

図3.8.8 土壤分類図 (トゥルウィラ中規模灌漑地区)

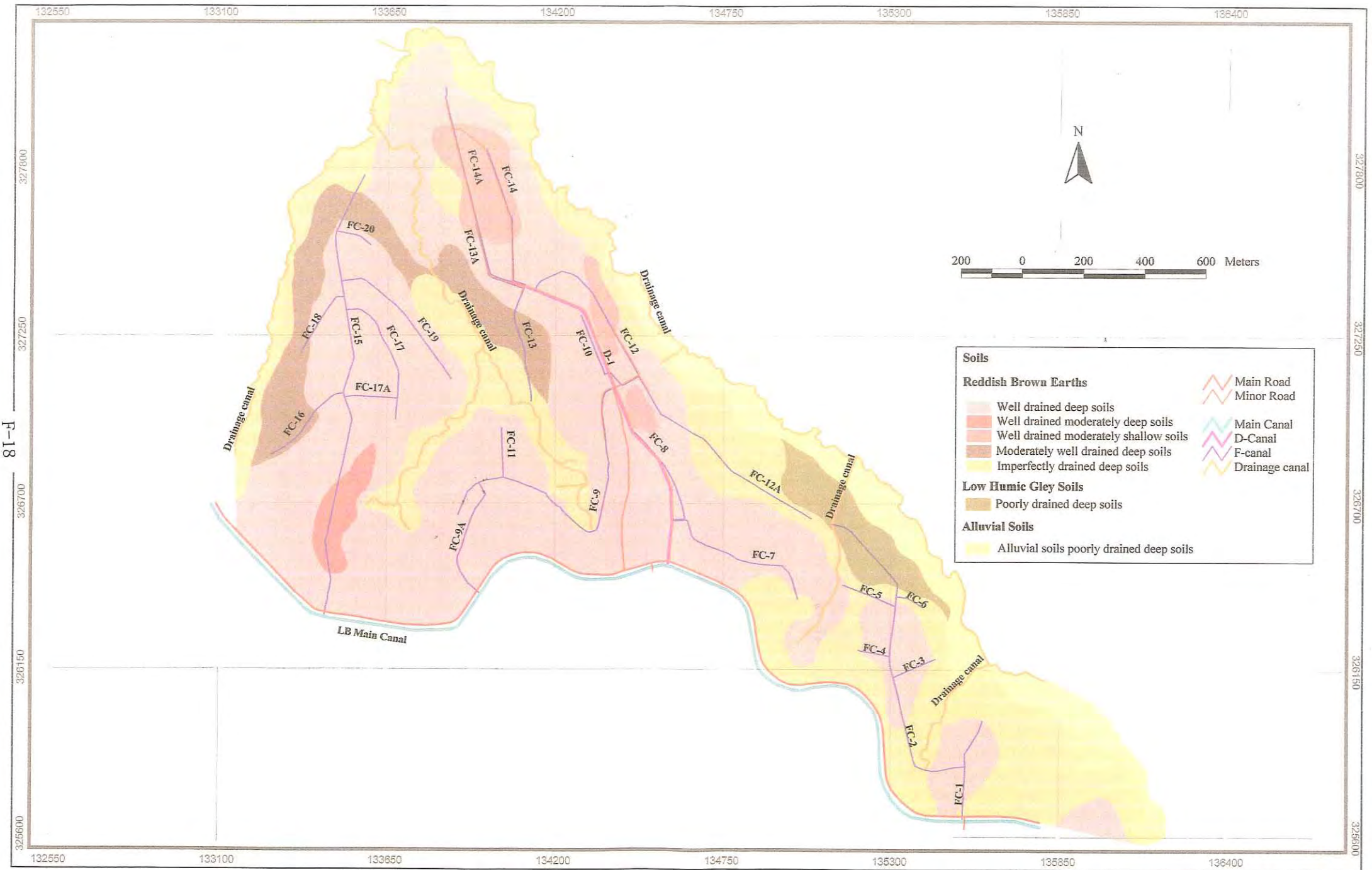


図3.8.9 土壤分類図 (ラジャンガナ大規模灌漑地区、LBトラクト2)

