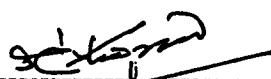



ATTACHMENTS

Scope of Works
for
A Study for the Potential Realization of Irrigated Agriculture in
the Dry and Intermediate Zones of Sri Lanka
agreed upon between
the Ministry of Irrigation and Power of
the Government of the Democratic Socialist Republic of Sri Lanka
and
Japan International Cooperation Agency

Colombo, 26 October 1998

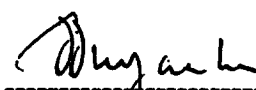


Jaliya Medagama
Secretary
Ministry of Irrigation and Power



Kiyoshi Sawada
Leader
JICA Preparatory Study Team

witnessed by



J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

I. INTRODUCTION

In response to the request of the Government of the Democratic Socialist Republic of Sri Lanka (hereinafter referred to as "the Government of Sri Lanka"), the Government of Japan decided to conduct A Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Sri Lanka.

The present document sets forth the scope of works with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

- (a) To conduct a master plan study for the potential realization of irrigated agriculture in the dry and intermediate zones with the goal of achieving more profitable agriculture and higher standards of living for rural farm households through facility rehabilitation, more efficient use of water with participatory management, improved input supply and support services including credit and marketing, and a feasibility study on selected high priority project(s); and,
- (b) To carry out technology transfer to Sri Lankan counterpart personnel through on-the-job training in the course of the Study.

III. STUDY AREA

The area enclosed by Divisional Secretary area boundaries and the Anuradhapura-Puttalam road (A-12 Road) as shown on the attached map (Appendix-1) is the study area. It has the size of about 6,500 km².

IV. SCOPE OF THE STUDY

The Study would consist of two phases including the following study items.

PHASE-I: Master Plan Study

- (a) Collect and review existing data and information on the following:
 - National and regional development policies and plans

- Agricultural sector policy
- Socio-economic conditions
- Existing and planned development projects relevant to the Study
- Roles and budgetary allocations of governmental institutions relevant to the Study, especially those relating to the irrigation sub-sector
- Laws, decrees, acts and regulations relevant to the Study including those relating to the land tenure system, water rights and water charge
- Agricultural conditions including yields, extension systems, and post harvest & marketing facilities
- Physical conditions of irrigation facilities including system design and O&M
- Agriculture related natural conditions including meteorology, topography, geology, hydrology, soils and vegetation
- Accessibility to improved seeds / cultivars, fertilizer and agro-chemicals
- Rural organizations and cooperatives relevant to the Study, especially the Farmer Organizations (FOs)
- Rural infrastructure conditions
- Marketing conditions, particularly value addition and contract growing
- Environmental conditions
- Activities of existing non-governmental institutions
- Formal and informal credit institutions
- Others

(b) Conduct field surveys and investigations to obtain additional data and information relevant to the Study including the following:

- Hydrologic and topographic conditions
- Water resources, consumption and management practices
- Agricultural production practices
- Agricultural support services
- Agriculture related institutions and organizations
- Socio-economic and environmental conditions
- Others

(c) Analyze collected data and information and identify constraints to the potential realization of irrigated agriculture of the study area

(d) Prepare master plan including the following:

- Rehabilitation and improvement plans for irrigation systems
- Participatory water management plans including institutional strengthening
- Agricultural production plans and cropping patterns
- Improvement plans for agricultural extension and support services including credit with institutional and technical aspects including marketing improvement plans
- Agricultural and non-agricultural income generation activities including

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- those for the second generation
- Initial Environmental Examination (IEE)
- Project evaluation

(e) Selection of high priority project(s) for feasibility study

PHASE-II: Feasibility Study

- (f) Land survey and other examination(s) if necessary
- (g) Facility rehabilitation and improvement plans, production plans, training and extension strengthening plans, credit facility improvement plans, marketing improvement plans, etc.
- (h) Financing plans
- (i) Implementation plans
- (j) Environmental impact assessment if necessary
- (k) Economic and financial analyses

V. STUDY SCHEDULE

A tentative study schedule is attached in Appendix-2.

VI. REPORTING

JICA shall prepare and submit the following reports to the Ministry of Irrigation and Power (hereinafter referred to as "MIP") of the Government of Sri Lanka:

- Inception Report: Twenty (20) copies in English at the start of Phase-I field work
- Progress Report I: Twenty (20) copies in English at the end of Phase-I field work
- Interim Report: Twenty (20) copies in English at the start of Phase-II field work
- Progress Report II: Twenty (20) copies in English at the end of Phase-II field work
- Draft Final Report: Twenty (20) copies in English at the end of Phase-II home office work. The Government of Sri Lanka shall submit written comments on the DF/R to JICA within one month after receiving the reports
- Final Report: Fifty (50) copies in English in two months after the receipt of comments from the Government of Sri Lanka

VII. UNDERTAKINGS OF THE GOVERNMENT OF SRI LANKA

1. To facilitate smooth conduct of the Study, the Government of Sri Lanka shall take necessary measures:

- (a) To secure the safety of the Japanese study team(s);

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- (b) To permit the members of the Japanese study team(s) to enter, leave and sojourn in the Democratic Socialist Republic of Sri Lanka for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees;
- (c) To exempt the members of the Japanese study team(s) from taxes, duties, fees and any other charges on equipments, machinery and other materials to be brought into and out of the Democratic Socialist Republic of Sri Lanka for the conduct of the Study;
- (d) To exempt the members of the Japanese study team(s) from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study;
- (e) To provide necessary facilities to the Japanese study team(s) for the remittance as well as the utilization of the funds introduced into the Democratic Socialist Republic of Sri Lanka from Japan in connection with the implementation of the Study;
- (f) To secure permission for the members of the Japanese study team(s) to enter into private properties or restricted areas for the implementation of the Study;
- (g) To secure permission for the members of the Japanese study team(s) to take all data and documents related to the Study, including maps and photographs, out of the Democratic Socialist Republic of Sri Lanka to Japan; and,
- (h) To provide the Japanese study team(s) with medical services as needed, the expenses of which shall be chargeable to the members of the Japanese study team(s).

2. The Government of Sri Lanka shall bear claims, if any arises, against the members of the Japanese study team(s) resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team(s).

3. MIP shall act as the counterpart agency to the Japanese study team(s) and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. The Irrigation Management Division (IMD) of MIP shall act as the implementing agency for the Study. It shall provide, at its own expense, the Japanese study team(s) with the following, in cooperation with other organizations concerned:

- (a) available data, information and maps related to the Study;
- (b) counterpart personnel;

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- (c) suitable office space with necessary equipments and furniture including telephone and office assistants in Colombo and in the study sites;
- (d) cars with drivers in Colombo and in the field sites;
- (e) credentials or identification cards; and,
- (f) additional surveys related to the Study, if necessary.

VIII. UNDERTAKING OF JICA

For the implementation of the study, JICA shall take the following measures:

- (a) To dispatch, at its own expense, study team(s) to the Democratic Socialist Republic of Sri Lanka; and,
- (b) To pursue technology transfer to the Sri Lankan counterpart personnel in the course of the study.

