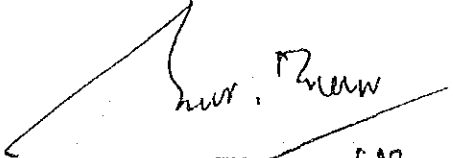
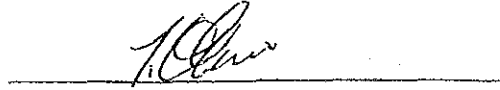


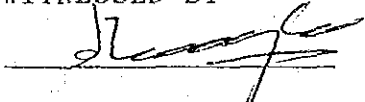
MINUTES OF THE MEETING
ON
INCEPTION REPORT
FOR
THE FEASIBILITY STUDY
ON
CASHMA RIGHT BANK 1ST LIFT IRRIGATION CANAL PROJECT.

PESHAWAR 10th July 1993

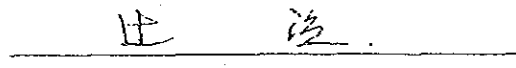

16/7/93
MOHAMMAD AMIN KHATTAK
SECY IRRIGATION
GOVT. OF N.W.F.P.

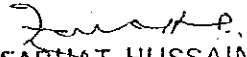

TADASHI OHORI
LEADER
THE STUDY TEAM

WITNESSED BY


MOHAMMAD ISHAQ SHINWARI
PROJECT DIRECTOR
P&I WAPDA
LAHORE.

WITNESSED BY


OSAMU TSUJI
CHAIRMAN
ADVISORY COMMITTEE,
FOR THE STUDY
JAPAN INTERNATIONAL
COOPERATION AGENCY.


FARHAT HUSSAIN
Joint Secretary
Economic Affairs Division
Government of Pakistan
ISLAMABAD

In response to the request of the Government of Islamic Republic of Pakistan, the Government of Japan dispatched the feasibility study team for Chashma Right Bank Ist Lift Irrigation Project (herein after referred to as "The JICA study team").

A joint meeting between the Government of N.W.F.P., WAPDA and the JICA study team was held at Peshawar on July 07, 1993 at 0900 Hrs.

Mr. Shimizu the project officer JICA Head Quarters Tokyo thanked the Government of N.W.F.P. for having provided an opportunity to the JICA study team to discuss Chashma Right Bank Ist Lift Irrigation Project with the Provincial Government and WAPDA experts. He broadly indicated the out line of the study to be carried out by JICA study team and requested Mr. Ohori, the team leader, to introduce the Project.

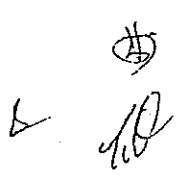
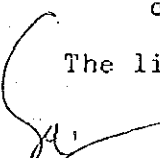
Mr. Ohori leading the discussion stated that the Inception Report has already been submitted to the Provincial Government and WAPDA. After brief introduction of the Inception Report he asked for comments.

The provincial Government broadly appreciated the Inception Report and made some observations on which views were exchanged between the two sides.

As a result of discussion made on July 07, 1993 the following decisions were made.

1. The Government of N.W.F.P. has accepted the contents of the Inception Report and assignment schedule of the JICA study team in general.
2. The Government of N.W.F.P. agreed to provide counterpart experts to JICA study team for transfer of Technology and helping the team to carry out their assignment satisfactory.
3. The Government of N.W.F.P. agreed to appoint the Irrigation department as a counterpart Organization to JICA study team and set up a committee for the overall supervision and controll under the chairmanship of Secretary Irrigation which will coordinate activities of the Government of N.W.F.P., WAPDA and the JICA study team.
4. The Government of N.W.F.P. and WAPDA agreed to provide aerial photographs regarding the study area to JICA study team subject to approval of Government of Pakistan. It was however, further agreed that JICA study team would use these photographs within the country and will not take the original photographs or its copies outside the country.
5. The JICA study team promised to assist the Government of N.W.F.P. in selection of suitable candidates for JICA training.
6. The JICA study team agreed to consider the observations and comments of the Government of N.W.F.P. and WAPDA during the course of the study.

The list of participants is annexed.



LIST OF PARTICIPANTSJICA (JAPAN INTERNATIONAL COOPERATION AGENCY).

1. Osamu Tsuji, Chairman of Advisory Committee for the Study.
2. Akira Shimizu, Coordinator JICA Headquarters.
3. Tadashi Ohori, Leader of the Study Team.
4. Chikaichi Takahashi, Member of the Study Team, Irrigation and Drainage.
5. Motoo Taki, Member of the Study Team, Structural Planning/Topog survey.
6. Abdur Rahim Masud Coordinator (Director operation West Asia and Middle East, Nippon Giken Inc. Regional Office Islamabad).

GOVT OF N.W.F.P. (NORTH WEST FRONTIER PROVINCE).

1. Mohammad Saleem Khan Secretary PE&D In chair.
2. Mohammad Amin Khattak Secretary Irrigation.
3. Habibullah Khan Project Director Ist Project Irrigation Deppt.
4. Akhtar Ali Ismaili Chief Engineer Development.
5. Hashmat Ullah Awan Chief Water.
6. Nawab Khan Masud Chief Engineer WSIPC.
7. Dr. Abdul Waheed Chief Planning Officer Agriculture Deptt.
8. Mr. Akhtar Pervez Superintending Engineer Irrigation deptt.
9. Mohammad Bashir Khan R.O. Foreign Aid PE&D Department.

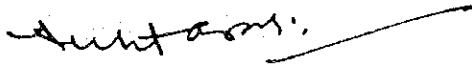
WAPDA WATER & POWER DEVELOPMENT AUTHORITY).

1. Mohammad Ishaq Shinwari Project Director P&I North Wapda.
2. Mohammad Zaman Director investigation North Wapda Peshawar.
3. Mohammad Younus Khan Executive Engineer P&I Wapda.

MINUTES OF THE MEETING
ON
INTERIM REPORT
FOR
THE FEASIBILITY STUDY
ON
CHASHMA RIGHT BANK 1st LIFT IRRIGATION PROJECT
AGREED UPON BETWEEN
THE GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
THE ISLAMIC REPUBLIC OF PAKISTAN
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

PESHAWAR, PAKISTAN

7th February, 1994



Mr. Akhtar Ali Ismili
Secretary, Irrigation Department
Government of N.W.F.P.



Mr. Tadashi Ohori
Leader of Feasibility Study Team,
JICA

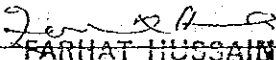
Witnessed by



Mr. Abdul Jalil Moghal
Additional Secretary,
Planning, Environment & Development
Department, Government of N.W.F.P.



Mr. Kichizo Ichino
Leader of Advisory Committee,
JICA



FARHAT HUSSAIN
Joint Secretary
Economic Affairs Division
Government of Pakistan
Economic Affairs Division
Government of Pakistan

Mr. Akhtar Ali Ismili, Secretary of Irrigation Department, welcomed the JICA Study Team and other participants from Agriculture, PE&D Department, and WAPDA. He stated that the Government of N.W.F.P attaches very high importance to this project and was happy that the Study was progressing satisfactorily. He requested the JICA Study Team to introduce the salient features of the Interim Report. Mr. Shimizu on behalf of JICA Study Team gave the outlines of the study schedule and then asked Mr. Ohori, the Team Leader to comment on the Interim Report.

Mr. Ohori gave full details about the Interim Report, the approach of the Team to the Project, the limitation of the Project and the outline of the proposed project. After detailed discussions, the following decisions were made.

1. The Feeder Canal:

Out of the three alternatives for the feeder canal i.e the remodeling of the present feeder for gravity flow canal, the creation of a small reservoir between the hills and the feeder for gravity canal and a new canal parallel to the gravity feeder, it was decided that after considering the advantages and disadvantages of the three alternatives, the last alternatives was the best option.

2. Pump Combination:

The combination of a single pump station and main canal was decided to be the most economical and easy to operate alternative and should be adopted.

3. The Main Canal Slopes:

The canal slope was agreed to be adopted in such a manner that the design velocity in all sections of the canal should be kept at one meter so as to achieve non-silting and non-scoring regime channel.

4. Command Area:

As a result of adoption of these slopes and elimination of non-productive land within its command, the CCA has been set at 88,500 ha which is less than the available water for a reasonable cropping pattern. In order to increase the command area, two alternatives were considered. (i) to provide booster pumping station in the last reach of the canal or (ii) as per recommendation of the Provincial Government, to raise the main canal by approximately to the extent of 2.5 meters which is the head saved in the feeder canal and command more area under the entire main canal. Since the area under the booster pumping station is of 3rd category marginally suitable for irrigation and would need long power lines and would be difficult to maintain and operate, it was decided that the saving in head in the feeder canal may be utilized and the main canal be raised by up to 2.5

meters with a net lift of 60 feet or 18.3 meters. In this way the total cultivable commanded area will be reasonably increased to avoid booster pumping stations.

5. Cropping Pattern:

After prolonged discussions on cropping pattern it was agreed that there should be no rice cultivation under the lift canal project as it was not only uneconomical to use such precious water for high delta crops but that such high application of water would increase the danger of water logging and salinity. With regard to sugarcane, the Provincial Government was of the strong view that this being a traditional cash crop it will not be possible to completely eliminate it. However it may be reduced from 15 % to such a level that within the limits of water availability, the canal could achieve 150 % irrigation intensity. The JICA Study Team agreed to carry out further studies on cropping pattern in their 2nd Phase Study and propose a cropping pattern which would include a reasonable percentage of sugarcane subject to water availability and its economic viability.

6. Environment Study:

As for the environmental study, JICA Study Team shall prepare detailed terms of reference for the EIA study and its monitoring methods.

7. O&M Cost Recovery:

Both the Provincial Government and the JICA Study Team agreed that the issue of O&M cost recovery was very important for sustainable operation of the Project, and will be studied as par scope of work.





The list of attendants is annexed.

ANNEX

THE LIST OF ATTENDANT

	Name	Position	Organization
1.	Mr. Akhtar Ali Ismili	Secretary	Irrigation Department
2.	Mr. Abdul Jalil Moghal	Additional Secretary	P E & D Department
3.	Mr. Fida Muhammad Khan	Director P.Chashma	G.M.(N) WAPDA
4.	Mr. Mohammad Zaman Khan	Director	P&I WAPDA
5.	Mr. Hafeezullah Shinwari	Project Director	G.M.(N) WAPDA
6.	Mr. Alam Zeb	Assistant Chief	P E & D Department
7.	Mr. Javed Iqbal	Research officer	P E & D Department
8.	Mr. Mir Sardar	Deputy Director	Agriculture Department
9.	Mr. Khur Shid Ahmad	Deputy Director	O.F.W.M
10.	Mr. Mohammad Younas Khan	Executive Engineer	P&I WAPDA
11.	Mr. Kichizo Ichino	Leader	Advisory Committee, JICA
12.	Mr. Akira Shimizu	Committee Member	Advisory Committee, JICA
13.	Mr. Tadashi Ohori	Team Leader	JICA Study Team
14.	Mr. Abdul Rahim Mahsud	Team Member	JICA Study Team
15.	Mr. Chikaichi Takahashi	Team Member	JICA Study Team
16.	Mr. Motoo Taki	Team Member	JICA Study Team
17.	Dr. Shuichi Matsushima	Team Member	JICA Study Team
18.	Mr. Koichi Yamamoto	Team Member	JICA Study Team

MINUTES OF MEETING
ON
THE DRAFT FINAL REPORT
FOR
MAPPING AND AGRICULTURAL POTENTIAL STUDY FOR
THE INTEGRATED RURAL DEVELOPMENT PROGRAM
IN PAMPANGA

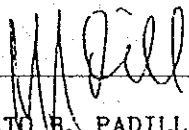
1. Date, Time and Place : August 11, 1992
10:00 A.M. to 12:00 NN.
Conference Room, Finance, Manage-
ment & Administration Office
DAR Central Office
Quezon City, Metro Manila
2. Attendees : See Attachment - 1
3. SUMMARY OF DISCUSSIONS

Twenty (20) copies of the Draft Final Report of the Mapping and Agricultural Potential Study for the Integrated Rural Development Program in Pampanga were submitted to the Department of Agrarian Reform (DAR) prior to the meeting. The meeting was held on the 11th of August, 1992 at the FMAO Conference Room, DAR Central Office, Quezon City. The meeting was presided by Mr. Renato B. Padilla, Undersecretary for DAR Support Services and Field Operations. At the meeting, the contents of the Draft Final Report were explained by Mr. Takayoshi Yamazaki, the Leader of the JICA Study Team and the various discussions were made. The Philippine side basically accepted the contents of the Draft Final Report.

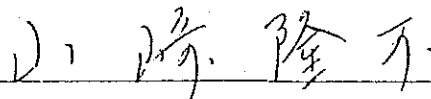
The salient results of the discussions are as follows::

- (1) The Philippine Side has expressed their intention to request the Government of Japan to proceed with the Feasibility Study stage of the Magalang Settlement Project. The study would include: a) hydrological and geological investigations, b) institutional development component such as dissemination of installed technologies and improvement of existing training facilities, and c) refinement of cost estimation to improve economic internal rate of return;

- (2) As regard the Mexico-Sta. Ana Project, the DAR will have to consult first with the Philippine Institute of Volcanology and Seismology to determine whether or not the sites are within the projected lahar hazard zone;
- (3) Additional comments of the Philippine Side will be submitted to JICA within two (2) weeks of this meeting. The Japanese Side would prepare the Final Report taking the comments into consideration within two (2) months after its submission.



RENATO B. PADILLA
Undersecretary
Support Services & Field Operations
Department of Agrarian Reform
(DAR)



TAKAYOSHI YAMAZAKI
Team Leader
Study Team of Japan International
Cooperation Agency
(JICA)

DRAFT FINAL REPORT
FOR MAPPING AND AGRICULTURAL POTENTIAL STUDY FOR
THE INTEGRATED RURAL DEVELOPMENT PROGRAM
IN PAMPANGA

DATE, TIME & PLACE : 11 August 1992, 10:00 A.M. -12:00 NN.
FMAO Conference Room, DAR Central Office
Elliptical Road, Diliman, Quezon City

LIST OF ATTENDEES

Department of Agrarian Reform

RENATO B. PADILLA	Undersecretary for Field Operations & Support Services
SEVERINO T. MADRONIO	Asst. Secretary for Field Operations & Support Services
VIRGILIO E. CABEZON	Asst. Secretary for Planning and Policy
ENGRACIA M. VALENCIA	Director, Bureau of Agrarian Reform Information and Education (BARIE)
MARIBEL L. PEREZ	Director, Project Management Service (PMS)
MIGUEL Y. PUZON	Director, Planning Service
ANTONIO M. NUESA	Regional Director, Region III
RENATO F. HERRERA	Provincial Agrarian Reform Support Services Officer
VIRGILIO GOMEZ	Supervising Agrarian Reform Program Officer, Pampanga Province
TOMAS A. CABUENOS	Chief Agrarian Reform Program Officer, Bureau of Agrarian Reform Beneficiaries Development
CARLOS O. ABAD SANTOS	Supervising Agrarian Reform Program Officer, SSO
FERNANDO R. SIOSON	Supervising Agrarian Reform Program Officer, SSO
MARILEN P. TOMELDEN	Supervising Agrarian Reform Program Officer, SSO
MA. CELERINA G. AFABLE	Project Development Officer V, PMS
TOMASA V. MINA	Chief Agrarian Reform Program Officer, BARIE
EMMA C. CANLAS	Chief Agrarian Reform Program Officer, SSO
MA. TERESA A. BAUL	Supervising Agrarian Reform Program Officer, SSO
MASAHIRO YAGI	JICA Expert, DAR

Line Agencies

ROGELIO M. ROTONI	CARP Coordinator, National Irrigation Administration
RICARDO BAMERO	CARP Coordinator, Department of Public Works and Highways (DPWH)
CONSTANTE A. LLANES JR.	CARP Project Officer, DPWH

JICA Makati

KATSUMI YOSHIDA	Asst. Resident Representative
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JICA Advisory Team


SHIZUO HIROSHIGE	JICA Headquarters, Tokyo
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JICA Study Team

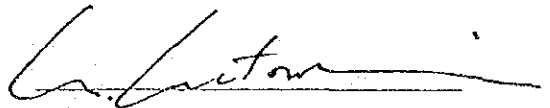
TAKAYOSHI YAMAZAKI	Team Leader
KUNINORU NGDA	Irrigation and Drainage
YUICHI FUKASAKA	Agro-economy/Project Evaluation

MINUTES OF MEETING
OF
THE INCEPTION REPORT
ON
THE MASTER PLAN STUDY
FOR
STRENGTHENING THE AGRICULTURAL COOPERATIVE SYSTEM
IN
THE REPUBLIC OF THE PHILIPPINES

METRO MANILA, JUNE 4, 1992

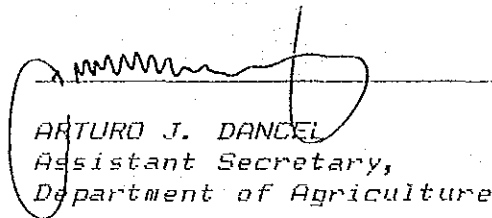


EDNA E. ABERILLA
Chairman
Board of Administrators,
Cooperative Development
Authority



MIDORI MATSUHIRO
Leader
The Study Team,
Japan International
Cooperation Agency

Witnessed by:



ARTURO J. DANDEL
Assistant Secretary,
Department of Agriculture

A Joint Meeting between the Cooperative Development Authority (hereinafter referred to as "CDA") and the JICA Study Team (hereinafter referred to as "the Team") was held on June 4, 1992 at CDA Head Office to discuss the contents of the Inception Report which was submitted to CDA on June 2, 1992.

After discussion, no proposed change was made, therefore, the contents of the Inception Report were generally agreed upon by and between both parties with confirmation of the following items:

1. CDA nominated the counterpart staff headed by Dr. Vicente U. Quintana as overall coordinator. The names and positions of the counterpart staff are listed in the attached sheet No. 2.
2. Should some alterations in regard with implementation of the study become necessary for technical reasons, both parties concerned will discuss the matter.
3. As to "1.4 Study Area" on page 2 of the Inception Report, it was agreed that the word "agriculture" does not include fisheries and forestry.
4. Technical training of the counterpart personnel in Japan be carried out while the Study Team is in Japan.

