysis on gravity retaining wall (added)						
4-1-1-6 Stability analysis on invert T-type wall (added)						
4-1-2 Hydraulic analysis program						
4-1-2-1 Water level calculation on canal						
4-1-2-2 Calculation of dimension of canal						
4-1-2-3 Pipeline network system (eliminated)						
4-1-2-4 Calculation of dimension of syphon (eliminated)						
4-2 Data base system						
4-2-1 Inventory system for main irrigation facilities						
4-2-2 Filing system for irrigation scheme map						
4-2-3 Irrigation information system for O&M						

plan as of a visit of consultation survey team .....
plan of development as of a visit of advisory team ━━━
plan of dissemination as of a visit of advisory team ———

Items of Activities	1994	1995	1996	1997	1998	1999
5. Training Field						
5-1 Preparation of training plan, curriculum and material	.....	.....	.....	.....	.....	.....
5-2 Implementation of training		.....	.....	.....	.....	.....

plan as of a visit of consultation survey team .....
plan of development as of a visit of advisory team ═══
plan of dissemination as of a visit of advisory team ———

付属資料２．第２回ＪＣＣ議事録

REFERENCE FOR THE SECOND JOINT COORDINATING COMMITTEE MEETING

AUGUST 19, 1996

MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
DIRECTORATE OF TECHNICAL GUIDANCE
IRRIGATION ENGINEERING SERVICE CENTER
(BAGIAN PROYEK PENGEMBANGAN DAN PENGELOLAAN PENGAIRAN)

LIST OF CONTENT

Nomor :
Lampiran :

Jakarta, Agustus 1996.

Kepada Yth. :
.....
.....
Di .....

Perihal : Undangan Rapat "The Second Joint Coordinating Committee Meeting" untuk Proyek IESC.

Dalam rangka Kerjasama Teknik antara Pemerintah Indonesia cq DGWRD (Proyek
IESC) dengan Pemerintah Jepang cq JICA (BTA - 195), dengan hormat kami mengundang Saudara untuk mengikuti rapat yang akan diadakan pada :

Hari / tanggal	:	Selasa, 13 Agustus 1996.
Jam	:	10.00 - selesai.
Tempat	:	Ruang Sidang Jatiluhur Gedung Utama Lt. 3, Ditjen Pengairan Jl. Pattimura No. 20 Jakarta.
Pemimpin Rapat	:	Bapak Dirjen Pengairan.

Atas perhatian dan kerjasama Saudara kami ucapkan terima kasih.

Direktorat Bina Teknik
Direktur,

Ir. M. Napitupulu, Dip. HE.
NIP. 110010712.

Tembusan Kepada Yth. :
1. Dirjen Pengairan *(sebagai laporan)*.
2. Sekditjen Pengairan.
3. Kabag Umum, Ditjen Pengairan.
4. A R S I P.

Daftar Yang Diundang :

1. Direktur Jenderal Pengairan
2. Sekretaris Direktorat Jenderal Pengairan
3. Direktur Bina Teknik
4. Direktur Pembinaan Pelaksanaan Wilayah Barat
5. Direktur Pembinaan Pelaksanaan Wilayah Tengah
6. Direktur Pembinaan Pelaksanaan Wilayah Timur
7. Direktur Bina Program
8. Direktur PPSDA
9. Kepala Pusat Penelitian dan Pengembangan Pengairan
10. Kepala PUSDATA
11. Kepala Balai Irigasi
12. Team Leader Expert JICA
13. Pemimpin Bag. Pro. Pengembangan dan Pengelolaan Pengairan/IESC Project

AGENDA OF SECOND JOINT COORDINATING COMMITTEE MEETING.

1. Date : August 19, 1996.

2. Time : 10.00 AM ~ 12.00 PM.

3. Place : Jatiluhur Conference Room, D G W R D.

4. Chairman : Director General of Water Resources Development.

5. Agenda :
   1) Opening Speech by Director General.
   2) Progress Report in the Fiscal Year 1995, and Work Plan in the Fiscal Year 1996 of :
      - ~ Operation & Maintenance.
      - ~ Rehabilitation & Upgrading.
      - ~ System Development.
      - ~ Survey Investigation & Design.

      by Project Director (Director of Technical Guidance).
   3) Input from Government of Japan to the IESC Project by JICA Representative Office and Continuing by Team Leader of Japanese Experts for IESC.
   4) Input from Government of Indonesia to the IESC Project by Director of Technical Guidance.
   5) The problems fundamental points on the implementation of the IESC project.
      - ~ by Project Manager of IESC.
      - ~ by Team Leader of Japanese Experts.
   6) Discussion
   7) Conclusion and Closing by Director General.

... SELENGKAPNYA DAN DITINGGAL DI RUANG SIDANG

DAFTAR HADIR RAPAT

RUANG SIDANG : A B C ABC AB BC

ACARA : THE SECOND JOINT COORDINATING COMMITTE MEETING

HARI TANGGAL : SENIN, 19 AGUSTUS 1996.

JAM : 10.00 s/d

PIMPINAN : DIREKTUR JENDERAL PENGAIRAN

Nomor	Nama	Jabatan	Instansi	Tanda tangan
1.	Ir. SOEPARMONO	DIRJEN PENGAIRAN	Ditjen Pengairan	[signature]
2.	TADA tomoyuki	JICA Rep. Office	Staff.	[signature]
3.	[illegible] SAKAKI	IESC JICA	Expert	[signature]
4.	Masaki SHIMIZU	"	Team Leader	[signature]
5.	Yasushi HIRASHIMA	"	Expert	[signature]
6.	Isao OHKI	"	"	[signature]
7.	Busra.	Kasi	PRSDA	[signature]
8.	Sri Sawitri		Pusdata	
9.	Nanick V.M		Pusdata	[signature]
10.	[illegible] S.S.	[illegible]	PTP.	
11.	[illegible]	Kasi	[illegible]	[signature]
12.	Aro Suwarsa	Kasi Bud.	BPP.	
13.	MARTONO	DIR	DIT BAR	[signature]
14.	K. Marpaung	Dir BPP	Ditjen Pengairan	[signature]
15.	K. [illegible]	Ka. Bdn Irigasi	Proni	[signature]
16.	A. TOMMY H. SITOMPUL	PIN. PRO. IESC	IESC - Ditjen Pengairan	[signature]
17.	H. NAPITUPULU	Dir. Bin. Tek	Ditjen. Pengairan	[signature]
18.	RUBIYANTO	KSD II.	DIT. BIN. LAK. PIH.	[signature]
19.	Wintang Anggraini	IESC	IESC.	[signature]
20.	Sulistiah	IESC	IESC.	[signature]
21.	Komaran Erang	IESC	IESC	[signature]
22.				
23.				
24.				
25.				

X

1. Opening Speech by Director General of Water Resources Development

* Representative of JICA in Indonesia,

* Ladies and Gentlemen,

Allow me, first of all, to express my appreciation to all of you for sparing your time

to be here to attend and to participate the Second Joint Coordidating Committee Meeting as one of the agenda in the implementation of the Irrigation Engineering Service Centre (IESC) Project, where the Record of Discussions and Minutes of Understanding concerning this Project signed on March 8, 1994.

As stated in the Record of Discussions and Minutes of Understanding of this IESC Project, the main purpose of this Second Joint Coordinating Committee Meeting is to evaluate the progress of the Project in the fiscal year 1995/1996; and to examine the work plan in the fiscal year 1996/1997.

*Ladies and Gentlemen,

As recorded from the report submitted by the Project Director of IESC, in general

the project progress have met the work plan in the fiscal year 1995/1996, although, it was recognised that a few manuals/guidelines have not been finished completely due to some constrains. The first year's experience shows that to some extent the strengthening of counterparts and task force members Project have been accomplished through cooperated work in the establishment/improvement of guidelines, technical calculation and data base system.

In the fiscal year of 1995/1996, 4 (four) workshops/seminars have been conducted and 9 (nine) short-term experts have been dispatched from Japan for the respective fields. These have given significant contribution to anticipate the problem in the field

of water resources development of the water schemes in Indonesia. As also mentioned in the exchange of notes of this Project, a number of equipment have been provided for the purpose of study case of water management information system in Lampung , seismograph for Jatiluhur Dam and laboratory equipment for indoor and outdoor test.

*Ladies and Gentlemen,

In order to support the decentralization program launched by the government the need of these guidelines have been significant. Hence, for the expected activities in the fiscal year 1996/1997, I would like to request to each Task Force members to finalize the establishment of the guidelines according to the work plan target. Priority should be placed on the applied evaluation system for determining the time for rehabilitation and upgrading works including the estimated budget/cost for Operation and Maintenance Works as well as Rehabilitation and Upgrading Works.

The establishment of this manuals/guidelines will be supported by the affectivity of the dissemination of this information to the user in the provinces or projects in the field. Hence, the dissemination of these guidelines/manuals/technical standards should be anticipated and arranged from now on.

*Ladies and Gentlemen,

In conclusion, allow me on behalf of the Indonesian Government to thank the Government of Japan through the Japan International Cooperation Agency (JICA) for its assistance of equipment, short-term expert and counterpart training.
Moreover, I would like to express my appreciation to the Working Group and Task Force members in its cooperation with the Japanese Experts who have already made a high effort to complete the 1995/1996 fiscal year program and to formulate the draft of work plan in the fiscal year 1996/1997.

In addition, I would like to invite the Joint Coordinating Committee to finalize the expected activities of the IESC Project in the 1996/1997 program.

Finally, I wish to open this Second Joint Coordinating Committee officially. Thank you very much.

Jakarta, August 19, 1996

Director General of Water Resources Development,

Ir. Soeparmono

2. **Progress Report in the Fiscal Year 1995/1996, and Work Plan in the Fiscal Year 1996/1997 by IESC Project Director.**

Thank you Mr. Chairman,

A) I feel honoured to have an opportunity to report the IESC project progress in 1995/1996 fiscal year and to explain the work plan in the 1996/1997 fiscal year. First of all, I really appreciate Mr. Chairman and everyone who assist and collaborate with us especially the Working Group and the Task Force members for IESC Project.

As mentioned in the Opening Speech by Director General of Water Resources Development, the overall progress of IESC activities in the fiscal year 1995/1996 for respective fields have met the work plan stated in 1995/1996, as follows :

A1) Investigation, Planning and Design (IPD) field :

In establishment of guideline/manuals, the first draft (in bahasa Indonesia) of 1) Guideline on feasibility study and pre-feasibility study of Irrigation Development; and 2) Guideline on Investigation, Survey and Design of Fill type Dam have been completed.

The case study of runoff analysis by tank model was completed according to the schedule, although there were two others study cases were not finished yet such as the case study of seismic coefficient; and the case study of reservoir sedimentation for the dam design purposes due to delay of the equipment.