IX. CONSULTATION

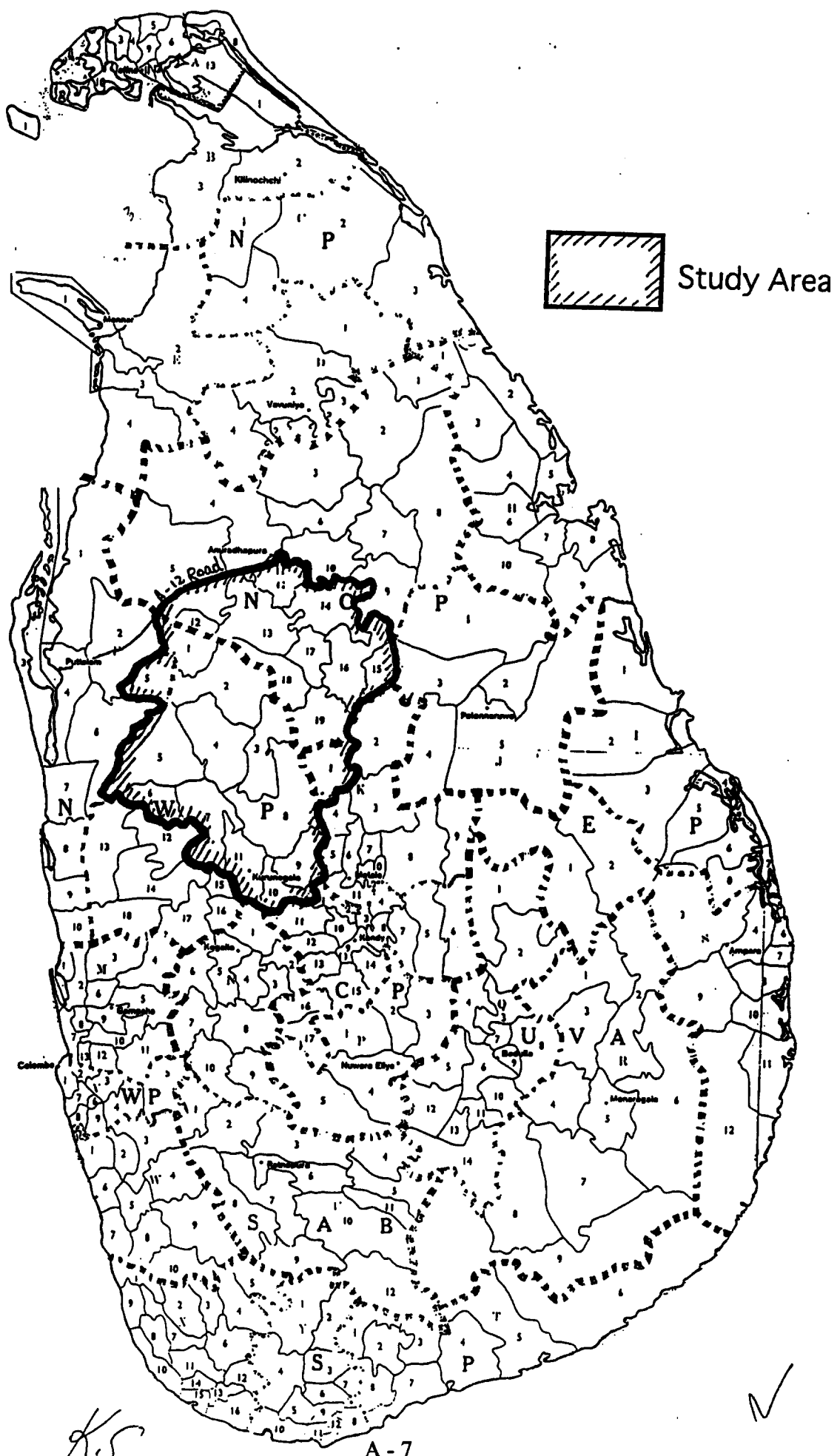
JICA and the Government of Sri Lanka shall consult with each other in respect of any matters that may arise from or in connection with the Study.

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A Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka



TENTATIVE WORKING SCHEDULE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Work in Sri Lanka																			
Work in Japan																			
Phasing																			
Reports																			

Ic/R : Inception Report

P/R 1 : Progress 1 Report

It/R : Interim Report

P/R 2 : Progress 2 Report

DF/R : Draft Final Report

F/R : Final Report

○ : Submission of written comments on DF /R by Sri Lankan side

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Minutes of Meeting
on
the Scope of Works
for
A Study for the Potential Realization of Irrigated Agriculture in
the Dry and Intermediate Zones of Sri Lanka

A preparatory study team organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Kiyoshi Sawada visited the Democratic Socialist Republic of Sri Lanka for the period of 15-26 October 1998 to discuss and confirm the Scope of Works for A Study for Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka (hereinafter referred to as "the Study").

The preparatory study team had a series of discussions with the officials from the Ministry of Irrigation and Power (hereinafter referred to as "MIP"), as well as from other government agencies concerned, on the Scope of Works. As the result, the preparatory team and the Sri Lankan side agreed on the Scope of Works. Important points discussed and agreed are recorded in the following section. Participants in the meeting are listed in Annex-1.

1. Study area: The preparatory study team and Sri Lankan side agreed that four basins (Malwathu Oya, Kala Oya, Deduru Oya and Mi Oya) will be the study area. It should be studied as an economic unit for regional agriculture. Both sides also agreed that the plan to be formulated in the Study would be complementary to the activities of the on-going projects such as the Mahaweli Restructuring and Rehabilitation Project funded by the World Bank, the North Central Province Rural Development Project funded by the Asian Development Bank (ADB) and Water Resources Development Project funded by ADB avoiding duplications.
2. Basic concept: Both sides agreed that the Study should place special attention to making the master plan and the feasibility study results useful as a model for the dry and intermediate zones of Sri Lanka with regard to potential realization of irrigated agriculture through holistic approach using the concepts defined in the attached charts (Annex-2).
3. Topographical maps and aerial photos: Both sides agreed that the topographical maps at the scale of 1/50,000 covering the entire study area should be made available for the preparation of master plan by the Sri Lankan side, and that, if the Study Team considered necessary, aerial photos at the scale of 1/20,000 covering selected areas for the feasibility study should be made available for the preparation of topographical maps through arrangements by IMD in cooperation with related agencies including the Survey General's Department.
4. Design documents for existing irrigation facilities: Both sides agreed that the documents for the existing major irrigation systems indicating all important physical structures such as weirs, dams, gates, spillways, pumps and canals should be made available to the Study by the Sri Lankan side upon request by the Study Team if such documents are considered necessary.
5. Coordinating committee for the study: Both sides agreed that a coordinating committee consisting of relevant government agencies and organizations including Irrigation Management



Division (IMD), Irrigation Department (ID), Mahaweli Authority of Sri Lanka (MASL), Department of Agriculture (DOA), Agrarian Services Department (ASD), Survey General's Department (SGD) and representatives from related Provincial Councils (PC) should be established by the initiative of IMD before the start of the Study for the smooth implementation of the Study.

6. Counterpart personnel: Both sides agreed that qualified and sufficient number of counterpart personnel should be provided to the Study by the Sri Lankan side and assignment of such counterpart personnel should be completed before the start of the Study.