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LIST OF ATTENDANCE

	NAME	POSITION
CDA		
1.	Mrs. Edna E. Aberilla	Chairman
2.	Dr. Vicente U. Quintana	Administrator
3.	Mr. Alfonso V. Laguna	Administrator
4.	Mr. Candelario L. Verzosa, Jr.	Executive Director
5.	Mrs. Iraida A. Banaira	Director, IDD
6.	Ms. Milagros M. Buenavista	Chief, CPDAD
7.	Mrs. Aurora A. Campos	Sr. CDS
8.	Mr. Bonifacio Tugade	CDS II
9.	Mr. Abraham Revil	CDS II
10.	Mr. Abundio Aban	CDS II
11.	Mr. Cesar Culling	CDS II
12.	Ms. Rosalie Grace Solina	CDS II
13.	Mr. Rodolfo Tansioco	CDS II
DA		
1.	Mr. Arturo J. Dancel	Asst. Secretary
2.	Mr. Roy Rodriguez	Chief, PPC (ADCCO)
3.	Ms. Ma. Isabel Barlaan	PDO
4.	Ms. Lourdes Faustino	PDO
5.	Ms. Cecile Astillo	PDO
ADVISORY COMMITTEE OF JICA		
1.	Jun'ichi SHIMIZU	Team Leader
2.	Akira SHIMIZU	Coordinator
THE TEAM		
1.	Midori Matsuhiro	Leader
2.	Seiichi Miyagawa	Sub-leader
3.	Goro Takahashi	Organization
4.	Ernesto C. Lucas	Management
		Marketing,
		Supply &
		Utilization
5.	Richard A. Neis	Credit
6.	Isoo Sugishita	Guidance &
		Education

Aberilla

C. Lucas

[Signature]

GOP COUNTERPART PERSONNEL

Chief Counterpart	- Dr. Vicente U. Quintana Administrator
Asst. Chief Counterpart	- Ms. Milagros M. Buenavista Chief, CPDAD
Rural Society and Economy	- Mr. Santiago Cabrera Planning Officer II
Organization of Ag. Coops.	- Mr. Cesar Culling CDS II
Management of Ag. Coops.	- Mr. Abraham Revil CDS II
	Ms. Rosalie Grace Solina CDS II
Marketing, Supply & Utili- zation Activities of Ag. Coops.	- Mr. Rodolfo T. Tansioco CDS II
	Ms. Lourdes Faustino PDO II
Credit Activities of Ag. Coops.	- Mr. Bonifacio Tugade CDS II
Guidance and Education Activities of Ag. Coops.	- Mr. Abundio Aban CDS II
Liaison Officer	- Ms. Aurora A. Campos Sr. CDS

Orbenlh

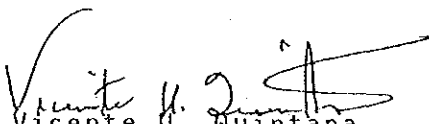
L. Gutierrez

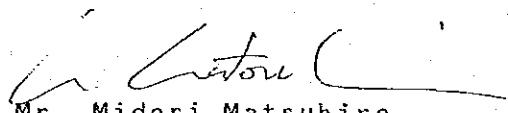
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Minutes of Meeting
for
Progress Report (I)
on
The Master Plan Study
for
Strengthening the Agricultural Cooperative System
in
the Republic of the Philippines

Agreed upon between
Cooperative Development Authority (CDA)
and
Japan International Cooperation Agency (JICA)

Metro Manila, 28 August 1992


Dr. Vicente B. Quintana
Administrator
CDA


Mr. Midori Matsuhiro
Leader
JICA Study Team

In accordance with the Inception Report on the Master Plan Study for Strengthening the Agricultural Cooperative System in the Republic of the Philippines, the Study Team headed by Mr. Midori Matsuhira presented officially twenty (20) copies of the Progress Report (I) at the end of the First Field Study. The Study Team held a meeting with the CDA officials on 28th August, 1992 at the CDA Headquarters to discuss and exchange views on the Report. The meeting was chaired by Dr. Vicente U. Quintana, Administrator, CDA. The list of participants attending the meeting is attached.

At the meeting, CDA had suggested the following points, and the Team had well noted these kind suggestions, and promised to take due consideration in this regard when the Team prepares the Interim Report.

(1) In the Progress Report, there are some confusion on the description of RA 6938 and RA 6939.

(2) Re: "I 1. 1.1 BACOD agricultural Cooperative Development Program"

This is not an "existing plan" but a "previous plan."

(3) "One per cent" on page 181 is misleading.

(4) "After..." on page 181 is misleading.

Mr. Matsuhira thanked the CDA side for the sincere cooperation extended to the Team from all the authorities concerned and briefed the participants about contents of the Report.

The CDA agreed with the contents of the Report.

Reference

Attendance in the Meeting at CDA

Date : 27th August 1992

Venue : Conference Room, CDA Headquarters

The Philippine Side

CDA

Chairman	(1)	Dr. Vicente U. Quintana	Administrator
	(2)	Exec. Dir. Candelario Verzosa, Jr.	Executive Director
	(3)	Mrs. Iraida A. Banaira	Director, IDD
	(4)	Ms. Lolita Illescas	Asst. Chief, Finance
	(5)	Ms. Evelyn Dolencio	HRMO III
	(6)	Ms. Marietta Jose	Supvg CDS
	(7)	Ms. Ma Erlinda Dailisan	Sr. CDS
DA	(8)	Ms. Sylvia Posadas	Legal Officer II
	(9)	Ms. Aurora Campos	Sr. CDS
JICA Side	(10)	Mr. Santiago Cabrera	Planning Officer III
	(11)	Ms. Imelda Baldo	Supvg. CDS

(1)	Mr. Midori Matsuhira	Team Leader
(2)	Mr. Seiichi Miyagawa	Team Member
(3)	Mr. Goro Takahashi	do
(4)	Mr. Isoo Sugishita	do

Minutes of Meeting

For

Progress Report (II)

On

The Master Plan Study

For

Strengthening Agricultural Cooperative System

In

The Republic of the Philippines

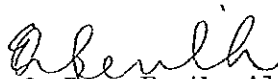
Agreed Upon Between

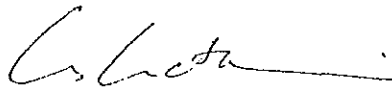
Cooperative Development Authority (CDA)

And

Japan International Cooperation Agency (JICA)

Metro Manila, 22 March 1993


Prof. Edna E. Aberilla
Chairperson, CDA


Mr. Midori Matsuhira
Leader
JICA Study Team

In accordance with the Inception Report on the Master Plan Study for Strengthening the Agricultural Cooperative System in the Republic of the Philippines, the Study Team headed by Mr. Midori Matsuhira presented officially twenty (20) copies of the Progress Report (II) at the end of the second field survey. The Study Team held a meeting with CDA and other government Officials on 22nd March, 1993 at the CDA Headquarters to discuss and exchange views on the Report. The meeting was chaired by Mrs. Edna E. Aberilla, Chairperson, CDA. The list of participants who attended the meeting is attached.

Mr. Matsuhira expressed most sincere thanks for all what the CDA and all other government agencies concerned have so kindly done in support for the Team in the conduct of the study, and proceeded with briefing the participants on the contents of the Report.

The CDA agreed with the contents of the Report.

Discussions were focused on the following points:

- a) It was agreed that the Report is comprehensive.
- b) CDA suggested that in the Final Report, it would be advisable to include some analysis of different policies of the Government of the Philippines as well as of the prevailing environment. In particular, the Japanese experience in coming up with an Apex Cooperative Bank shall also be included.
- c) It would be advisable that in the Final Report, the Japanese experience of amalgamation of agricultural cooperatives be included, perhaps as an Appendix.
- d) Also it was suggested that the introduction to "Agricultural and Fishery Cooperatives Deposit Insurance as well as the write-up about the "Corporation" which was created because of the law will be added to the "Final Report".

R

M. M.

Attendance in the Meeting at CDA

Date : March 22, 1993

Venue: CDA Conference Room

The Philippine Side

1. Prof. Edna A. Aberilla - Chairperson, CDA
2. Dr. Vicente U. Quintana - Administrator
3. Mr. Myron Gawigawen - Administrator
4. Mr. Candelario L. Verzosak Jr. - Executive Director
5. Mr. Roberto F. Villarroel - Deputy Executive Director
6. Mr. Buenaventura N. Buenavista - Chief, Administrative Div.
7. Ms. Milagros M. Buenavista - Chief, CPDAD
8. Mr. Edwin Canonizado - Chief, Planning Div.
9. Ms. Ma. Luz Aggabao - Chief, Finance Div. d
10. Mr. Adaueto Mendoza - Chief, Registration Div.
11. Ms. Marilyn Estrella - Sr. CDS
12. Mrs. Aurora A. Campos - Sr. CDS

JICA Side

1. Mr. Midori Matsuhiro - Team Leader
2. Mr. Seiichi Miyagawa - Team Member
3. Mr. Isao Sugishita - Team Member
4. Dr. Goro Takahashi - Team Member
5. Mr. Joe Otsuka - Interpreter
6. Mr. Kobuyuki Kobayashi - JICA Philippine Office

DA Side


1. Mr. Segundo Serrano - ATI Director

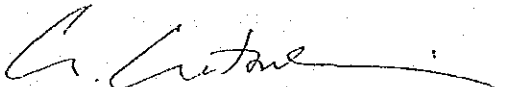
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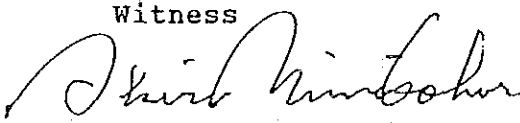
U. U.

Minutes of Meeting
For
The Draft Final Report
On
The Master Plan Study
For
Strengthening Agricultural Cooperative System
In
The Republic of the Philippines
Agreed Upon Between
Cooperative Development Authority (CDA)
And
Japan International Cooperation Agency (JICA)

Metro Manila, 7 September 1993


Prof. Edna E. Aberilla
Chairperson, CDA


Mr. Midori Matsuhira
JICA Leader Team

Witness

Mr. Akira Minatohara
Acting Chairman, Supervising Committee

In the accordance with the Inception Report on the Master Plan Study for Strengthening the Agricultural Cooperative System in the Republic of the Philippines, the Study Team headed by Mr. Midori Matsuhira presented officially twenty (20) copies of the Draft Final report.

The Study Team held a meeting with CDA on 6 September, 1993 at the CDA Headquarters to discuss and exchange views on the Draft Final Report.

The meeting was chaired by Mrs. Edna E. Aberilla, Chairperson, CDA. The list of participants who attended the meeting is attached.

On behalf of members of the Study Team and himself, Mr. Matsuhira expressed most sincere appreciation for kind assistance and support rendered to the Study Team by CDA, DA and other government authorities concerned. He emphasized that without such warm cooperation, the Study Team could not have prepared the Draft Final Report.

Then, he proceeded with briefing the participants on the contents of the Report.

The CDA agreed with the contents and expressions of the Report.

Discussions were focused on the following points.

- a) CDA side has appreciated the Draft Final Report as detailed and comprehensive. And the method of survey was well organized and scientific.
- b) The Team explained that the main points of the Draft Final Report have not been changed since the Team has presented the Progress Report II in March, 1993 to CDA.
- c) Among others, CDA was very much pleased to have a draft recommendation of the Team.
- d) Discussion took place on how to install telephone in rural area. Moreover, it was agreed that no alteration would be required to the suggested Recommendations.
- e) Some errors were pointed out by CDA as per attached sheet, and the Team promised to make corrections.

Aberilla

G.A.

A.M.

The following were agreed:

- a) CDA has no objection to make the Final Report open to the public in general.
- b) CDA will submit to JICA a letter to request JICA donate two (2) vehicles. (NISSAN PATHFINDER 4WD DX, left Hand Model, ZWBLYD21JFC)
- c) In accordance with the Scope of Work, CDA was cordially invited to send a letter to JICA Philippine Office indicating CDA's comments and/or views, if any, regarding the Draft Final Report not later than 7th October, 1993.

Shen

L. L.

A. M.

Attendance in the Meeting at CDA

Date : 06 September 1993

Venue: CDA Conference Room

The Philippine Side

1. Prof. Edna A. Aberilla - Chairperson, CDA
2. Dr. Vicente U. Quintana - Administrator
3. Mr. Myron Gawigawen - Administrator
4. Gen. Arcadio S. Lozada, Ret. - Administrator
5. Ms. Omera Hd. Lucman - Administrator
6. Mr. Candelario L. Verzosa, Jr. - Executive Director
7. Mr. Roberto F. Villarroel - Deputy Exec. Director
8. Ms. Iraida A. Banaira - Director II
9. Mr. Buenaventura M. Buenavista, Jr. - Chief, CRITD
10. Ms. Milagros M. Buenavista - Chief, CPDAD
11. Mr. Edwin Canonizado - Chief, Planning Div.
12. Ms. Ma. Luz Aggabao - Chief, Finance Div.
13. Mr. Adaueto Mendoza - Chief, Registration
14. Atty. Neil Santillan - Chief, Legal Division
15. Ms. Aurora A. Campos - Sr. CDS
16. Ms. Nenita Santiago - Supvg. CDS

JICA Side

1. Mr. Midori Matsuhira - Team Leader
2. Mr. Seiichi Miyagawa - Asst. Team Leader
3. Dr. Goro Takahashi - Team Member
4. Mr. Isoo Sugishita - Team Member
5. Mr. Akira Minatohara - Actg. Chairman,
Supervisory Com.
6. Mr. Kyojin Mima - JICA Headquarters
7. Mr. Naoki Higuchi - CUAC
8. Mr. Joe Ohtsuka - Interpreter

Edna A. Aberilla

C. U.

A. M.

Erratum

Page	Line	Error	Correct
1	8, from the bottom	Samahary Nayon	Samahang Nayon
1	2, from the bottom	phased	phrase
4	16, from the top	?? leaders	leaders
8	2, from the bottom	?Samanhannayon?	Samahang Nayon
9	3, from the top	1989	1990
13	tablet July 6-10, Regions July 5-10, Investi- gators	Batanga urvey group B	Batangas Survey Group B
25	8, from the bottom	300	320
123	4, from the top	9,000	16,000
124	6, from the top	subsidiarily	subsidiarity
124	12, from the top	hards-on	hands-on
126	2, from the top	P1.2 million	P1.25 million
126	3, from the top	and Seculities and Exchange Commission (SEC)	and Cooperative Development Authority (CDA)
129	8, from the bottom	have	has
129	4, from the bottom	have	has
135	3, from the top	streamlining	streamline

Abenilla

C. U.

A. M.

MINUTES OF MEETING
OF
INCEPTION REPORT
FOR THE
FEASIBILITY STUDY
ON
THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES
IN
SOUTHERN PALAWAN

The Study Team headed by Mr. Masahiro IIDA as the Team Leader and the Philippine officials headed by Undersecretary Jose Noel D. Olano of the Department of Agrarian Reform (hereinafter referred to as DAR), had a series of discussion and exchange of views on the Inception Report for the Feasibility Study prepared by the JICA Team.

1. Receipt of Inception Reports

DAR received 20 copies of Inception Report submitted by the Study Team on January 21, 1994.

2. Meetings

A series of meeting was held at the DAR head office on January 21, and 26 to 28, 1994, respectively, and consequently, the Minutes of Meeting was signed by the heads of both sides on January 28, 1994.

3. Presentation

The Team Leader presented a brief of the Inception Report including the Plan of Operation, and the undertakings of the Government of the Philippines for the Feasibility Study.

4. Discussions

The results of the discussions on the Inception Report are as follows, and consequently, the Inception Report was agreed upon by DAR:

4.1 The study area to be covered by the Feasibility Study was confirmed at about 2,000 hectares, consisting of the Tagumpay Settlement (1,066 hectares) and the adjoining area of about 1,000 hectares which is still under negotiation with the Department of Justice (refer to as DOJ). If the area under the DOJ will not be transferred to the DAR within the Work I study period, the Feasibility Study will be limited to the Tagumpay Settlement area only. (refer to attached Figure)

4.2 The Study will not include an agro-industries sector however, the Team will itemize potential agro-industries which will bring value-added products to farmers.

As to the post-harvest, the Study Team will study marketing, post-harvest facilities including storage house, facilities for drying and milling of paddy and corn shelling, etc., however, the study will be limited to processing facilities which will maintain the original form of the grains, vegetables, fruits and etc.

4.3 The Study Team will execute the Initial Environment Examination and the Environmental Impact Statement (EIS) by the DAR, respectively, and regarding EIS, the Study Team will provide the necessary data and information to the DAR staff.

4.4 Undertakings of the Government of the Philippines are as follows:

a. For the Feasibility Study Team

- Counterparts personnel requested in the Inception Report are provided by DAR

- DAR provides office spaces in Manila and in Palawan.

- DAR arranges for the advance information on the schedule of the Air Force practice at the site.

- DAR arranges for the permission to enter and pass the Inagauan Penal Colony.

b. For the Topo Mapping Team

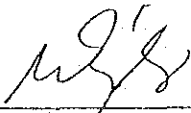
- DAR shall arrange for the permission to clean the space for the establishment of photo signals and the control points survey by February 8, 1994.


- DAR arranges for the permission to enter and pass the Inagauan Penal Colony;

- DAR arranges for the advance information on the schedule of the Air Force practice at the site.

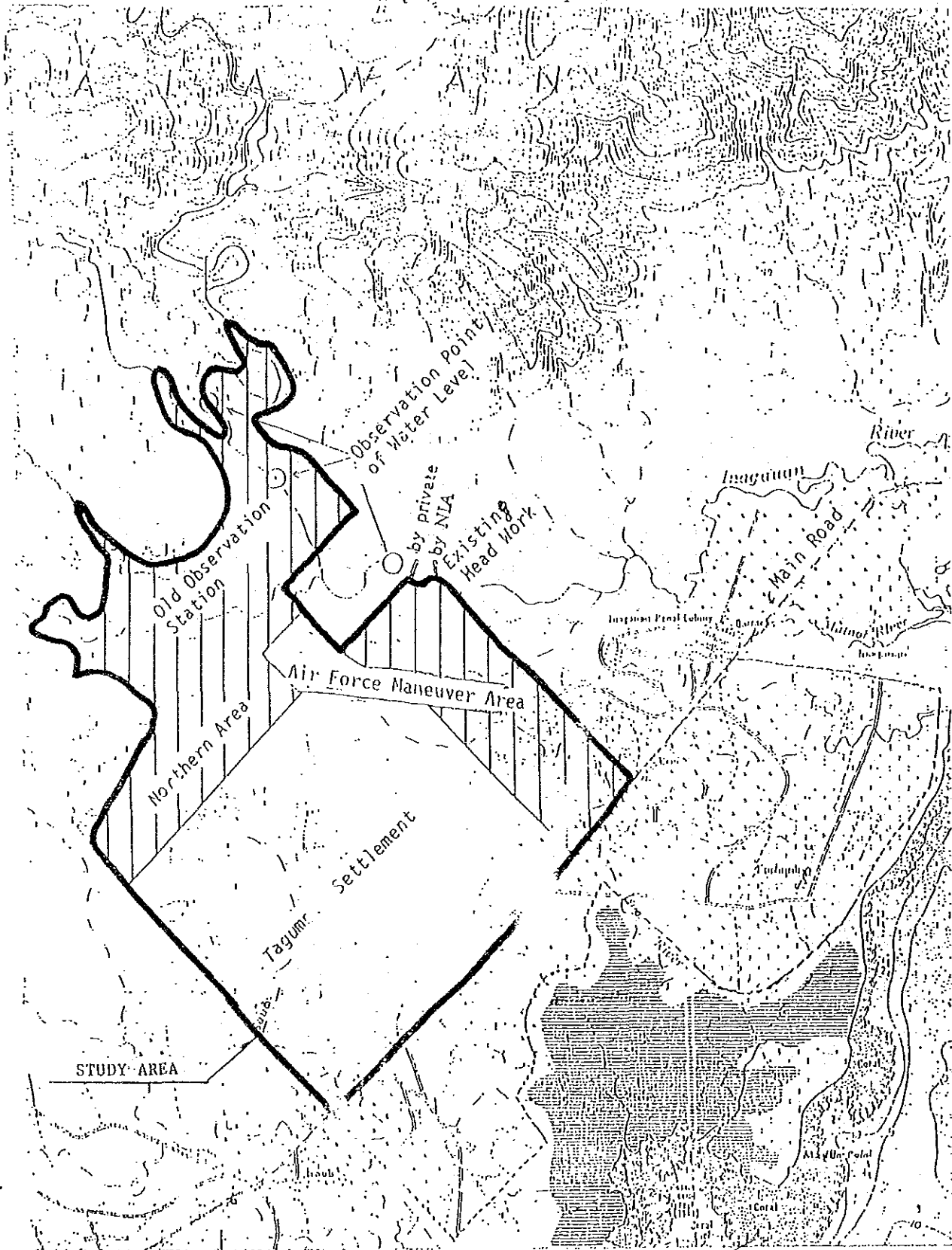
4.5 DAR requests to donate vehicles, personal computers, photocopy machines and survey equipments for the study as mentioned in the Minutes of Meeting on the Implementing Arrangement.