Workshop on "Reservoir Operation and Sedimentation" have been successfully conducted on September 28-29 1995 and the proceeding of the workshop has been completed.

A2) Operation and Maintenance (O & M) field :

In establishment of guidelines/manuals, O & M field resulted the first draft (in bahasa Indonesia) Basic technical O & M guideline.

The case study of irrigation water management is being conducted and

investigating in Lampung Province. Based on this case study the Operation and Maintenance Information Procedure is attempted to be improved by the application of computerization of O & M Procedure and Communication System in Way Sekampung Irrigation Scheme, Metro, Lampung Province.

Workshop on "Introduction of Torrent Intake Structure and Operation & Maintenance of Irrigation System" have also been successfully implemented on October 4-5 1995 and the proceeding of the workshop has been completed.

A3) Rehabilitation and Upgrading (R&U) field :

The first draft of 1) Guideline of R & U works for canal and its structure; and 2) R & U Criteria & Evaluation System (in bahasa Indonesia) was finished.

The case study of R&U evaluation system have been conducted in Lampung and Central Java Provinces.

Workshop on "Rehabilitation and Upgrading Works for Irrigation Facilities" have been held on October 9-10 1995 and the proceeding of the workshop has been finalized.

A4) System Development and Data Base (SD&DB) field :

In the sub field of technical calculation, four program have been established such as Stability of headwork, stability of the fill type dam, water level calculation on canal; and calculation of canal dimension.

In the sub field of data base system, the computerization of operational sheets and monitoring system-visual system for Irrigation Water Management Information System have been resulted.

Two short-training for counterparts have been implemented in the subject of Local Area Network System and MapInfo Software Program.

B) The work plan activities in the respective fields in the next fiscal year 1996/1997 could be explained as follow :

B1) Investigation, Planning and Designing (IPD) field :

Those two first draft above will be reviewed through a serial and intensive

discussion amongst the Working Group members with additional data from the result of study cases.

Five study cases will be continued, such as study case on Seismic Coefficient; Water Requirement at farm level; Hydrology and Climatology; Reservoir Sedimentation; and Check gate.

Several workshop will be continuously conducted on Unsteady flow analysis; Countermeasures for sedimentation in the reservoir; and earthquake response analysis for fill type dam/seepage flow analysis for fill type dam.

B2) Operation and Maintenance field :

The completion of final draft of Basic technical O & M guideline will be continued in this fiscal year through the serial workshop will be held in the several provinces.

The case study to investigate the actual water management situation will be continued and the introduction of Torrent Intake Structure will be also continued by preparing the planning and designing text book.

The improvement of O & M Information Procedure will be continuously studied in Metro, Lampung Province.

B3) Rehabilitation and Upgrading field :

The final draft of Rehabilitation and Upgrading Works for canal and its structure will be completed in this fiscal year as well as to finalize the concept of guideline R & U works for head works.

Two study cases will be held in the term of 1) R&U evaluation system; 2) canal lining for R&U works, those case study will be taken place in Lampung Province.

Several workshops will be held in the following topic : 1) Guideline of Rehabilitation and Upgrading Works for Canal and its Structure; 2) Criteria for preparing the Rehabilitation and Upgrading Works of Irrigation Facilities.

B4) System Development and Data Base field :

In this fiscal year the sub field of technical calculation will prepare the manual

of software program for Stability analysis of fill type dam; Stability analysis of gravity retaining wall; and Water level calculation on canal.

While sub field of data base will improve the Irrigation Information System for O&M; to develop the Inventory System for Main Irrigation Facilities; and to prepare the basic design of Filling System for Irrigation Scheme Map.

Finally, I would like to conclude my report and explanation concerned the progress and the work plan of IESC activities, and thank you very much for your attention.

Jakarta, August 19, 1995

Director of Technical Guidance,

Ir. M. Napitupulu, Dipl. HE

3. **Input from Government of Japan**

3.1. Dispatch of Experts

(1) Long term Experts

6 persons for 5 fields will be continued

(2) Shorth term Experts

Shorth term experts has been dispached : 2 persons in 1994, 9 in 1995/1996 and 8 persons plan to be dispatched in 1996/1997 for the smooth implementation of the project as shown on page 12.

3.2. Equipment of Provision

In accordance with the project activities, necessary equipments have been provided, as shown on page 11.

3.3. Acceptance for Trainees

Annually, several persons involved in the project have been aplied as Trainee to Japan, as shown on page 12A.

Input from Government of Japan to the IESC Project by JICA Representative Office and Continuing by Team Leader of Japanese Experts for IESC.

Good Morning, Ladies and Gentlemen,

It is very honorable to me to Joint Coordinating Committee for our IESC Project. On behalf of the representative office of Japan International Cooperation Agency in Jakarta, I would like to make some comments on the topics which Mr. Chairman introduced.

Firstly, I would like to give a brief explanation on the current trend of the Official Development Assistance by the Government of Japan, and also on perspective of JICA.

As you may have already noticed in media, recently the government of Japan decided to change its policy and the budget sealing in response to the revenue has become applied to its overseas development assistance. Reflecting this policy change, the growth rate of Japan's ODA budget in the fiscal year 1996 will record the lowest in its long term history.

On the other hand, Japanese overseas development assistance is collecting many

expectations from new recipient countries such as former central planning economies in Europe and Asia. The number of recipient countries are dramatically increasing, because other aid donors cannot afford to extend their official assistance to a great extent.

In addition, tax payers' view to the ODA is becoming more and more strict about the effectiveness of development projects. We do need to formulate and carry out development projects which can bring about more visible, direct, concrete and appreciable impacts to the socioeconomic development of the recipient countries. In line with this trend, JICA will be expected to play an important role in providing projects which have, in our words, the best quality and minimum cost.

Ladies and Gentlemen,

I am very afraid to extend this kind of discussion, but please forgive me to do it a little bit more, in connection with our assistance to the irrigation & water resource management subsector in Indonesia.

As you know, although development of agricultural sector is crucial in the overall development in this country, development activities to other economic sectors tend to collect donors' attention, reflecting economic diversification based on the hyper economic growth. This new trend further require us to pursue efficiency in our assistance to the agricultural sector as well as aforementioned budget sealing . Therefore, we have started the Third Umbrella Cooperation Program by which we tried to keep integration of our aid operation.

If we can presume that the irrigation & water resource management is one of the subsectors in the agricultural sector, we must think about a harmony with the Third Umbrella Cooperation at the time of project planning and implementation on irrigation and water resource management subsector, from now on.

By the way, Ladies and Gentlemen,

Having discussed the current trend of our operation, let me move onto discussion about this IESC projects.

First, in the new trend which considers efficiency of operation, we need to confirm

that the main actor in the development operation is recipient. All that aid givers can do is to help these actors in their aggressive contribution.

In this respects, proper arrangement of local budget and counterpart personnel is inevitable condition to our assistance.

Second, operation for providing equipment should be reviewed in the new decade where we must pursue efficiency and effectiveness. Quantity and variety of equipment must be strictly limited to what is very needed. The delivery time cannot always meet your requirements. Also, you are strongly required to utilize such equipment as already provided to the maximum extent. You need to cope with this situation, in consultation with the Japanese experts.

Third, the discussion of efficiency and effectiveness should be extended to counterpart training program in Japan. I would like to talk to those who will be invited to the program. You are selected among your colleagues not only because you can develop yourself but also because you are eligible to feedback the results into all the people involved in the project. You are requested to have a concrete objectives and targets before you participate in the training. Also, you had better consider the fact that we have four seasons in Japan, as is different from Indonesia, when you make planning of the training in Japan.

Ladies and Gentlemen,

Fortunately, I have had an report by Mr. Shimizu and other experts that the project is processed as scheduled, except some minor discrepancies. This time, I would like to give you suggestions in several aspects, based on the aforementioned discussion about efficiency and effectiveness.

First, a variety of incentives should be provided to counterpart personnel who contributes to the core of project activities. For example, opportunities to study abroad encourages such a contribution.

Second, in order to improve the quality of this project, we need to drew comprehensive contribution by DGWRD. Utilizing institutional arrangement of DGWRD such as working group and task force should be a good methodology.

Third, development of appropriate standards and data-base system under this project

cannot go without Indonesian contribution to collect information.
Needless to say, local budget arrangements are crucial to do so. This is what Indonesia side should do by themselves and JICA is in no position to do it.
Finally, we do need to confirm the existence of similar programs to those which we tried to develop. This also very important, in view of efficiency of Japanese Technical Assistance. We cannot afford to spend resources to duplicate existing program, in view of efficiency.