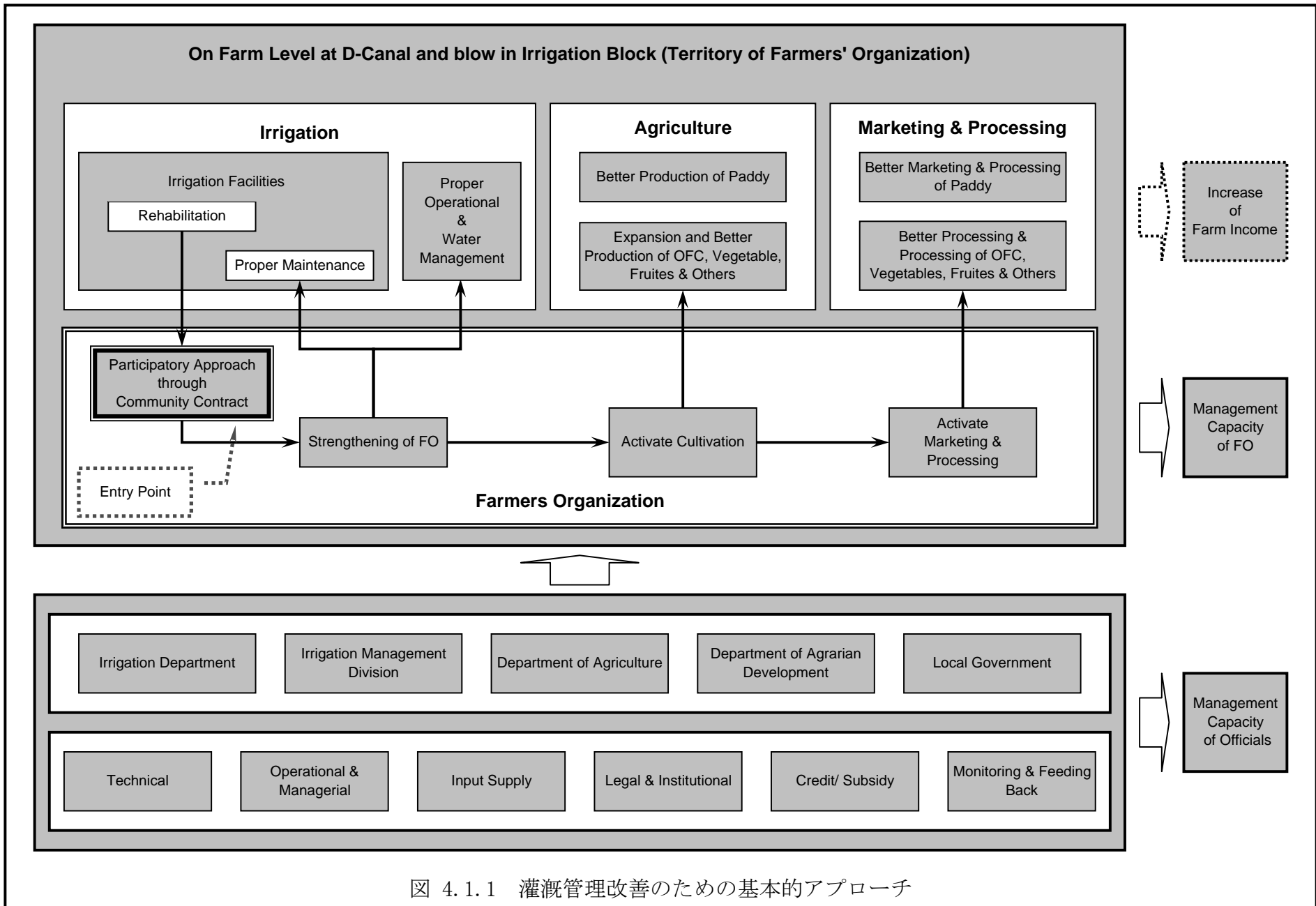


図 4.1.1 灌漑管理改善のための基本的アプローチ

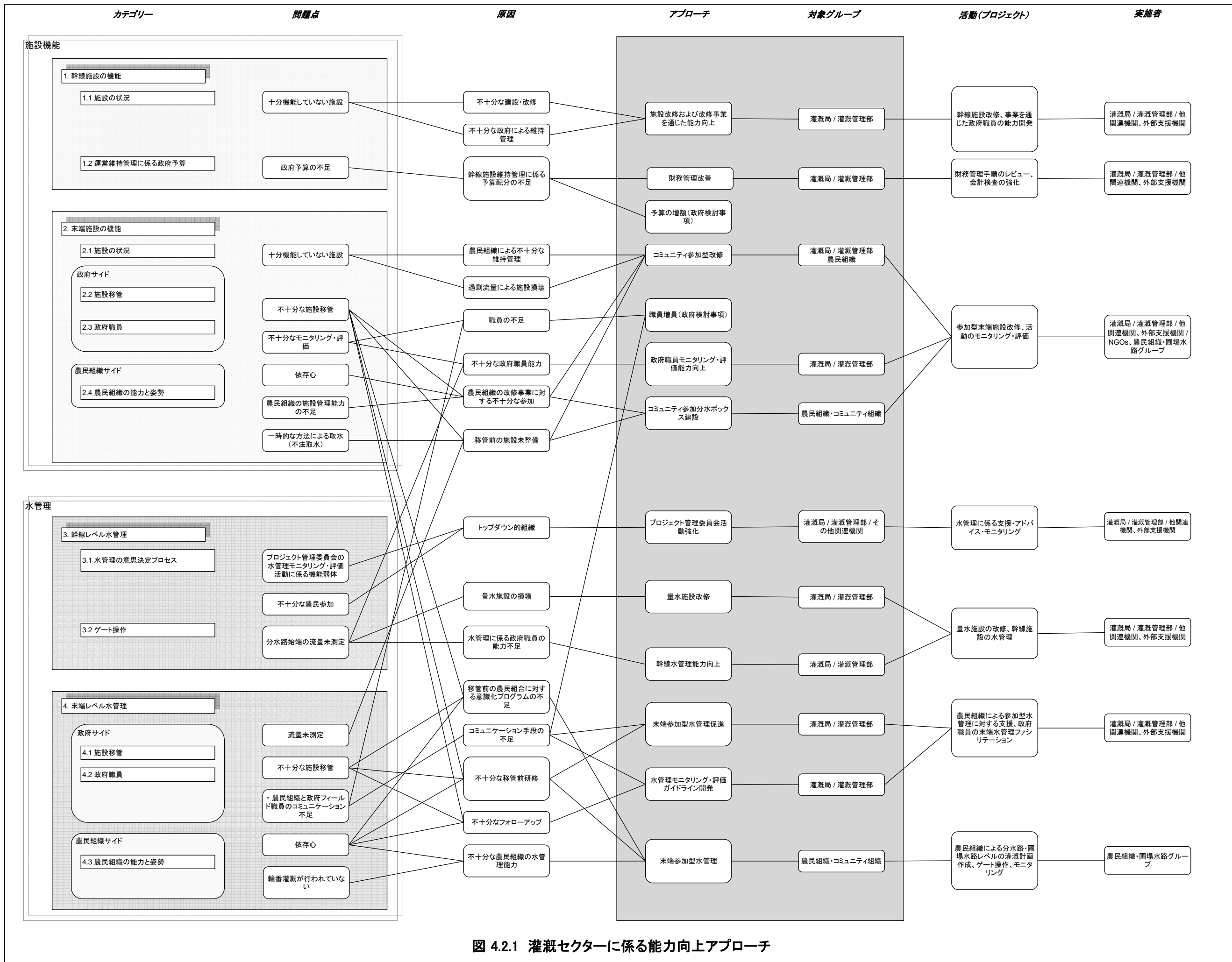


図 4.2.1 灌漑セクターに係る能力向上アプローチ



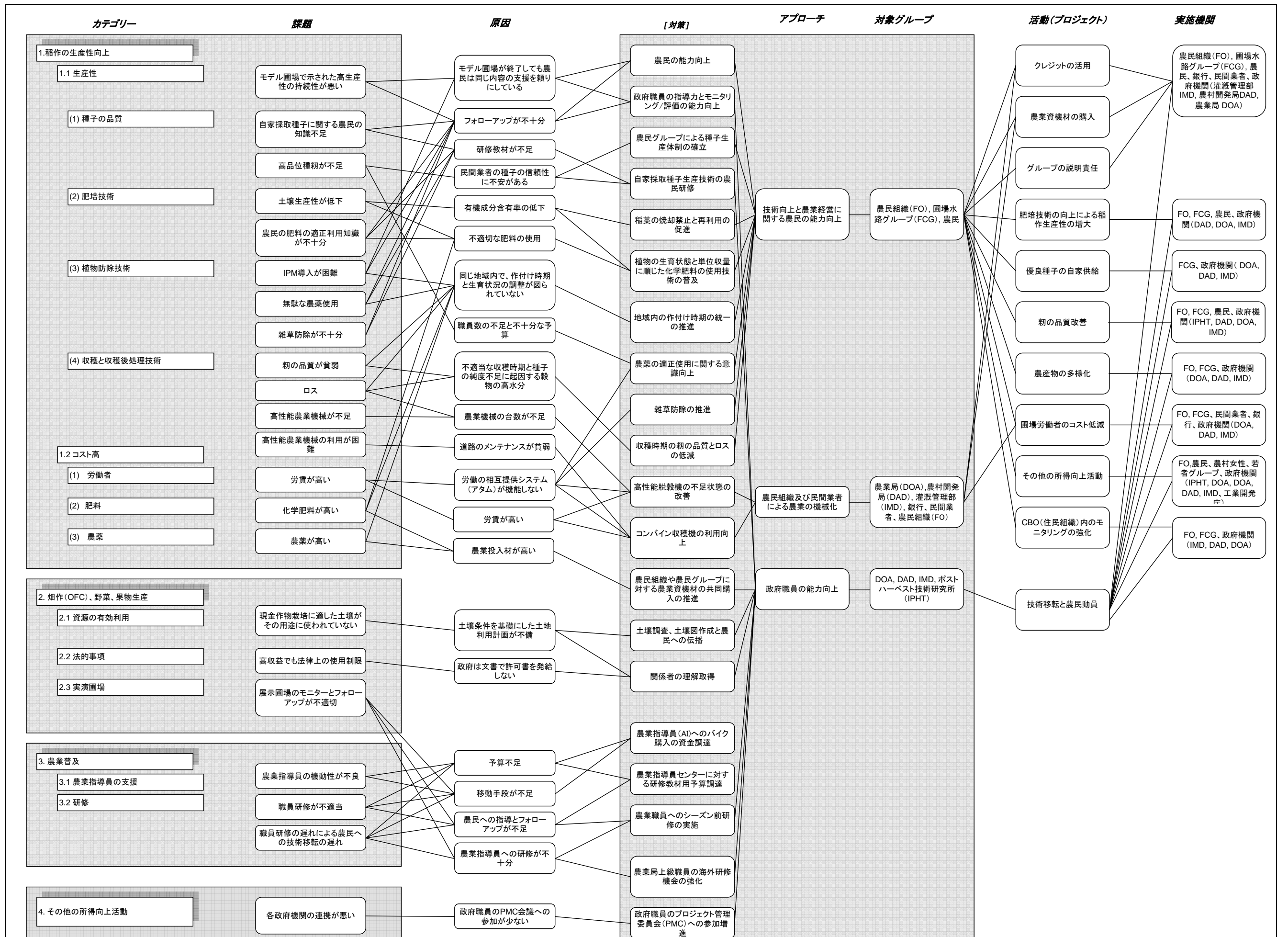


図 4.2.2 農業セクターに係る能力向上アプローチ

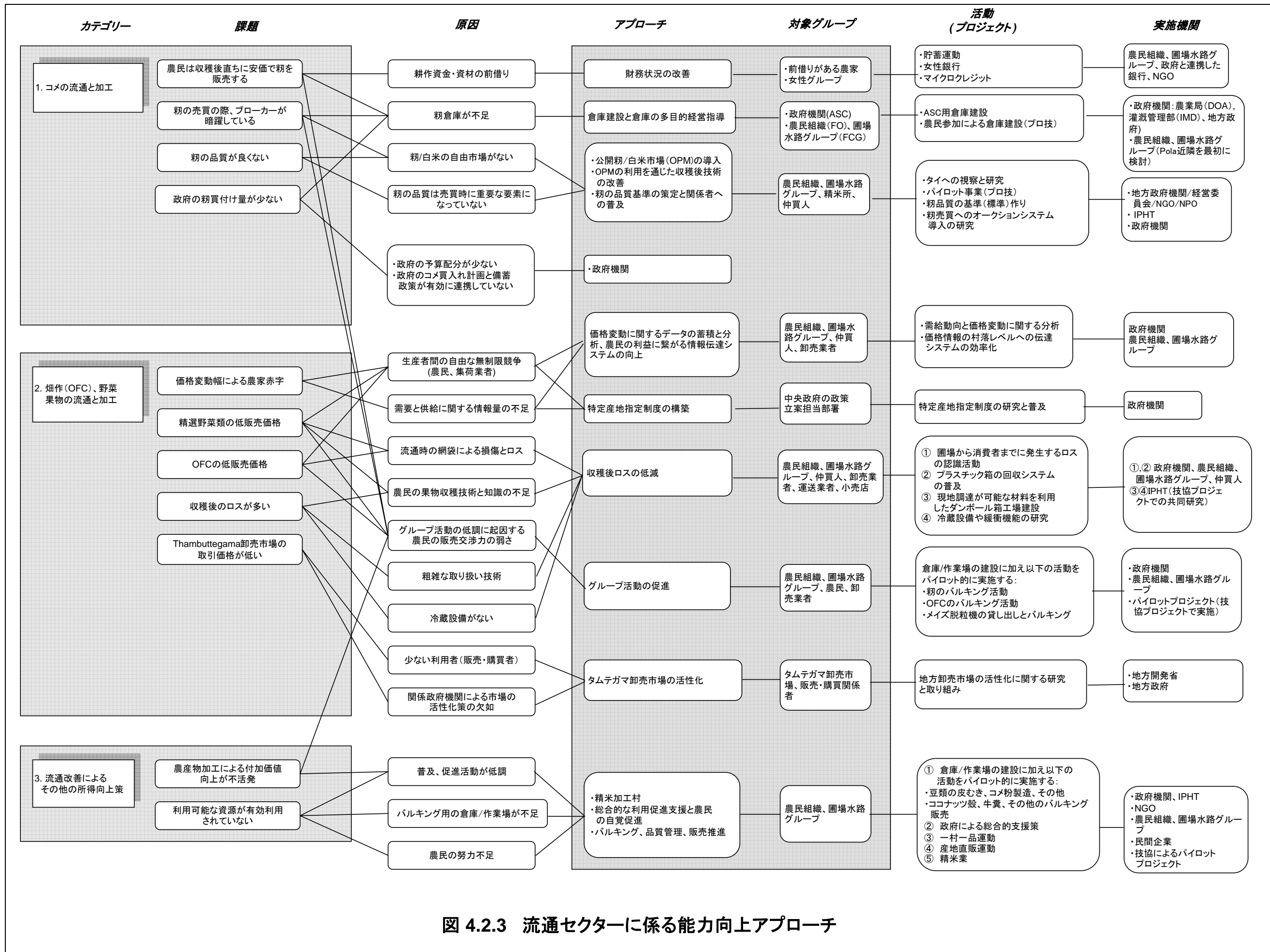


図 4.2.3 流通セクターに係る能力向上アプローチ

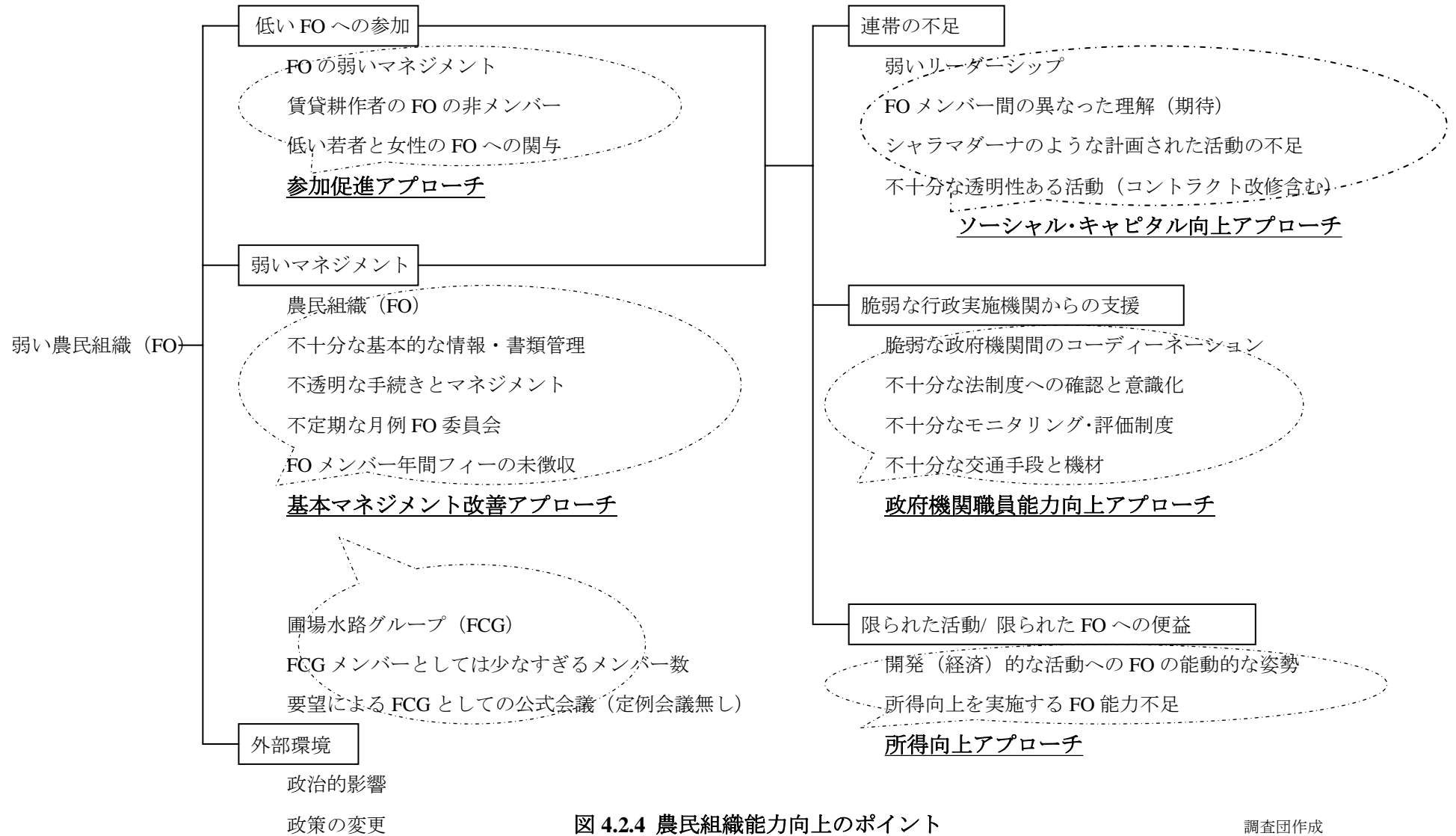


図 4.2.4 農民組織能力向上のポイント

調査団作成

## 添付資料




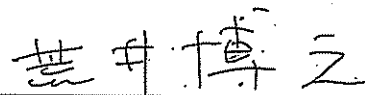
## 添付資料-1

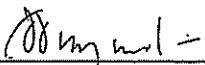
実施細則（S/W）案に係る協議議事録（M/M）  
2005年3月10日

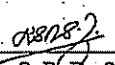
MINUTES OF MEETING  
ON  
DRAFT  
ON  
SCOPE OF WORK  
FOR  
THE STUDY ON INCREASING INTEGRATED MANAGEMENT CAPACITY  
ON IRRIGATION SECTOR  
IN SRI LANKA  
AGREED UPON BETWEEN  
MINISTRY OF AGRICULTURE, LIVESTOCK, LANDS AND IRRIGATION  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Colombo, March 10, 2005