Metro Manila
28 January 1994


MR. ERNESTO GARILAO
Secretary
Department of Agrarian Reform


MR. MASAHIRO IIDA
Team Leader
JICA Feasibility Study Team

Map of the Study Area



JARDAN & ASS

[Handwritten signatures]

ATTENDANCE

Subject: Explanation and Discussion on Inception Report


Name	Position/Agency
1) Mr. Jose Noel D. Olano	- Undersecretary - DAR
2) Mr. Jose Mari B. Ponce	- Director - PDMS
3) Ms. Ma. Celerina G. Afable	- Chief, PDD - PDMS
4) Ms. Jean M. Fornoles	- PDO IV - PDMS
5) Ms. Ma. Cristina C. Dagdag	- ARPO II - PDMS
6) Ms. Erlinda F. Dolatre	- PDO III - PDMS
7) Mr. Homer P. Tobias	- PARO - DAR, Palawan
8) Ms. Elma S. Binasahan	- SuARPO -DAR, Palawan
9) Mr. Leandro Caymo	- CARFO -- DAR, Palawan
10) Mr. Masahiro Yagi	- Colombo Plan Expert DAR
11) Mr. Masaki Oga	- JICA Advisory Team
12) Mr. Masahiro Iida	- Team Leader of JICA Study Team
13) Mr. Yoshiteru Tsunoda	- JICA Study Team
14) Mr. Kensuke Iriya	- JICA Study Team
15) Mr. Tetsuya Otsuki	- JICA Study Team

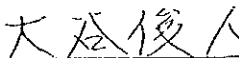
CARPO	- Chief Agrarian Reform Program Officer
PDO	- Project Development Officer
SUARPO	- Supervising Agrarian Reform Officer
ARPO	- Agrarian Reform Program Officer
PDMS	- Project Development and Management Staff
PDD	- Project Development Division
PARO	- Provincial Agrarian Reform Office

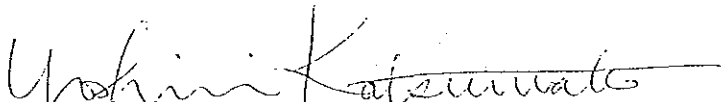
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MINUTES OF DISCUSSION
ON
INTERIM REPORT
FOR
THE FEASIBILITY STUDY
ON
WALAWE IRRIGATION UPGRADING AND EXTENSION PROJECT
(LEFT BANK)

JUNE 9, 1992


K.H. S. GUNATILAKA
DIRECTOR GENERAL
MAHAWELI AUTHORITY OF
SRI LANKA


TOSHIHITO OTANI
TEAM LEADER,
JICA STUDY TEAM


WITNESSED BY YOSHIMI KATSUMATA
JICA

The JICA submitted 30 copies of the Interim Report to the Mahaweli Authority of Sri Lanka, Ministry of Lands, Irrigation and Mahaweli Development in May, 1992. A meeting was convened for 3rd June, 1992 to discuss the Report.

1. Date and Time : 3rd June, 1992 (11:10 am - 12:45 pm)
2. Place : Operations Room of Mahaweli Authority of Sri Lanka
3. Attendance : See Attached list
4. Summary of Discussion:

The discussion was presided by Mr. K. H. S. Gunatilaka, Director General of Mahaweli Authority of Sri Lanka (MASL). The JICA Study Team explained the outline of the Report and work plan and schedule in Phase II. The discussion was made based on the "Interim Report". The following issues were discussed and confirmed between both parties:

- (1) The Interim Report was generally accepted by the Mahaweli Authority.
- (2) Irrigation water demand of the right bank area to the Walawe reservoir for the Study is 405 MCM as was estimated by ADB in 1984. The irrigation water demand of the right bank area estimated by MASL recently is 408.5 MCM.
- (3) Study on livestock development in the study area will be made in Phase II study.
- (4) In-depth study on proposed cropping pattern will be made in Phase II study placing emphasis on the studies on selection of industrial crops and possible private sector investment.

Y. J. J. J.

K. H. S. G.

Meeting to discuss the Interim Reports on
Walawe (LB) Irrigation Upgrading and Extension Project
held on 3rd June 1992 at 11.00 a.m.

Attendance :	Mr K.H.S. Gunatilaka	-	Director General, MASL.
	Mr P.T. Senararatne	-	Secretary General, MASL
	Mr G.J.P. Gunawardena	-	MD/MECA
	Mr A.M.A. Abeysinghe	-	DAP/MLIMD
	Mr M.J.S. Amerasinghe	-	GM/MEA
	Dr R.D. Wanigaratne	-	D/PMU
	Mr T. Otani	-	JICA Team
	Mr K. Okada	-	JICA Team
	Mr L.K. Devasiri	-	JICA Team
	Mr K. Yamada	-	JICA Team
	Mr Y. Nishikawa	-	JICA Team
	Mr M. Kawasaki	-	JICA/Colombo
	Mr A. Cooray	-	PE/EP-PMU
	Mr M. Galpoththage	-	PC (UW & UM)
	Mr H.A. Wickremaratne	-	CIE/MEA
	Mr G.W. Liyanage	-	Sr. Agronomist/MEA
	Mr S. Dimantha	-	Head/Land Use Division
	Mr G.P. Perera	-	Agronomist/MEA
	Mr G.W.D.M. Goonaratne	-	DE II/MASL
	Mr S.M.D. Malalaratne	-	A/PC-MASL
	Mr Anura Wijetunge	-	IE (Walawe) MEA
	Mr U.K. Sumanadasa	-	RPM (Uda Walawe)
	Mr N.P. Tittagalla	-	Ag. Economist/PMU
	Mr C. Wellappili	-	RPP/PMU
	Mr H.J. Peiris	-	Consultant.

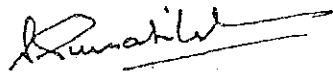
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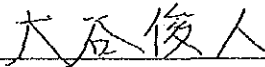
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MINUTES OF DISCUSSION
ON
PROGRESS REPORT (II)
FOR
THE FEASIBILITY STUDY
ON
WALAWE IRRIGATION UPGRADING AND EXTENSION PROJECT
(LEFT BANK)

13TH AUGUST, 1992



K.H.S. GUNATILAKA
DIRECTOR GENERAL
MAHAWELI AUTHORITY OF
SRI LANKA



TOSHIHITO OTANI
TEAM LEADER
JICA STUDY TEAM


The JICA study team submitted thirty (30) copies of the Progress Report (II) to the Mahaweli Authority of Sri Lanka, Ministry of Lands, Irrigation and Mahaweli Development on 10th August 1992. A meeting was convened on 11th August 1992 to discuss the Report.

1. Date and Time : 11th August 1992 (11:10 am - 12: 30 pm)
2. Place : Operation Room of Mahaweli Authority of Sri Lanka
3. Attendance : See attached list
4. Summary of discussion :

The discussion was presided by Mr. K. H. S. Gunatilaka, Director General of Mahaweli Authority of Sri Lanka (MASL). The JICA Study Team explained the outline of the Report. The discussion was made based on the " Progress Report (II)". The following issues were discussed and confirmed between both parties;

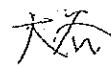
- (1) The Progress Report (II) was generally accepted by MASL.
- (2) Water balance study will be made for two scenarios, irrigation water demand of Right Bank area of (i) Case 1; 340-350 MCM based on the report prepared by MMP and (ii) Case-2; original estimate (405 MCM).
- (3) Proposed cropping pattern is accepted to MASL.
- (4) Distribution of paddy and OFCs extent per farmer will vary depending on the availability of suitable soil classes within the Area. Two plots for paddy and OFCs may be allotted for individual farmers in different locations. The issue will be further discussed at the design stage.
- (5) Southern end of the Extension area will be excluded from the irrigation development area. Alternative land to compensate for the exclusion will be considered in the western middle part of the area.
- (6) Demonstration facility for food processing will be planned in the Development Center for training of farmers.

- (7) MASL will provide office space and one vehicle for the environmental survey team who will continue their works till 20th September 1992.
- (8) MASL will make every effort to provide the remaining results of laboratory tests for soil and soil mechanics to the Team by 18th August 1992.
- (9) The Study Team will take steps to include the utilization of organic fertilizer and natural pesticide in the project.



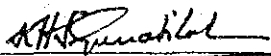
Attendance at the Meeting held on 11th August 1992 at the MASL Operations Room to Discuss JICA Progress Report (II)

1. Mr. K.H.S. Gunatilaka	Director General, MASL
2. Mr. P.T. Senaratna	Secretary General, MASL
3. Mr. M. Kawasaki	JICA/Colombo
4. Mr. T. Otani	Team Leader/JICA Study Team
5. Mr. K. Okada	Member of Team/JICA
6. Mr. L. Devasiri	Member of Team/JICA
7. Mr. Y. Ogata	Member of Team/JICA
8. Mr. Y. Nishikawa	Member of Team/JICA
9. Mr. K. Fukumoto	Member of Team/JICA
10. Ms. Nalani Amarasekara	Member of Team/JICA
11. Dr. S.U.K. Ekaratne	Environmental Team/JICA
12. Dr. A.S. Seneviratne	Environmental Team/JICA
13. Mr. R.A. Wijewansa	TEAMS
14. Mr. C. Abayasinghe	TEAMS
15. Mr. G.J.P. Gunawardena	M.D./MECA
16. Mr. G.W.D.M. Goonaratne	D.E. II/MASL
17. Dr. R.D. Wanigaratne	D/PMU
18. Mr. N.J.S. Amerasinghe	G.M./MEA
19. Mr. G.L.L.J. Dabera	F.C./MASL
20. Mr. Ariya Abeysinghe	D.(Ag. Planning)/MLIMD
21. Mr. G.W. Liyanage	Senior Agronomist/MEA
22. Mr. U.K. Sumanadasa	RPM/Uda Walawe
23. Mr. P. Samaraweera	Director/WMS
24. Mr. H.A. Wickramasinghe	C.I.E./MEA
25. Mr. T.D.P. Karunatilaka	C.I.E./MEA
26. Mr. M. Galpoththage	P.C.(UW & UM)/MEA
27. Mr. H.D.L.U. Nirodhawardana	P.D. (U/W)/MEA
28. Mr. D.A. Meemeduma	Econ. & Fin. Planner/PMU
29. Mr. S. Dimantha	Head, Land Use Div./I.D.
30. Mr. S.M.D. Malalaratne	P.C./MASL
31. Mr. Asoka Cooray	Prin. Eng./Env. Planner/PMU

MINUTES OF DISCUSSION
ON
DRAFT FINAL REPORT
FOR
THE FEASIBILITY STUDY
ON
WALAWE IRRIGATION UPGRADING AND EXTENSION PROJECT
(LEFT BANK)

NOVEMBER 10, 1992



K.H.S. GUNATILAKA
DIRECTOR GENERAL,
MAHAWELI AUTHORITY OF
SRI LANKA



TOSHIHITO OTANI
TEAM LEADER,
JICA STUDY TEAM



WITNESSED BY MITSUHIKO OTA
JICA

JICA submitted thirty (30) copies of the Draft Final Report to the Mahaweli Authority of Sri Lanka (MASL), Ministry of Lands, Irrigation and Mahaweli Development in October 1992. Meetings were held to discuss the Report on November 6, 1992.

1. Time: From 10:40 to 15: 30
2. Places: Conference Room of Planning and Monitoring Unit and Operation Room of MASL
3. Attendance: See attached list
4. Summary of discussion

The discussion was presided by Mr. K.H.S. Gunatilaka, Director General of Mahaweli Authority of Sri Lanka. The JICA Study Team explained the outline of the Report. The discussion was made based on the Report. The following issues were discussed and confirmed between both parties;

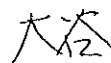
- (1) The Report was generally accepted by MASL.
- (2) Comments on the Report will be sent to JICA before the end of November 1992.
- (3) Project phasing shall give priority to construction of main roads including bridge over the Walawe river.
- (4) Biological control of aquatic weeds, especially Hydrilla, will be recommended in the Final Report.
- (5) Use of natural pesticide and organic fertilizer will be emphasized in the Final Report.
- (6) MASL has no objection for making the Final Report open to the public in Japan.

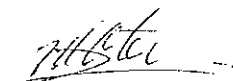


Attendance at the Meeting held on 6th November, 1992
at the MASL to discuss the Walawe LB Irrigation
Upgrading and Extension Project

No.	Name	Designature	Signature
1.	Mr. K.H.S. Gunatilake	Director General/MASL	
2.	Mr. Mitsumiko OTA	JICA Head Office, Tokyo	
3.	Mr. Toshihito Otani	JICA Study Team, Leader	
4.	Mr. Koji Okada	JICA Study Team, Member	
5.	Mr. Lalith Devasiri	JICA Study Team, Member	
6.	Mr. Yoshihiko Ogata	JICA Study Team, Member	
7.	Dr. R.D. Wanigaratne	Director/PMU	
8.	Mr. Asoka Cooray	Pri.Eng./Env.Planner/PMU	
9.	Mr. M.J.S. Amerasinghe	G.M./MEA	
10.	Mr. T.D.P. Karunatilake	CIE/MEA	
11.	Mr. H.A. Wickramaratne	CIE/MEA	
12.	Mr. M. Galpoththage	P.C.(UW/UM)/MEA	
13.	Mr. G.W. Liyanage	Senior Agronomist/MEA	
14.	Mr. G.D. Perera	Agronomist/MEA	
15.	Mr. S.W. Dissanayake	Env.Officer/MEA	
16.	Mr. G.J.P. Gunawardena	MD/MECA	
17.	Mr. N.P. Jayawardena	Engineer/MECA	
18.	Mr. T.N. Sritharan	Geologist/MECA	
19.	Mr. G.W.D.M. Goonaratne	D.E.II/MASL	
20.	Dr. S.U.R. Ekaratne	TEAMS	
21.	Mr. R.A. Wijewansa	TEAMS	
22.	Mr. A.B. Fernando	TEAMS	
23.	Ms. Nalani Fernando	TEAMS	
24.	Mr. C. Abesinghe	TEAMS	

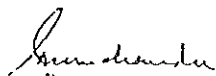




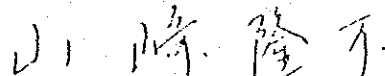


MINUTES OF DISCUSSION
ON
INCEPTION REPORT
FOR
MASTER PLAN STUDY
ON
THE AGRICULTURAL AND RURAL DEVELOPMENT
FOR
UP-COUNTRY PEASANTRY REHABILITATION PROGRAMME

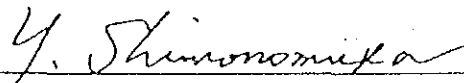
FEBRUARY 25, 1993



D. G. PREMACHANDRA
SECRETARY
MINISTRY OF LANDS, IRRIGATION AND
MAHAWELI DEVELOPMENT



TAKAYOSHI YAMAZAKI
TEAM LEADER,
JICA STUDY TEAM



WITNESSED BY YASUHIRO SHIMONOMURA
MEMBER, ADVISORY COMMITTEE

JICA submitted twenty (20) copies of the Inception Report to the Ministry of Lands, Irrigation and Mahaweli Development on 23 February, 1993. The meeting was held to discuss the Report on 25 February, 1993.

1. Time : From 14:30 to 15:40
2. Place : Conference Room of MLIMD
3. Attendance : See attached list

The discussion was presided by Mr B Bulumulla, Secretary of Ministry of Up-country Peasantry Rehabilitation. The JICA Study team explained the outline of the Report. The discussion was based on the Report. The main issues were discussed and confirmed between both parties;

- (1) The Report was generally accepted by Ministry of Lands, Irrigation and Mahaweli Development, and other Agencies concerned who were present agreed.
- (2) It was agreed that the study will take note of all development projects in the Region, in order to avoid possible duplication.

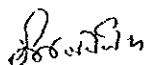
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MEETING TO DISCUSS THE INCEPTION REPORT
ON
MASTER PLAN STUDY
ON
THE AGRICULTURAL AND RURAL DEVELOPMENT
FOR
UP-COUNTRY PEASANTRY REHABILITATION PROGRAMME

Mr. B. Bulumulla	Secretary, MUPR
Mr. D. M. P. B. Dassanayake	Commissioner, Dept. of UPR
Mr. K. Thurairajaratnam	<i>Snr. Dty. Director, Irrigation Dept.</i>
Mr. J. G. A. Wijedasa	Dty. Chief Secretary, Sabaragamuwa P. C.
Ms. Kumudini Atukorala	Asst. Director, MADR
Mr. W. M. Bandusena	Dty. Director, MLIMD
Mr. H. M. Rupasinghe	Dty. Director, NPD
Mr. W. G. T. Gamanayake	Dty. Commissioner, DUPR
Ms. Ranjini Pathberiya	Dty. Director, Dept. of Ext. Resources
Mr. Y. Shimonomura	Member of Advisory Committee
Mr. H. Hioki	JICA Head Quarter
Mr. T. Yamazaki	Team Leader, JICA Study Team
Mr. F. Tamura	Co-leader, JICA Study Team
Mr. N. Nagai	JICA Study Team
Mr. K. Tsumura	JICA Study Team
Mr. L. K. Devasiri	JICA Study Team
Mr. Y. Ogata	JICA Study Team

MINUTES OF DISCUSSION
ON
INTERIM REPORT
FOR
MASTER PLAN STUDY
ON
THE AGRICULTURAL AND RURAL DEVELOPMENT
FOR
UP-COUNTRY PEASANTRY REHABILITATION PROGRAMME

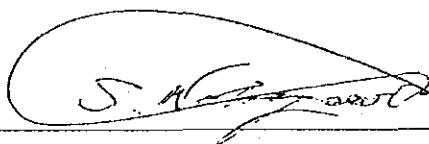
October 4, 1993



O. C. JAYAWARDANE
SECRETARY,
MINISTRY OF LANDS



TAKAYOSHI YAMAZAKI
TEAM LEADER
JICA STUDY TEAM



WITNESS BY Dr. SHOICHIRO NAKAGAWA
LEADER OF JICA ADVISORY TEAM

JICA submitted twenty (20) copies of the Interim Report to the Ministry of Lands on 28 September, 1993. The meeting was held to discuss the Report on 4 October, 1993.

1. Time : From 9:00 a.m. to 10:30 a.m.
2. Place : Conference Room of Ministry of Lands
3. Attendance : as per attached list

The discussion was presided over by Mr. O. C. Jayawardane, Secretary, Ministry of Lands. The JICA Study Team explained the outline of the Report. The discussion was based on the Report. The main issues were discussed and confirmed between both parties;

- (1) The Report was generally accepted by the Ministry of Lands and other agencies concerned who were present .
- (2) Initiative expressed in the Report on the implementation agency was agreed upon by the Steering Committee subject to further revision on project administration if necessary.
- (3) Request was made by the MUPR to add three divisions (Kundasale, Hali Ela and Kandaketiya) to the case study area delineated by the study team.