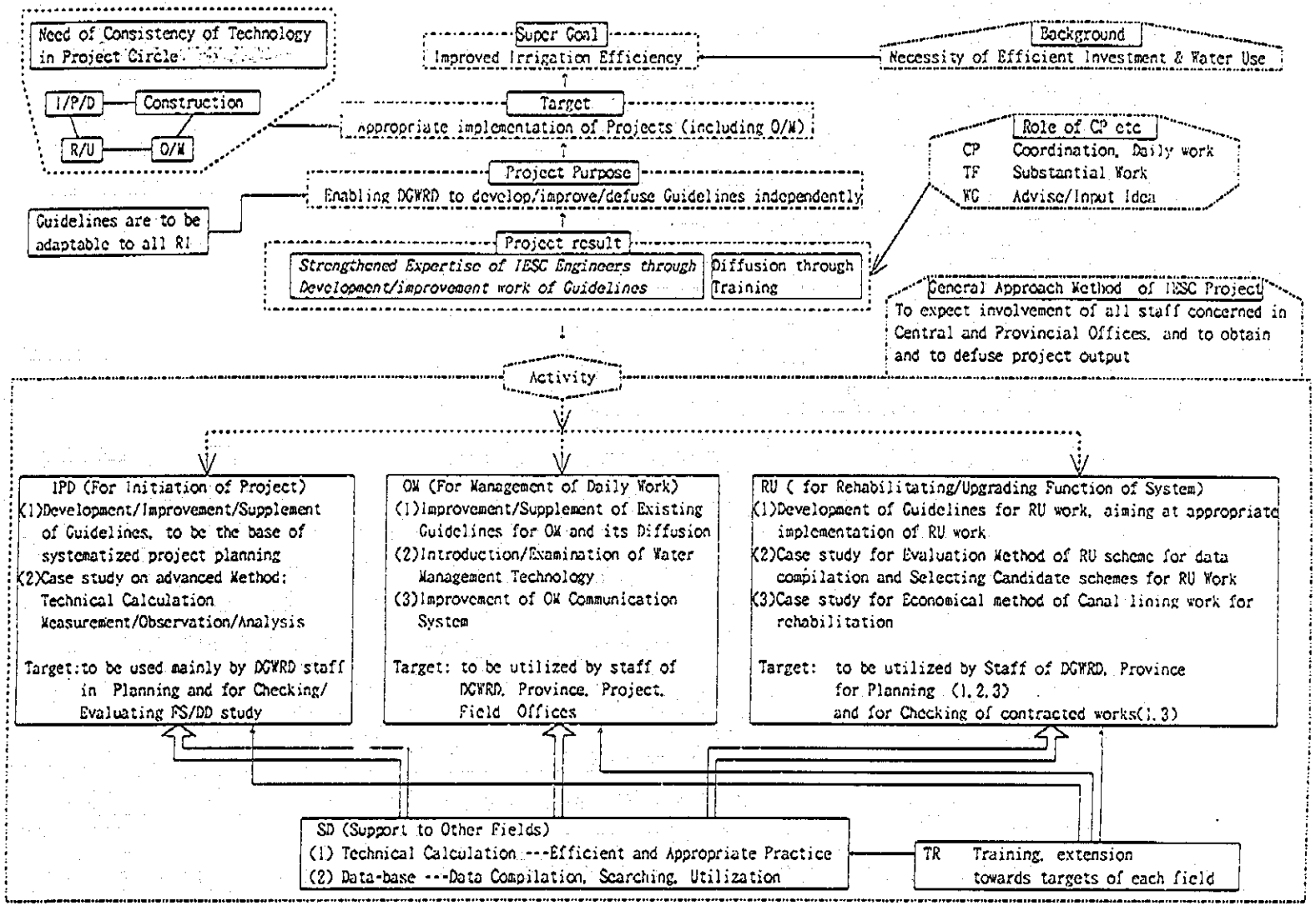
Ladies and Gentlemen,

In conclusion of my address, I would like to speak a little about the forthcoming Japanese Study Mission for Interim Evaluation. This mission will not only discuss the progress of project activities but also obtain your perspectives on the future activities of IESC. We have already noticed that you have a forecast to develop IESC as a center for information & technology of irrigation, since the beginning of the cooperation project. If you still try to keep this idea, you will explain it to the mission. However, may I suggest that institutional development is inevitable to materialize your plan, in particular for information collection and information conservation.

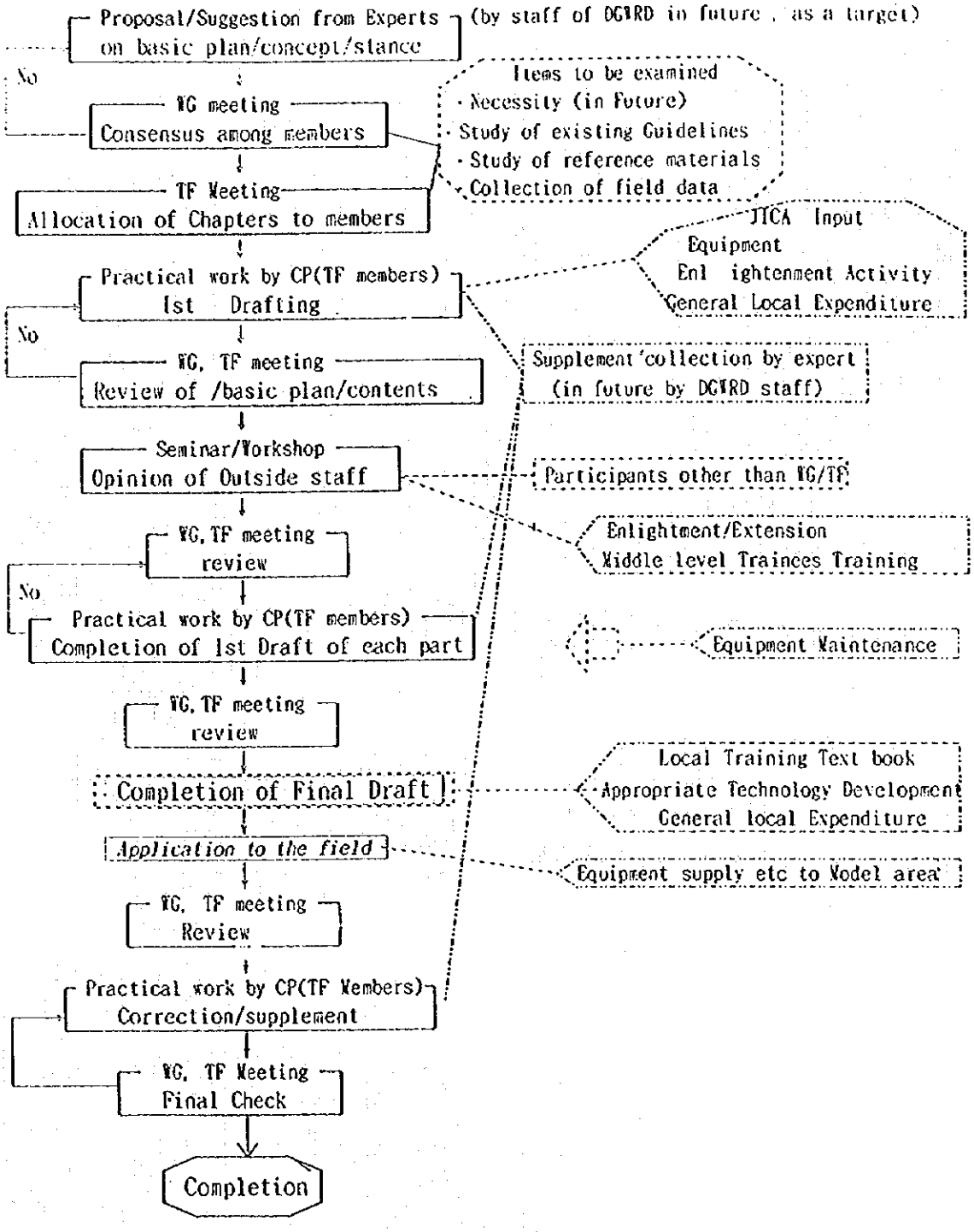
Ladies and Gentlemen,

Thank you very much for your attention.

The Whole Scope of IESC, Irrigation Engineering



Flowchart of the work to make Guidelines



Preparation of Irrigation Engineering/Information Center

Present		Situation at the Project End		After 1999		
IESC		Original target	Present anticipation	Irrigation Engineering & Information Center	IESC II (Proposal)	
Objective	Activities			Activities	Objective	Activities
Strengthening expertise of Counterparts through Cooperated work on establishment/ improvement of Guide lines. Technicalcula-tion and Data-base.	1) IPD Standards of : Project Planning. Design of Fill-dam Canal case study on : Technical calculation. Technical measurement/ analysis 2) OM Guideline/Directive Case study of Water management OM information system Intake from stream 3) RU guideline Case study of RU Evaluation system Canal Lining method 4) SD Technical calculation Data base (OM Information) Irrigation Inventory (RU Evaluation) Scheme Map Filing 5) Training	1) General situation : CP alone can manage/ conduct continuosly to develop/improve/and practice : guidelines data-base 2) Visual outputs : (1) Guidelines : Project planning Fill-dam. Canal (1-Draft) OM Guideline RU Guideline (2) Case study : calculation Programs OM Information system Inventory system Scheme Map-file system Demonstration of Canal lining method Tech. Measurement & analysis (3) Training : Using Outputs	1) General situation : Expected outputs will be made. But for the regular utilization Intensified preparation is necessary. 2) Visual outputs : (1) Guidelines : Same to left (data)*1 -do- (scarecity) -do- -do- (2) Case study : development only*2 practiced for limited areas *3 -do- *3 selected method only *3 selected method only *4 Limited data only*5 materials from outputs	RI's Full Management 1) standards. Guidelines : Expansion/improvement of standards/guidelines as. Continuous routine work under the supervision of Working group/committee 2) Technical Calculation : Practice of calculation and increase/improvement of programs based on demand from projects. etc 3) Information services : Compilation and use of General information on Engineering and projects/ programs 4) Training	1) Assistanee to IE & IC 2) Demonstration of the results of IESC at field	1) To provide technical support to IE & IC and communication with Field site 2) Implementatio n of Field Project at South Sulawesi to demonstrate the result of IESC-outputs.

Necessary condition for the establishment of proposed Irrigation Engineerings and Information Center

1. Status of IESC Bekasi Office	* The rank to be raised enabling to conduct independently budget request, discussion with/instruction to Directorates of DGWRD and Projects/Provinces * To be a Parmanent office of same ranking as Directorates	immediately needed to start preparation immediately
2. Personnel	* High rank staff having farsighted view to elaborate for the realization of the center (same level as Chief of Sub-directorate/Section of DGWRD) * High rank Staff to become chief of (1) to (5) fields of proposed Center (same level of chief of Sub-directorates of DGWRD) * Promising staff to be trained as future core staff to conduct daily work of (1) to (5)	immediately needeed to start preparation immediately
3. Budget	* Sufficient budget allocation for data collection, etc.	immediately needeed
4. Data collection structure	* Establishment of sound and strong information collection system guaranteed with budget and staff, described by laws and requlations. (DG Decree) clearly stating the role and significance of the work of each level : Survey and recording of primary data at field. Collection/transmission at local organizations. Final collection. Checking/analysis at the Center.	To start preparation immidiately.