  
Mr. Tissa Warnasuriya  
Secretary,  
Ministry of Agriculture, Livestock, Lands and  
Irrigation

  
Mr. Hiroyuki ARAI  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

  
Mr. J. H. J. Jayamaha  
Additional Director General,  
Department of External Resources,  
Ministry of Finance and Planning

  
Mr. K. S. R. De Silva  
Director General of Irrigation,  
Department of Irrigation,  
Ministry of Agriculture, Livestock, Lands and  
Irrigation

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 Preparatory Study Team headed by Mr. Hiroyuki ARAI (hereinafter referred to as "the Japanese side"), was sent to the Sri Lanka by Japan International Cooperation Agency (hereinafter referred to as "JICA"), from 1st March to 19th March, 2005 for the purpose of discussing and confirming the Scope of Work for Baseline survey on Increasing Capacity of Irrigation Management in Sri Lanka (hereinafter referred to as "the Study").

The Japanese side held a series of discussions with the relevant authorities of Sri Lanka represented by Mr. B. M. S. Samarasekera, Additional Secretary, (Irrigation Development), Ministry of Agriculture, Livestock, Lands and Irrigation (hereinafter referred to as "the Sri Lankan side"). As a result of the discussions, the Sri Lankan side and the Japanese side agreed on the Draft on Scope of Work for the Study as shown in ANNEX 1.

Followings are the main issues discussed and agreed on by both sides in relation to the Draft on Scope of Work for the Study. The list of participants in the series of meetings is attached as ANNEX 2.

II. RESULTS OF DISCUSSION

Both sides agreed on following items from one (1) to eleven (11):

1. Title of the Study

The title of the Study is "The Study on Increasing Integrated Management Capacity on Irrigation Sector in Sri Lanka".

2. Consistency of Policy

The Study will be implemented based on the relevant policy components of the irrigation sector of the Government of Sri Lanka.

The relevant policy components of the irrigation sector are as follows:

- To aim at self-sufficiency in food related agricultural production as far as possible.
- To aim 100% self sufficiency in the case of the rice.
- To ensure the economic and livelihood security of the people engaged in agriculture.
- To increase the agricultural production while ensuring the sustainability.

3. Basic Approach for the Study

(1) Target group of the Study should be not only government officials at the field level but also farmers' organizations.

(2) The Study should adopt the participatory approach<sup>1</sup> and the multi-sector approach<sup>2</sup>.

Note1 Participation of government officials, farmers' organizations, and the Japanese study team

Note2 Scope of Operation and Maintenance of Irrigation Facilities, Water Management, Farming (Short-term varieties effect, Crop diversification, etc), Input supply (Fertilizer, Pesticide, etc), Agricultural Machinery, Value addition (Processing of Product, Storage, etc), Credit to Farmers and Marketing

(3) The Study will cooperate with other on-going projects implemented in the irrigation sector funded by the Government of Japan.

#### 4. Steering Committee

For the smooth and effective implementation of the Study, it is essential to establish the Steering Committee chaired by the Secretary, Ministry of Agriculture, Livestock, Lands and Irrigation (M/ALLI). The Steering Committee meetings will be held to examine the results and activities of the Study three times and more if necessary during the Study period.

Expected members of the Steering Committee are as follows:

##### (a) Sri Lankan members:

- Addl. Secretary (Irrigation Development)
- Director (Planning), M/ALLI
- Director (Water Resources), M/ALLI
- Irrigation, Management Division (IMD), M/ALLI
- Department of Irrigation (ID), M/ALLI
- Department of Agriculture, M/ALLI
- Department of Agrarian Development, M/ALLI
- Department of External Resources, Ministry of Finance and Planning
- Department of National Planning, Ministry of Finance and Planning

##### (b) Japan members:

- The Japanese study team
- JICA Sri Lanka Office
- Embassy of Japan

(c) JBIC Sri Lanka Office also will be invited to exchange lessons and experience of other projects implemented in the Irrigation sector.

#### 5. Counterpart Personnel

M/ALLI should take responsibility for assigning qualified counterpart personnel for the Japanese study team prior to the beginning of the Study.

#### 6. Selection of the Study Areas

(1) Two Study areas will be chosen from following five (5) candidates' areas at the signing of the Scope of Work.

- Nachchaduwa
- Rajangana
- Nuwarawewa
- Usgala Siyambalangaswewa
- Huruluwewa

Note: Conditions of candidate

1) Candidate area has one major irrigation scheme, as a core scheme with neighboring several medium and small irrigation schemes.

2) Small irrigation schemes will also be studied under the phase I, to learn best practices available in irrigation management.

(2) Study areas include irrigation schemes managed under Integrated Management of Irrigated agricultural Settlements (INMAS) programme and "WAPHULA" programme respectively and have total area of about 6,000 ha of beneficiary area.

#### 7. Study method of Phase II

The Study will put more weight on the schemes and some activities which are considered priority by the Sri Lankan side and the Japanese study team at the beginning of the phase II study.

#### 8. Seminar

The seminars should be held in the course of and at the end of the Study. The contents of the seminars are as follows:

- Japanese experience such as land improvement districts, farmers cooperatives, government policy on paddy farming and sale of paddy rice.
- Activities of water user's groups and farmers' organizations such as agriculture and marketing in other countries
- Presentation of the progress of the Study

#### 9. Inception Report

The study will be commenced after the endorsement of the Inception Report by the Steering Committee.

#### 10. Requests to Japan

(1) The Sri Lankan side requested counterpart training in Japan for effective technology transfer. The Japanese side promised to convey the request to the JICA headquarters.

(2) The Sri Lankan side requested modern technology on water resource management, cropping etc using Geographic Information System (GIS).

The Japanese side promised to convey the request to the JICA headquarters.

(3) The Sri Lankan side requested to make recommendations arising out of the Study and also to consider such recommendation for further assistance.

The Japanese side promised to convey the request to the Government of Japan.

#### 11. Others

(1) The Scope of Work will be signed by the JICA Resident Representative, Secretary, of M/ALLI and Additional Director General of the Department of External Resources.

(2) The Study is expected to commence at the beginning of August 2005.

DRAFT  
ON  
SCOPE OF WORK  
FOR  
THE STUDY ON INCREASING INTEGRATED MANAGEMENT CAPACITY  
ON IRRIGATION SECTOR  
IN SRI LANKA  
AGREED UPON BETWEEN  
MINISTRY OF AGRICULTURE, LIVESTOCK, LANDS AND IRRIGATION  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY  
Colombo, , 2005

Mr. Tissa Wamasuriya  
Secretary  
Ministry of Agriculture, Livestock, Lands  
and Irrigation

Mr. Takumi UESHIMA  
Resident Representative,  
JICA Sri Lanka Office

Mr. J. H. J. Jayamaha  
Additional Director General,  
Department of External Resources,  
Ministry of Finance and Planning

I. INTRODUCTION

In response to the request 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 The Study on Increasing Integrated Management Capacity on Irrigation Sector in 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 program 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 Work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To increase integrated management capacity of officials of Irrigation Management Division (hereinafter referred to as "IMD"); Department of Irrigation (hereinafter referred to as "ID") and related government organizations focusing on irrigation sector.
2. To increase management capacity of farmers' organizations.
3. To transfer technologies to counterpart personnel through the implementation of the Study.