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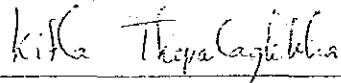
MEETING TO DISCUSS THE INTERIM REPORT
ON
MASTER PLAN STUDY
ON
THE AGRICULTURAL AND RURAL DEVELOPMENT
FOR
UP-COUNTRY PEASANTRY REHABILITATION PROGRAMME

Mr. O. C. Jayawardane	Secretary, Ministry of Lands
Mr. B. Bulumulla	Secretary, MUPR
Mr. L. U. Weerakoon.....	Secretary, Ministry of Irrigation
Mr. D. M. P. B. Dassanayake	Commissioner, Dept. of UPR
Mr. G. K. Amaratunga	Chairman, CEA
Mr. W. N. M. Botejue.....	Addl. Director, Dept. of Irrigation
Mr. J. Jayasinghe.....	Addl. Director, LUPPD
Ms. S. Malalasekra.....	Director. (Planing), ML
Mr. W. R. A. P. Ranasinghe	Secretary, Sabaragamuwa PC
Mr. H. M. H. Abeyweera	Land Commissioner, CP
Mr. H. Banduratne	Dty. Director, Dept. of National Planning
Mr. H. M. Rupasinghe	Dty. Director, Dept. of National Planning
Mr. W. T. G. Gamanayake.....	Dty. Commissioner, UPR
Mr. P. C. Senaratna.....	Dty. Director (Planning), Dept. of Irrigation
Mr. K. P. A. Gunaratna.....	Asst. Director (Planning) Sabaragamuwa PC
Ms. Kumudini Atukorala	Asst. Director, MADR
Dr. S. Nakagawa	Leader of JICA Advisory Team
Mr. H. Sakurai.....	JICA Head Quarter
Mr. J. Iida.....	JICA Sri Lanka Office
Mr. T. Yamazaki.....	Team Leader, JICA Study Team
Mr. F. Tamura	Co-leader, JICA Study Team
Mr. N. Nagai	JICA Study Team
Mr. K. Tsumura.....	JICA Study Team
Mr. Y. Iwai.....	JICA Study Team
Mr. L. K. Devasiri.....	JICA Study Team
Mr. Y. Ogata	JICA Study Team

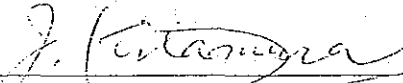
Asst.

MINUTES OF MEETING
FOR
THE FEASIBILITY STUDY
ON
THE LAM DOM YAI BASIN IRRIGATION PROJECT
IN
THE KINGDOM OF THAILAND

September 3, 1992

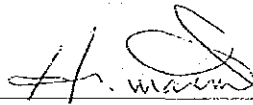


Mr. Kitta Thepalaglekha
Director, Project Planning
Division, RID

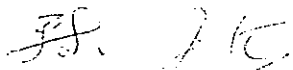


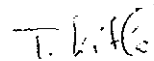
Dr. Junichi Kitamura
Team Leader, Feasibility
Study Team, JICA

Witnessed by



Mr. Hisashi Masui
Leader, JICA Advisory
Committee





MINUTES OF MEETING

In pursuance to the objectives of the Scope of Works for the Feasibility Study on the Lam Dom Yai Basin Irrigation Project, agreed upon between the Preliminary Survey Team of Japan International Cooperation Agency (JICA) and Royal Irrigation Department (RID) on December 18, 1990, JICA sent a Feasibility Study Team headed by Dr. Junichi Kitamura, and conducted field and home office works during the period from February 1991 to January 1992.

At the time of termination of works, the Study Team submitted 25 copies of the Draft Final Report of the said project to RID, and had an explanatory meeting between both the sides on September 2, 1992 with an attendance of Mr. Kitla Thepalaglekha, Director of Project Planning Division (PPD) in RID and Mr. Hisashi Masui, Leader of JICA Advisory Committee.

The list of the participants of the meeting is attached.

The Study Team explained the major contents of the submitted Report. RID (main executing agency of the study) and other Thai Governmental side principally agreed with its study result, expressed sincere gratitude for the performance of the Study Team and appreciated the study results.

RID raised certain queries and requested the Study Team to explain the following items. The major items in the discussion are reflected in the Minutes of the Meeting mentioned below.

- Delineation and coordination of resettlement plan
- Presentation of implementation program using local budget as alternative case
- Report compilation to be modified and added
- Project evaluation particularly to be emphasized
- Preparation of comments on the Draft Final Report

The subsequent presents brief descriptions on these items.

Delineation of Potential Sites for Resettlement Areas

In the Draft Final Report, for the local people to be submerged by the construction of D-28 reservoir, the two sites of resettlement areas with 300 ha each are proposed on both the banks of the Dom Yai river as the project requirement. RID requested the Study Team to delineate the potential sites of these areas on the map, and the

Kitla

T. Kitla

Study Team agreed with the request. However, in order to implement these resettlement plan smoothly in the project, it could be considered that close coordination among the related government agencies like RID, Agricultural Land Reform Office(ALRO) and Royal Forestry Department(RFD),etc. be needed in future.

Furthermore, RID requested the Study Team to make an additional explanation on the adopted procedures to estimate the numbers of submerged households mentioned above. In this connection, the Study Team made explanation additionally.

Presentation of Implementation Program using Local Budget

The implementation program of the project is planned considering the loan basis, however, RID requested to make additional presentation of the implementation program to be constructed by using local budget for the purposes as a reference. The Study Team agreed with this request.

Report Compilation to be modified and added

Regarding the report compilation of the Final Report, RID requested the following points. The Study Team promised to examine these items.

- Clarification of areas to be benefited by proposed respective dams on the map of Overall Basin Study, and also delineation of Feasibility Study Area on the said map,
- Correction of duplication of the existing irrigable areas in the table describing the water resource development,
- Illustration of phasing water source development plan on the map,
- Additional descriptions on the selected six priority projects in the prioritized manner, and
- Correction of typing errors.

Project Evaluation particularly to be emphasized

The Study Team particularly emphasized the needs of the soon project implementation in order to cope i) the improvement of the traditional farming practices prevailing in the basin and vitalization of the depressed rural circumstances through poverty eradication, ii) the increase in agricultural productivity and income of rural people, and iii) the contribution to the local economy by the project, although

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project evaluation with internal rate of return of nine percent seems to be somewhat low.

Presentation of Comments on the Draft Final Report

The Study Team requested the RID and other governmental agencies to prepare the comments on the submitted Draft Final Report and present the comments to JICA Thailand Office by the beginning of October, 1992. And RID agreed with this request.

The meeting ended with a vote of thanks from the Mr. Kitla Thepalaglekha, Director of PPD, who appreciated again the efforts put in by the Study Team for presenting the Report. The Study Team also expressed their sincere thanks for the cooperation extended by RID and other governmental agencies.

Kitla Thepalaglekha

T. Kitla

PARTICIPANTS OF MEETING

RID Committee Member

1. Mr. Kitla Thepalagiekha Director, Project Planning Division (PPD)
RID
2. Mr. Suwan Suepchakdee Head of Engineering Section, Regional
Irrigation Office V
3. Dr. Thiravira Subhanij Project Manager, Ubon Ratchathani Land
Reform Project, ALRO
4. Mr. Asni Molagool (Rep.) Project Manager of Phanom Dong Rek,
Large-Scale Construction Division
5. Mr. Mondhian Kangsasitiam Civil Engineer 8, Research and Laboratory
(Rep.) Division
6. Mr. Narong Sophak Topographical Survey Division
7. Dr. Suphon Chiraphan (Rep.) Chief of Soil Mechanical Section
8. Mr. Suwit Thanopanuwat Acting Chief, Section 1, PPD(Secretary)
9. Miss Supha Sing-Intara Chief, Economic Section, PPD
10. Mr. Surakarn Atsavavallobh Civil Engineer 7, Design Division
11. Mr. Theera Wongsamut (Rep.) Chief, Engineering Section, Medium-Scale
Construction Division
12. Mr. Suppakiat Oransathian Civil Engineer 7, Ubon Ratchathani
Irrigation Project
13. Mr. Traibhun Mekjaroon (Rep.) Chief, Environmental Section, PPD
14. Mr. Chamnuan Chaempai boon Lawyer, Law and Land Division
(Rep.)
15. Mr. Osot Charnvej Agronomist 6, Operation and Maintenance
Division
16. Mr. Boonsong Phuthoya Economist 6, Economic Section, PPD
17. Mr. Yanus Kurncetmanee Engineer 5, Planning and Budget Division
18. Miss Chawee Wongprasithiporn Engineer 4, Assistant Secretary, PPD
19. Miss Patcharavee Pinyophummin Engineer 4, Assistant Secretary, PPD

JICA Advisory Committee

1. Mr. Hisashi Masui Leader, JICA Advisory Committee
2. Dr. Makoto Inaba JICA, Head Quater

JICA Colombo Plan Expert

- | | |
|--------------------------|------------------------------------|
| 1. Mr. Kazuo Kimura | JICA Expert, PPD, RID |
| 2. Mr. Yukihiro Nagasawa | JICA Expert, O & M Division, RID |
| 3. Mr. Mitsuho Sayama | JICA expert, Geotechnical Div. RID |

JICA Study Team

- | | |
|----------------------------|---|
| 1. Dr. Junichi Kitamura | Team Leader |
| 2. Mr. Seiji Takeuchi | Irrigation, Drainage and Water Management |
| 3. Mr. Pipat Pooripanyakun | Environment |

Handwritten signatures of Seiji Takeuchi and Pipat Pooripanyakun

T. Kitamura

MINUTES OF MEETING

THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND
WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM-CHUMPHON BASIN

AGREED UPON BETWEEN
ROYAL IRRIGATION DEPARTMENT
AND JICA STUDY TEAM

In accordance with the Scope of Work for the Feasibility Study on the Integrated Agriculture and Water Resources Development Project of the Menam Chumphon Basin (hereinafter referred to as "the Study") agreed upon between Royal Irrigation Department, Ministry of Agriculture and Cooperatives (hereinafter referred to as "RID") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") signed on March 22, 1991, JICA dispatched to Thailand a study team for the Phase II Study headed by Mr. Kunio OTA on June 1, 1992, and submitted to RID 30 copies of the Interim Report.

The Study Team had a series of discussions and exchanged views on the Interim Report of the Study with the officials concerned of RID headed by Mr. Chamroon Chindasangan, Deputy Director General (A list of participants attended the discussions is attached in Annex).

The salient results of the discussions are as follows:

- (1) RID, in general, accepted the contents of the Interim Report main issues of which are integrated agriculture and water resources development plan and the selection of priority project.
- (2) Main components of the Feasibility Study in Phase II proposed by the Study Team are the improvement works of the Tha Taphao river and the integrated agricultural development of the priority project area.

RID accepted, in principle, its basic concept with the following comments, of which the Study Team took notes :

- 1) Tributaries of the Tha Taphao river are to be considered for the formulation of drainage plan.

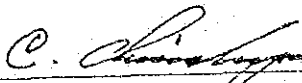
Since improvement and maintenance of the coastal areas is under the control of the Harbour Department, it is not recommendable to include studies on sedimentation prevention works at the river-mouth.

- 2) Regarding the Chumphon river, although the studies on improvement works of this river are not included in the Feasibility Study, the necessity of these studies is to be mentioned in the final Report.
- 3) It was reconfirmed that new canal works, which are to be planned in the priority project, will have dual functions of drainage and irrigation.

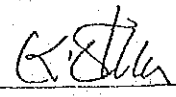
FK

C. Chindasangan

BANGKOK
June 5, 1992

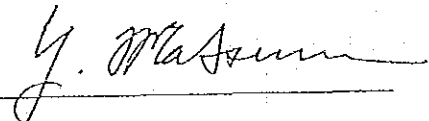


CHAMROON CHINDASANGUAN
DEPUTY DIRECTOR GENERAL
ROYAL IRRIGATION DEPARTMENT



KUNIO OTA
LEADER OF THE STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY

WITNESS



YOSHIKAZU MATSUURA
CHAIRMAN OF ADVISORY COMMITTEE,
JAPAN INTERNATIONAL COOPERATION AGENCY

Annex : List of Participants

(1) RID OFFICIALS

1. MR. CHAMROON CHINDASANGUAN, Deputy Director General
2. MR. KITLA THEPALAGLEKHA, Acting Director, PPD
3. MR. SUWIT THANOPANUWAT, Acting Chief, PPD-1
4. MR. THANAR SUWATTANA, Civil Engineer 6, PPD

(2) JICA ADVISORY COMMITTEE

1. MR. YOSHIKAZU MATSUURA, Chairman of Advisory Committee
2. MR. NORIO MATSUDA, Project Coordinator

(3) JICA STUDY TEAM

1. MR. KUNIO OTA, Leader
2. MR. YOSHITERU TSUNODA, Sub-Leader
3. MR. BOGO ABE, Member in charge of Socio-Economy
4. MR. KENJI MOCHIDA, Member in charge of Design and Cost Estimate

MINUTES OF MEETING

THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND
WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON BASIN

AGREED UPON BETWEEN
ROYAL IRRIGATION DEPARTMENT
AND
JICA STUDY TEAM

In accordance with the Scope of Work for the Feasibility Study on the Integrated Agriculture and Water Resources Development Project of the Menam Chumphon Basin agreed upon between Royal Irrigation Department, Ministry of Agriculture and Cooperatives (hereinafter referred to as "RID") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dated March 22, 1991, 30 copies of the Progress Report (II) were submitted to RID.

Both sides exchanged views and had a series of discussions with the officials of RID headed by Mr. Chamroon Chindasanguan, Deputy Director General of RID, on the study of field work in Thailand of Phase II Study (List of participants is attached in Annex). As a result of discussions, both sides came to an agreement on the Progress Report (II). The salient results of the discussions are as follows:

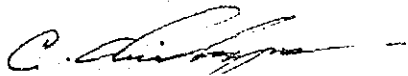
1. Regarding Nong Yai irrigation area, RID considers two irrigation blocks of D and F located on elevated lands to be costly for pumping irrigation, and, if these lands are cropped with tree crops, careful consideration will be needed. The JICA study team explained that according to field reconnaissance survey on present land use, major parts of the two blocks are being used as mixed orchard and have been proposed to be included in the project. Results of land suitability analysis will be presented in the Final Report.
2. RID has proposed to increase the discharge capacity of Sam Kaeo canal by shortcut of the meandering portions and excavation of the canal beds, not by widening of the canal. The proposed route of the downstream reach of Sam Kaeo canal has been fixed by RID, and RID provided the JICA study team with drawings and related data of the proposed route.
3. The design discharge of Phanang Tuk canal is estimated at 800 cu.m/sec for the lower reach of the canal, and is released to the sea through provision of flooding areas. RID requested the JICA study team to present hydraulic dimensions of this canal in time of flooding. Hydraulic data on flood release of the lower reach of this canal will be presented in the Final Report.

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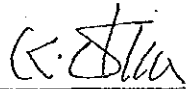
4. The improvement of Chumphon river and Nang Sai river will be mentioned in the Final Report, when it is deemed necessary.
5. The institutional development plan of the Nong Yai Integrated Agriculture Development Project including farmer's groups will be proposed in the Final Report.
6. Further data and information concerning engineering works especially for irrigation facilities will be presented in the Final Report.

C. [Signature]
T.M.P.

BANGKOK
July 28, 1992



CHAMROON CHINDASANGUAN
DEPUTY DIRECTOR GENERAL
ROYAL IRRIGATION DEPARTMENT



KUNIO OTA
LEADER OF STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY

ANNEX : LIST OF PARTICIPANTS

RID Officials

1. Mr. Chamroon Chindasanguan Deputy Director General
for Engineering
2. Mr. Kitla Thepalagleka Director of Project
Planning Division (PPD)
3. Mr. Thera Wongsamuth Chief of Engineering Section,
Medium Scale Project Con-
struction Division
4. Mr. Danai Triyadhen Chief of Land Classification
Section, Geo-Technical
Division (GTD)
5. Ms. Supa Sing-intara Chief of Economic Section, PPD
6. Mr. Osot Charnvej Agronomist, Operation and
Maintenance Division
7. Mr. Traibhan Mekjaroon Chief of Environmental
Section, PPD
8. Mr. Vudhichai Chulakesa Chief of Section 3, PPD
9. Mr. Manus Kumnoedmanee Program and Budget Division
10. Mr. Direk Khiewmaneewong Research and laboratory
Division
11. Mr. Narong Sopak Chief of Survey Division
12. Mr. Arthon Chatchawansaisin Hydrology Division
13. Mr. Paisan Sunthornsatien Chief of Design Division
14. Mr. Prasert Mahakij Regional Office 11
15. Mr. Mongkol Chuleewan Land and Law Division
16. Mr. Sa-ngat On-num Economic Section, PPD
17. Mr. Nopadon Sungkirin Chief of Chumphon Provincial
Office
18. Mr. Suwit Thanopanuwat Secretary of Working Group
Chief of Section 1, PPD
19. Mr. Thanar Suwattana Assistant Secretary
Section 1, PPD

20. Mr. Nattavuth Watananusan Assistant Secretary
Section 1, PPD

JICA Study Team

1. Mr. Kunio Ota Leader
2. Mr. Yoshiteru Tsunoda Irrigation and Drainage
Engineer
3. Dr. Kumpol Puapanichya Agricultural Expert
4. Mr. Bogo Abe Agro-economy and Project
Evaluation Expert

MINUTES OF MEETING
OF
THE PROGRESS REPORT (II)
FOR
THE STUDY ON THE AGRICULTURAL DEVELOPMENT
FOR
PEAT/ACID SULFATE SOIL AREAS
IN
NARATHIWAT PROVINCE

BANGKOK, DECEMBER 9, 1992

B. Suebsiri

Mr. BOONYARUK SUEBSIRI
DEPUTY DIRECTOR GENERAL
DEPARTMENT OF LAND DEVELOPMENT
MINISTRY OF AGRICULTURE
AND COOPERATIVES(MOAC)

Junichiro Nakajima

Mr. JUNICHIRO NAKAJIMA
LEADER
STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY(JICA)

A Joint Meeting between the Department of Land Development (hereinafter referred to as "DLD") and the JICA Study Team (hereinafter referred to as "the Team") was held on 9th December, 1992 at the DLD Headquarters to discuss the contents of the Progress Report (II).

The Team submitted twenty(20) copies of the Progress Report (II) to DLD prior to the scheduled date of the meeting.

After discussion, DLD agreed the contents of the Progress Report(II) and both parties confirmed the followings;

1. Concerning the preliminary plan formulation, DLD emphasized that;

- The Team should reflect the views exchanged in the committee headed by the Governor held on 8th, December at the Narathiwat City Hall for the development planning.
- The team should consider the project formulation for which it will be able to act as a proto-type so as to investigate and monitor the site-oriented problems and work out the practical way of farming.

The team agreed with their suggestions, and requested DLD to present the minutes of meeting of the committee meeting to the Team, as soon as possible.

2. Concerning the soil analysis/leaching and water management tests, both sides exchanged the following views.

- The Team requested DLD to finish the soil laboratory tests as soon as possible. DLD promised to do and hand over the results until the end of January.
- The Team requested DLD to continue the leaching and water management tests based on the operation manual prepared by the Team until the end of

February , 1993 and hand over their monitoring records for making the Draft Final Report. DLD promised to make efforts in order to reward the Team' request.