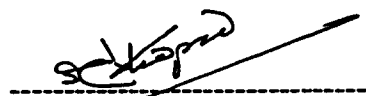
7. Final report: Both sides agreed that the final report of the Study would be made open and available to the public.

8. Counterpart training in Japan: Sri Lankan side requested counterpart training in Japan. The preparatory study team promised to convey the request to the government of Japan for consideration.

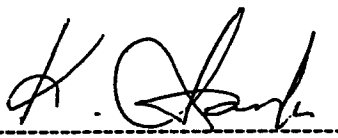
9. Provision of vehicles: Sri Lankan side requested that vehicles with drivers be provided to the Study team by the government of Japan. The preparatory study team promised to convey the request to the government of Japan for consideration.

10. Provision of photocopier: Sri Lankan side requested that a photocopier be provided to the Study team by the government of Japan. The preparatory study team promised to convey the request to the government of Japan for consideration.

in Colombo, 26 October 1998



Jaliya Medagama
Secretary
Ministry of Irrigation and Power



Kiyoshi Sawada
Leader
JICA Preparatory Study Team

Participants

Sri Lankan Side*Ministry of Irrigation and Power*

Mr. Jaliya Medagama
 Mr. L.T. Wijesooriya
 Mr. Ranjith Ratnayake
 Mr. W.P. Jinadasa
 Mr. M. Sinnappoo
 Mr. D.W.R. Weerakoon

Secretary
 Director General, Irrigation Department (ID)
 Director Planning
 Director (Regional Development & Construction), ID
 Director (Planning), ID
 Director (Irrigation Management and Operation & Maintenance), ID
 Director, Irrigation Management Division (IMD)
 Additional Director (Engineering), IMD
 Additional Director, IMD

Ministry of Mahaweli Development

Mr. G.W. Liyanage

Chief Agronomist

Ministry of Agriculture and Lands

Mr. B.H. de A. Jayasinghe
 Ms. Rupa Ekanayake

Director (Projects)
 Deputy Director

Agrarian Services Department

Mr. S. Pussepitiya
 Mr. D.D. Prabath Witharana

Commissioner of Agrarian Services
 Engineer (Water Management)

Survey General's Department

Mr. S.M.W. Fernando

Deputy Surveyor General

Ministry of Finance and Planning

Ms. P.C. Ratnayake

Deputy Director, National Planning Department

Japanese Side*JICA Preparatory Study Team*

Mr. Kiyoshi Sawada
 Mr. Kenji Ishido
 Mr. Isamu Iwama
 Mr. Hiroki Kondo
 Mr. K.W. Tilakaratne
 Mr. Hajime Nabeta

Leader
 Agricultural and Rural Infrastructure Specialist
 Farmer Organizations Specialist
 Agronomist
 Rural Sociologist
 Coordinator