III. STUDY AREA

The Study areas are ○○○ and ○○○ irrigation schemes, as a core scheme with neighboring several medium and small irrigation schemes. Small irrigation scheme will be studied under the phase I, to learn best practices available in irrigation management.

Refer to the location map attached as Annex 1

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Scope of Work for the Study shall cover the following activities:

[Phase I]

- (1) Basic survey on the present activities of officials and farmers' organizations.
- (2) To collect basic data and analyze followings items:
  - Operation and Maintenance of Irrigation Facilities
  - Water Management
  - Farming (Short-term varieties effect, cultivation practices, Crop diversification, etc.)
  - Input supply (Fertilizer, Pesticide, etc.)
  - Agricultural Machinery
  - Value addition (Processing of Product, Storage, etc.)
  - Credit to Farmers
  - Marketing (sale of paddy rice)
  - And so on

- (3) To identify constraints

[Phase II]

- (1) To implement activities regarding the participatory approach
- (2) To prepare an appropriate plan to increase management capacity of officials and farmers' organizations on major/medium irrigation schemes.

#### V. WORK SCHEDULE

The Study will be carried out in accordance with the tentative schedule as attached in Annex 2.

#### VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Sri Lanka.

1. Inception Report:  
Thirty (30) copies at the commencement of Phase I work in Sri Lanka.
2. Progress Report1:  
Thirty (30) copies at the end of Phase I work in Sri Lanka.
3. Progress Report2:  
Thirty (30) copies at the end of Phase II work in Sri Lanka.
4. Draft Final Report:  
Thirty (30) copies at the end of Phase II.  
The Government of Sri Lanka shall submit comments to JICA Sri Lanka Office within one (1) month after the receipt of the Draft Final Report.
5. Final Report:  
Fifty (50) copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

#### VII. UNDERTAKINGS OF THE GOVERNMENT OF SRI LANKA

1. To facilitate the smooth conduct of the Study; the Government of Sri Lanka shall take necessary measures:
  - (1) To permit the members of the Japanese study team to enter, leave and sojourn in Sri Lanka for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees:
  - (2) To exempt the members of the Japanese study team from taxes, duties and any other charges on equipment, machinery and other material brought into Sri Lanka for the implementation of the Study:
  - (3) To exempt the members of the Japanese study team 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:
  - (4) To provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds transmitted into Sri Lanka from Japan in connection with the implementation of the Study:

2. The Government of Sri Lanka shall bear claims, if any arises, against the members of the Japanese study team 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 Japanese study team.

3. Ministry of Agriculture, Livestock, Lands and Irrigation shall, at its own expense, provide the Japanese study team with the following in cooperation with other organizations concerned:

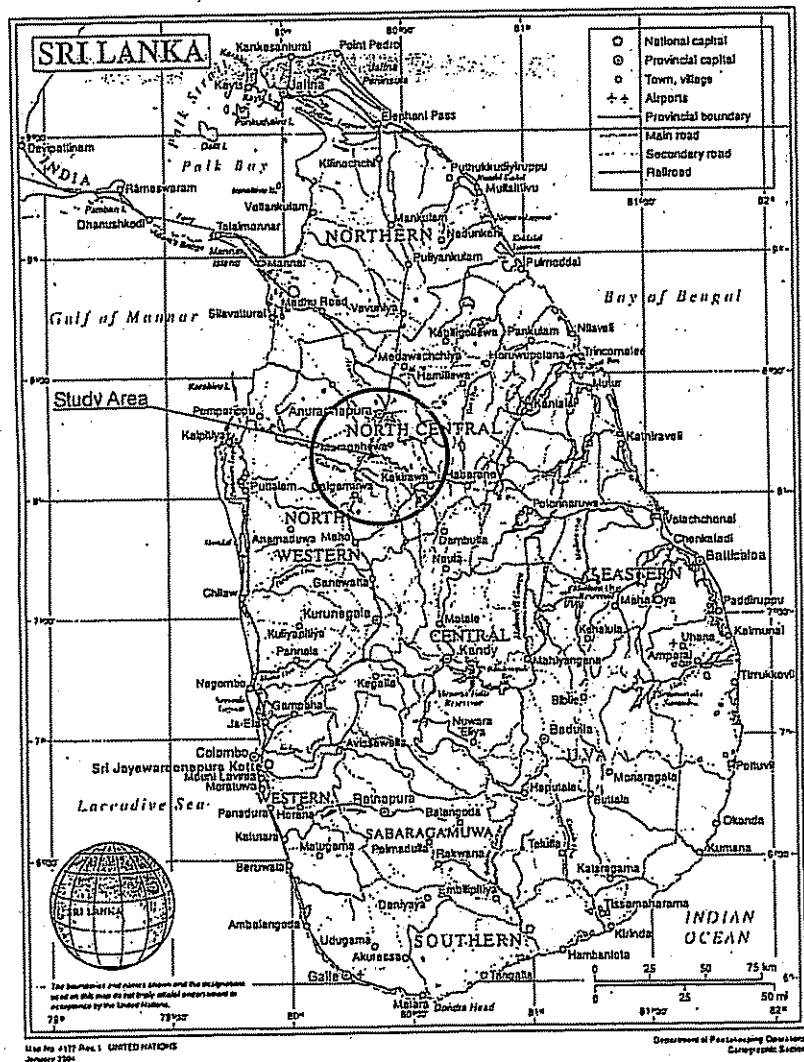
- (1) Security-related information on as well as measures to ensure the safety of the Japanese study team:
- (2) Information on as well as support in obtaining medical services:
- (3) Available data (including maps and photographs) and information related to the Study:
- (4) Counterpart personnel:
- (5) Suitable office space with necessary utilities: and
- (6) Credentials or identification cards.

#### VIII. CONSULTATION

JICA and Ministry of Agriculture, Livestock, Lands and Irrigation shall consult with each other in respect of any matter that may arise from or in connection with the Study.

(Annex1 of Draft S/W)

Location Map



Tentative Work Schedule

Month	1	2	3	4	5	6	7	8	9	10
Phase	Phase I				Phase II					
Work Schedule										
Work in Sri Lanka	[Solid black bar]									
Work in Japan	[Box]			[Box]					[Box]	
Report *		Ic/R		P/R(1)				P/R(2)	DF/R	F/R

\* Report  
Ic/R : Inception Report, P/R(1) : Progress Report, DF/R : Draft Final Report, F/R : Final Report

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ANNEX2

List of Participants

Ministry of Agriculture, Livestock, Lands & Irrigation

- Eng. B. M. S. Samarasekera (Additional Secretary (Irrigation Development))
- Eng. K. A. U. S. Imbulana (Director (Water Resource Division))
- Eng. J. W. M. R. T. Seimon (Director (Engineering))
- Eng. D. S. Pattiarachchi (Director (Planning))
- Eng. S. Selvarajah (Consultant)
- Eng. A. D. S. Gunawardana (Director (Special Projects))
- Eng. Mrs. P. A. S. M. Samarasekera (Director (AM & IM), Irrigation Department)
- Eng. S. A. P. Samarasinghe (Director, Irrigation Management Division)
- Eng. H. M. Jayathilaka (Senior Deputy Director (IM), Irrigation Department)
- Eng. K. R. P. M. Mulegampoda (Additional Director (Engineering), Irrigation Management Division)
- Mr. A. P. R. Jayasinghe (Additional Director (Agronomy), Irrigation Management Division)
- Eng. Ranjan Jayawardena (Chief Irrigation Engineer, Irrigation Department)
- Eng. Mrs. B. A. Kanthi Chandralatha (Irrigation Engineer (Water Management), Irrigation Department)
- Mr. R. P. M. Dissanayeka (Monitoring Officer, Irrigation Management Division)