- To the Team's request, DLD emphasized that at least one year around (Dec' 92- Dec' 93) monitoring with a cycle of wet and dry seasons would be required for the purpose of getting a certain reliable results from the tests. It is expected that not only the Team can utilize their results much more effectively for making a Final Report, but also they can be used as a basic data for the further development of the project area.
In order to continuously conduct the tests, DLD requested some technical and financial supports of JICA.
- DLD requested the Team to grant all of the equipment and instrument provided by the Team for successive monitoring of the tests, and the Team agreed to convey DLD's request to JICA Headquarters.

B.S.

LIST OF ATTENDANTS

DLD

1. Mr. Boonyaruk Suebsiri Deputy Director General, DLD
2. Mr. Pisoot Vijarnsorn National Soil Correlator, Soil Survey and Classification Division
3. Mr. Chaiwat Sittibush Head, Phikulthong Royal Development Study Center, Regional Office 12, DLD
4. Mr. Narong Atsilarat Engineering Division
5. Mrs. Nualsri Kanchanakool Soil Analysis Division
6. Mr. Suraphol Charoenpong Soil Survey and Classification Division
7. Mr. Prajiad Buasri Land Use Planning Division
8. Mr. Kriangsak Hongto LDRO 12
9. Mr. Apichart Jongskul LDRO 12
10. Mr. Panya Pichaikamchornwudhi Soil and Water Conservation Division
11. Mrs. Suporn Boonprakub Soil Survey and Classification Division
12. Mr. Sanit Tangtong Engineering Division
13. Mr. Preecha Popan Phikulthong Royal Development Study Center, Region office 12, DLD
14. Miss. Bhatra Chindanon Planning Division
15. Mrs. Waraporn Boonsorn Planning Division
16. Miss. Kreeyaporn Devahastin Planning Division
17. Mr. Hiroyasu Kobayashi JICA Colombo Plan Expert, DLD

STUDY TEAM

1. Mr. Junichiro Nakajima Team Leader/Drainage
2. Mr. Takanori Takatsuka Irrigation/Water management
3. Mr. Yudai Nakazawa Structure Planning/Cost Estimate
4. Mr. Samarn Panichapong Environment

MINUTES OF MEETING
OF
THE DRAFT FINAL REPORT
FOR
THE STUDY ON THE AGRICULTURAL DEVELOPMENT
FOR
PEAT/ACID SULFATE SOIL AREAS
IN
NARATHIWAT PROVINCE

BANGKOK, MAY 28, 1993

B. Suebsiri

Mr. BOONYARUK SUEBSIRI
DEPUTY DIRECTOR GENERAL
DEPARTMENT OF LAND DEVELOPMENT
MINISTRY OF AGRICULTURE
AND COOPERATIVES(MOAC)

Junichiro Nakajima

Mr. JUNICHIRO NAKAJIMA
LEADER
STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY(JICA)

WITNESS

Yasuyuki Miyamoto

Mr. YASUYUKI MIYAMOTO
CHAIRMAN
ADVISORY COMMITTEE FOR
THE STUDY
JICA

A Joint Meeting between the Department of Land Development (hereinafter referred to as "DLD") and the JICA Study Team (hereinafter referred to as "the Team") was held on 27th May, 1993 at the DLD Headquarters to discuss the contents of the Draft Final Report.

The Team submitted twenty(20) copies of the Draft Final Report to DLD in advance for the meeting.

After discussion, DLD agreed the contents of the Draft Final Report and both parties confirmed the followings;

1. Concerning the contents of the report, both sides exchanged the following views.

- DLD presented the followings to the Team.
 - Negative environmental impacts caused by the proposed plan and necessity of environmental impact assessment shall be described in more detail.
 - Data on the farm economy survey/analysis shall be used, making inside/outside the study areas more clearly.
 - In the development plan, attention shall be paid on water quality for irrigation, flood damage protection and farming practices. Concerning the selection of tree crop, suitable crops shall be examined besides oil palm and para rubber. Moreover, livestock farming shall be involved basically with poultry farming.
 - Concerning the project justification, more detailed statement on other benefits shall be presented clearly because projected E.I.R.R. is relatively low.
- The Team agreed to consider the DLD's comments.
- The team requested DLD to forward the additional comments on the Report through JICA Thailand Office by 31th August,1993. DLD promised to follow the Team's request.

2. Concerning the execution of leaching and water management test referred to the M/M of the Progress Report(II) held on 9th December 1992, both sides

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exchanged the following views.

- In response to the DLD's request, the Team presented to conduct the test for 3.5 months by entrusting to an outside party/organization. In this connection, the Team requested DLD to take necessary actions in cooperation with Pikun Thong Royal Development Study Center, because the technical support of DLD is prerequisite for smooth operation of the test. DLD promised to support the execution of the test.
- The Team requested DLD to forward the operating results to the Team through JICA Thailand Office by 10th October, 1993. DLD promised to follow the Team's request.

3. Concerning the publicity of the report, both sides exchanged the following views.

- The Team conveyed the JICA's basic idea that the results and the information by the study are published openly. In response to the idea, DLD side expressed that there is no objection to publish openly.

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LIST OF ATTENDANTS

DLD

1. Mr. Boonyaruk Suebsiri Deputy Director General, DLD
2. Mrs. Nualsri Kanchanakool Director, Soil Analysis Division
3. Dr. Pisoot Vijarnsorn National Soil Correlator, Soil Survey and Classification Division
4. Mr. Narong Atsilarat Engineering Division
5. Mr. Surapol Charoenpong Soil Survey and Classification Division
6. Mr. Prajiad Buasri Land Use Planning Division
7. Mr. Manu Srikhajon Soil and Water Conservation Division
8. Mr. Apichart Jongskul Phikun Thong Royal Development Study Center, LDRO 12
9. Mr. Narong Treesuwan Soil Survey and Classification Division
10. Mr. Panya Pichaikamchonwudhi Soil and Water Conservation Division
11. Mrs. Suporn Boonprakub Soil Survey and Classification Division
12. Miss. Bhatra Chindanon Planning Division
13. Mrs. Waraporn Boonsorn Planning Division
14. Miss. Kreeyaporn Devahastin Planning Division
15. Miss. Prathueang Wanaeloh Planning Division
16. Mr. Hiroyasu Kobayashi JICA Colombo Plan Expert, DLD

JICA

1. Mr. Yasuyuki Miyamoto Chairman, Advisory committee
2. Dr. Makoto Inaba JICA

STUDY TEAM

1. Mr. Junichiro Nakajima Team Leader/Drainage
2. Mr. Takanori Takatsuka Irrigation/Water management

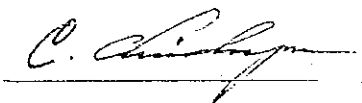
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MINUTES OF MEETING
FOR
THE DETAILED DESIGN STUDY
ON
THE BANG PAKONG DIVERSION DAM PROJECT
IN
THE KINGDOM OF THAILAND

Bangkok, October 14, 1992



Mr. Chamroon Chindasanguan
Deputy Director General
of RID



Dr. Junichi Kitamura
Team Leader, Detailed
Design Study Team, JICA

In pursuance to the objectives of the Scope of Work for the Detailed Design Study on the Bang Pakong Diversion Dam Project, agreed upon between the Preparatory Study Team of Japan International Cooperation Agency(JICA) and Royal Irrigation Department(RID) on April 27,1992 and of which signatures were made by the Director General of RID and the Resident Representative of JICA Thai Office on July 24, 1992, JICA sent a Detailed Design Study Team headed by Dr.Junichi Kitamura, on October 12 for the Phase I field work for the period of 45 days.

At the commencement of the field work, the Study Team submitted 20 copies of Plan of Operation for the project and made a series of discussion on October 14, 1992 with Mr.Chamroon Chindasanguan, Deputy Director General, RID as well as RID staff members concerned, on the implementation according to the Plan of Operation. A list of participants of the meeting is attached as Annex.

The Study Team explained the major contents based on the said plan of operation, and RID officials principally agreed its detailed design formation and procedures.

The following major items in the discussion are reflected in the Minutes of Meeting mentioned below.

1.) To make the detailed design study period as short as possible for soon project implementation by the government of Thailand. The study team promised to convey the request to the government of Japan.

2.) To secure the number of counterparts to be trained as many as possible, because of long home office work period. The study team expressed to also convey the request to the government of Japan.

3.) To conduct additional survey after determination of the facilities construction sites. RID intends to carry out the survey if the request is made by the study team.

4.) To fix the diversion dam axis as soon as possible. The study team will certainly do it.

C. Chindasanguan
J. Kitamura


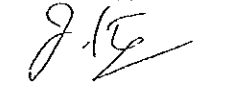
List of Participants
Meeting on the Detailed Design Study
of the Bang Pakong Diversion Dam Project
on October 14, 1992
at Room 300, Irrigation Engineering Center

Advisory Committee:

1. Mr. Chamroon Chindasanguan----- Deputy Director General for
Engineering,
(Chairman of Meeting, Chairman
of Advisory Committee)
2. Mr. Sawet Yasaravana----- Director of Design Division
(Committee)
3. Mr. Narong Sopak----- Director of Topographical
Survey Division
(Committee)
4. Mr. Chaiwat Prechawit----- Director of Geotechnical
Division
(Committee)
5. Mr. Prasert Milintangul----- Director of Hydrology Division
(Committee)
6. Mr. Sanan Sirion----- Director of Bang Pakong Deve-
lopment Project Office
(Committee and Secretary of
Advisory Committee)

Working Group:

1. Mr. Montry Oonwimol----- Construction Project Engineer,
Chairman of Working Group
2. Mr. Warraphot Nanthanaphot----- Hydrology Division (Staff)
3. Mr. Wichit Udomrattanasiri----- Design Division (Staff)
4. Mr. Rang Champanoi----- Topographical Survey Division
(Staff)
5. Mr. Lunglord Chumthong----- Geotechnical Division (Staff)
6. Mr. Suwit Thanopanuwat----- Project Planning Division (Staff)

- 7. Mr.Phitak Paksanond----- Foreign Financial Project
Administration Division (Staff)
- 8. Mr.Manop Boonyaprasit----- Bang Pakong Development Project
Office (Staff)
- 9. Mrs.Neowarat Damrongsuk----- Bang Pakong Development Project
Office (Staff)

Japanese Advisory Committee:

- 1.Mr.Hidehiko Hioki----- JICA Main Office

Japanese Colombo Expert:

- 1. Mr.Kazuo Kimura----- Project Planning Division

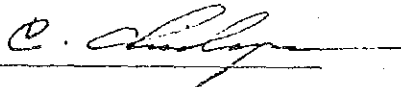
Study Team:

- 1. Dr.Junichi Kitamura----- Team Leader
- 2. Mr.Hiroshi Moriyama----- Co-Team Leader, Civil Design 1
- 3. Miss Sachie Oikawa----- Coordination
- 4. Mr.Satoshi Shoji----- Hydrology & Hydraulic Analysis 1
- 5. Mr.Takeshi Matsunami----- Environment 1
- 6. Mrs.Vipa Punpraw----- Environment 2
- 7. Mr.Fumihiko Komada----- Civil Design 3
- 8. Mr.Eiji Adachi----- Civil Design 5
- 9. Mr.Etsuji Tanaka----- Construction Plan
- 10. Mr.Satoshi Usuki----- Bidding Document

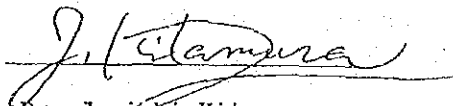
C. [Signature]
J. [Signature]

MINUTES OF MEETING
FOR
THE BASIC DESIGN REPORT
OF
DETAILED DESIGN STUDY
ON
THE BANG PAKONG DIVERSION DAM PROJECT
IN
THE KINGDOM OF THAILAND

BANGKOK, March 5, 1993

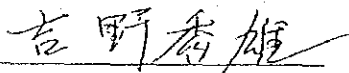


Mr. Chamroon Chindasanguan
Deputy Director General
of RID



Dr. Junichi Kitamura
Leader of JICA Detailed
Design Study Team

Witnessed by



Dr. Hideo Yoshino
JICA Advisory Committee

In pursuance to the objectives of the Scope of Work for the Detailed Design Study on the Bang Pakong Diversion Dam Project, agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA), and the Royal Irrigation Department (RID), on April 27, 1992 and of which signatures were made by the Director General of RID and the Resident Representative of JICA Thai Office on July 24, 1992, JICA sent a Detailed Design Study Team headed by Dr. Junichi Kitamura, on October 12, 1992 for the Phase I field work for the period of 45 days. And then, the Study Team conducted the Phase I field work and home office work according to the plan of operation, and has come back again this time for the Phase II field work from February 28, 1993 for 27 days.

At the commencement of the field work, the Study Team submitted 20 copies of basic design reports and 100 copies of pre-qualification tender documents, and made a series of discussions on March, 3 1993 at the joint meeting with Mr. Chamroon Chindasanguan, Deputy Director General of RID as well as RID staff members concerned, on the results of the Phase I home office work and the starting Phase II field work and the following home office work etc. A list of participants of the meeting is attached as Annex.

The Study Team explained the major contents in the basic design report, with the pre-qualification tender document, and RID officials understood and principally agreed upon them.

The following items in the discussion are reflected in the Minutes of Meeting mentioned below;

1. It was planned to dump the soil materials dredged from the diversion canal by two pump dredgers into the old river course keeping the delivery of discharge pipe not in the air but in the river water. Since it was pointed out that there still exists some anxiety of some amount of fine soil particles flowing down to the lower reaches, the study should be continued to find actual good examples using the same means in Thailand and/or Japan, and suspended load precipitation analyses be made expecting to be stated in the next final report.

2. Due to very poor soil properties, soil materials excavated from the diversion canal cannot be used for the closure dam embankment. As a result, the embankment materials have to be carried from a borrow area and quarry far away from the diversion damsite. However, since it seems to be very uneconomical, some good portion of the excavated soil materials should be planned to be used after temporary stockpiling.

3. It is suggested by RID that the soil excavated from the diversion canal site and temporarily stocked on the O/M building site or other places is able to be easily sold, because of high demand of the people around there, resulting in reduction of spoil amount and elevation of economy.

4. At the request of the Thai government, the studying period for the project was shortened for one and a half month by favour of JICA. Further, JICA agreed to submit the study results of items to be required by RID, if possible taking into account the study schedule, before coming September when the draft detailed design report is due to be presented. The details of the necessary items and the time to be submitted should be determined and informed to the study team by their departure, on March 26 1993.

5. All the bidding documents at present are going to be made up assuming that OECF loan is available. Thai government is requested to clarify the financial source and inform what kind of form should be used for the bidding documents by the Study Team's departure on March 26, 1993. Unless Thai government inform it, all bidding document will be made up in accordance with the form of OECF loan.

6. The expected radio circuit (VHF139MHZ) becoming used by many people, the changing of frequency should be examined by RID and the Study Team.

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List of Participants
Meeting on the Detailed Design Study
of the Bang Pakong Diversion Dam Project
on March 4, 1993
at Room 300, Irrigation Engineering Center

Advisory Committee:

1. Mr. Chamroon Chindasanguan----- Deputy Director General for
Engineering,
(Chairman of Meeting, Chairman
of Advisory Committee)
2. Mr. Narong Sopark-----Director of Topographical
Survey Division
(Committee)
3. Mr. Chaiwat Preechawit----- Director of Geotechnical
Division
(Committee)
4. Mr. Prasong Chitseree (Rep.)----- Director of Hydrology Division
(Committee)
5. Mr. Sanan Sirion----- Director of Bang Pakong Deve-
lopment Project Office
(Committee and Secretary of
Advisory Committee)

Working Group:

1. Mr. Montri Onvimol----- Project Construction Engineer,
Chairman of Working Group
2. Mr. Vorapote Nandhanapote----- Hydrology Division (Staff)
3. Mr. Wichit Udomrattanasiri----- Design Division (Staff)
4. Mr. Lam Champanoi----- Topographical Survey Division
(Staff)
5. Mr. Rungroj Chumthong----- Geotechnical Division (Staff)
6. Mr. Weerachai Chuphisanyaroj(Rep.)----- Project Planning Division
(Staff)
7. Mr. Manop Boonyaprasit----- Bang Pakong Development Project
Office (Staff)

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8. Mrs.Naowarat Damrongsak----- Bang Pakong Development Project
Office (Staff)
9. Ms.Sakuntala Sukpanich----- Foreign Relation Officer
- 10.Mr.Phuwanet Thongrunroj----- Bang Pakong Development Project
Office

Japanese Colombo Plan Expert

1. Mr.Kazuo Kimura----- Project Planning Division

Advisory Committee Members, JICA

1. Dr.Hideo Yoshino----- Committee Member,Ministry of
Agriculture, Forestry and
Fisheries(MAFF)
2. Mr.Hidehiko Hioki----- JICA Main Office in Tokyo

Study Team

1. Dr.Junichi Kitamura----- Team Leader
2. Mr.Hiroshi Moriyama----- Co-Team Leader, Civil Design 1

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MINUTES OF INTERNAL MEETING
FOR
CONSULTATION
ON
FORTHCOMING DETAILED DESIGN STUDY
OF
THE BANG PAKONG DIVERSION DAM PROJECT

BANGKOK, March 24, 1993

Sanan Sirion

Mr. Sanan Sirion
Director of Bang Pakong
Development Project Office
RID

J. Kitamura

Dr. Junichi Kitamura
Leader of Study Team
JICA

In pursuance to the objectives of the Scope of Work for the Detailed Design Study on the Bang Pakong Diversion Dam Project, the JICA Study Team came back again this time for the Phase-II field work from February 28, 1993 for 27 days.

At the commencement of the field work, the Study Team submitted 20 copies of basic design reports and 100 copies of pre-qualification tender documents, and made a series of discussions at the joint meeting for explanation with RID officials concerned on March 4, 1993.

At the end of the field work, the internal joint meeting between the Director, the Working Group of the Bang Pakong Project, RID, and the JICA Study Team was held by the request of the Study Team on March 24, 1993.

The following matters in the discussion are reflected in the Minutes of Internal Meeting mentioned below;

1. The modified basic direction of this project implementation:

Based on the policy of the Director General of RID to urge this project implementation, after the detailed design study is completed in September, 1993, the construction works will be undertaken by Thai budget only and by international contract; because it will be able to be commenced one to one and half year earlier than the project with 19th OECF loan.

2. The details of the necessary items and the time of the detailed design report to be submitted:

The following items in English will be submitted as soon as possible with a dead line at the end of September, 1993.

- 1.) Construction schedule
- 2.) Construction cost
- 3.) Specification for bidding
- 4.) Bidding documents
- 5.) Construction drawings

The item 1.) and 2.) will firstly be submitted as soon as possible, as the bidding is planned to be held in October. The item 3.) 4.) and 5.) will follow the above.

3. Kind of forms to be used for the bidding documents :

Considering the specimen of international contract of the Prime Minister's Office, Thai Government, the bidding documents will be requested to be made up. The contract price should be paid by Thai currency, Baht, by law.

4. Forthcoming schedule of geological survey:

The field works were completed on March 23, and the results will be received on March 25. The results of soil test will be sent to the Study Team by the middle of April.

Two more borings at the closure damsite, and test pit samplings and soil mechanical test for borrow area were requested by the Study Team.

Since it will take several months to undertake them due to the procedure necessary for providing the budget, JICA budget was strongly requested in order to implement them at once.