Progress and Problem

Activity items	Progress/result	Shortcoming	Constrains	Solution/Required Countenmeasures	by
General work situation	Daily works are mainly conducted by Cps with Experts	Some Tfs do not function. Some experts must carry out Communication is not enough between CP and Experts Difficulty to reach information	Busy Chiefs Lack of Cps Language barrio Lack of information Status of IESC Sub Project	Full understanding of DGWRD (not BINTEK alone) on the role of IESC and Technical cooperation Efforts of experts & Cps, Interpreters Establishment of Rule of Information collection (DG's Decree) Raise of status, supply of staff	RI Both RI Both
Guideline : IPD Planning/Fill Dam	1-draft (Indonesia)	Real Data are limited	Scarce information	Information collection system	RI Both
OM guideline RU Guideline	some materials	Still concept is not clear	Scarce information		Both
Case studies	Test run	Unknown difficulties	Maintenance cost	Budget, follow up work	
OM Information S. Inventory S.	Concept made	Not sufficient Data	Data availability	Establishment of data collection mechanism/ rule Consecsus on importance of water Use (O/M)	RI
(RU Evaluation S.)		Vague concept, data	Real Needs. Usage	(Necessity of Budget & staff supply)	RI
Water management	Field study conducted	Difficulty of analysis	Similar attempts	Special order of DGWRD to projects	
Torrent intake work	New method		Reliability of data		RI
Scheme Map filling	introduced	Data collection not started	Available map. CP		
Tech. Calculation S.	Concept made	Not much involvement of Cps	CP		JICA
Tech. Measurement/analysis	Hydraulics, Structure Equipements arrived	Not yet actually started Out-door test delayed	Delay of equipement Delay of Equipement		JICA
Canal lining method	Asphalt test				
CP training etc	Japan : 9, RID/NIA :4	Transferred after coming back	Lack of suitable course	Regulation required for candidates selection	Both
Seminars/workshops/training 514 p. (11 times)					
Short tern experts 11 persons					

Main Equipment Supplied :

Car	3	P.Computer	38	Seismograph	2	Hydraulic test equipment	2
Copy machine	2	Printer	27	Canal gate model unit	1	Equipment for canal lining test	many
Camera	3	Handy talky	64	Water gauge and so on	some		
Video Camera	1	Transcever	12	Hydrological	2		
Whiteboard	2	Antena	12	Survey equipments			
		Rolated materials	many				
		Computer soft	many				

JICA Input for IESC in 1996 (Requested)

Input Item	1996	1994, 95
1. Equipment	39 m Y Car (1), Copying board (1) Computer (6), Printer (4) Sofware programs Transceiver (3) Antena (3) Seismograph (1), GPS (1) Hydrological, Hydraulic, Other survey equipment Material test equipment	89 m Y Car (3), Copy machine (2) Video Camera (1), Computer (33), Printer (24) Digitizer (1) Handy talky (64) Transceiver (9) Antena (9) Seismograph (1), Canal Model (1) Various Measuring Equipments Equipments for canal lining test
2 Short term Expert	8 persons	11
3 CP training	4 persons	8
4 Budget for Special Activities		
Technology Exchange		2 m Y (4 persons)
Emergency Countermeasure		0,6 m Y
Enlightenment Activity	6 m	7 m
Appropriate tech. Development	7.1 m	2.3 m
Maintenauce of Equipment	1.9 m	
Middle Level Trainees Training	9 m	
Preparation for Local Training Textbook	2,5 m	

4. Input from TheGovernment of Indonesia to the IESC Project

4.1. Counterpart

24 counterparts have been assigned for 5 activities of IESC Project by the Director General Decree Ref. No. 17/KPTS/A/1995, Date Feb. 24, 1995.
The composition of those counterparts were set up according to R/D and Minutes of Understanding of IESC Project which was signed on March 8, 1994.
Theose counterpart consisted of :

1) 11 Full time counterparts; and
2) 13 Part time counterparts include Administrative counterparts.

4.2. Cost Bearing

1) Land, buildings and facilities necessary for implementation of the Project.
2) Running expenses necessary for implementation of the Project including salary, transportation cost, accomodation fee of counterparts, working group, and task force, as well as salary for joint coordinating committee, utility, maintenance and replacement cost of computer and introduced equipments, etc.
3) Budget for IESC Project (in rupiah)

Fiscal Year	Amount of Budget (Project Allocation Budget)
1994/95	Rp. 455,000,000,- (It has alredy allocated)
1995/96	Rp. 333,465,000,- (It has already allocated)
1996/97	Rp. 507,235,000,- (It has already allocated)
1997/98	Rp. 750,000,000,- (It is expected)
1998/99	Rp. 850,000,000,- (It is expected)

4.3. Provision of Building, facilities, field, etc.

1) The office space for all the Japanese experts within both IESC in Bekasi and in DGWRD, headquarters has been provided.
2) Telephone, table, locker, office equipments, has also been provided.

4.4. **Establishment of organization for project implementation.**

1) Joint Coordinating Committee for IESC Project was set up based on Ministry of Public Works Decree Ref. No. 49/KPTS/1995, Date Feb. 17, 1995. The number of this committee is 10 persons.

2) Regular Meeting.
This consists of Chief of Working Group and Task Force on each representative field.

3) Working Group for each field in IESC Project was set up based on Director General Decree Ref. No. 16/KPTS/A/1995, Date Feb. 24, 1995. The total number of Working Group is composed as follow :

a. Field of IPD	:	12 persons
b. Field of O&M	:	8 persons
c. Field of R&U	:	9 persons
d. Field of SD	:	7 persons
e. Field of Training	:	5 persons

4) Task Force for each field in IESC Project has been already up based on Director General Decree, Ref. No. 15/KPTS/A/1995, Date Feb. 24, 1995.

The total number of Task Force is composed as follow :

a. Field of IPD	:	17 persons
b. Field of O&M	:	8 persons
c. Field of R&U	:	6 persons
d. Field of SD	:	7 persons

Irrigation Engineering Service Center Project PDM (Project Design Matrix) May. 1996

Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumption
0. Super Goal To improve irrigation efficiency, save construction & OM cost of irrigation project , achieve advanced water use,and contribute to increase of farmer's income.			
I . Overall Goal ①Irrigation projects are appropriately implemented as a total scale. ②After the construction of Irrigation system, facilities are maintained, managed, rehabilitated and upgraded appropriately.	After a certain period of time from termination of project, The scale and competence of newly established or continued organization and its staff to continuously improved/develop standards, manuals, etc..	Evaluation by the surve, mission from JICA HQ and by JICA Indonesia office.	①There is no policy change ②Finances don't become worse ③Irrigation engineers are stationed to appropriate places
II . Project Purpose ①To strengthen the expertise of DGWRD so that the technical standard(s) as well as guideline(s) and manual(s) necessary for the appropriate implementation of irrigation projects will be continuously improved/developed and extended . ②To spread manuals etc. through implementation of training by DGWRD, PU.	Project results after a certain period, following points will used as verifiable indicators; ①-1 The scale of continuously project or establishment the new organization themselves in order to improve and develop standards etc. ①-2 The quality and number of standard, manuals, guidelines etc. developed and improved by engineers themselves of DGWRD. ②Contents and the trained staff numbers of the training to spread standards etc. improved /developed.	Evaluation by the survey mission from JICA HQ and by JICA Indonesia office.	①There is no policy change ②Finances don't become worse ③Irrigation engineers are stationed to appropriate places
III . Outputs ①Strengthen capability of IESC technical staff. ②Improved situation that the technical standard(s), guideline(s) and manual(s) including related computer system in the fields of Investigation,Planning, Design, Operation and Maintenance, and Rehabilitation and Upgrading are to be developed and improved. ③Improved situation that the training of capable irrigation technical staff in the field mentioned above is to be implemented.	①Capability of preparing and carry out the work of compiling manuals etc. by themselves in each field. ②Quality and number of manuals etc. improved/developed according to the plan in each field. ③Contents of manuals etc. used for training and number of the trained staff in each field.	①Final out put ②Final out put ③Evaluation of Training result and follow-up survey of Trainee	①There is no policy change ②Finances don't become worse ③Irrigation engineers are stationed to appropriate place ④Project can get the data that are appropriate for activities
IV. Activities 1.Investigation, Planning and Design Field ①Improvement of standards for Irrigation project planning ②Improvement of standards for Design of Irrigation facilities ・Dam, Canal, others 2.Operation and Maintenance field ①Complementary of existing O&M guidelines to be National Guidelines ②Examination and introduction of irrigation water management technology for efficient use of water resources. ③Improvement of OM information procedure as model 3.Rehabilitation and Upgrading field ①Development of guidelines for RU project ・Canal, Headwork, Small Dam (including lining) ②Case study for Evaluation system of RU planning ③Case study and examination of Canal lining work 4.System Development field ①Improvement/ development for technical calculation system related to above field ・Structure design program ・Hydraulic analysis program ②Development for Data base system related to above field ・Inventory system for canal irrigation facilities ・Filing system for irrigation scheme map ・Irrigation information system for OM 5.Training field Training and Diffusion of the output improved/developed in each field to government engineers	V . Inputs Japanese side: 1.Dispatch Experts Long term : ①Team leader ②Investigation planing and design ③Operation and Maintenance ④Rehabilitation and Upgrading ⑤System Development ⑥Coordinator Short term : Few persons/ year (2p in '94, 9p in '95, 8p in '96 req.) 2.Provision of Equipment ; Necessary for the implementation of project (22 mY in '94, 67mY in '95, 39 mY in '96 req.) 3.Acceptance Counterpart training in Japan : Request few persons/year (4p in '94, 6p in '95, 4p in '96) 4.Local cost : Request these to activities (1)Enlightenment activities cost (7 mY '95, 6 mY '96 req.) (2)Appropriate technology developing cost (7.3 mY '95, 7.1m Y '96 req.) (3)Technology exchange cost (2 mY '95) (4)Emergency countermeasures cost (0.6mY '95) (5)Middle level Trainees training cost (9 mY '96 req.) (6)Maintenance cost for equipment (1.9 mY '96 req.) (7)Preparation for Local training textbook cost (2.5 mY '96 req.)	Indonesian side: 1.Counterpart ①At least two Full CP's and one administrative CP in DGWRD HQ for each expert ②Administrative and technical staff for support project activities 2.Investment ①Office space and environment in DGWRD and IESC in Bekasi and running expense ②Administration cost for JC, WG, TF (Total number of these is 91 persons in total) ③General Administration Cost (Total budget : 13.8 mY '94, 13.0 mY'95, 19.7 mY '96) 3.Administration ①Formal procedures to , Indonesian and Japanese Government for the necessary measures for activities (A1,A23,A4form and customs duties, internal tax,etc.) ②Necessary domestic official procedure for project administration	①Keep for Work space ②Keep the necessary cost ③CP don't move to other ④Keep the necessary equipment ⑤Obtain the cooperation from DGWRD and PIUS ⑥Easy to get necessary data collection ⑦Incentive for CP ⑧WG、TF act on normality Pre-Condition ①JC,WG,TF are established in DGWRD ②Organization, personal & function of IESC and Model Satellites are clearly defined. ③Irrigation engineers are stationed to appropriate place ④Necessary budget for IESC and Model Satellites is allocated and secured ⑤Work space is obtained