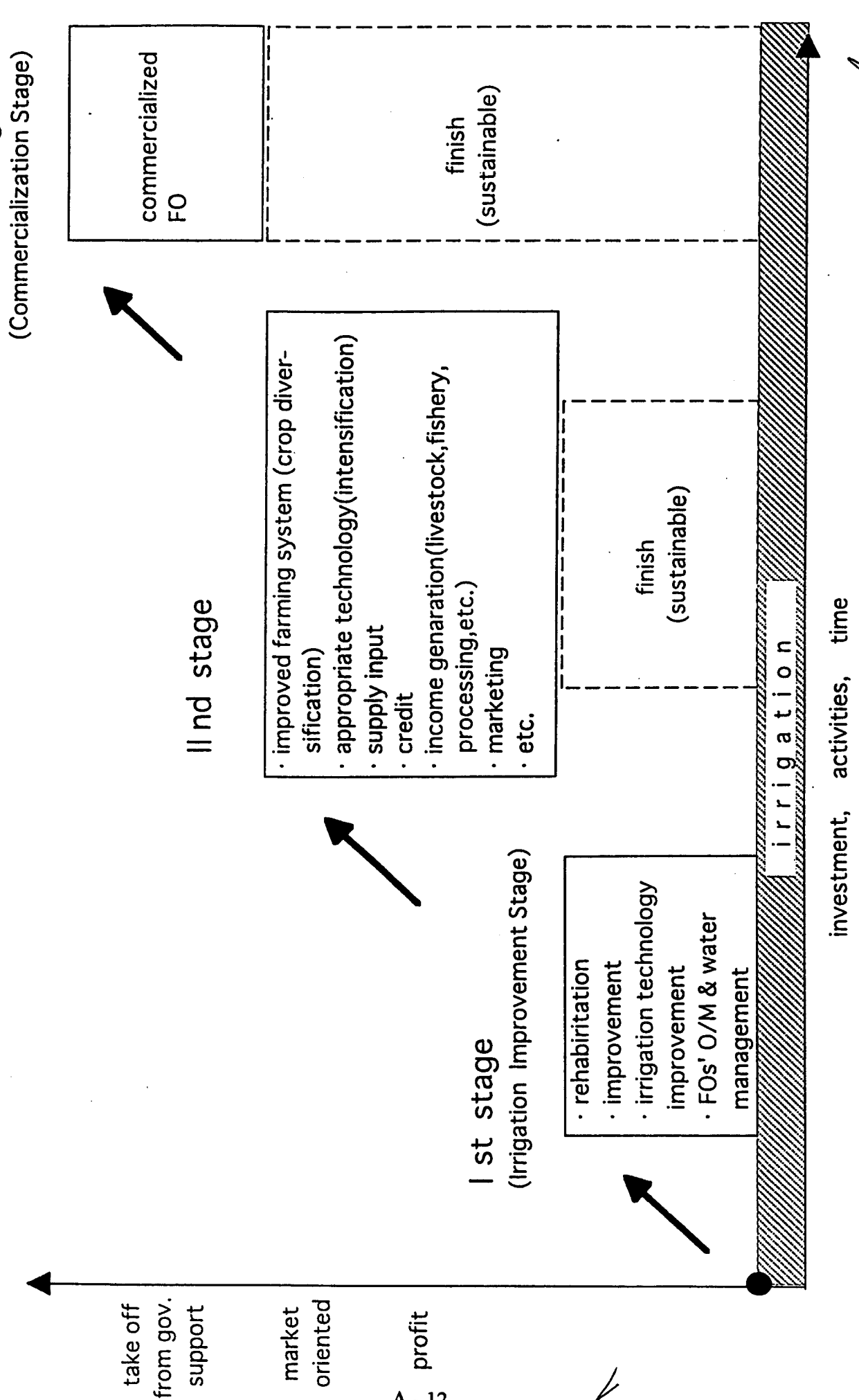
JICA Sri Lanka Office

Mr. Yoshihisa Onoe

Assistant Resident Representative

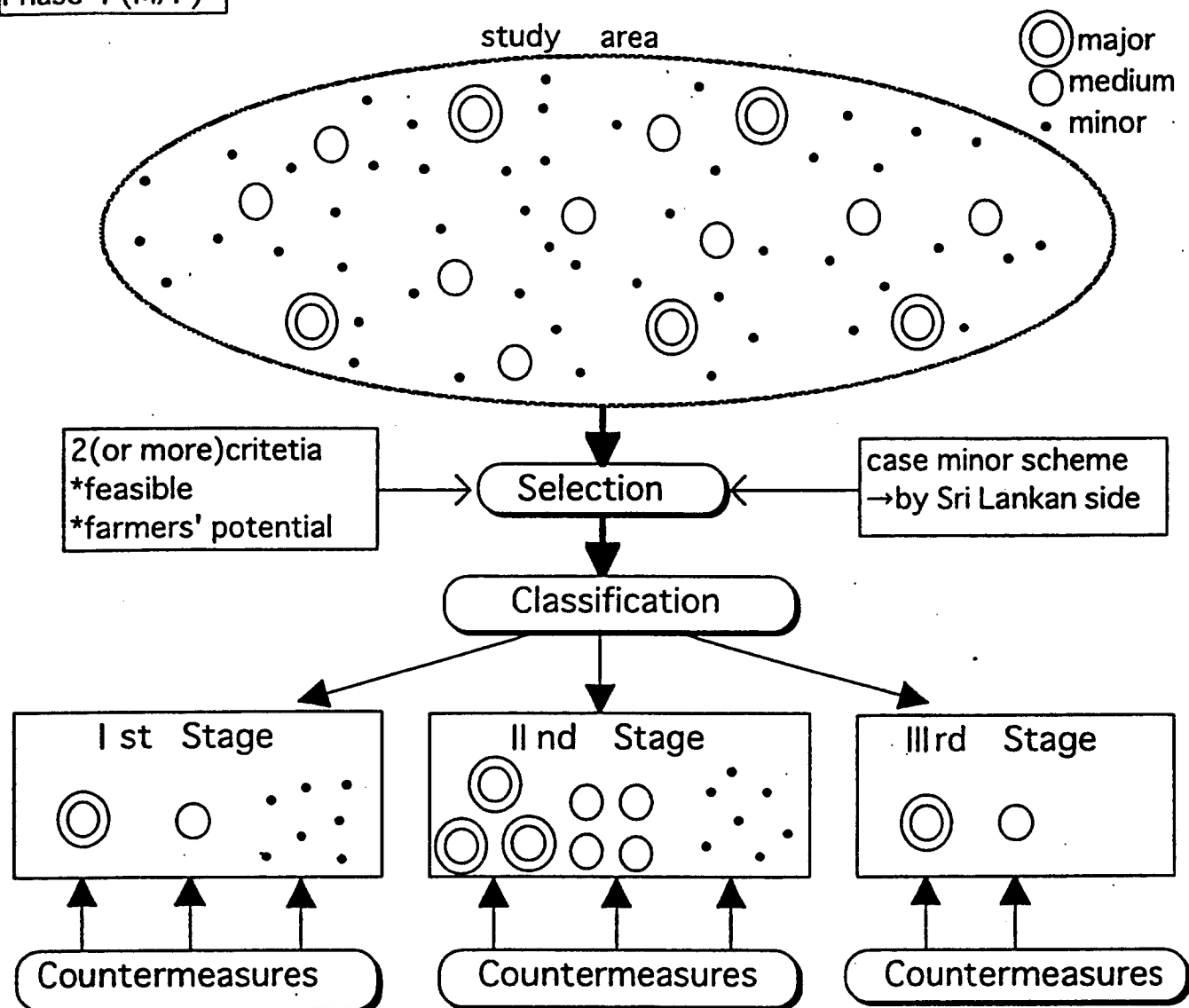


The Concept of Potential Realization

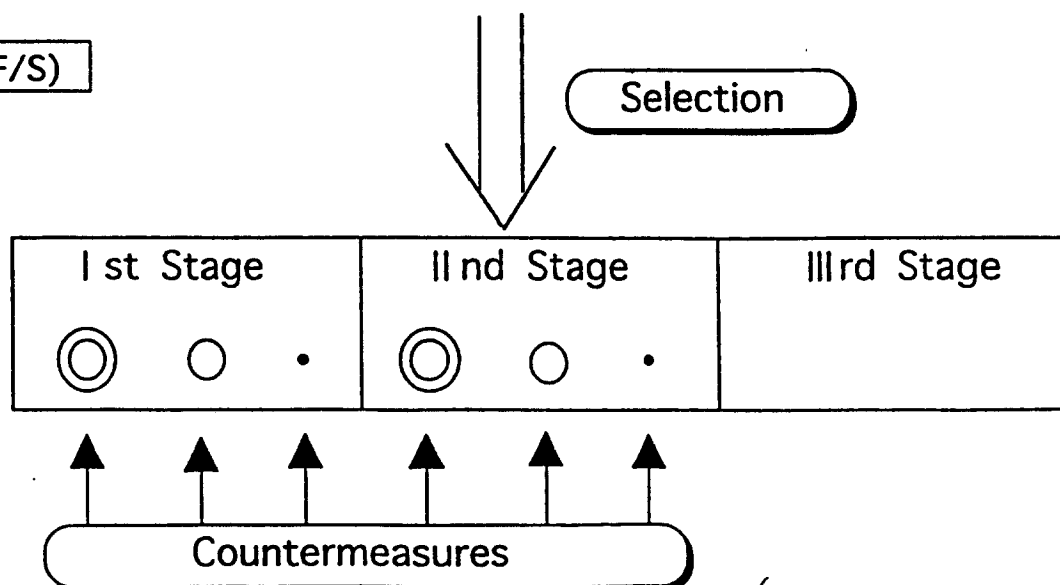


The Concept of the Development Study

Phase I (M/P)




Phase II (F/S)

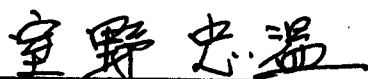


MINUTES OF MEETING
FOR
INCEPTION REPORT
ON
THE STUDY
FOR THE POTENTIAL REALIZATION OF IRRIGATED AGRICULTURE
IN THE DRY AND INTERMEDIATE ZONES OF SRI LANKA

COLOMBO, 26 APRIL, 1999

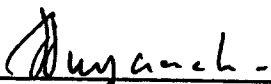


Mr. Jaliya Médagama
Secretary
Ministry of Irrigation and Power



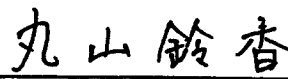
Mr. Tadaharu Muroto
Leader of
JICA Study Team

Witnessed by



Mr. J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

Witnessed by

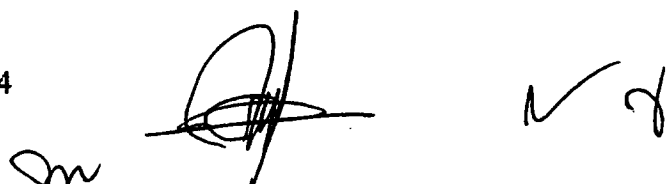


Ms. Suzuka Maruyama
JICA Advisory Team

The Scope of Work for the Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka agreed upon between the Ministry of Irrigation and Power (hereinafter referred to as MIP) and the Preparatory Study Team of the Japan International Cooperation Agency (hereinafter referred to as JICA) on 26 October, 1998. In accordance with the Scope of Work, JICA sent to Sri Lanka the Study Team headed by Mr. T. Murono. The Study Team submitted twenty (20) copies of the Inception Report (the Report) to the Irrigation Management Division (IMD), MIP, and explained the contents of the Report on 20 April 1999. Subsequently, discussions between the Sri Lankan side and the Study Team were held, and the following conclusions were arrived at:

- (1) In principle, the contents of the Inception Report were accepted.
- (2) Both sides confirmed that the area enclosed by Divisional Secretary area boundaries and the Anuradhapura-Puttalam road (A-12 Road) as agreed in S/W is the Study Area.
- (3) Both sides agreed that comprehensive water resources management will be given due consideration in selecting irrigation schemes, and development will be recommended in the context of a watershed with major, medium and minor schemes taken in a integrated manner.
- (4) Both sides agreed that in deciding crop diversification in the Study area, focus should not be limited only on the local market but the possibility of entering the export market should also be considered.
- (5) Both sides agreed to promote income generation not only through agriculture but also through other income generating activities such as self-employment and small business development.
- (6) Both sides agreed that farmers' organisation will not be limited to irrigation management but will be considered from a broader perspective, and will include other farm related activities.
- (7) The Sri Lankan side agreed to provide counterpart staff to work with the Study Team. List of counterpart is given in Annex-1.
- (8) The Sri Lankan side agreed to provide the necessary topographic maps, aerial photographs, and data and information on existing irrigation schemes and on-going projects. The necessary Defence Ministry clearance for purchasing maps and aerial photographs will be obtained by IMD.

List of participants at the meeting is given in Annex-2.

Handwritten signatures and initials are present at the bottom right of the page. There is a large, stylized signature that appears to be 'A' or 'J' with a horizontal line through it. To its right is a checkmark-like symbol. Below the large signature is a smaller, cursive signature that looks like 'Sm'.

SRI LANKAN COUNTERPART STAFF

<u>Name</u>	<u>Designation/Agency</u>	<u>Expertise</u>
Mr. S.A.P. Samarasinghe	Addl. Director (Engineering) IMD/MI&P	Rehabilitation/Modernization, System Management, Farmer Organization, Farmer Companies, Project Co-ordination, Cost Estimation
Mr. W.M. Bandusena	Addl. Director (Planning) MI&P	Project Planning & Design/Evaluation, Economics, Environment Agro Enterprises.
Mr. S. Danansooriya	Addl. Director (Inst. Development) IMD/MI&P	Farmer Organization., Institutional Development, Farmer Training
Mr. A.P.R. Jayasinghe	Addl. Director (Agronomy) IMD/MI&P	Irrigation Agronomy Soils, Crops, Cropping Patterns
Mr. K.A.U.S. Imbulana	Deputy Director (Water Resources) MI&P	Basin Water Resources Planning, Hydrology, Irrigation & Drainage Water Management, System Performance
Mr. DD. Prabath Witharana	Engineer Agrarian Services Department	Minor Irrigation Specialist, Rural infrastructure
Mr. H.M. Jayavillake	Deputy Director (OM&IM) Irrigation Department	Major System O & M, System Management & Performance Improvement

LIST OF PARTICIPANTS

Sri Lankan Side

Ministry of Irrigation and Power

Mr. Jaliya Medagama	Secretary
Mr. L.T. Wijesuriya	Director General (DG), Irrigation Department (ID)
Mr. Ranjith Ratnayake	Director / Planning & Water Resources Division (WRD)
Mr. K.A.U.S. Imbulana	Deputy Director / WRD
Mr. W.M. Bandusena	Addl. Director, Planning
Mr. D.W.R. Weerakoon	Director (Irrigation Management and Operation & Maintenance), ID
Mr. G.V. Ratnasara	Deputy Director (Planning), ID
Mr. H.M. Jayathilake	Deputy Director (Irrigation Management), ID
Mrs. A.M.Y. Samarakoon	Director, IMD
Mr. S.A.P. Samarasinghe	Addl. Director, IMD
Mr. A.P.R. Jayasinghe	Addl. Director / Agronomy, IMD
Mr. S. Danansuriya	Addl. Director / Institutional Development, IMD

Ministry of Agriculture & Lands

Dr. Nihal Atapattu	Director / Projects
Mr. H. Somapala	Director / Field Crops R & D, Department of Agriculture
Mr. Prabath Withrana	Engineer, Department of Agrarian Services

Ministry of Finance and Planning

Ms. S.D. Ranasinghe	Asst. Director, External Resources Department
Mrs. Dalsi de Mel	Asst. Director, National Planning Department

Survey General's Department

Mr. S.M.W. Fernando	Deputy Surveyor General
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North Central Province

Mr. G.K.B. Senaratna	Provincial Director of Irrigation
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Japanese Side

JICA Advisory Team

Ms. S. Maruyama	Agricultural Development Study Division, Agriculture, Forestry and Fisheries Development Study Department, JICA
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JICA Study Team


Mr. T. Murono	Team Leader / Agro-Economy
Mr. T. Saisho	Farmers' Organisation
Mr. T. Igawa	Irrigation & Drainage / Water Management
Mr. T. Nibe	Agriculture
Mr. M. Fujioka	Rural Infrastructure
Dr. Abhaya Attanayake	Rural Society
Mr. M. Omura	Co-ordination

MINUTES OF MEETING
FOR
PROGRESS REPORT - 1
ON
THE STUDY
FOR THE POTENTIAL REALIZATION OF IRRIGATED AGRICULTURE
IN THE DRY AND INTERMEDIATE ZONES OF SRI LANKA

COLOMBO, 26 JULY, 1999

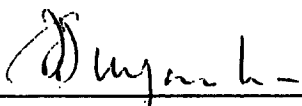


Mr. Jaliya Medagama
Secretary
Ministry of Irrigation and Power



Mr. Tadaharu Murono
Leader of
JICA Study Team

Witnessed by



Mr. J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

The Scope of Work for the Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka agreed upon between the Ministry of Irrigation and Power (hereinafter referred to as MIP) and the Japan International Cooperation Agency (JICA) on 26 October, 1998. In accordance with the Scope of Work for the Study, the Study Team submitted twenty (20) copies of the Progress Report – 1 (the Report) to the Irrigation Management Division (IMD), MIP, and explained the contents of the Report on 26 July 1999. Subsequently, the following matters were discussed:

- (1) In principle, the contents of the Report were accepted by MIP.
- (2) In the discussion, it was mentioned that the problem of employment and low income level of farmers must be given high priority, and it was recommended that such aspects as integrated farming value addition to farm products, conjunctive use of ground water, and alternative irrigation technology should be linked to the Plan.
- (3) It was also suggested that the Study should go beyond the discussion of Farmers' Organisations (FO). The empowerment of farmers through such methods as the setting up of the Farm Companies (FC) should also be dealt with as FO are more studied for participatory activities and decision making while FC with professional staff are better studied for commercial activities.
- (4) In the development of agricultural crops, consideration should be given to the cultivation of tree crops, such as mangoes and coconuts, or even banana. It was however pointed out by the Study Team that these matters will be given due consideration in the Report, but those matters such as, value addition and market availability will have to be simultaneously considered.
- (5) Another issue that was raised was regarding the promotion of fisheries in the reservoirs. Although the Report discusses this issue, it was pointed out that there is much scope for further development and that there are possibilities to increase the production of fingerlings for introduction to the reservoirs within the Study area.
- (6) The problems of land fragmentation and the presence of small plots were then discussed. It was said that generally land ownership is directly related to this problem. The attempts made in the past to resolve this problem, in the number of



places, had not met with much success. This problem will be considered in the Study. Aspects of land consolidation through institutional means but not physical land consolidation would be considered.