5. Two suggestions offered by Dr. Suphon, Geotechnical Division:

1.) The side slope of the diversion canal seems to be very mild, (1:7.5). It can be made steeper according to the experiences in Thailand.

The Study Team promised to re-examine the side slope stability.

2.) Embankment material of the closure dam is planned to be brought from a borrow area, because of the poor properties of the excavated soil. Considering the economy and applying clayey soil improvement method, some part of the excavated soil is suggested to be used for the closure dam.

The Study Team replied to re-examine the soil properties and to make economic comparative study. The environmental effects of the materials discharged into the river course was requested to be included in reports.

6. Forthcoming schedule of topographic survey:

The topographic surveys of Diversion dam and Road have just been completed. Those of Diversion canal, Closure dam and Pumping station will be finished on April 10, 1993.

Two tele-meter sites survey requested by the Study Team will be completed at the end of April.

7. Demarcation of bidding documents making up:

The operation and maintenance building's specification, bill of quantities and drawings will be separately made by RID. After that, the bidding documents will be jointly made up.

8. Others

1.) In tele-control system, the necessary way and devices for data transmission from the central control room to IEC in Bangkok is requested to be stated in the detailed design report.

2.) Request of equipment and machines:

The request letter was submitted to the Study Team. The Study Team promised to hand it over to JICA main office in Tokyo.

3.) Result of the consideration of soil flowing down and precipitation in case of discharging it into the old river course by pump dredgers was partly introduced to the participants.

List of Participants
Internal Meeting for Consultation
on Forthcoming Detailed Design Study
of The Bang Pakong Diversion Dam Project

on March 24, 1993
at Room No.206, Irrigation Engineering Center

Advisory Committee:

- 1.Mr.Sanan Sirion-----Director of Bang Pakong Deve-
lopment Project Office
(Committee and Secretary of
Advisory Committee
- 2.Mr.Narong Sopark-----Director of Topographical
Survey Division
(Committee)

Working Group:

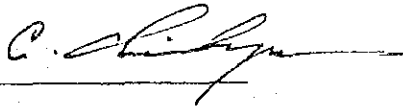
- 1.Mr.Montri Onvimol-----Project Construction Engineer,
(Chairman of Working Group)
- 2.Mr.Rungroj Chumthong -----Geotechnical Division (Staff)
- 3.Mr.Manop Boonyaprasit-----Bang Pakong Development
Project Office(Staff)
- 4.Dr.Suphon Chiraphun----- Geotechnical Division
- 5.Mr.Phitak Paksanond----- Foreign Finance Project
Administration Division(Staff)
- 6.Mr.Khanti Hanvet----- Design Division
- 7.Mr.Phutchai Nithakorn----- Communication Division
- 8.Ms.Anyarat Jirarungsrinkarn----- Foreign Financed Projects
Administration Division
- 9.Ms.Sakuntala Sukpanich----- Foreign Relation Officer
- 10.Mr.Phuwanet Thongrungrroj----- Bang Pakong Development
Project Office

JICA Study Team:


1. Dr. Junichi Kitamura-----Team Leader
2. Mr. Hiroshi Moriyama-----Co-leader, Civil Design 1
3. Mr. Yoichiro Kuroda-----Hydrologic & Hydraulic Analy-
sys 1
4. Mr. Kazuyoshi Ohsawa-----Geology & Soil Mechanics
5. Mr. Takeshi Matsunami-----Environment 1
6. Mr. Eiji Adachi-----Civil Design 5
7. Mr. Hideo Koizumi-----Mechanic & Electric Design 2
8. Mr. Tsunesuke Hiwatashi-----Control System Design
9. Mr. Satoshi Usuki-----Bidding Document

MINUTES OF MEETING
FOR
THE DETAILED DESIGN STUDY
ON
THE BANG PAKONG DIVERSION DAM PROJECT
IN
THE KINGDOM OF THAILAND

Bangkok, September 28, 1993

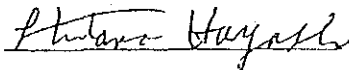


Mr. Chamroon Chindasanguan
Deputy Director General
of RID



Dr. Junichi Kitamura
Team Leader, Detailed
Design Study Team, JICA

Witnessed by



Mr. Shintaro Hayashi
Chief, Advisory
Committee, JICA

In pursuance to the objectives of the Scope of Work for the Detailed Design Study on the Bang Pakong Diversion Dam Project, the JICA Study Team came back again for the Phase-II field work from February 28, 1993 for 27 days.

At the commencement of the field work, the Study Team submitted 20 copies of basic design reports and 100 copies of pre-qualification tender documents, and made a series of discussions at the joint meeting for explanation with RID officials concerned on March 4, 1993.

At the end of the field work, the internal joint meeting between the Director of Bang Pakong River Basin Development Project, the Working Group of the Bang Pakong Project, RID, and the JICA Study Team was held by the request of the Study Team on March 24, 1993.

For the intermediate consultation of the detailed design report making-up, the JICA Study Team members visited Thailand from July 5 to 10 1993 for 6 days. The meeting started with the explanation about the material prepared by the team ---Subject for discussion, particulars in the bidding documents to be confirmed.

For the presentation and explanation about the draft detailed design report, the JICA Study Team and Advisory Committee Members called at Thailand this time from September 16 to 30 for 15 days, and 23 to 29 for 7 days in 1993 respectively. They submitted 30 copies of the draft detailed design reports consisting of main report, appendix, bidding documents volume I,II,III,V and VII.

The meeting for explanation of final report was held on September 27,1993 by using a brief note for explanation. The following matters in the discussion are reflected in the Minutes of Meeting as mentioned below;

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1. It should be noted in Appendix-11 that in case the spoil dumping into the old river course has a bad effects upon the lower reaches of the river, a change of the spoil treating method should be examined.

2. The closure dam is planned to be constructed by using soil conveyed from a borrow area. It should be remarked in Chapter 6 in Main report that if the properties of the excavated soil accomplish the conditions required for construction period, site situation, construction cost, etc., a use of the excavated soil should be considered.

3. The cover style of the bidding documents with title blocks in the pre-qualification document firstly proposed by JICA Study Team was recommended by RID. And the respective volumes of the detailed design report should be distinguished by using three kinds of colours.

4. RID will promise to monitor the environmental impacts according to the environmental monitoring program made up by JICA Study Team, and if necessary, the environmental impact mitigative measures will be taken.

5. RID's land procurement and compensation for the project have been advanced satisfactorily with an progressive rate of 12 to 13 percent at present. (for 100 rai in 800 rai.)

The official comments by letter on the draft detailed design report on Bang Pakong Diversion Dam Project from RID will be received by JICA Study Team within one month after making signatures on this Minutes of Meeting on September 28, 1993.

The final detailed design report including bidding documents will be sent to RID by JICA Study Team by the end of November 1993.

C. Chalige

J. K.

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List of Participants
Meeting on the Detailed Design Study
of the Bang Pakong Diversion Dam Project
on September 27, 1993
at Room 300, Irrigation Engineering Center

Advisory Committee:

1. Mr. Chamroon Chindasanguan----- Deputy Director General for
Engineering,
(Chairman of Meeting, Chairman
of Advisory Committee)
2. Mr. Narong Sopark----- Director of Topographical
Survey Division
(Committee)
3. Mr. Sanan Sirion----- Director of Bang Pakong Deve-
lopment Project Office
(Committee and Secretary of
Advisory Committee)
4. Mr. Parakai Sastravaha----- To be the successor of
Mr. Sanan Sirion

Working Group:

1. Mr. Pitak Paksanondha----- Project Construction Engineer,
(Rep.) Chairman of Working Group
2. Mr. Vorapote Nandhanapote----- Hydrology Division (Staff)
3. Mr. Wichit Udomrattanasiri----- Design Division (Staff)
4. Mr. Lam Champanoi----- Topographical Survey Division
(Staff)
5. Mr. Manop Boonyaprasit----- Bang Pakong Development Project
Office (Staff)
6. Ms. Anyarat Jirarungsriukarn----- Foreign Financed Projects 38
Administration
7. Mr. Preecha Wandee----- Large Scale Project Construc-
tion Division
8. Ms. Sakuntala Sukpanich----- Foreign Relation Officer
Office

J.K.

C. Chulaporn

Sh.

Japanese Colombo Plan Expert

1. Mr. Kazuo Kimura----- Project Planning Division
2. Mr. Mitsuo Sayama----- Geo-technical Division

Advisory Committee Members, JICA

1. Mr. Shintaro Hayashi----- Chief of Advisory Committee, JICA
Ministry of Agriculture, Forestry
and Fisheries(MAFF)
2. Mr. Masaki Oga----- JICA Main Office in Tokyo
3. Mr. Naoto Hattori----- JICA Thai Office in Bangkok

Study Team

1. Dr. Junichi Kitamura----- Team Leader
2. Mr. Hiroshi Moriyama----- Co-Team Leader, Civil Design I
3. Mr. Satoshi Usuki----- Team Member, Bidding Documents

J. Kitamura

C. Chulaporn

H.

MINUTES OF MEETING
OF
DRAFT FINAL REPORT
FOR
THE FEASIBILITY STUDY FOR REHABILITATION AND IMPROVEMENT OF
DELIVERY WATER SYSTEM ON BAHR YUSEF CANAL

In compliance with the S/W of the Feasibility Study for Rehabilitation and Improvement of Delivery Water System on Bahr Yusef Canal (the Study) concluded by and between the Ministry of Public Works and Water Resources (MPWWR) and the Japan International Cooperation Agency (JICA), the JICA Report Explanation Mission headed by Mr. Kuniyoshi Ishizaka and Egyptian officials headed by Eng. Khalil Ibrahim Omar, First Undersecretary, Chairman of Irrigation Department, MPWWR, had a series of discussion and exchange of views on the Draft Final Report for the Feasibility Study prepared by JICA, which was submitted on July 29, 1992.

Minutes of meetings are summarized as follows:

- 1.0 A series of meetings was held at the conference room of MPWWR on August 29, 1992, August 30, 1992, August 31, 1992 and September 1, 1992, respectively, consequently the minutes of meetings were signed by the MPWWR and the Study Team on September 1, 1992.
- 2.0 Meeting held at MPWWR Conference Room on August 29, 1992
 - 2.1 The MPWWR received twenty (20) copies of Draft Final Report including Executive Summary submitted by the JICA Study Team.
 - 2.2 The Leader of the JICA Study Team presented and briefed on the Draft Final Report and requested the MPWWR his comments on the said Report.
 - 2.3 The MPWWR presented his comments of the Irrigation Department to the members as per attached Annex-1, while the Mechanical and Electrical Department (MED) informed by the letter that the MED has no comment for the report on pump facilities saying that his comments requested to the Study Team during the Field Work already fully accommodated in the Report.
 - 2.4 The Study Team explained a part of the report to reply to the review comments A-5 and C-2 of the MPWWR as follows:
The cost for water management and training and education estimated in the Report is supplemented by the Study Team that the said cost estimates at 22 million L.E. or 2.6 percent of the total project cost and in addition annual operation and maintenance for these two components estimates 24 million L.E. during 12-year implementation period of the project.

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Therefore, the total cost for water management and training and education during the implementation of the project estimates at 46 million L.E. equivalent to 5.4 percent of the total project cost, which will be within a range of World Bank guideline.

- 2.5 The MPWWR is requested by the Study Team to furnish a recent World Bank Publication in 1989, IRRIGATION TRAINING IN THE PUBLIC SECTOR: Guidelines for Preparing Strategies and Programs quoted in the review comments A-5.
- 2.6 The Study Team asked the members to have another meetings to discuss on the review comments of the MPWWR in detail. The MPWWR agreed and scheduled the next meetings to be held on August 30 and 31, respectively at Conference Room of the IIP.
- 2.7 The MPWWR agreed that the Final Report can be opened to the public effective immediately after submission.

3.0 Meeting held at IIP Conference Room on August 30 and 31, 1992

3.1 As a result of study on the review comments of the MPWWR, the Study Team presented the reply to the MPWWR review comments as per attached Annex-2 and subsequently discussions and exchange of idea were made between Eng. Hassan Shouman and the Study Team based on the MPWWR review comments and reply of the Study Team.

3.2 Discussions and exchange of idea are summarized as follows:

- (1) Review comments of the MPWWR on " A. General Review Comments" and reply of the Study Team were discussed and exchanged idea and agreed in principle each other.
- (2) Review comments of the MPWWR on " B. Specific Comments" and it's reply of the Study Team were discussed and agreed generally, however, the following items were made special considerations.
- (3) On the review comments B-1, the both sides agreed to revise a name of Water Management Division under Directorate of the RIPBY proposed in the Report (refer to Fig. 5-1 on page 150 of the Main Report) shall be changed to IAS Division which name is used in the IIP and is offering to apply for the entire irrigation systems in the MPWWR.
- (4) On the review comments B-3, though no report on health hazards and health issues were covered, the both sides understood that this matter will be resulted from the improvement of the on-farm facilities. Productivity in terms of increases in quantity or crop or higher value crops and livestock was supplimentally explained by the Study Team and confirmed reasonable measures provided in the Report.

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- (5) The Study Team explained that the Report was focused on the rehabilitation and improvement of the major irrigation facilities of the Bahr Yusef Canal. The MPWWR understood the component of the Report on the Study.

4.0 Meeting held at MPWWR Conference Room on September 1, 1992

- 4.1 The meeting was presided by Eng. Khalil Ibrahim Omar, Chairman of Irrigation Department and Eng. Hassan Shouman, Project Director of IIP briefed on the last two meetings.
- 4.2 A series of meetings on the Draft Final Report were briefly reviewed and confirmed in the meeting that the Report is generally accepted by the MPWWR.
- 4.3 The MPWWR welcomed the Advisory Team and thanked the Study Team on their work and study performed within a short period. The MPWWR also expressed his wishes for the final report and engineering and financial assistance for the implementation of the project to be extended by the Japanese Government.
- In turn, the Advisory Team expressed his thanks for the MPWWR for their cooperation given to the Study Team and asked continuous cooperation.

SEPTEMBER 1, 1992
Cairo, Egypt

Khalil Omar

Eng. Khalil Ibrahim Omar
First Undersecretary
Chairman of Irrigation Department
Ministry of Public Works and
Water Resources (MPWWR)

Yoshio Arai

Mr. Yoshio Arai
Leader of the Study Team
The Japan International
Cooperation Agency (JICA)

Witnessed by

Kuniyoshi Ishizaka

Mr. Kuniyoshi Ishizaka
Leader of the Advisory Team
The Japan International
Cooperation Agency

REVIEW COMMENTS FOR THE FEASIBILITY STUDY FOR REHABILITATION AND IMPROVEMENT OF DELIVERY WATER SYSTEM ON BAHR YUSEF CANAL PREPARED BY THE JAPAN INTERNATIONAL COOPERATION AGENCY, JULY, 1992

A. GENERAL REVIEW COMMENTS

1. The detailed feasibility study is well done and covers the hydrologic, hydraulic structures, ground water problems, soils, agronomic, farm management economics and social organizational as well as financial and economic aspects adequately. The Japanese team is to be commended for this report.
2. The report rightly builds on lessons being learned under the IIP and at the time of implementation should study carefully the other important IIP lessons which should be studied. In case an Irrigation Improvement Authority is developed in the MPWWR, there is a need for proven principles and appropriate standards to be followed.
3. The report rightly stresses the need for total system improvements down to the mesqa, farms and drains if the improvements are to be expected to achieve the estimated with project benefits. But the title of the report implies that the primary focus is on the delivery system. Does this imply the macro delivery system primarily or the total delivery system including the micro or mesqa system.
4. The report also rightly gives focus to the need of private water user associations and the need for an Irrigation Advisory service. While information is provided in the main report and in the Appendix L, there seems to be some confusion about roles of WUAs, the IAS and the MOA agricultural extension system regarding improving mesqa water delivery and irrigation behaviors of farmers. (This will be covered in the specific comments which provides page numbers below:)
5. If "water management" and "training of staff and water users" are viewed as important to the success of this project, then the budget estimates for these two components which total only 2.3 percent of the total project costs need to be studied more carefully. Given the large sunken costs in the physical infrastructure investments for improving large irrigation systems such as Bahr Yusef, the benefits of such investments will likely not be fully realized with such a small amount of funding for these items. A recent World Bank Publication in 1989, IRRIGATION TRAINING IN THE PUBLIC SECTOR: Guidelines for Preparing Strategies and Programs states that 3 to 5 percent of total improvement project costs should be allocated for building up the capabilities of staff. This does not include the training of water users (farmers) which probably should include about 2 to 3 percent of total project costs. (see pages 23 and 24 of the above report)

6. It is not clear as to what micro or mesqa system improvements are recommended. Some alternative mesqa technologies should be given in the study. For example, will low lying mesqas be improved? Will buried pipeline or raised lined mesqas be considered as alternatives or what? It is noted that on-farm irrigation facilities in the old land for an area of 670,000 feddans should be implemented. This is not included in the total project cost but shown separately in the Appendix K-7. If the funding for this critical component is outside the total project cost, what are the alternative ways that these facilities can be funded? What is included under O/M facilities on page 146 of the Main Report.

7. What overhead percentage was used in estimating the TA from expatriates which is estimated at US\$28,000 per month or US\$336,000 per year. How was the amount of TA estimated and for what specific positions for what duration?

B. SPECIFIC COMMENTS

1. Executive Summary, page 13: The findings about water shortages at the tails of branch canals and major problems of the on-farm irrigation subsystem are similar to those documented in the IIP feasibility studies of MacDonald, Harza, CID, IIP restudies and the socio-economic study of 1910 farms on 11 canal commands under the IIP. The over-irrigation resulting from the traditional rotation system was well documented by the EWUP in the 1970s. In addition to the major problems listed on page 13, it was found that there is a critical information gap where water users receive little or no information from the MPWWR about seasonal expectations and almost none from the MOA extension workers regarding when, how much to irrigate, land leveling, field and murwa layouts etc.

2. Executive Summary, page 17: As indicated there is an urgent need to improve and replace control structures for improving system performance. More stress needs to be given to adequate and up to date measurement devices and trained system operators. Some mention is made of "rules and regulations of the facilities" on page 17 but there should be more specificity on this matter.

3. Executive Summary page 19: The stated objectives of the project of equitable water supply, effective water use and improved irrigation application are good but could be made more specific. Water control should be an objective because it has several important dimensions which are: availability, reliability, predictability and equity or fairness in water distribution and allocation. Another objective should be water and soil conservation which also includes environmental issues and mitigation of serious health hazards. Health issues unfortunately were not adequately covered in this report. Productivity should be spelled out more in terms of increases in quality or crops or higher value crops and livestock. Farm income might be increased by lower pumping costs at mesqas and

lower mesqa maintenance costs as well. Page 80 in the Main Report expands on the objectives. At this point it might be useful to consider that the aim or purpose of the Project is to build up the institutional capacity of the MPWWR to do the following things: (specify the objectives)

4. Executive Summary, page 45: "The executing agency of the project shall be the MPWWR". It is important in this case to point out the linkages with other departments or ministries. Seldom do other organizations and ministries participate actively in projects unless they have a definite role and some budget for implementation activities. (Ref. is to the MOA in this case)

5. Executive Summary: page 49: It is not completely clear how "the proper water management shall be conducted by the WUAs to be organized among farmers concerned on the bases of the irrigation rotation system". It is true that on-farm water management is done by farmers but WATER MANAGEMENT is also much more than farmers. Water management requires that water users and water suppliers work together. As will be noted later, there seems to be the idea that the MOA or the IAS or both will simply "tell the farmers to do water management better and they will do it". This has seldom ever happened anywhere in irrigation.