JICA Preparatory Study Team

- Mr. Hiroyuki Arai (Leader)
- Mr. Shigeru Maeda (Water Management)
- Mr. Seiji Nagano (Administration/Institution)
- Mr. Hideo Osawa (Water User Association)
- Mr. Mamoru Watanabe (Project Planning)

JICA Expert

- Mr. Masahiko Hiraiwa (JICA Advisor, Irrigation Management Division)

JICA Sri Lanka Office

- Mr. Ko Goto (Assistant resident Representative)
- Dr. S. M. Punchibanda (Senior Advisor)

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## 添付資料-2

協議議事録 (M/M)  
2005年7月6日

MINUTES OF MEETING  
FOR  
THE STUDY ON  
INCREASING THE CAPACITY OF INTEGRATED MANAGEMENT  
IN IRRIGATION SECTOR  
IN SRI LANKA

AGREED UPON BETWEEN  
MINISTRY OF AGRICULTURE, LIVESTOCK, LANDS AND IRRIGATION  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Colombo, July 6, 2005

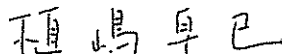
After conducting preparatory study in March, 2005, JICA had executed ex-ante evaluation of "The Study on Increasing the Capacity of Integrated Management in Irrigation Sector in Sri Lanka" (hereinafter referred to as "the Study") to achieve accountability.

The result of ex-ante evaluation is as shown in Annex I. Sri Lankan side and Japanese side agreed that the ex-ante evaluation is useful for mutual understanding and smooth implementation of the Study.

This Minutes of Meeting shall be read in conjunction with the Scope of Work dated July 6, 2005 for the Study on Increasing the Capacity of Integrated Management in Irrigation Sector in Sri Lanka.

Annex I Ex-ante evaluation of the Study

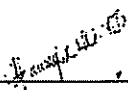
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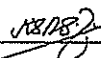
Mr. Takumi Ueshima  
Resident Representative,  
JICA Sri Lanka Office



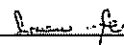
Mr. Tissa Warnasuriya  
Secretary  
Ministry of Agriculture, Livestock,  
Lands and Irrigation (MoALLI)




Mr. M.P.D. U.K. Mapa Pathirana  
Director  
Department of External Resources,  
Ministry of Finance and Planning



Mr. K.S.R. De Silva  
Director General of Irrigation  
Department of Irrigation,  
MoALLI



Mr. S.A.P. Samarasinghe  
Director  
Irrigation Management Division,  
MoALLI



Ex-ante evaluation (Development Study)

JICA Sri Lanka Office

<b>1. Name of the Study</b>	
Study on Increasing the Capacity of Integrated Management in Irrigation Sector in Sri Lanka	
<b>2. Outline of the Co-operation</b>	
<b>(1) Objectives of the Study</b>	
1)	To formulate a plan to increase the capacity of integrated management of the officials belong to the Irrigation Management Division, the Department of Irrigation and other related government officials focusing on the irrigation sector.
2)	To formulate a plan to increase the capacity of integrated management of farmers organizations focusing on the irrigation sector.
3)	To strengthen planning capability of the counterpart personnel on management of the irrigation sector through the implementation of the Study.
<b>(2) Period of the Study</b>	
From August 2005 to March 2006 (8 months)	
<b>(3) Total cost of the Study</b>	
Approximately 85 million Japanese Yen (JICA will bear this cost as a grant)	
<b>(4) Counterpart organizations</b>	
Irrigation Management Division(IMD) and Department of Irrigation (ID) of the Ministry of Agriculture, Livestock, Lands and Irrigation	
<b>(5) Study area (target sector, area, etc.)</b>	
• Target sector :	Operation and maintenance of irrigation facilities, water management, farming, processing/ storage/ marketing of agriculture products
• Target area:	Two irrigation schemes, namely Nachchaduwa and Rajangana the Anuradhapura District in the North Central Province, which belongs to the Dry Zone
• Target farm families:	Middle and small scale farm families, including those who were impoverished due to the segmentation of the ownership and the fragmentation of land use of the agriculture lands and increasing cost of production of agricultural products.
<b>3. Rationale and Justification to JICA Technical Cooperation</b>	
<b>(1) Current issues and problems</b>	
<b>1) Current issues and problems of the rural area</b>	
Sri Lanka has total population of 19 million, and land extent of 66,000 km <sup>2</sup> . 80% of the total population lives in the rural area, agriculture sector contributes 20% of the GDP, and 30% of the employees are engaged in agriculture. Around 20% of the total population belongs to the poor households (monthly income per person is less than Rs. 1,423 in 2002), and around 50% of the total population belongs to the lowest level of the income group (poor households and those who have risks to fallen into poor households due to external factors, whose monthly income is less than Rs. 3,300), among the 10 groups divided according to the monthly income. 90% of the lowest income group lives in the rural area. The major reasons for the rural area to have more numbers of poor households are that: i) unstable income due to poor performance of the agriculture, fisheries and forestry sectors; and ii) undeveloped regional and local industries.	
Among the agriculture, fishery and forestry sectors, paddy cultivation is the largest	

sector, which alone consists of 30% of the total agriculture production, and lowland paddy is the main product of the small scale agriculture sector, and most of the farm families are engaged in paddy cultivation. However, most of the small and medium scale farm families, who mainly engage in paddy cultivation, are not able to obtain sufficient income due to the deterioration of the real income amount, caused by the fragmentation of the ownership of agriculture lands due to the population growth and increase of the production cost. Especially, many small and middle scale farm families remain low in their income level, in the rural areas of the dry zone, including the North Central Province, which is the target area of the Study, as in the area, they have very limited employment and income opportunities except for those from agriculture sector.

**2) Current issues and problems of the irrigation agriculture in the Dry Zone**  
Sri Lanka is roughly divided into two climatic areas, the Wet Zone and the Dry Zone. The Wet Zone has more than 2,000 mm of annual rainfall, while the Dry Zone does not. In the Dry Zone, including the North Central Province, which is the target area of the Study, agriculture activities had been traditionally depend on irrigation systems, such as tanks, as rainfall had been unstable and varied by areas and seasons. In this area, irrigation water had been used not only for agriculture purpose, but also for domestic use. The water management, such as maintenance of the irrigation facilities which distributes water for agriculture and domestic use were carried out by farmers organizations traditionally, formed for each tank.

However, in the process of development of the major and medium scale irrigation scheme implemented after the independence in 1948, dependency of the farmers on the government and donor agencies on maintenance of irrigation facilities and water management had promoted, because: i) the government did not encourage farmers to actively participate in the development of the schemes; and ii) traditional farmers organizations became out of function in the process of colonization. This dependency had contributed to poor maintenance of the irrigation facility and water management, which had created a serious water shortage. To solve this problem, the government tried to improve efficiency of the agriculture water usage and to reduce of the financial burden of the government, by transferring the responsibility of the maintenance of the irrigation facility and water management to the farmers organization. However, the attempt has not successfully achieved, due to lack of experience of the government officials on strengthening farmers organizations.

Inadequate maintenance of irrigation facilities and inefficient water management make the agriculture production highly unstable, and hamper the improvement of the income of the families in the rural areas.

**3) Necessity of a comprehensive solution**  
As explained above, middle and small scale farm families in the rural areas of the Dry Zone, who are living only on paddy cultivation, are not able to obtain sufficient income by paddy cultivation, and have limited access for non-agriculture income. If this problem is not be solved, further abandon of the agriculture lands due to shortage of water resources, increased the number of poor households in the area will be further increased in the future. Meanwhile, it is projected that the population of Sri Lanka will become 23 million in 2036, and further increase of agriculture production will be necessary in future. Hence, if the middle and small scale farm families, who play invaluable roles in agriculture production, would be impoverished, food security of the

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area and the state would come under threat.