Purchase Items Under the Provision of MACHINERY AND EQUIPMENT

	1994				1995				1996			
Field	ITEM	No	Items of Activity	Detail & Set place	ITEM	No	Items of Activity	Detail & Set place	ITEM	No	Items of Activity	Detail & Set place
PO	--	-	—	—	(1)Strong Motion Seismograph Kinemetric, EXUSA (2)Card model (3)Survey equipments for Water discharge: Automatic recorder	1 1 1	1 1 1-1-3 2-2-1-4 2-1-3 1-1-4 1-2-2 2-2-1	(1) Survey for Earthquake Fact in Jatiluhur Dam (2) Watchman Type gate in Bekasi (3) Water discharge	(1)Strong Motion Seismograph (2)GPS with Altimeter (3)Survey equipments for Water discharge: Automatic recorder	1 1 1	1-1-1 1-1-4 1-2-2 2-2-1	(1) Survey for Earthquake Fact in ... Dam (2) Runoff analysis in ... (3) Water discharge
OM	--	-	—	—	(1) PC:IBM Pentium 90MHz 1GB (2) Kenwood Radio Transceiver TX-704 Freq. 150-174MHz 30A (3) Tusco Radio Modem & Software (4) Omnidirectional Antenna Kenwood SBA-151 with Connector and 30m Cable (5) Omnidirectional Antenna Yagi Dement with Connector and 30m Cable (6) PC IBM 50486DX2 66MHz 540HD (7) UPS Powercom 500VA (8) Printer: Epson Lq-1170 (9) Lotus 123 (10) Handy talky Motorola (11) Printer HP Laser Jet 5L (12) PC:IBM 80486DX2 66MHz 540HD (13) UPS Powercom 500VA	1 9 9 1 8 11 12 12 1 54 2 3 3	1 1	(1)-(10): Water management Communication System in Lampung (11)-(13): in PU	(1) Midland Radio Transceiver Freq 150-174MHz (2) Radio Modem & Software (3) Antenna 13m Triangle (4)Thermometer (5)Wind velocity meter (7)Rainfall Gauge (8)Material Equipment for hydraulic Model test of Torrent Intake Structure	3 3 3 1 1 1 1	1 1	(1)-(7): Water Management Communication System in Lampung (8): Model test of Torrent Intake Structure in Bekasi
RU	—	-	—	—	(1)Vibrating Plate Compactor (2)Winch Merk Margol 300kg (3)Winch Merk Margol 500kg (4)Asphalt Sprayer 200Lt (5)Cohesio Meter ASTM-D1560 (6)Flat Form Cabay Add 50kgs (7)Precision Balance 1600 G (8)Portable Tools Set (9)Asphalt compaction Mold BBS Type (10)Briguette Mold BBS type (11)Cylinder Mold BBC-119 Type 5*10cm (12)Cylinder Mold BBC-119 Type 10*20cm (13)Cylinder Mold BBC-119 Type15*30cm (14)Sieve For Asphalt Aggregate Set Brass Sieve (15)Sieve For Asphalt Aggregate Core Set Aggregate (16)Chain Rope Mandi	1 1 1 1 1 1 1 1 2 10 20 20 20 1 1 1	8	(1)-(16) Examination of road filling work in Bekasi	(1)Asphalt Permeability Apparatus (2)Marshall Test Apparatus (3)Sieve (asphalt) (4)Core Drilling Apparatus ϕ 3" (5)Core Drilling Apparatus ϕ 4" (6)Standard Type Coring Bath (7)Rotap Sieves Shaker (8)Flat Form Scale 250 gram (9)Thermometer Asphalt 300° (10)Thermometer Asphalt 1000° (11)Proving Ring (12)Hammer Test (Concrete Lab) (13)Marshall Mold (14)Calibration equipment	1 1 2 2 1 1 2 1 1 1 1 2 1 1	8	(1)-(15) Examinations of road filling work in Lampung
SO	(1)Server IBM PC SERVER 486D*2 (2) PC:IBM PS/V 8MB RAM 212 MB HD (3)Printer HP Laser Jet 4L (4)Printer: Desk Jet 560 Color (5) Data Switch Box: printer Sharing 1-4 (6)Modem: Multitec 2400/4800/9600/12000/14400bps (7)Tape Back Up: Wangtek 1GB (8)Soft ware: Novell ver 3.12 for O/S, Lotus 123 Ver 5.0, Word Perfect Ver 6.0, dBase 4 Ver 5.0 for Windows, Microsoft Visual Basic Prof. Ver 3.0 for Windows, MS Fortran Compiler Ver. 5.1 for Dos (9)Cabling System: cable, ... (10)UPS Powercom 1KVA (11)UPS Powercom 500VA	1 6 4 1 1 1 1 1 3 1 1 6	for all	(1)-(11): LAN system in Bekasi	(1) PC:IBM Pentium 90MHz 16MB 1GB HD with Monitor 20" (2)Calcomp Digitizer 3100(A0) (3)Pen Stylus (4)HP Design Jet 650C(A0) (5)UPS: Powercom 650VA (6)Lotus 123 Ver.5.0 for Windows (7)Turbo Pascal Ver. 1.0 for Windows (8)Autocad Ver 13 for Windows (9)Map Basic Ver 3.0 for Windows (10)Map-Info Ver 3.0 for Window (11)Novel Netware Connect (12)Norton PC Anywhere 4.5	1 1 1 1 1 1 1 1 1 1 1 1	1-2-1 1-2	(1)-(12) Evaluation System in Bekasi	(1)Server 24MB RAM Pentium 90MHz 1GB HD (2) PC: 8MB RAM 80486DX2 340MB HD (3)Printer Laser Jet (4)Data Switch Box: network printer Sharing (5)Modem: Multitec 2400/4800/9600/12000/14400bps (6)Tape Back Up: 1GB (7)LAN O/S Netware Ver 3.12 250user (8)Spread Sheet: Lotus 123 for Win (9)Word processor: Word Perfect Ver.6.0 for Win 10user (10)dBase 4 Ver.5.0 for Windows (11)Basic: Microsoft Visual Basic Prof. Ver 3.0 for Windows 10user (12)Communication Software: Norton PC anywhere (13)Cabling System for D.F Cable, etc (14)Concentrator: 12 Ports (15)UPS Powercom 1KVA (16)UPS Powercom 500VA	1 5 4 1 1 1 1 1 1 1 2 1 1 1 1 5	For all	(1)-(16): LAN System in PU
TR	(1)Car (4X4) Diesel (2)Copy machine (3) White board (4)Sound slide movie (5) n-Link calculator	1 2 1 1 3	for all	(2): A copy unit in PU (1)-(5): Others in Bekasi	(1)PC:IBM 80486DX2 16MB 66MHz 540MB HD with monitor 14" (2)PC:IBM Multimedia DX4 75 16MB 730MB 540HD (3)Printer Laser Jet 5L (4)Software: Micro office pro... etc (5)UPS Powercom 500VA (6)Data Switch Box 4,8 with Cable	4 6 5 1 1 6	For Training	(1)-(6): in Bekasi and PU	—	-	—	—
General	(1)Car (4X4) Diesel (2)Camera (3)Video movie (4)Thermometer (5)Rainfall Recorder (6)Sunshine Recorder (7)Pan evaporation Recorder (8)Current Meter (9)Instrument Screen and Cell frame	2 3 1 1 1 1 1 1 1	for all	(1)-(3): In Bekasi (4)-(9): for measuring the basic data in Lampung	--	-	—	—	(1)Car (2) White board with copy function	1 1	For all	(1) Operation in Lampung (2) In PU
	¥20,000,000				¥87,800,000				¥39,000,000			

Items of Activity: According to the description of TSI

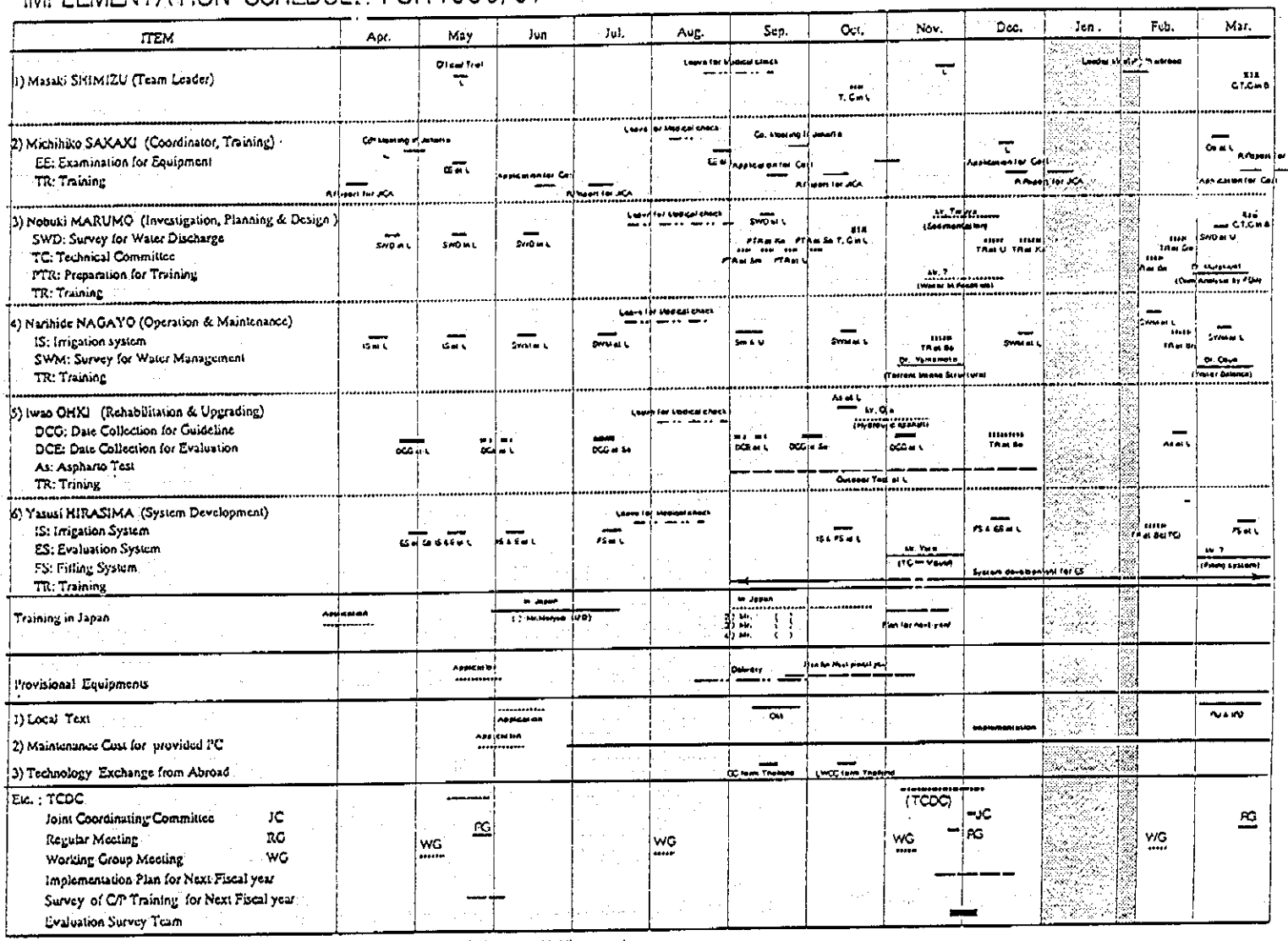
Name and Reports of Short term Experts in 1994