6. Main Report: S-9: The mesqa or what is sometimes wrongly referred to as on-farm "improvement costs are not included in the project costs but for the project evaluation. It is noted that water users association (WUA) is a key factor for the on-farm water management improvement". If the micro or mesqa sub-system is left out of this important project, the benefits assumed in the evaluation are not realistic. It is known from recent rehabilitation, modernization, improvement or betterment projects world-wide that the total system approach is more cost effective. If there is an assumption that some other organization will handle the costs of the micro system improvements, this requires much more examination. The donor and the implementing authority should include both the macro and micro systems in the project. On page S-12, it is stated that "such works (mesqa intakes, mesqas, roads) shall be undertaken by WUAs under technical assistance and supported to be extended by MPWWR". It is not clear in the study as to how this will be done. There is no mention anywhere about cost sharing or cost recovery or the farmers' mobilization of resources.

7. Main Report: S-10: "It is proposed the continuous flow till the branch canals and three turn rotation at sub-branch canals". Is this in keeping with the MPWWR's policy on continuous flow? Is it appropriate to have "rotational irrigation at the on-farm level" or would it not be best to begin to introduce irrigation scheduling more in relationship to crop water demands. But on the same page S-10, there is the statement that "On-farm water distribution control, on the other hand, shall be improved by establishment of WUAs which

shall manage pump operations at mesqa intakes". This implies a WUA single point lift system operated with continuous flow in the branch canals. It does not discuss irrigation scheduling to help farmers meet crop water demands which change throughout the season and with different crops.

8. Main Report: S-12. Yields can be increased but not as much as often expected. More emphasis should be given to increased farm income. There is no mention of possible land savings with new mesqa technologies, savings from pumping costs or saving from mesqa maintenance costs. There should be more emphasis given to the move to higher value crops once the remaining two crop quota regulations are removed. The reference to yield increases under the IIP are questionable. These are only estimates and until the IIP "before" and "after" project impact evaluations are done, it is not known how much yield increases may be expected. Also the study does not report the degree of polyculture which exists in the area which helps farmers to increase their incomes. When crop yields of Egypt are compared with world crop yields, most yields are already rather high. There is a potential for increased yields for some crops but these usually take place where the prices are right and where highly sophisticated services are provided farmers.

9. Main Report: S-13. It is not clear what the "close partnership of WUAs and the MPWWR" will or should be as well as that of other organizations such as the MALR. This should be more adequately spelled out in the study. As is well know, such partnerships don't just happen because they have to be integrated into a project and handled as a specific component of institution building. Again on page S-21 it is recommended "to provide a training and education to farmers concerned in the Bahr Yusef canal command during the early stage of the project implementation that proper water management at the on-farm level in cooperation with the field staff of MPWWR is a key to utilize water resources effectively and to realize the desirable crop production". What is the specific training needed? Was this assessed in the study? Who will do the training and are there adequate funds provided for this?

10. Main Report, page 4: Under the section on government policies needed, there is no mention of resource mobilization from water users or the need for a legal base for private WUAs.

11. Main Report, page 20. Information is provided about the WUA here an in other parts of the study. But how will WUAs be established? Where are the funds for developing an IAS and training IAS technical professional engineers? The IAS is now only funded under the IIP for the 11 canal commands for which it is responsible under the USAID. This project could include a component in its budget for expanding and building a strong IAS which must be in place to work with WUAs. Without the IAS it is not expected that any effective and sustainable WUAs can be developed. This is a major oversight in this feasibility

study. Such a project as this one could go a long way in helping to build a strong IAS and sustainable WUAs in the project area. Currently the IAS is mandated to work only in the IIP canal commands. Page 52 also describes WUAs in the area.

12. Main Report, page 29. The reuse of drainage and ground water should require a special study before this project is implemented. When there are discussions of efficiency of the system, the reuse of return flows several times on a system increases the irrigation efficiencies. Irrigation efficiencies, therefore, may be higher than conventional water loss estimates show. On page 47, it is estimated that drain water reuse contributes about 10 percent of the water supplied. But does this include reuse of the water several times over a large canal system?

13. Main Report, page 49. What is meant by "mesqas and marwas are open raised on-farm earth ditches?" Are all mesqas on this canal system above ground?

14. Main Report, pages 67-68. This is a description of the agricultural extension system. Somewhere in the report, it should be stated that the present extension service does not provide the information required of farmers for improving mesqa water delivery, irrigation scheduling, crop water requirements, irrigation practices etc. The extension service staff work with individual farmers along village or administrative revenue units and not along mesqa or hydrologic units. There is a need for professional expertise in the areas of hydraulics, small structures, irrigation scheduling and improved water use practices based on the latest technologies. Only the IAS staff in Egypt are acquiring the water delivery and water use skills required for improving irrigation system performance at the micro-system level.

15. Main Report, pages 77-78. Under communication and management section, there is a need to expand this and point out the specific types of communication and information that is required from the water users' perspectives for helping them control and use water more efficiently. The report is correct that the present communications between offices of the Irrigation Directorates and District Engineers is poor. Some have no phones and some have no vehicles on a regular basis. They need not only more modern communication facilities but also much training in operations of improved systems. It is often forgotten in rehabilitation projects that once a system is modernized, the demands for improved operations and management are essential if improved system performance is to be realized.

16. Main Report, page 79: It is not clear what the new rules and regulations related to O & M are to be. Training of O/M staff and water users is stressed. It would have been useful to spell out the types of training required. The project rightly provides some funds for this training but given the

magnitude of the task of training farmers in WUAs, it is questioned whether the funds are adequate. Who is to do this training? Are funds made available under the project for this?

17. Main Report, page 92: The report here states, "It could be stated that successful organizing WUAs could hardly be materialized unless the improvement of distribution control at the main irrigation system and benefit by the on-farm distribution improvement are clearly presented and accepted by farmers". It is true that without improving the water delivery and water control to the mesqa, that the benefits of organizing WUAs would be little or nothing. But if the project does not include the resources and facilities for an IAS and mesqa improvements known to have benefits, the value of the very large investments in the main system hardware may not be realized. It is good that the principles for improving mesqas are stated clearly on page 114.

18. Main Report, page 137. Under research, there is a need to include information of the types of research needed from the Water Research Center institutes to assure improved system performance. For example, the Water Distribution Research Center at Delta Barrage specializes in research related to the delivery and use of water. The MOA Soil and Water Research Institute also specialized in research on water quality, crop water needs etc. The WRC Drainage Research Institute and its possible services to promote this Project should be included. If there are to be linkages with research institutes for specific studies or other services, this should be specified and included in the project paper.

19. Main Report, page 139. More details should be provided about the training which will be needed. There should be some long-term degree training provided as well. It is seldom realized that operational staff at higher levels require more specialized training than they now have. Given new technologies of system operations with automated systems using sophisticated computer software, there will increasingly be a need for some highly trained operational staff in the Ministry. A special study should be made of the MPWWR to ascertain what percentage of present operational staff from the High Aswan Dam to the last drain to the sea have specialized graduate training in a technical or management field. This is simply to say that the next generation of operational engineers will require training which was not available to older engineers. This is true world-wide.

C. APPENDIX L. The information on the IAS and WUAs needs to be updated using current information especially in the project paper when that is prepared.

1. Appendix K. It should be considered that the mesqa level improvement component be increased from the current level.

2. Appendix K-7. It should be noted that while study clearly points out the importance of WUAs, water management and

training of staff and farmers that the budget estimates for these activities are only 0.026 percent of the total budget. The water management component is provided only 0.014 percent of the total budget and the training and education component is provided only 0.012 percent. A special study of World Bank and USAID Projects in 1981 showed that the World Bank in the 1970's was providing about 1.0 percent of total irrigation project costs for training while USAID was providing about 3.7 percent of total project costs for training. Since then both the World Bank and USAID have increased their contributions to over five percent of total project costs and sometimes as much as 10 percent. But on page 146 of the Main Report, the budget items for training and education is 10 million Egyptian pounds which is 1.2 percent of the total estimated budget of 850,100,000 Egyptian pounds! It is not known what is included under the "water management" budget item in this feasibility study. Again, on page 146 in the Main Report "water management" is estimated at about 1.4 percent of the total budget! "Enhancement of O/M" is budgeted at only 2,000,000 L.E.!!

What does this item include?

3. Appendix K-1. There needs to be some discussions as to the specific costs involved in the components of engineering and administration and technical assistance. For example, how much and what types of technical assistance will be required and for how long. Given the low salaries of Egyptian engineers and the increasing high cost of living given recent structural changes in the economy, there should be some analysis of the need for merit based incentives for local engineers working on this project. This should be within the policies of the Government of Egypt for such donar assisted projects.

REPLY TO REVIEW COMMENTS OF MPWWR ON DRAFT FINAL REPORT JULY 1992
FOR THE FEASIBILITY STUDY FOR REHABILITATION AND IMPROVEMENT OF
DELIVERY WATER SYSTEM ON BAHR YUSEF CANAL

A. GENERAL REVIEW COMMENTS

3. The Report focuses the rehabilitation and improvement of the major irrigation facilities along Bahr Yusef Canal.
5. The cost for water management and training and education estimates at 22 million L.E. or 2.6 percent of the total project cost. In addition to the above, annual operation and maintenance cost for these two components estimates two million L.E. each for phase I, II and III (refer to Appendix K-7). During 12-year implementation period of the project, two million L.E. each for 5th to 8th project year and four million L.E. each for 9th to 12th project year. The total cost of the above during the implementation period becomes 24 million L.E. (refer to Appendix K-7 and M-16). Therefore, the total cost for water management and training and education during the implementation of the project estimates at 46 million L.E. equivalent to 5.4 percent of the total project cost. This will be within a range of World Bank guideline.
6. Meska improvement plan is reported at pages 113 to 115 of the Main Report and alternative study is on pages G-42 to G-47 of the Appendix G. Out of seven alternatives of Meska ditch improvement, Meska improvement with concrete lining of the alternative-5 is the most recommendable one in the engineering, however, it shall require large construction cost which shall be borne by farmers in principle. In this regards, therefore, the raised earth Meska of alternative-3 would be the practical way for the moment (refer to page 115 of the Main Report). Project implementation is considered that improvement of the facilities up to branch canal level shall be handled by the MPWWR, while improvement of the on-farm facilities after Meska level shall be responsible by farmers in principle. Therefore, the project is not included the cost necessary for on-farm improvement, but included in the cost for economic evaluation (refer to M-15 and M-16 of the Appendix M).
7. Technical assistant which means, investigation, design and construction supervision for the major facilities of the project is estimated about 10 percent of the project cost which includes local engineering cost and foreign assistance for the above work.

B. SPECIFIC COMMENTS

1. Well information or coordination among water users and MPWWR operation staff shall be needed to make water distribution timely and adequately for improvement of the total irrigation efficiency.
2. Some mention on rules and regulations of operation and maintenance of the facilities is intended to realized more effective water distribution in keeping good coordination among agencies concerned.
3. May we ask about a comment of this section, especially does serious health hazards/health issues concern with the improvement of Bahr Yusef Canal.
4. Efforts to be linkages with other departments or ministries is one of measures to perform the objectives of the project.
5. It must be noted again that water management requires water users and water supplies work together.



6. Principle of cost sharing for the project is considered that implementation of the major facilities from the principle canal up to sub-branch canal operated and maintained under direct responsibility of the MPWWR shall be managed by the MPWWR, while implementation of on-farm improvement shall be made farmers themselves which is implied internationally common way for the irrigation system. Therefore, the cost of the on-farm improvement is not included in the project cost.
7. To be more simple water management for equitable water supply, effective water use and improved irrigation application, 24 hours continuous flow and delivery system is advanced method in case of gravity distribution system and/or Sakia lift distribution system which has quite small lift capacity. Most command area of Bahr Yusef Canal is used to lift distribution by engine-powered pump which has much more lift capacity in comparison with Sakia lift. In this regards, rotational distribution in on-farm level is more advantageous distribution.
8. As mentioned in the comments, crop yield will be increased by improving on-farm water management. Major agricultural benefit from the project will be created from increasing crop yield and cropping intensity. Increase of farm income in the area can be expected with rising of crop yield and intensity. In the project, some land savings and pumping cost savings can be expected a little, however, the benefit of the project for the project evaluation is not considered as for surplus measures. Emphasis is given to increasing crop yield and cropping intensity. As a result of the study on traditional crop rotation in the command area, it was noticed that the rotation is very effective and necessary for maintaining soil fertility and keeping animals, so there will not be proposed drastic change in crop composition in the plan. Yield of crops in Egypt is rather high compared to other countries, however it was observed lower crop yield in the command area of Bahr Yusef Canal, therefore, Target crop yields are set up in taking into consideration reasonable potentiality on an average of best five of yield in each governorate and USAID's results which show the range of yield increase before and after establishing WUA.
9. It is considered by the Study Team that a part of effectiveness of the irrigation efficiency will be caused by lack of information or communication regarding the supplied quantity, timing and others between suppliers and receivers, in another words, between irrigation schedule/operation by the MPWWR and actual irrigation made by farmers.
10. The Study Team confirmed the necessity on a legal base for private WUAs to facilitate the WUAs to other association or organization.
11. The study on WUA is considered not major subjects of this report, however, activities of WUAs is indispensable for the success of improving on-farm water management. The Study Team also recognized that any effective results on improving water management could not be expected without WUA. Therefore, the financial source for IAS activity for establishing and strengthening WUAs are as a part of the engineering and administration in the project cost as it is clear in Fig. 5-1 after changing the name of Water Management Division to IAS Division.
12. About 10 percent of the water supplied was observed in Nazlet Ramadan pilot area as a result of observation and analysis in the pilot irrigation area. Ten percent is considered as a result of once reuse
13. Raised earth ditch is proposed for improvement of Meska ditch as possible (refer to G-42 of Appendix-G) and after completion of main system improvement and rehabilitation, the raised lined ditch shall be implemented according to the cost recovery issue and farmers and farmers sharing.

14. Agricultural extension system to be developed in the area reported on pages 137 to 139 of the Main Report is for cultivation of promising crop and method for reducing production cost, efficient use of agricultural credit and importance of cooperative society, and efficient water use with the growing stage of crops. For irrigation water distribution, strengthening IAS and staff for the improvement of water delivery and water use is quite essential.
15. During the implementation of the project, training of the operators shall be scheduled under the administration of Training/Education Division (TD) of the proposed organization of implementation of the project (refer to page 150 of the Main Report).
16. It is necessary to provide new rules and regulations on the operation and maintenance of the newly developed facilities, especially communication and information of the data, instruction of the operation, feedback procedures on water management, etc. Training of O/M staff and WUAs shall be in charge of the TD of the project office and necessary fund is included in the project cost and O/M cost as mentioned in section 5 of A in this paper.
17. Resources and facilities for IAS is included in the project cost as mentioned in the section 11 of B in this paper. Procedures for improvement of on-farm facilities is stated in the section 6 of B in this paper.
18. Necessity of linkage with research agencies on the research of water management is stated on pages 137 to 138 of the Main Report. All institutes indicated in the comments are requested to keep a linkage each other for the success of improving water management.
19. It is recognized the necessity of training and education for leader of farmers, IAS officials and MPWWR field staff, MALR extension workers as mentioned on page 139 of the Main report, and also necessity of long-term training is stated on page 143 of the Main Report.

C. APPENDIX

The study on IAS and WUAs reported in the Appendix J were made based on information as of March 1992 when the field work has been completed in Egypt. In case there exist much changes about the said information, please carefully updated by the MPWWR before implementation of the project, if it is necessary.

1. Depend on the policy of the MPWWR for the improvement of the on-farm facilities, increase of the Meska level improvement components would be given the farmers more bother as mentioned in the above section 6 of B.
2. Estimate of the budget for water management and training is already discussed in the above section 6 of A. Budget for enhancement of O/M is estimated for the provision of O/M equipment, water management equipment and other equipment. Budget for the management of the said activities is estimated in the respective item of the project cost (refer to page K-20, Tables K-3-2 (25) and K-3-2 (26) of Appendix K).
3. Budget for the engineering and administration is estimated at about 13 percent of the total project cost based on the practice in the recent foreign assisted projects. The component includes the cost for project facilities, wages and salaries of the project staff including incentives of local officials, and the related expenditures for the supervision of the project implementation. Budget for the technical assistance is estimated at about 10 percent of the total project cost for the final design and supervision of the project implementation.

ANNEX-3

ATTENDANT IN MEETINGS

1. Meeting held at MPWWR Conference Room on August 29, 1992

1.1 MPWWR

Eng. El Sayed Moh Hassan First Undersecretary, Horizontal Expansion and
Project Affairs, ID
Eng. Hassan Shouman Project Director, Irrigation Improvement Project
(IIP)

1.2 JICA

Mr. Naoyuki KOBAYASHI Asst. Resident Representative, Egypt Office
Mr. Yoshitake SHIMBO Technical Advisor for MPWWR

1.3 JICA Advisory Committee

Mr. Kuniyoshi ISHIZAKA Chairman of Committee, Assit. Manager of MAFF
Mr. Akira SHIMIZU Coordinator of Committee, JICA Headquarters

1.4 JICA Study Team

Mr. Yoshio ARAI Team Leader
Mr. Kensuke IRIYA Agro-economy and Project Evaluation

2. Meeting held at IIP Conference Room on August 30 and 31, 1992

2.1 MPWWR

Eng. Hassan Shouman Project Director, Irrigation Improvement Project
(IIP)
Eng. Alaa Esmail Junior Engineer, IIP

2.2 JICA Study Team

Mr. Yoshio ARAI Team Leader
Mr. Kensuke IRIYA Agro-economy and Project Evaluation

3. Meeting held at MPWWR Conference Room on September 1, 1992

3.1 MPWWR

Eng. Khalil Ibrahim Omar	First Undersecretary, Chairman of Irrigation Department (ID)
Eng. El Sayed Moh Hassan	First Undersecretary, Horizontal Expansion and Project Affairs, ID
Eng. Abd El Moneim Shalaby	Director General, Technical Office, ID
Eng. Hassan Shouman	Project Director, Irrigation Improvement Project (IIP)

3.2 JICA

Mr. Naoyuki KOBAYASHI	Asst. Resident Representative, Egypt Office
Mr. Yoshitake SHIMBO	Technical Advisor for MPWWR

3.3 JICA Advisory Committee

Mr. Kuniyoshi ISHIZAKA	Chairman of Committee, Assit. Manager of MAFF
Mr. Akira SHIMIZU	Coordinator of Committee, JICA Headquarters

3.4 JICA Study Team

Mr. Yoshio ARAI	Team Leader
Mr. Kensuke IRIYA	Agro-economy and Project Evaluation

MINUTES OF MEETING

FOR THE DISCUSSION ON THE DRAFT FINAL REPORT
OF THE FEASIBILITY STUDY ON
THE IRRIGATION AND DRAINAGE DEVELOPMENT PROJECT
IN THE HARAZ RIVER BASIN
IN
THE ISLAMIC REPUBLIC OF IRAN

APRIL 15TH, 1993

J-A-Shaegh

Mr. Jamil Alizadeh Shaegh

Project Manager of
Haraz River Basin Agricultural
Development Project,
Ministry of Agriculture,
The Islamic Republic of Iran

S. Kadowaki

Mr. Satoshi Kadowaki

Leader of Feasibility Study
Team, The Japan International
Cooperation Agency

Y. Shimonomura

Witness: Mr. Yasuhiro Shimonomura

Leader, JICA Advisory Team

Minutes of Meeting

1. Date and Time: April 14, 1993 (09:00 - 17:40)
April 15, 1993 (10:00 - 17:00)
2. Place: Conference Room of the Haraz River Basin
Agricultural Development Project Office, Amol
3. Attendants: as attached lists
4. Summary of Discussion:

In accordance with the Scope of Work for the Feasibility Study on the Irrigation and Drainage Development Project in the Haraz River Basin in the Islamic Republic of Iran agreed upon between Ministry of Agriculture (MOA) and the Japan International Cooperation Agency (JICA) on September 6th 1990, the JICA Study Team submitted 20 copies of the Draft Final Report to the MOA at the Headquarters on April 13th 1993, and explained the contents of the report at the meetings held in the office of the Haraz River Basin Agricultural Development Project in Amol on April 14th and 15th 1993.