In order to avoid this situation, in the agriculture sector, improvement and stabilization of the income of the middle and small scale farm families will be needed, by taking comprehensive measures include: reduction of cost of production, improvement of productivity of land by efficient water usage, diversification of products by introducing highland crops, organization of production, such as organization of farmers, collective land usage, cooperative marketing, etc).

#### 4) Relationship with the past assistance in the irrigation sector

In the past, assistance of the Japanese government to the irrigation sector in Sri Lanka had been carried out to achieve mainly two objectives. The assistance to develop new water resources and irrigation schemes, which was conducted as a part of integrated development projects in the settlement schemes such as in Mahaweli development scheme, aimed at increasing the total agriculture production by expanding irrigated agriculture land. The assistance for rehabilitation of existing irrigation schemes, including reconstruction of existing irrigation facilities and support for maintenance of the facility and water management, aimed at increasing productivity by effective usage of irrigation facility and water resources. These hardware-oriented assistances contributed for increasing the self-sustainability of rice in the country from 40% in 1950 just after the independence to almost 100% at present.

The Study has taken these past assistances into considerations, and concentrates on providing software-oriented assistance to improve income of the farm families by increasing management capacity of government officials and farmers organizations, so that they can effectively utilize water, lands and other productive resources. The Study also has a viewpoint of poverty reduction by establishing method to increase income through irrigation agriculture in the rural areas of the Dry Zone, where there are a lot of middle and small scale farm households, which are unable to obtain sufficient income.

#### (2) Consistency with the National Policy of Sri Lanka

The New Five Years Plan in agriculture sector formulated by the Government of Sri Lanka in 2004 proposed the following three tasks as the first priority; i) Achieve self-sustainability of the agriculture products as much as possible. Especially, 100% self-sustainability should be achieved for rice production; ii) Ensure stable livelihood of those who engage in agriculture by diversifying agriculture; and iii) Achieve sustainable increase of the agriculture production.

In order to fulfill these tasks, integrated measures should be taken by the middle and small scale paddy farm households, including reduction of cost of production, improvement of productivity of land by efficient water usage, diversification of products by introducing highland crops, organization of production, such as organization of farmers, collective land usage, cooperative marketing, etc. Especially, in irrigation agriculture sector, productivity and income should be increased by expanding irrigation lands and by improving productivity of highland crops, through efficient and fair usage of water resources. Therefore, the capacity of integrated management of the government officials and farmers organization is essential; and the Study has high consistency with the National policy of Sri Lanka in the agriculture sector.

#### (3) Relevancy of the target area

In the East and South region of Sri Lanka, where the ratio of poor households in the rural area is very high, because production base, such as water and land resources are insufficient. Therefore, long term and middle term strategies for poverty reduction are needed, including the development of the production bases. However, the low income in other regions is mainly due to inefficient usage of the productive resources, although they, such as water, lands and others, were relatively well developed.

The target area of the Study is relevant for establishing a model for developing and promoting solutions for the problems of farm households in Sri Lanka, which was explained in the later part of the above paragraph.

- 1) The target area is the typical region where water and land resources, such as tanks, were relatively developed, which could be utilized more efficient manner. Therefore, the model for increasing income, to be developed by the Study, should be applicable to many other similar areas in the country, where people depend largely on irrigation systems for their livelihood.
- 2) Especially, Anuradhapura district, where the target area belongs, locates center of the Northern part of the country, which covers most of the Dry Zone areas. Therefore, the target area is suitable to build-up a model to be developed by the Study to be used in the future. In addition to that, the area is adjoining the North Eastern Province which was affected by the conflict in the last 20 years, and there is a potential that the model to be developed by the Study would be promoted as a part of rehabilitation and reconstruction programmes in the area.

#### (4) Consistency with programme implemented by other international organizations

There is an Irrigation Training Center in Galgamuwa in the North Western Province, which is adjoining to the target area of the Study. FAO has approved the proposal submitted by the Government of Sri Lanka for improvement of training for the instructors of the center and on improvement of the facility in the Center. The programme to be funded by FAO is aiming at providing institutional training in the Center for the instructors, while the Study is aiming at providing practical training in the fields for the government officials and farmers organizations in irrigation sector. Therefore, the interventions of the Study with FAO could complement each other, and could create more effective outputs, if the two keep close co-operation.

#### (5) Relationship with Japanese Policy for International Assistance, and Country Specific Guideline of JICA

The Country Specific Guideline for Sri Lanka developed in April 2004 stated that "it is necessary to assist irrigation related programme and projects with the viewpoint of regional development and poverty reduction", in the section of "Development of social and economic infrastructure". Therefore, the Study has consistency with the Country Specific Guideline of JICA.

#### 4. Framework for co-operation

##### (1) Items for Study

The Study is to collect and analyze relevant information by reviewing existing documents and conducting field visits, identify current issues and problems on irrigation sector in the target area, formulate a draft of "Plan for increasing the capacity of integrated management in irrigation sector" to solve the issues and

problems, and examine and improve the draft and finalize it.

[Formulation of a draft of "Plan for increasing the capacity of integrated management in irrigation sector"]

- 1) Identify current issues and problems of government officials and farmers organizations by carrying out data collection in Japan and Sri Lanka, and by conducting field studies.
- 2) Collect and analyze information to identify current issues on maintenance of irrigation facilities and water management, farming, product processing, storage and marketing of agriculture products, and identify necessary tasks to increase the capacity of integrated management of the government officials and farmers organizations.
- 3) Formulate "Plan for increasing the capacity of integrated management in irrigation sector" in order to fulfill the identified tasks.

[Examination and finalization of "Plan for increasing the capacity of integrated management in irrigation sector"]

- 1) Examine the draft of "Plan for increasing the capacity of integrated management in irrigation sector" by adopting participatory approach and multi sector approach.
- 2) Evaluate and improve the draft of "Plan for increasing the capacity of integrated management in irrigation sector", and make it more applicable to major and medium scale irrigation schemes.
- 3) Formulate training plan for government officials and farmers organizations. Finalize the "Plan for increasing the capacity of integrated management in irrigation sector" by incorporating the training plan.
- 4) Formulate manuals of the procedure to develop "Plan for increasing the capacity of integrated management in irrigation sector"

(2) Outputs

- 1) "Plan for increasing the capacity of integrated management in irrigation sector" is formulated.  
(Tentative contents)
  - ① Plan to improve maintenance and management of irrigation facilities
  - ② Plan to improve water management
  - ③ Plan to increase management capacity of farmers organizations.
  - ④ Plan to improve farming
  - ⑤ Recommendations to improve processing, storage and marketing of agriculture products.
  - ⑥ Training plan for government officials and farmers organizations
- (2) Manuals and procedures of documentation of "Plan for increasing the capacity of integrated management in irrigation sector" are formulated.

(3) Input : The following inputs will be arranged for the Study

(a) Consultants (area of study and numbers)

Area of study	Num bers	Area of study	Num bers
Leader/ training plan	1	Farming	1
Water management/ maintenance of irrigation facility	1	Marketing of agriculture products	1
Management of farmers	1		

organizations

(b) Other: Training in Japan

- Counterpart training in Japan (two persons per year)
- Seminars (3 times)

5. Goals expected to be achieved after the completion of the co-operation

(1) Goals to be achieved by the proposed plans

- 1) "Plan for increasing the capacity of integrated management in irrigation sector" is adopted by the government of Sri Lanka
- 2) Trainings proposed in the "Plan for increasing the capacity of integrated management in irrigation sector" are carried out
- 3) Manuals and procedures of planning and step-by-step implementation of the plan are utilized by the government officials and farmers' organizations

(2) Goals to be achieved as a result of the utilization of the proposed plans

- 1) Maintenance of irrigation facilities and water management are conducted appropriately by the government officials
- 2) Maintenance of irrigation facilities, water management and farming, etc. are conducted appropriately by farmers organizations

6. External factors

(1) Factors in Sri Lanka which may hamper the implementation of the Study

- (a) Political factors: Declining of the priority of the Study caused by change of the state development policies, etc.
- (b) Administrative factors: lack of coordination among the government institutions, etc.
- (c) Economic factors: Deterioration of internal and external economic environment of the country
- (d) Meteorological factors: Drastic change in amount of rainfall and period of rainfall, etc.