	1994		1995		1996 (Request)	
	Name / Period	*Report* / Subject	Name / Period	*Report* / Subject	Name / Period	*Report* / Subject
IPD	1) Mr.Hideki TANAKAI (April 2 — 19 1995)	*Investigation related to Hydrologic Analysis*	1) Mr.Hiroyuki TARUYA (Sep.24 — Oct. 6)	*Sedimentationin Damand River Bed Visability*	1) Dr. Akira MURAKAMI	Structure analysis for Dam by FEM
			2) Mr. Masami ESAKI (Jan.16 — 29)	*Runoff Analysis*	2) Mr.	Managemet menthod for Water management facility
			3)Dr. Akira MURAKAMI (Jan.31 — Feb. 10)	*The FE for the safety of Fill-type Dam*	3) Mr.Hiroyuki TARUYA	Sedimentation in dam andriver bed viability
OM			4) Prof. Teruo YAMAMOTO (Sep.17 — Oct. 6)	*Water utilization system consisted of Torret Intake and off-stream Dam*	4) Dr. Hiroki OUE	Contemplation Method for Water balance analysis
			5) Dr. Hiroki OUE (March 24 — Apr.13 1996)	*Sekampung Irrigation System Water balence analysis in Way*	5) Prof. Teruo YAMAMOTO	The Planning and Design of Torrent Intake structure
RU	2)Dr.Naritaka KUBO (Mar.15—Apr.12 1995)	*Irrigation management*	6) Dr. Naritaka KUBO (Sept. 20 — Oct.17)	*Consideration on some ranking methods for Assigning Rehabilitation Priority*	6) Mr. Teruhiko OOTA	Asphalt lining Canal
			7) Mr. Teruhiko OOTA (Sep. 17 — Oct. 16)	*Asphalt Concrete For Hydraulic Structures / Canal lining and Dam Facing*		
SD			8) Mr. Kazutake YATO (Nov. 2 — 30)	*Visual system of irrigation information system for O/M*	7) Mr. Kazutake YATO	S/D for Technical Calculation system by Visual basic method
			9) Mr. Hajime HASEGAWA (Mar. 24 — April.20 1996)	*Development of Database system concept for Main irrigation facilities in Republic Indonesia*	8) Mr.	S/D for Filling system for irrigation scheme by Map-infor program

Name and Reports of Training Participant in Japan

	1994		1995		1996	
	Name/Period	*Report/Subject*	Name/Period	*Report/Subject*	Name/Period	*Report/Subject*
IPD	- Ir.M.Napitupulu, Dipl.HE (May - June)	Irrigation Drainage Engineering in Japan	- Ir. Adi Pramudyo (August 20 - Sept.13)	Survey, Investigation	Muryadi Rachmanu,ME (May 28 - July 21)	Group training course in Agricultural land and water Resources Development II 1996.
OM			1). Ir. A.T.M. Sitompul M. Eng (July 2 - 28) 2). Subari ME. (July 2 - 28) 3). Ir. Danang Baskoro (Aug - Sept)	Operation and Maintenance of Irrigation System ditto ditto		
RU			1). Subari, BE (July 2 - 28) 2). Bambang Sugiarto, Dipl.HE (Aug - Sept)	Rehabilitation & Up Grading Irrigation Infrastructure ditto		
SD	- Ir. Suwardi, Dipl.HE (May - June)	Irrigation Drainage Engineering in Japan				

IMPLEMENTATION SCHEDULE FOR 1996/97



L: Lampung , Be: Bekasi, B: Bandung, Se: Semarang, Sm: Sumatra, Ka: Kalimantan, U: Ujungpandung

I. Matrix Progress IPD Field in the fiscal year 1995/1996

No	Program	Progress	Problem	Solution
I	**Establishment of Guideline Book :** IPD field will prepare 2 (two) Guideline books as follows			
	1. Guideline on feasibility study and Pre feasibility study of Irrigation Development	The first draft was completed. Requireddiscussion amongst the task force member for reviewing.	Partly of the task force member are not active, do to their activities on the structural job, so the progres could not meet the schedule.	- Frequency of Discussion to inc - Preparation of dispensation lette supervisor of task force memb means the higher priority sh given in to IESC activities.
	2. Guideline on Investigation, Survey and Design of Fill type Dam	The first draft was completed. Requireddiscussion amongst the task force member for reviewing. It was not finished yet	--- Partly of the task force member are not active, do to their activities on the structural job, so the progres can not mat the schedule.	
II	**Case Study**	Completed		- Another site to install seis equipment on main dam is loo
	1. Installation of seismograph at Jatiluhur Dam		Jatiluhur did not permit to remove the old seismograph equipment	
	2. Study of runoff analysis by tank model		According the schedule	

No	Program	Progress	Problem	Solution
	3. Data collection on Fill Dam design, Irrigation Planning and Sedimentation	It was not fully finished yet	Number of dams in Indonesia very much, and each dam had specifik problem	To making the form questioner and to distribution to the field by post
III	**Technical Calculation**			
	1. Fill Dam Stability (circular slip method)			
	2. Probability DP (dynamic programming) method for resevoir operation	Completed	According the schedule	
	3. Frequency analysis by Gumbel-Chow's method	Completed	According the schedule	
	4. Run-off analysis by Tank Model			
	5. Canal dimension by uniform flow calculation	Completed	According the schedule	
	6. Water hammer analysis			
	7. Run-off analysis by storage function method	Completed	According the schedule	
		Completed	According the schedule	
IV	**Training and Seminar/ Dissemination.**			
		Completed	According the schedule	
	1. Lecture in The 11 th International Training Course in Irrigation Engineering under its TCDC Programme	Completed	According the schedule	
	- Design of Fill Dam			
		Completed	According the schedule	

No	Program	Progress	Problem	Solution
	2. Seminar on "Reservoir Operation and Sedimentation in Reservoir"	Completed	According the schedule	
	3. Presentation - The Creager equation and it is related topics - Runoff analysis by Tank Model - Finite Element Method	Completed	According the schedule	

Matrix Program IPD Field in The fiscal year 1996/1997

No.	Program	Action Should be taken	Anticipated Problems
1	2	3	4
I	**Continuation of establishment the guideline :**		
	1. Guideline on feasibility Study and Prefeasibility study of Irrigation Development	- To increase the frequency of discussion	Preparation of dispensation letter to each supervisor of Task Force member. This means the higher priority should be given in to IESC activities.
	2. Guideline on Investigation, Survey and Design of Fill- Type Dam.	- To increase the frequency of discussion	
II	Case Study		
	1. Survey on Seismic Coefficient (earthquake).	Installation of Seismograph (seismic strong motion recorder) in two dams	Preparation of apparatus and confirmation about location.
	2. Survey on Water Requirement at farm level.	- To conduct survey of water requirement on paddy field in model erea in Lampung and South Sulawesi	Preparation of apparatus and selection of the area.
	3. Survey on Hydrology and Climatology (for Water Requirement)	- To conduct survey of evapo-transpiration, temperature, etc. to provide necessary data for water requirement in model area, Lampung, and South Sulawesi.	Data collection from model area together with O&M Field.
	4. Survey and Study on Sediment in Reservoir	- To conduct survey in Way Rarem dam in Lampung - Data collection in all dams in Indonesia and data analysis to obtain the standard value of sediment deposit.	Distribution of questioner for survey sedimentation all Dams in Indonesia.

1	2	3	4
	5. Study on Check gate (hydraulic model test)	To carry out the hydraulic model test related to the check gate at hydraulic Laboratory Test in Bekasi, IESC.	Preparation of apparatus, material, and area of carry the model test.
III.	**Technical Calculation** 1. Non - uniform flow calculation 2. Unsteady flow calculation 3. Diversion water requirement for paddy field calculation 4. Stability of gravity dam	Cooperation and coordination with System Development & Data Base field.	
IV.	**Training and Seminar/ workshop** 1. Training in IESC 2. Seminar/ workshop on: - Irrigation System (Operation System, unsteady flow analysis) - Countermeasures for sedimentation in the reservoir - Earthquake response analysis for Fill Dam or seepage flow analysis for Fill Dam.		
V.	**Other Consultancies**	It necessery, providing at technical advices for the staff within Directorate of Technical Guidance.	

II. MATRIX PROGRESS OF O&M FIELD IN THE FISCAL YEAR 1995 / 1996.

NO.	PROGRAM	ACHIEVEMENT / PROGRESS / OUTCOME	PROBLEMS	SOLUTIONS
1.	COMPLIMENTARY OF O&M GUIDELINE TO BE NATIONAL GUIDELINE AND ITS DIFFUSION			
	a. Basic technical O&M guideline	The first Draft was completed in the middle of March 1996, and workshop was held in March 1996.	According the schedule	
	b. Operational Procedure Directive for Technical Irrigation Scheme	It was cancelled	The Directorate of Water Utilization and Conservation (PPSDA) has published the operational procedure directives, and it was distributed nationally by instructing from Directorate General of WRD in October 1995 and sent to all Provinces for trial application.	The Directorate of W Utilization and Conse tion (PPSDA) should complimentary this h according the Worksho March 1996.
2.	EXAMINATION AND INTRODUCTION OF IRRIGATION WATER MANAGEMENT TECHNOLOGY FOR EFFICIENT USE OF WATER RESOURCES.			
	a. Case study to investigate the actual water management situation.	Existing data collection and analysis. More than 10 (ten) item's - Intake discharge - Distribution discharges - Rainfall - Evaporation value - Irrigation tendency - Areal to be irrigated - Water distribution tendency - Discharge of Raman Weir - Supplction of Raman Utara - Q - H Curve of measuring discharge	Some of datas not yet complete	Expert and Counterpar should be go to the fiel
	b. Introduction of Torrent Intake Structure (Seminar)	4 (four) Seminars were held at this following venues to inform the basic concept to modified Torrent Intake Structures Seminar Venues - Research Institute for WRD,Bandung September 22,1995 - PRIS office, Palu Central Sulawesi, September 22,1995 - PRIS office, Ujung Pandang South Sulawesi September 29,1995 - Bekasi Center (IESC Project) on October 4-5, 1995.	According the schedule	
3.	IMPROVEMENT OF O&M INFORMATION PROCEDURE AS MODEL a. Computerization of O&M Procedure and Communication System . The model area is the Way Sekampung Irrigation Scheme, Metro, District of Center Lampung , Lampung Province.	- Review and Complimentary of Water Management Information sheets - Examination of Computerization of maintenance information sheets - Examination of system flow chart - System Design and programing - Introduction of system and test running - Training of system	It was posponed from March, 1996, to May 1996, due to budget processing from PRIS allocated to training activity.	Training On System w be completed in the mi of June , 1996.