- (7) An important item that was discussed under the agro-ecological resources and the development potential for agricultural development was regarding the possibility of year round cultivation of OFCs in certain parts of the Study area. It was pointed out that it was not only rainfall but such factors as the variation of soil types, as well as, pests and diseases are important factors that should be taken in to consideration. Threshold levels of extents under OFC vis a vis national production has to be considered. Some soils (LHG) are only suitable for paddy.
- (8) A crucial matter, that was raised, was regarding the evaluation of the 100 irrigation schemes (under major, medium and minor categories) to select the 6 schemes for the feasibility study. The possibility of these schemes being selected from one or two basins / water sheds was discussed. It was suggested that such a selection, on the basis of cascades, for the minor schemes would be more meaningful and useful, because the development activities could be undertaken on an integrated base. The Study Team pointed out that the original idea was to select six schemes on the basis of independent evaluation but not on a cluster basis. The suggestion made at the meeting regarding the selection of schemes on a cluster basis would be given due consideration. Specific recommendation was that the Nachchaduwa cluster and Mi Oya cluster be selected for the detailed study:
- (9) The question of amending the Agrarian Service Act and Irrigation Ordinance to make them more useful and effective was then discussed. It was however pointed out that the Agrarian Service Act is already in the process of being amended, and that present problems are not a consequence of the relevant Acts being weak and ineffective, but because the provisions in the Acts not being properly followed and implemented.

List of participants at the meeting is given in Annex.



LIST OF PARTICIPANTS

Sri Lankan Side

Ministry of Irrigation and Power

Mr. Jaliya Medagama	Secretary
Mr. L.T. Wijesuriya	Director General (DG), Irrigation Department (ID)
Mr. Ranjith Ratnayake	Director / Planning & Water Resources Division
Mr. M. Sinnapper	Director, Planning and Designs (ID)
Mr. W.M. Bandusena	Addl. Director, Planning
Mr. H.M. Jayathilake	Deputy Director (Irrigation Management), ID
Mrs. A.M.Y. Samarakoon	Director, IMD
Mr. S.A.P. Samarasinghe	Addl. Director, IMD
Mr. A.P.R. Jayasinghe	Addl. Director / Agronomy, IMD
Mr. L.P. Jayampathy	DD/TMD

Ministry of Agriculture & Lands

Dr. Nihal Atapattu	Director, Projects
Mr. M. Weerasinghe	Addl. CAS, Department of Agrarian Services
Mr. Prabath Withrana	Engineer, Department of Agrarian Services

Ministry of Finance and Planning

Ms. S.D. Ranasinghe	Asst. Director, External Resources Department
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Ministry of Mahaweli Authority

Mr. G.D. Perera	Deputy Director (Agri. Development)
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Survey General's Department

Mr. S.M.W. Fernando	Deputy Surveyor General
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North Central Province

Mr. Sunil Bandara	Deputy Secretary (Eng.)
Mr. C.K.B. Senevirathne	Provincial Director of Irrigation,

North Western Province

Mr. R.H. Karunaratne	Deputy Provincial Director
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Japanese Side

JICA Study Team


Mr. T. Murono	Team Leader / Agro-Economy
Mr. T. Saisho	Farmers' Organisation
Mr. T. Igawa	Irrigation & Drainage / Water Management
Mr. T. Shiraki	Agricultural Support Services
Dr. Abhaya Attanayake	Rural Society
Mr. M. Omura	Co-ordination

MINUTES OF MEETING
ON
INTERIM REPORT
ON
THE STUDY
FOR THE POTENTIAL REALIZATION OF IRRIGATED AGRICULTURE
IN THE DRY AND INTERMEDIATE ZONES OF SRI LANKA

COLOMBO, 8 NOVEMBER, 1999

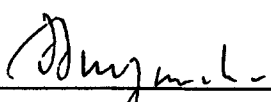


Mr. Jaliya Medagama
Secretary
Ministry of Irrigation and Power



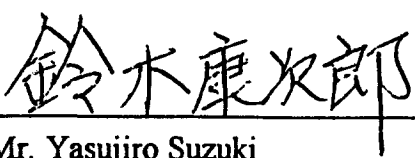
Mr. Tadaharu Muroto
Leader of
JICA Study Team

Witnessed by



Mr. J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

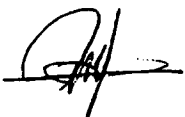
Witnessed by



Mr. Yasujiro Suzuki
Deputy Resident Representative
JICA Sri Lanka Office

The Scope of Work for the Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka agreed upon between the Ministry of Irrigation and Power (hereinafter referred to as MIP) and the Japan International Cooperation Agency (JICA) on 26 October, 1998. In accordance with the Scope of Work for the Study, the Study Team submitted twenty (20) copies of the Interim Report (the Report) to the Irrigation Management Division (IMD), MIP, and explained the contents of the Report on 3 November 1999. Subsequently, the following matters were discussed:

- (1) In principle, the contents of the Report were accepted.
- (2) It was pointed out that the stage-wise development of schemes, as suggested in the Report is not acceptable, and suggested that there should be linkages between the different stages and a continuous flow of activities. It was suggested that there should be an overlap of the activities to be implemented during the three stages. It was agreed that an attempt would be made to accommodate the request, while maintaining the idea of implementing the programme in stages.
- (3) The cost of development of US \$ 2,300 per hectare as presented in the Report is far in excess of what is acceptable to the Ministry, it was mentioned. The normal cost of rehabilitation and improvement projects implemented by the Ministry ranges between US \$ 500 and US\$ 1,250, and this figure was felt to be too high. This would lead to problems getting funds from the Ministry of Finance, as well as, the Project being accepted for implementation. It was pointed out by the Study Team that the high cost was due to the nature of work that is planned, emphasising sustainability and quality of work. It was decided to review this aspect.
- (4) Since unemployment is a major problem in the villages and because there is a clear under utilisation of farm labour, it was suggested that greater emphasis should be given to the development non-farm activities, such as the setting up of agro-based industries and other income generating activities. Such an emphasis was felt to be necessary for the creation of additional employment opportunities and increasing the income levels of the rural community. It was also pointed out that such a focus would help the Ministry of Irrigation and Power to involve other Ministries to share the costs of the Project. It was pointed out by the Team that, although this matter was not dealt with in detail in the presentation, the matter has been given due consideration in the Study.
- (5) In response to the letter (reference number: JP/JICA/IR; 04/B) from the Department of External Resources dated 25th August 1999, the following two points were explained by the JICA advisory team, and discussed.
 - 1) Study of groundwater: The Ministry officials expressed concern about the non-inclusion of groundwater resources in the Study. It was however pointed out by the Team that this was not an area that came within the scope of work of

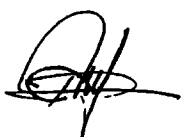


the present team. It was also pointed out that sufficiently detailed data on the subject is also not available. It was noted by MIP that this subject cannot be a part of this study.