In the above meetings, the followings were confirmed;

(1) The Draft Final Report was generally accepted by the MOA.

(2) Comments on the Draft Report

If any comments arise from the MOA on the Draft Final Report, the comments shall be sent to the JICA within one month after the receipt of the Draft Final Report.

(3) Finalizing the Report

The JICA shall submit the Final Report within two months after receiving the comments.

(4) The MOA has no objection to making the Final Report open to the public in Japan.

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LIST OF ATTENDANTS

Mr. J. Alizadeh Shaegh	Project Manager, H.R.B.A.D.P.
Mr. M. B. Yousefian	Technical Director, H.R.B.A.D.P.
Mr. M. R. Sharifzadeh	Administrative Director, H.R.B.A.D.P.
Mr. N.H. Doulati	Deputy Adm. Director, H.R.B.A.D.P.
Mr. B. Abadian	Expert of H.R.B.A.D.P.
Mr. A. A. Askian	Expert of H.R.B.A.D.P.
Mr. M. Esmaeli	Expert of H.R.B.A.D.P.
Mr. R. Moosavi	Expert of H.R.B.A.D.P.
Mr. H. Najafi	Expert of H.R.B.A.D.P.
Dr. A. Tavassoli	Soil and Water Research Institute, MOA
Mr. Habibi	Rural Research Institute, MOA
Mr. R. A. Omrani	Plan & Budgetary Organization, Mazandaran
Mr. A. Eshraghi	Agr. Research Institute, GDA of Mazandaran
Mr. J. Babapour	Agr. Research Institute, GDA of Mazandaran
Mr. H. A. Davanloo	Agr. Research Institute, GDA of Mazandaran
Mr. N. Saadati	Rice Research Station, Amol
Mr. M.R. Drafshi	Project Manager, Mazandaran Regional Water Board
Mr. R. Rahbar	Irrigation/Drainage Expert, GDA of Mazandaran
Mr. Junji Inoue	Team Leader of Japanese Experts, Haraz River Basin Agricultural Dev. Project
Mr. Yasuhiro Shimonomura	Leader, JICA Advisory Team
Mr. Jitsuo Takasugi	Coordinator, JICA Headquarters
Mr. Satoshi Kadowaki	Leader, JICA Study Team
Mr. Yasuo Matsubara	Drainage Engineer, JICA Study Team
Mr. Mitsuru Kakizaki	Agro-Economist, JICA Study Team

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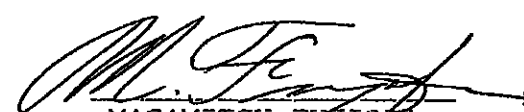
MINUTES OF SUBMITTAL
REGARDING THE DRAFT FINAL REPORT

MASTER PLAN STUDY
ON
THE OUERGHA RIVER BASIN IRRIGATED AGRICULTURE
DEVELOPMENT PROJECT
IN
THE KINGDOM OF MOROCCO


Rabat, MOROCCO
September 2, 1992


BACHIR AMALOU

Director of the National Promotion
Ministry of Interior & Information


MASAMITSU ESJIORA

Leader of the
Study Team - JICA


KOZI TOMIZU
Advisor
JICA

The Japan International Cooperation Agency (JICA) has dispatched a mission to the Kingdom of Morocco in order to explain the draft final report regarding the Ouergha River Basin Irrigated Agriculture Development Project.

After explaining the final report (draft), the Japanese party represented by Mr. Harumi SAITO of the Advisory Committee and Mr. Masamitsu FUJIOKA, head of the Study Team :

- handed over thirty (30) copies of the draft final report which contains all study results, in accordance with the directions of the Inception Report, to the Moroccan Government authorities, who duly received it on September 1, 1992.

- the two parties agreed that any comments regarding the draft final report are to be submitted by the Moroccan party to the Study team through the JICA Morocco office by September 30, 1992. The points mentioned in the comments submitted up to this date shall be reflected on the final report. In case comments are not delivered to the Japanese party by that date, the draft report might be reprinted as final report without any modifications.

The list of attendants at the meeting, held in Rabat on September 1st and 2nd, 1992, is attached herewith as Annex I.



ANNEX I - LIST OF ATTENDANTS

MOROCCAN SIDE

Ministry of Interior and Information

Mr. EL EADAQUI MOHAMED

Mr. IASSE MOHAMED

Ms. BENSLIMANE MAJDA

Ministry of Agriculture and Agrarian Reform

Direction of Rural Equipment

Mr. BAKACHE MOHAMED

Direction of Forestry and Soils Protection

Mr. HALIM OMAR

Ministry of Public Works

Hydraulic Administration

Mr. NASSOH HAMID

Mr. FARAH ABDELILAH

JAPANESE SIDE

Advisory Committee

Mr. TOMIZU KOJI

JICA-Morocco Office

Mr. IREI EIZEN

Study Team

Mr. FUJIOKA MASAMITSU (Team Leader)

Mr. MENJO MICHIMASA

Mr. MATSUSHIMA SHUICHI

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MINUTES OF MEETING
FOR
THE STUDY
ON
THE AGRICULTURE DEVELOPMENT PROJECT (PHASE - II)
IN THE NEJD REGION
THE SULTANATE OF OMAN

AGREED UPON BETWEEN

MINISTRY OF AGRICULTURE AND FISHERIES
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

MUSCAT, JULY 22 ,1992

1995/4/55
JIA

MR.SAUD BIN SALIM AL-HARTHY
DIRECTOR GENERAL OF
IRRIGATION AFFAIRS,
MINISTRY OF AGRICULTURE
AND FISHERIES

川崎 敏

MR.SATOSHI KAWASAKI
LEADER OF THE JAPANESE
MISSION

A Japanese Mission (hereinafter referred to as "the Mission") sent by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. SATOSHI KAWASAKI, visited the Sultanate of Oman from July 16 to July 23, 1992 for the purpose of settling issues on the groundwater survey of the Study on the Agriculture Development Project in the Nejd Region (Phase-II) in the Sultanate of Oman (hereinafter referred to as "the Study").

The Mission had a series of discussions with the representatives of the Ministry of Agriculture and Fisheries (hereinafter referred to as "MAF") on the most realistic and appropriate sharing method of the groundwater survey of the Study between MAF/JICA and the Ministry of Water Resources (hereinafter referred to as "MWR").

Consequently, the Mission agreed to MAF's proposal that the construction of two observation wells including groundwater tests, groundwater monitoring in the outside of Pilot Farm, and groundwater assessment for the next agricultural development plan be undertaken by MWR in close cooperation with MAF/JICA.

In this context, both sides agreed to amend the original Scope of Work for the Study signed by MAF and JICA on the 22nd October, 1990 as follows ;

1) Following paragraph in (2), Construction of two observation wells of Work-II, stipulated in III. OUTLINE OF THE STUDY shall be deleted:

2. Drilling and construction of two observation wells including supervision of works.

Handwritten signature and initials, possibly 'MB', located at the bottom left of the page.

2) Following paragraph stipulated in VI . UNDERTAKING OF JICA shall be deleted:

2.To carry out, at its own expense, the drilling and construction of two observation wells and electric prospecting.

and substituted by:

2.To carry out, at its own expense, the electric prospecting.

3) Following paragraph stipulated in V . REPORTS shall be deleted:

5.Interim Report

Twenty (20) copies at the end of the observation well drilling work.

and substituted by:

5.Interim Report

Twenty (20) copies at the commencement of the monitoring in the pilot farm.

4) All the other stipulations in the original Scope of Work shall remain unchanged.



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GROUNWATER SURVEY PROCEDURE

A Japanese Mission (hereinafter referred to as "the Mission") sent by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by MR. SATOSHI KAWASAKI visited the Sultanate of Oman from July 16 to July 23, 1992 for the purpose of settling issues on the groundwater survey of the Study on the Agriculture Development Project in the Nejd Region (Phase II) in the Sultanate of Oman (hereinafter referred to as "The Study").

The Mission had a series of meetings with the representatives of the Ministry of Agriculture and Fisheries (hereinafter referred to as "MAF") and the Ministry of Water Resources (hereinafter referred to as "MWR"). A list of participants of these discussions is given in Attachment - I. Minutes of these meetings are given in Attachment - II.

Through these meetings, both Japanese and Omani side reached mutual understanding on the groundwater survey issues of the Study as follows:

- (1) MWR will cooperate with MAF/JICA in conducting the groundwater survey for the Study.
- (2) MAF/JICA and MWR will conduct the groundwater survey in accordance with the work flow chart as shown in the Attachment - III.
- (3) A Technical Committee composed of MAF/JICA and MWR may be organized to implement the Study smoothly.
- (4) MAF/JICA and MWR will consult with each other on the implementation schedule, survey methods and reports etc. stage by stage.

MAF/JICA and MWR will provide the survey data to each other stage by stage.

(5) With regard to the Drilling Works

1. MWR will drill the two observation wells southwest of the pilot farm instead of JICA study team.
2. MWR will complete the drilling and aquifer testing by the end of July, 1993, when the monitoring for the pilot farm operation is to begin.

(6) With regard to the Monitoring for the Pilot Farm Operation

1. MAF/JICA is responsible for monitoring wells inside the pilot farm.

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2. MWR is responsible for monitoring wells outside the pilor farm.
- (7) MAF/JICA and MWR will share their knowledge on groundwater assessment for formulation of the next agricultural development plan as follows:
1. MAF/JICA
 - a. Estimation of groundwater requirement for the plan.
 - b. Disposition of appropriate pumping sites for the plan.
 2. MWR
 - a. Estimation of drawdown caused by groundwater pumping.
 - b. Estimation of the radius of influence of groundwater pumping and inter-well drawdown.
 - c. Determination of appropriate groundwater development rate and sustainability of developed area.
 - d. Estimation of groundwater development potential for the plan.
- (8) MWR will provide the results of the regional groundwater assessment to MAF/JICA by January, 1995 for formulation of the next agricultural development plan.



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ATTACHMENT - I

Attendant's List

MAF

- (1) Mr. Nasser Al Maqbal : Department of Dam, DGIA
- (2) Mr. Paul Barriere : Hydrogeologist, DGIA
- (3) Mr. Sayed Rashid Ali : Hydrogeologist, DGIA
- (4) Dr. Thomas Riekkel : Hydrogeologist, DGIA

MWR

- (1) Mr. Philip Johnson : Deputy Director General of Water Resources Assessment
- (2) Mr. Harley Young : Deputy Director of Research, DGWRA
- (3) Dr. Peter Hadwen : Project Director, Salalah, DGWRA

JICA

- (1) Mr. Satoshi Kawasaki : Leader of Japanese Mission, Ministry of Agriculture Forestry and Fisheries
- (2) Mr. Norio Matsuda : Project Coordinator JICA Head Office
- (3) Mr. Manabu Masuo : Aid Policy Planner Ministry of Foreign Affairs
- (4) Mr. Takao Sakamoto : Leader of JICA Study Team
- (5) Mr. Hiroshi Ibaragi : Member of JICA Study Team

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MINUTES OF MEETINGS -- JULY 19-20, 1992

1. JICA gave a general overview to MWR of the Agricultural Development Project in the Nejd Region, explaining especially the work programme relating to groundwater surveys for the Pilot Farm.

2. MWR agreed in principle with the Work Flow Chart and took note of the tentative and revised Work Programme (see Attachment II) for the MAF-JICA Pilot Farm.

3. MWR emphasized that monitoring, regional assessment and management of groundwater in the Nejd will be carried out by MWR.

4. MWR explained its ongoing programme of regional groundwater assessment in the Nejd. This programme in turn depends greatly on completion of a substantial part of another programme to rehabilitate many existing leaky wells. These wells do not provide accurate potentiometric heads for aquifer C because the head in these wells is a composite of the heads of more than one aquifer.

5. MWR stated that results of its assessment of the groundwater resources in the Nejd would be available by the end of 1994 to meet JICA's schedule for formulation of their Agricultural Development Plan.

6. JICA/MAF agreed to provide copies of all hydrological data to MWR.

7. MWR agreed to participate in informal technical coordinating meetings as well as formal meetings both in Salalah and Muscat in cooperation with JICA/MAF.

8. MAF agreed that MWR could have access to the existing Pilot Farm wells for further geophysical logging and inspection for leakage prior to beginning of pumping operations. MWR noted that one of the existing wells is suspected to be leaking.

9. It was confirmed that drilling of the two observation wells outside of the Pilot Farm will be conducted by MWR rather than JICA. MWR informed the meeting that the contract to drill these wells was advertised on July 9 and tenders were opened on July 18. MWR confirmed that drilling and testing is expected to be completed by the end of 1992.

The location of these wells, as previously proposed by MWR, was agreed upon. They will be 2 and 5 km southwest, respectively, of the Pilot Farm production wells. The major considerations in the location were:

a. For maximum benefit in analysis of an aquifer pumping test with two observation wells, the wells should be placed along a line through the pumped well location.

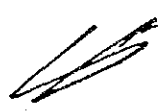
b. The locations are alined with the hydraulic gradient and upgradient from the Pilot Farm.

c. The distances of 2 and 5 km are based on drawdown experienced during MWR 14-day and 7-day aquifer pumping tests at Hanfeet West about 35 km south of the Pilot Farm.

10. MWR said an additional permit may be required before the two production wells are put in operation. Enquiry will be made to the Directorate General of Regional Affairs, MWR and MAF will be advised accordingly.

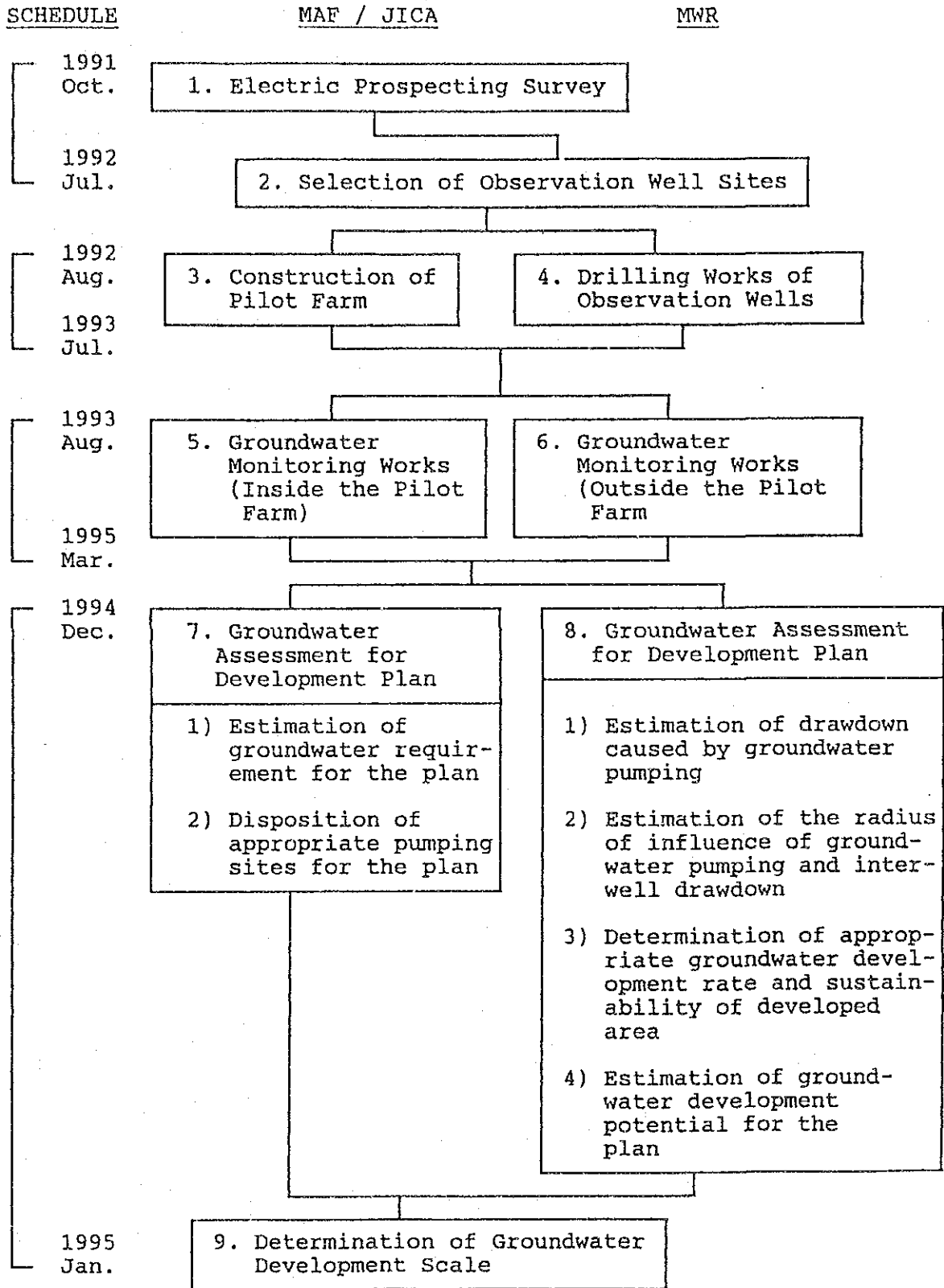
11. MWR emphasized the need to consider competing demands for groundwater use in the Nejd in relation to expansion of agriculture as may be suggested in the Agricultural Development Plan.

12. JICA/MAF and MWR will coordinate on development of the ground-water monitoring programme inside the Pilot Farm.



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ATTACHMENT III



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WORK PROGRAMME OF THE STUDY

Note : Schedule after April, 1982 is tentative. (July, 1992)

OBJECTIVES	WORK ITEMS	1991			1992			1993			1994			1995											
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
<u>Work I</u> To prepare the detailed design for pilot farm.	(1) Pilot Farm Plan. - Farm Management Plan - Farm Facility Plan - Definitive Plan - Detailed Design - Construction																								
<u>Work II</u> To enhance groundwater knowledge and to formulate the next agricultural development plan.	(2) Electric Prospecting Study - Prospecting Survey - Analysis of Prospecting Data (3) Observation Wells - Drilling Work - Groundwater Tests (4) Monitoring of Pilot Farm - Groundwater (Inside of Pilot Farm) - Groundwater (Outside of Pilot Farm) - Soil - Crop Cultivation Trial (5) Next Agricultural Development Plan																								
<u>Reporting</u>	Inception Report Definitive Plan Draft Detailed Design Report Detailed Design Report Progress Report Interim Report Draft Final Report Final Report																								

Legend — Works undertaken by MAF/JICA
 Works undertaken by MAF
 ----- Works undertaken by MWR