MATRIX PROGRAM OF O&M FIELD 1996 / 1997.

No.	PROGRAM	ACTION SHOULD BE TAKEN	ANTICIPATED THE PROBLEMS
1.	COMPLIMENTARY OF EXISTING O&M GUIDELINE TO BE NATIONAL GUIDELINES AND ITS DIFFUSION.		
	1. Review and Revised through the feedback from the fields and training module making Review and Revised works. - Basic technical O&M Guideline (Final Draft) - Workshop	- Conclusion from Workshop on March, 1996 for reference and some datas should be collected from Province, especially Organization Chart in PRIS, Monitoring and Evaluation . - Preparation of Workshop and to decide participant and venues of Workshop	- Every month Task Force member and Expert should discuss this material, where the Treasure should prepare the budget for accomoda-tion, and travel fee for reference collection. - The administration whose to be in charge of task force members should be finish before to start of work.
2.	EXAMINATION AND INTRODUCTION OF IRRIGATION WATER MANAGEMENT FOR EFFICIENT USE OF WATER .		
	a). Case study to investigate the actual water management situation. 1) Existing data collection and analysis 2) Summary Report making 3) Seminar 4) Preparation for Publication of Report.	Expert and Counterpart should be go to Metro Lampung Province (Model Area)	Should be to gave information in the field before take the datas.
	b). Introduction of Torrent Intake Structures (Planning and Design) 1) Preparation of Text book 2) Seminar	Preparation of seminar to decide participant and venues for seminar Discussion about time schedule of short term Expert Preparation of seminar to decide participant and venues for seminar.	The coordination with TCDC program should be taken.
3.	IMPROVEMENT OF O&M INFORMATION PROSEDURE AS MODEL		
	a). Computerization of O&M procedure sheets and Communication system 1) Training system 2) Introduction of system and test running b). Followup and monitoring work c). Programming for analysis work	- Expert and Counterpart should go to Metro, Lampung Province to check and monitoring of communication system.	To install equipment for communica-tion system should be finish before to check and to monitor.

III. MATRIX PROGRESS R&U FIELD IN 1995/1996 FISCAL YEAR

No.	PROGRAM	PROGRESS	PROBLEM	SOLUTION
I	**Establishment of Guideline Rehabilitation and Upgrading (R&U) works.** R&U field will establish guideline / manuals as follows :			
	1. Guideline of R&U works for Canal and it's structure.	- The first draft as an introduction of the design and construction methods for past and on-going R&U works was completed, except past construction record from job-site and experience dealing with handling damage condition of canal and it's structure.	- The difficulty of data collection of past and on-going R&U works. As well as experience dealing with handling damage condition of canal works are not sufficient. - Lack of activity of Task Force member for preparation of this concept.	- Additional survey to the project site. - The guidance and motivation from the Task Force chief is required.
	2. Draft Pedoman Umum Kriteria Pelaksanaan Rehabilitasi dan Upgrading (R&U) Jaringan Irigasi	- The first draft was completed. - Trial of evaluation system to the projects, means to confirm the priority implementation of R&U works.	- The attendance of the Task Force & Working Group members during discussion of Draft Pedoman Umum Kriteria Pelaksanaan R&U very small, as well as the frequencies.	- Frequency of discussion should be increased for reviewing the draft and some action to force the members of Task Force to attend the meeting.
II	**Case study and examination of evaluation system for R&U planning.**			
	1. Study of evaluation system in Central Java and Lampung project.	- Evaluation system have been studying in Central Java. - It was not finished yet.	- Lack of travel fee allocation. - Lack of staff for R&U field.	- Travel fee allocation should be increased. - Additional staff of R&U field.

No.	PROGRAM	PROGRESS	PROBLEM	SOLUTION
	2. Establisment of trial, base of evaluation system.	- It was not finished yet.	- The difficulty to collect several data in the field such as : Data damage condition of canal and it's structure. Experience dealing with handling damage condition of canal and it's structure.	- Another references and information from several large projects are necessary.
III	**Case study and examination of Canal lining work.**			
	- Material test in Bekasi Laboratory.	- Laboratory material test indoor, outdoor for canal lining will be finished on September 1996.	- Additional Laboratory equipment would arrive in Bekasi Laboratory about six month behind of schedule.	To push Expert and Counterpart or Project site together to make fix time schedule
IV	**Seminar on R&U works for Irrigation Facilities.**	- Proceeding seminar was completed.	According the schedule	
	The title of seminar as follows : - Construction method of Asphalt facing. - Design of Asphalt facing. - Rehabilitation and Upgrading for irrigation system in Central Sulawesi. - Sistem Evaluasi untuk pekerjaan R&U jaringan irigasi di Indonesia. - Pelaksanaan R&U jaringan irigasi di Jawa Tengah. - Consideration on some rangking method for assigning Rehabilitation priority.			

MATRIX PROGRAM R&U FIELD IN 1996/1997 FISCAL YEAR

No.	PROGRAM	ACTION SHOULD BE TAKEN	ANTICIPATED PROBLEMS
I	**Continuation of establishment of guideline Rehabilitation and Upgrading (R&U) works:** 1. Canal and it's structure.	- To increase the frequency of discussion and the eagerness of Task Force members.	- Preparation of dispensation letter to each supervisor of Task Force and Working Group members. This means the higher priority should be given into IESC activities.
	2. Draft Pedoman Umum Kriteria Pelaksanaan R&U Jaringan irigasi.	- To increase the frequency of discussion and the eagerness of Task Force members.	
II	**Establisment of guideline R&U works for Head Work.**	Establisment of guideline R&U works for Head Work related with : - Investigation of deteriorated project. - Data collection and filling.	- Preparation of references.
		To conduct survey related with Head Works in Lampung and South Sulawesi.	- Preparation of questionery form
III	**Case study and examination for evaluation system in Lampung project.**	- Cooperation and coordination with System Development & Data Base field.	- Preparation of questionery form together with SD field
IV	**Case study and examination of canal lining for R&U work.** - Material test in Lampung Laboratory. * Fiber concrete * Asphalt concrete * Asphalt mattress	- The necessary material test should be supported according to the actual requirement.	- Preparation of material test for Lampung Laboratory.
	- Laboratory test equipment in Lampung.	- Additional of Laboratory equipments should be arrived on August 1996, because field application for canal lining will be started on September 1996.	- Preparation of additional Laboratory equipments for Lampung Province. - It should be informed to the company to send the equipments on time.

NO.	PROGRAM	ACTION SHOULD BE TAKEN	ANTICIPATED PROBLEMS
V	**Seminar / Workshop.** The title of seminar / workshop as follows : - Guideline of Rehabilitation and Upgrading works for Canal and it's structure. - Draft Pedoman Umum Kriteria Pelaksanaan R&U Jaringan Irigasi.	- If necessary providing of technical advices for the staff within Directorate of Technical Guidance.	- Preparation of material for seminar and selection of participant

IV. Matrix Progress of SD field in the Fiscal Year 1995/1996

NO.	PROGRAM	ACHIEVEMENT/PROGRESS/OUTCOME	PROBLEM	SOLUTION
I	TRAINING FOR COUNTERPARTS			
	1. Training for LAN (Local Area Network) System Content : - a. Novell Net Ware Ver. 3.12 - b. Windows 3.12 - c. Lotus 123 Ver. 5.0 Number of participants : - First training : 8 people - Second training : 8 people	JICA provided LAN System end of March, 1995, in Bekasi office. LAN System is used by all fields. From April 17, 1995 to April 27, 1995 From May 8, 1995 to May 12, 1995		
	2. Training for MapInfo Content : - Demontration of the system developed by by Directorate of Planning & Programming how to make a map - Number of participants : 5 people	From October 23, 1995, to October 27, 1995		
II	DATABASE SYSTEM			
	1. Irrigation information system for O&M a. Computerization of operational sheet	- To improve the collection of data on water and supply passing through the channel of Mantri-Cabang Dinas-Dinas Pengairan - To ficilitate the data summarizing by Cabang Dinas - To ficilitate the data summarizing and analyzing by Dinas Pengairan - To improve the efficiency of the instruction relevant to the water distribution system originating from Dinas Pengairan to Cabang Dinas and eventually to the Mantri - To ficilitate the monitoring by Dinas Pengairan of water distribution performance - To enhance the reporting and evaluation	Modified operation sheets by ISSP-II for computerization and adjusting to Way Sekampung Irrigation and then found out or made necessary code for computerization. Based on the basic design, will developed this system using Microsoft Acces 2.0 and made manual to get support a consultant	- Have to investigate and discussion with Way Sekampung Irrigation staff several times to establish basic design
	b. Monitoring system-Visual system for Irrigation Information System for O&M	- The sufficiency ratio of supply discharge to requirement discharge per scheme is dispaly on the monitor which makes it easy to instruct toward equitable treatment in water distribution - To repeat instructrion to the Cabang Dinas if instruction of discharge in accordance with the distribution planning are not followed - To change instructions for water distribution to take into account the effective rainfall in a given irrigation scheme - To easily grasp the planting condition in the irrigation area per scheme, crop and growing stage (in case of paddy)	- At first, we made input form, output form and established procedure in this system	- JICA short term expert will be developed this system using Microsoft Visual Basic and made manual

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No.	PROGRAM	ACTION SHOULD BE TAKEN	ANTICIPATED THE PROBLEM
I	DATABASE SYSTEM		
	1. Irrigation Information System for O&M	- Training for user (Way Sekampung staff) - Improvement of first version to more useful for user and add a analysis system	- To install hardware and software in Dinas and Cabang Dinas
	2. Inventory System for Main Irrigation Facilities	- Development of system	- To import data from improved ISI to dbf format - To collecting data for simulation - To add of Fultime counterpart
	3. Filing system for irrigation scheme map	- Make basic design	- Learn developed GIS by Directorate of Planning & Programming for improve this system - To clear improvement point of developed GIS - To decide Lampung Propince as a pilot area - To investigate and collect data and map
II	TECHNICAL CALCULATION SYSTEM		
	1. Structure design program		
	- Stability analysis of fildam	- Develop of system - Make manual in English and Indonesian	
	- Stability analysis of gravity retaining wall	- Develop of system - Make manual in English and Indonesian	
	2. Hydroulic analysis program		
	- Water level calculation on canal	- Make manual in English and Indonesian	