- 2) Number of priority irrigation schemes for the feasibility study: Both sides agreed to have 2 major schemes, 2 medium schemes and one cascade system including 5-6 minor schemes. These are: (i) Nachchaduwa major scheme and Periyakulamea medium scheme in the Nachchaduwa cluster, and (ii) Palukadawala major scheme, Mahananneriya medium scheme and 5 to 6 minor schemes selected from the Hydrological Group VII in the Mi Oya cluster.

List of participants at the meeting is given in Annex.

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W 2

LIST OF PARTICIPANTS

Sri Lankan Side

Ministry of Irrigation and Power

Mr. Jaliya Medagama	Secretary
Mr. Ranjith Ratnayake	Director / Planning & Water Resources Division (WRD)
Mr. K.A.U.S. Imbulana	Deputy Director / WRD
Mr. W.M. Bandusena	Addl. Director, Planning
Mrs. A.M.Y. Samarakoon	Director, IMD
Mr. S.A.P. Samarasinghe	Addl. Director, IMD
Mr. A.P.R. Jayasinghe	Addl. Director / Agronomy, IMD
Mr. D.D. Prabath Witharana	Engineer, Department of Agrarian Services

Japanese Side

JICA Advisory Team

Mr. S. Kaiho	Resident Representative, JICA Sri Lanka Office
Mr. Y. Onoe	Asst. Resident Representative, JICA Sri Lanka Office

JICA Study Team

Mr. T. Murono	Team Leader / Agro-Economy
Mr. T. Saisho	Farmers' Organisation
Mr. T. Igawa	Irrigation & Drainage / Water Management
Mr. T. Shiraki	Agricultural Support Services
Mr. T. Nibe	Agriculture
Dr. Abhaya Attanayake	Rural Society
Mr. M. Omura	Co-ordination

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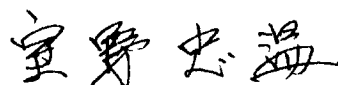


MINUTES OF MEETING
ON
PROGRESS REPORT - II
ON
THE STUDY
FOR THE POTENTIAL REALIZATION OF IRRIGATED AGRICULTURE
IN THE DRY AND INTERMEDIATE ZONES OF SRI LANKA

COLOMBO, 27 JANUARY, 2000

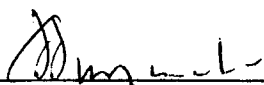


Mr. Jaliya Medagama
Secretary
Ministry of Irrigation and Power



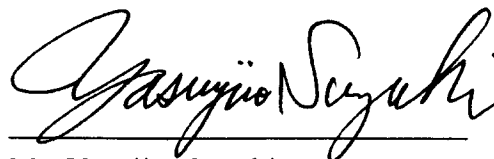
Mr. Tadaharu Murono
Leader of
JICA Study Team

Witnessed by



Mr. J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

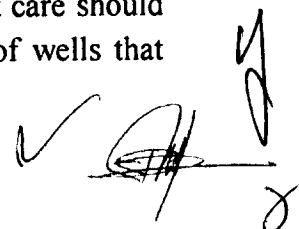
Witnessed by



Mr. Yasujiro Suzuki
Deputy Resident Representative
JICA Sri Lanka Office

The Scope of Work for the Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka agreed upon between the Ministry of Irrigation and Power (hereinafter referred to as MIP) and the Japan International Cooperation Agency (JICA) on 26 October, 1998. In accordance with the Scope of Work for the Study, the Study Team submitted twenty (20) copies of the Progress Report – II (the Report) to the Irrigation Management Division (IMD), MIP, and explained the contents of the Report on 25 January 2000. Subsequently, the following matters were discussed:

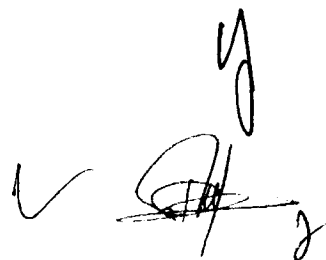
- (1) In principle, the contents of the Report were accepted.
- (2) To question of farmers' organisations, handling a large volume of work under the proposed multi-functional responsibilities was discussed. It was explained that the primary responsibilities of the farmers' organisations will continue to be related to agriculture and irrigation. However, the farmers felt that the FOs, by taking over other activities, would be able to get a larger number of farmers involved in FO's activities and in community affairs. It was also pointed out that a major problem of FOs is the absence of leadership. Therefore, it was suggested that during the period of conducting awareness programmes, leadership training be given special attention.
- (3) The subject of re-establishing unity in the village was discussed. It was noted that this was not a suggestion to create the unity that prevailed in the past, which was maintained only because of the traditional system prevailing at that time. Since the socio-economic conditions in the villagers have changed very much in recent times, divisions have been created based on differences in economic status. Therefore, re-establishing the type of unity that prevailed in the past will be difficult. The study team explained that if the members of the community could be made to involve themselves in village community activities, it will help to achieve project objectives.
- (4) It was pointed out that in the selection of samples for the feasibility study, sufficient representation has not been given to tanks in the intermediate zone. The study team explained that the sample had been selected after consultations with Ministry Officials and any shortcomings could be rectified later, since a sufficient number of tanks in the intermediate zone are included in 100 reservoirs of the Master Plan, and these could be taken up for development at the later date, if necessary.
- (5) The use of agro-wells to supplement the supply of water for agriculture, specially in home gardening, was discussed. It was however noted that sufficient care should be taken in using agro-wells, because there is an optimum number of wells that

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could be constructed in any area without effecting ground water levels. Therefore, special care has to be taken if agro-wells are to be used, both with regard to the number of agro-wells to be constructed and the proper management of such wells.

- (6) In a note of caution, it was suggested that the Study Team should not over emphasise the active participation of farmers in community activities, since past experiences show that such participation tends to diminish with time.

List of participants at the meeting is given in Annex.

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LIST OF PARTICIPANTS

Sri Lankan Side

Ministry of Irrigation and Power

Mr. Jaliya Medagama	Secretary
Mr. L.T. Wijesuriya	Additional Secretary (Irri.)
Mr. W.P. Jinadasa	Director General, DOI
Mr. Ranjith Ratnayake	Director / Planning & Water Resources Division
Mr. W.M. Bandusena	Addl. Director, Planning
Mr. D.D. Amarathunge	Additional Director, MIP
Dr. C.R. Panabokke	Senior Consultant, WRB & Ministry
Mrs. A.M.Y. Samarakoon	Director, IMD
Mr. S.A.P. Samarasinghe	Addl. Director, IMD
Mr. A.P.R. Jayasinghe	Addl. Director / Agronomy, IMD
Mr. L.P. Jayampathy	Deputy Director, IMD
Mr. D.W.R. Weerakoon	Director (Information), DOI
Mr. H.M. Jayatillaka	Deputy Director (Irrigation Management), DOI
Mr. H.P.S. Somasiri	Deputy Director (Construction), DOI

Ministry of Agriculture and Land / Department of Agriculture

Dr. N.K. Atapattu	Director (Projects), MAL
Mr. P.B. Dharmasena	Research Officer, DOA