NO.	PROGRAM	ACHIEVEMENT/PROGRESS/OUTCOME	PROBLEM	SOLUTION
	2. Inventory system for main irrigation facilities	We found out and studied several existing database systems related to irrigation in DGWRD - ISI (Inventory System of Irrigation) - Improved ISI - PMS (Programming and Monitoring System)	- Database from ISI and improved ISI is not in the dbf format - PMS is not yet operational	- To change dbf format in order to use in database software - To collect data from Central Java for data simulation
III	TECHNICAL CALCULATION 1. Structure design program - Stability of headwork - Stability of fildam 2. Hydraulic analysis program - Water level calculation on canal - Calculation of dimension of canal	- Program is developed by Visual Basic	- Acording the schedule	- To study about Visual Basic language

Record of the Regular Meeting

1. Date : June 3, 1996.
2. Place : Wadaslintang Conference Room.
3. Subjects :
   1) Result of 95/96 and Activity plan of 96/97
   2) Special budget items of JICA for :
      (1) Enlightenment Activity
      (2) Appropriate Technology Development
      (3) Training of Middle Level Engineers
      (4) Maintenance Cost of Supplied Equipment
      (5) Preparation of Training Textbook in Local Language
   3) Constrain in IESC implementation :
      (1) Shortage of Full-Time (F.T) Counterpart (C.P), particularly 1 more for R&U field, 3 more for SD field
      (2) Chiefs of Working Group (W.G) /Task Force (T.F) to be supplemented /assisted : IPD field, R&U field, etc.
      (3) Local budget for SD field /work
   4) Major programs other than regular programs :
      (1) JICA Evaluation Survey mission
      (2) Technical exchange study team from Thailand (2 teams)
      (3) TCDC training course in the field of Irrigation and Drainage Engineering
   5) Proposal on Procedure to select CP Training in Japan candidates for 3 years
   6) Proposal to have monthly meeting of CP /TF members to explain their activities to members of other fields

4. **Materials distributed :**
   1) Paper titled as *"The Progress Report in the fiscal year 1995 and Work Plan in the fiscal year 1996 of O&M field"*;
   2) Paper titled as *"The Progress Report in the fiscal year 1995 and Work Plan in the fiscal year 1996 of R&U field"*;

3) Paper titled as 'Progress of SD (System Development) Field up to end of March, 1996 and Activity Plan of SD in 1996 fiscal year";

4) Paper titled as *"Materials for Regular Meeting of IESC Project (IESC-BTA 195)"*;

5. Participants : Project Director (Chairman), Project Manager, Chief of Working Group /Task Force, Secretary of Working Group /Task Force, JICA Experts Team Leader and JICA Expert for IESC (list of attendants is attached).

6. Result of discussion :

1) Result of 95/96 and Activity Plan of 96/97

❖ In response to the report of each chief of working group /task force following points were confirmed.

(1) Investigation, Planning and Designing (IPD) Field

*1 The Investigation and Planning Manual of Dam is expected to be completed by December 1996. While the Design Manual of Dam plan to be accomplished by January 1997.

*2 In order to accelerate the establishment of both manuals above, the following points should be considered :

- Translation of existing related manuals /references from English /Japanese into bahasa Indonesia;
- The involvement of project staffs scattered over dam projects in Indonesia;

*3 The first draft of Pre-feasibility and Feasibility of Irrigation Development was completed in March 1996.

(2) Operation and Maintenance (O&M) Field

*1 Regarding the proposal on expansion of work content into Ground Water, Swamps, and Rivers instead of Irrigation only, it seems impossible. As well as, to modify the Tentative Schedule Implementation (TSI) in Record of Discussion by altered the current works to revise of Kriteria Perencanaan (KP), is also practically impossible, due to time constrain. It was suggested to consider the probability of shifting the work to modify current KP from next year without changing TSI.

*2 It was suggested to develop manual of operation in three classification i.e large scale, middle scale and small scale of irrigation scheme.

IESC should pay more attention to develop the manual of operation for large scale irrigation scheme which can be used on national level.

*3 The Operation Procedure Directive for each irrigation scheme which have already prepared by Directorate of Conservation and Water Utilization will also to be distributed by IESC together with O&M section in representative of PRIS office.

*4 It was decided to expand the work on Torrent Intake Structure from its introduction only to establishment of the text book, (within the frame work of 5 years work plan).

This is really required at present, since from the experience there were many of conventioned weirs constructed forcely in mountainous area.

(3) Rehabilitation and Upgrading (R&U) Field

*1 Since the benchmark to determine the expected time to start necessary of R&U work is quite complicated (even in Japan or all over the world, the manuals for determing the time to start R&U work is not published yet), it was decided to use the service ability of irrigation water to be the benchmark of the necessity of R&U works for an irrigation scheme instead of using the productivity /yield factor.

*2 Due to complicated matter in establishing the criteria /manual for evaluation of project for R&U works, some revised program is necessary, and then R&U Field should concentrate to establish :

- Guideline for R&U works on engineering aspects, first, then continue to work for ;
- Criteria of proposed R&U works using an evaluation system of R&U works

*3 Very soon, a meeting should be conducted to discuss the list of content for preparation of Criteria of proposed R&U works.
It was also suggested to make the clear stratification of R&U works in relation with each scale of irrigation scheme.

(4) System Development and Data Base (SD & DB) Field

In order to achieve a better and smooth implementation of SD & DB activities, then the following points are decided.

*1 The user of product resulted from SD & DB field especially for technical calculation sub field is the design unit of the projects. While the user of sub data base field will be the policy makers in national level and provincial /regional level.
So that the provincial offices will have responsibility for data collection.

*2 The activity of technical calculation sub field should be handled by the Directorate of Technical Guidance, DGWRD. It means the Full-Time CP and administrative matters should be arranged by the Directorate of Technical Guidance.

*3 The activity of data base sub field will be arranged by Directorate of Planning and Programming in cooperation with Directorate of Water Utilization and Conservation.
It means the FT CP, data collection, and data analysis will be arranged by Directorate of Planning & Programming, DGWRD.

*4 The staff of Directorate Planning & Programming (Bobby Prabowo) will prepare a letter to the Director General of WRD to confirm which the Directorate handle the data base matter.

2) Special budget items of JICA

This is highlighted for IESC Project Staff. Please keep in mind that although the budget is already allocated for each item, the request from Indonesia side is still necessary for some items.

3) Constrain in IESC implementation

(1) To overcome these constrains the following decision was taken as follow :

*1 To appoint chief of Sub Directorate of River, Mr. Ketut Kaler

to be the chief of Task Force of R&U field.

*2 2 (two) more FT CP for System Development Field will be from Directorate of Planning & Programming, DGWRD.

*3 1 (one) more FT CP for System Development field will be assigned from Directorate of Technical Guidance, DGWRD.

*4 The next successor of Chief of Sub Directorate of Large Structure will be automatically as chief of Working Group of IPD field. While the chief of Task Force for IPD field is Mr. Dicky Supodo.

(2) It was reported by the IESC Project Manager (Mr. A.T.M. Sitompul) that the local budget for SD work is already accepted in Ministry of Finance level. The next step is negotiation between the Directorate General of Budget Allocation (DJA) and the National Planning Agency (BAPPENAS)

4) Major programs other than regular programs.

Based on a proposal, a paper concerned about IESC will be prepared by an appointed team. This paper will be discussed in this Joint Coordinate Committee Meeting which will be conducted soon. This paper is essential in accordance with the future direction of IESC.

5) Proposal on Procedure & Criteria to select candidates for 3 years.

(1) Procedure to select candidates

- Recommended by each working group → Agreed at the Regular Meeting Members → Accepted by the Director General

(2) Criteria

*1 To be indispensable for proper project implementation, and to have specific subject to study

*2 To be government staff working in DGWRD or Bekasi Office, and

- full-time counterpart or
- active task force member, or
- chief of task force /working group

*3 To be assured to work with IESC until the project expiration by him (her) self and his (her) supervisor

(3) Candidates for 1996/97 fiscal year

- Based on above criteria, in 1996/97 fiscal year, Regular Meeting member proposed to send this following staff, as follow :
  - full-time counterpart for O&M field (Mr. Teguh Pamungkas) ;
  - chief of Working Group for R&U field (Mr. Bambang Waloejono) and ;
  - chief of Task Force for SD field (Mr. Wahyu Hartomo).

6) Proposal to have monthly meeting of CP /TF members to explain their activities to members of other fields.
This was accepted by all members. This meeting will be held every 2 (two) months. The first meeting will be initiated by R&U field.

7) Chairman encouraged to all TF member to accelerate the speed of writing the guideline draft and to increase the effectivity of each discussion held amongst the TF member. In addition, he also encouraged for each TF member to read more references in order to increase the productivity of writing.

Witnessed by
JICA Experts Team Leader

Masaki Shimizu

Recorded by
IESC Project Manager

Ir. A.T.M. Sitompul, M.Eng.

Approved by
Project Director

Ir. M. Napitupulu, Dipl. HE.

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DAFTAR - HADIR

Undangan rapat / Meeting Invitation : REGULAR MEETING OF IRRIGATION ENGINEERING SERVICE CENTER PROJECT.

Hari dan tanggal / Day and Date : SENIN, 3 JUNI -1996.

Pukul / Time : 9.00. s/d

Pimpinan rapat / Chairman : IR. M. NAPITUPULU, DIPL.HE.

No.	Nama / Name	Jabatan / Occupation	Instansi / Office	Tanda tangan / Signature
1.	M. NAPITUPULU	DIREKTUR	BINTEK	
2.	Mr MAKUMO			
3.	Ir. Sukarna S			
4.	K Kelor	KSD Irigasi	Bintek	
5.	Koman H. Ma'mun	K. Bid. Irigasi	Irig	
6.	Siti Sudarmani	FSD WS II	Bin	
7.	[illegible]			
8.	Wahyu Hartono	KSD Air Tanah	Dit. Bintek	
9.	Bobby Prabowo	Staf EPMP	Dit. BPP	
10.	Sicky Supono	Sie [illegible]	Dit Bintek	
11.	SUBARI (A).	(TASK Force)	IESC	
12.	Rianto	Task Force SD	IESC	
3.	S. KARTONO.	Task Force SD.	IESC.	
4.	Subari	Task Force	— " —	
5.	Wayan Sugiarta	Kab Pengemb.	Sub Dit Pu	
6.	Kamrun Erang	Kanitke	IESC	
7.	N. NAGAYO	Expert	IESC	
3.	OHKI	"	"	
1.	A. TOMMY H. SITOMPUL	PIN - PRO	IESC	
1.	Keiko Kakuta	Asst. Resident Representative	JICA	
.	M. Shimizu	Expert Training	IESC	
.	M. SAKAKI	Expert IESC	IESC	
.	Zainuddin	KSD Irigasi		
.	Suwy. H. [illegible]	IESC	IESC	
.	ADI P DJOJODIWOTO		IESC	
.	Wihtang Anggraini	IESC	IESC	
.	Yasushi HIRASHIMA	Expert	IESC	