Department of Agrarian Services

Mr. D.D. Waniganayake	Deputy Commissioner, DAS
Mr. D.D. Prabath Witharana	Engineer, DAS

External Resources Division

Ms. S.O. Ranasingha	Assistant Director, ERD
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National Aquaculture Development Authority

Mr. A.M. Jayasekara	Director General, NAQDA
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National Youth Service Council

Mr. D.J. Senaratha	YSO, NYSC
Mr. Deepthila Paranahe	Assist. Director, NYSC

National Apprentice & Industrial Training Authority

Mr. R.H. Hewavithane	Assist. Director, NAITA
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Kobhekadiwa Agrarian Research and Training Institute

Mr. R.De S. Ariyabandu	Head Irrigation / HKARTI
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North Western Province

Mr. D.A.P.S. Daranagama	Director, Provincial Engineering Department, NWP
Mr. R.M. Karunaratna	Deputy Provincial Director (Agri.), DOA, NWP
Mr. A. Kuruppuarachchi	Assistant Director (Planning), NWP

Japanese Side

JICA Advisory Team

Mr. Y. Onoe	Asst. Resident Representative, JICA Sri Lanka Office
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JICA Study Team

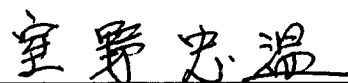
Mr. T. Murono	Team Leader / Agro-Economy
Mr. T. Saisho	Farmers' Organisation
Mr. T. Igawa	Irrigation & Drainage / Water Management
Dr. Abhaya Attanayake	Rural Society
Dr. Guy Motha	Marketing / Project Evaluation
Mr. M. Nishi	Structure Design / Cost Estimate
Mr. M. Omura	Co-ordination

MINUTES OF MEETING
ON
DRAFT FINAL REPORT
ON
THE STUDY
FOR THE POTENTIAL REALIZATION OF IRRIGATED AGRICULTURE
IN THE DRY AND INTERMEDIATE ZONES OF SRI LANKA

COLOMBO, 28 JULY, 2000



Mr. Jaliya Medagama
Secretary
Ministry of Irrigation and Power



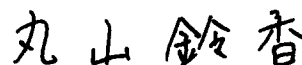
Mr. Tadaharu Murono
Leader of
JICA Study Team

Witnessed by



Mr. J.H.J. Jayamaha
Director (Japan Division)
Department of External Resources
Ministry of Finance and Planning

Witnessed by



Ms. S. Maruyama
JICA Advisory Team

The Scope of Work for the Study for the Potential Realization of Irrigated Agriculture in the Dry and Intermediate Zones of Sri Lanka was agreed upon between the Ministry of Irrigation and Power (hereinafter referred to as MIP) and the Japan International Cooperation Agency (JICA) on 26 October, 1998. In accordance with the Scope of Work for the Study, the Study Team submitted twenty eight (28) copies of the Draft Final Report to the Irrigation Management Division (IMD), MIP, and explained the contents of the Report on 26 July, 2000. Subsequently, the following matters were discussed:

- (1) In principle, the contents of the Report were accepted.
- (2) The project costs estimated in the Report were discussed.
 - 1) The amount of price contingency occupies a large portion of total costs of the priority schemes. It was explained that the base year of cost estimate is 1999, and annual price escalation from its base year is estimated at 10%. Assuming that the Project (priority irrigation schemes) will be commenced at 2002 and implemented during 7 years, the total amount of price contingency is estimated at its figure.
 - 2) In order to reduce total investment cost, aspects such as provision of vehicles and investment in seedling production farm will be re-examined.
- (3) The staff required for project management were discussed. Both sides confirmed that the officers required for project management will come from the existing officers of the implementing agencies, the same as existing projects.
- (4) In the Report, the participatory approach was proposed for the project implementation in order to achieve sustainable development. The Sri Lankan side pointed out that it is however the same with method adopted into the rehabilitation project in the Nachchduwa Major Scheme implemented before, therefore it may be unable to achieve project sustainability. The Study Team explained that the key point of participatory approach is its implementing officers especially the front line staff like farmer animators who come from the same community as farmers and can think matters with them. NGOs and volunteers, who are members of implementing team of the awareness programme proposed in the Report, will train them on grass root activities. Such front line staff will play an important role in the implementation of real participatory approach in order to achieve sustainable development.
- (5) The agricultural extension system was discussed. The Study Team explained that, in order to achieve sustainable agriculture, the agricultural extension system by bottom-up method was recommended for the Project. The farmers will organise a sub-committee on agriculture under FO, and this committee will collect necessary

technical guidance from the individual farmers and arrange a meeting on required technical assistance for improving agricultural activities. The government agencies concerned will provide technical guidance in accordance with the request from the sub-committee.

- (6) Sri Lankan side questioned the Study Team on an effective method or system to keep quality of rehabilitation work. The Study Team explained that the training programme to keep quality of rehabilitation works was planned to both farmers and officers concerned.
- (7) The Study Team pointed out the importance of following two points: (i) implementation of awareness programme at the initial stage of the Project, and (ii) establishment of project co-ordination committees at central and provincial level prior to commencement of the Project. The Sri Lankan side confirmed the importance of these two matters, and agreed to implement and establish them.
- (8) The Sri Lankan side agreed that further comments are submitted to the JICA headquarters by 29 August, 2000. The final report will be prepared after review of these comments. The Sri Lankan side also agreed that the final report would be open to the public.

List of participants at the meeting is given in Annex.

LIST OF PARTICIPANTS

Sri Lankan SideMinistry of Irrigation and Power

Mr. L.T. Wijesuriya	Additional Secretary (Irri.)
Mrs. A.M.Y. Samarakoon	Director, IMD
Mr. W.M. Bandusena	Director, E/P
Mr. S.A.P. Samarasinghe	Addl. Director, IMD
Mr. K.A.U.S. Imbulana	Deputy Director, WRD

Ministry of Agriculture and Land

Mr. Geetha Mayadunne	Deputy Director
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Ministry of Finance and Planning

Mr. J.H.J. Jayamaha	Director (Japan Division), Department of External Resources
Mr. Upali Dahanayaka	Director (Japan Division), Department of National Planning

Kobbekaduwa Agrarian Research and Training Institute

Mr. R. de S. Ariyabandu	Head, Irrigation Water Management and Agrarian Relation Division
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National Apprentice & Industrial Training Authority

Mr. R.H. Hewavithane	Assist. Director
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National Aquaculture Development Authority

Mr. A.M. Jayasekara	Director General
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North Western Province

Mr. D.A.P.S. Daranagama	Director, Provincial Engineering Department, NWP
Mr. R.M. Karunaratna	Deputy Provincial Director (Agri.), DOA, NWP

Japanese SideJICA Advisory Team

Ms. S. Maruyama	Agricultural Development Study Division, Agriculture, Forestry and Fisheries Development Study Department, JICA
Dr. Punchi Banda	Officer in Charge of Research

JICA Study Team

Mr. T. Murono	Team Leader / Agro-economy
Mr. T. Saisho	Farmers' Organisation
Mr. T. Igawa	Irrigation & Drainage / Water Management

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