(2) Impact of the related projects

The loan agreement of JBIC project namely: "Pro-poor Economic Advancement and Community Enhancement (PEACE), had been signed, and preparation work for implementation is undertaking at present in several places of the target area of the Study. The objective of the project is to rehabilitate and develop the agriculture and villages in an integrated way. The JBIC project concentrates on supporting farmers directly, while the JICA Study support government officials and farmers organizations. Therefore, if the implementation area of the two is overlapped, the impacts of the interventions could be multiplied, if active co-operation between the two is ensured. Meanwhile, in case the JBIC project would be delayed, no negative impact would be expected on the implementation of the Study.

7. Considerations for poverty, gender, environment, etc. (note)

Study, analyze and identify necessary factors for considerations with regard to poverty, gender, environment in the process of data collection. The identified factors should be taken into consideration in the process of examining the draft of the plan.

8. Lessons learnt from the past projects in the sector (note)



To carry out effective and fair water usage in irrigation schemes, it is necessary to deal with the whole system in an integrated manner, i.e., from the core facility which is maintained by government institutions, to the facility of end users in paddy fields, which is managed by farmers organizations. Therefore, the Study aims to formulate a plan to increase the capacity of integrated management of both government officials and farmers organizations.

At the same time, the plan for maintenance of irrigation facility and water management should be matched and incorporated with the optimum farming system in the target area. Therefore, the Study includes plans for farming, product processing, storage and marketing of agriculture products, etc, which would increase income of the farmers and then ensure incentives for the maintenance and management.

#### 9. Plan for evaluation

##### (1) Indicators for post project evaluation

###### (a) Progress of utilization of the plan and manuals

Number of "Plans for increasing the capacity of integrated management in irrigation sector" developed by utilizing the "Plan for increasing the capacity of integrated management in irrigation sector" and manuals formulated by the Study.

###### (b) Result of utilization of the plan and manuals

Number of training programme and number of participants in the training programme, improvement of management skills; etc. are used to show the increased capacity of management of the government officials and farmers; expansion of cultivation area during the dry seasons, etc. to show improvement of water usage; improvement of agriculture productivity and income, in the irrigation schemes where "Plans for increasing the capacity of integrated management in irrigation sector" were developed.

##### (2) Methods to evaluate the above (a) and (b) and timing for the evaluation

###### (a) Progress of utilization of the plan and manuals: Implementation of the monitoring after the fiscal year 2007

###### (b) Result of utilization of the plan and manuals: Implementation of the follow-up study after 2010.

(Note) Consideration for the Study

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## 添付資料-3

実施細則 (S/W)

2006年7月6日

SCOPE OF WORK  
FOR  
THE STUDY ON  
INCREASING THE CAPACITY OF INTEGRATED MANAGEMENT  
IN IRRIGATION SECTOR  
IN SRI LANKA

AGREED UPON BETWEEN  
MINISTRY OF AGRICULTURE, LIVESTOCK, LANDS AND IRRIGATION  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Colombo, July 6, 2005

AT-12

相島早巳  
Mr. Takumi Ueshima  
Resident Representative,  
JICA Sri Lanka Office

Am  
Mr. Tissa Warnasuriya  
Secretary  
Ministry of Agriculture, Livestock,  
Lands and Irrigation (MoALLI)

Mapa Pathirana  
Mr. M.P.B.U.K. Mapa Pathirana  
Director  
Department of External Resources,  
Ministry of Finance and Planning

K.S.R. De Silva  
Mr. K.S.R. De Silva  
Director General of Irrigation  
Department of Irrigation,  
MoALLI

Samarasinghe  
Mr. S.A.P. Samarasinghe  
Director  
Irrigation Management Division,  
MoALLI

I. INTRODUCTION

In response to the request 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 "The Study on Increasing the Capacity of Integrated Management in Irrigation Sector in 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 program 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 Work with regard to the Study.

This Scope of Work shall be read in conjunction with Minutes of Meeting dated March 10, 2005 and July 6, 2005 for the Study on Increasing the Capacity of Integrated Management in Irrigation Sector in Sri Lanka.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To formulate a plan to increase the capacity of integrated management of the Officials belong to the Irrigation Management Division (IMD), the Department of Irrigation (DI) and other related government officials engaged in the irrigation sector (hereinafter referred to as "the Officials").
2. To formulate a plan to increase the capacity of integrated management of farmers organizations.
3. To strengthen planning capacity of counterpart personnel engaged in the management of the irrigation sector in the process of the implementation of the Study.

III. STUDY AREA

The Study areas are Nachchaduwa and Rajanagana irrigation schemes, as core areas, with neighboring several medium and small irrigation schemes. Small irrigation schemes will also be included in the Study to identify and learn the best practices available at present.

Refer to the location map attached as Annex 1

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Scope of Work for the Study shall cover the following activities:

1. Conduct a survey to grasp the present situation and activities of the Officials and relevant farmers organizations.
2. Collect data and information to analyze the following items:
  - Operation and maintenance of irrigation facilities
  - Water management

- Farming practices (Effectiveness of the introduction of short-term varieties of paddy, cultivation practices, crop diversification, etc.)
- Input supply (Fertilizer, pesticide, etc.)
- Agricultural machinery
- Value addition (Processing of products, storage, etc.)
- Credit to farmers
- Marketing of agriculture products
- And so on

3. Identify the constraints, formulate plans, and examine plans using participatory approach.
4. Formulate an appropriate plan to increase the capacity of integrated management of the Officials and relevant farmers organizations.

#### V. WORK SCHEDULE

The Study will be carried out in accordance with the tentative work schedule as attached in Annex 2.

#### VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Sri Lanka.

1. Inception Report:  
Thirty (30) copies at the commencement of the Study in Sri Lanka.
2. Progress Report1:  
Thirty (30) copies at the formulation of draft plan in Sri Lanka.
3. Progress Report2:  
Thirty (30) copies at the examination and finalization of the plan in Sri Lanka.
4. Draft Final Report:  
Thirty (30) copies at the end of examination and finalization of the plan.  
The Government of Sri Lanka shall submit comments to JICA Sri Lanka Office within one (1) month after the receipt of the Draft Final Report.
5. Final Report:  
Fifty (50) copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

#### VII. UNDERTAKINGS OF THE GOVERNMENT OF SRI LANKA

1. To facilitate the smooth conduct of the Study; the Government of Sri Lanka shall take necessary measures:
  - (1) To permit the members of the Japanese study team to enter, leave and sojourn in Sri Lanka for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees:
  - (2) To exempt the members of the Japanese study team from taxes, duties and any other charges on equipment, machinery and other material brought into Sri Lanka for the implementation of the Study:
  - (3) To exempt the members of the Japanese study team 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:

- (4) To provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into Sri Lanka from Japan in connection with the implementation of the Study:
2. The Government of Sri Lanka shall bear claims, if any arises, against the members of the Japanese study team 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 Japanese study team.
3. MoALLI shall, at its own expense, provide the Japanese study team with the following in cooperation with other organizations concerned:
  - (1) Security-related information on as well as measures to ensure the safety of the Japanese study team:
  - (2) Information on as well as support in obtaining medical services:
  - (3) Available data (including maps and photographs) and information related to the Study:
  - (4) Counterpart personnel:
  - (5) Suitable office space with necessary utilities: and
  - (6) Credentials or identification cards.

#### VIII. CONSULTATION

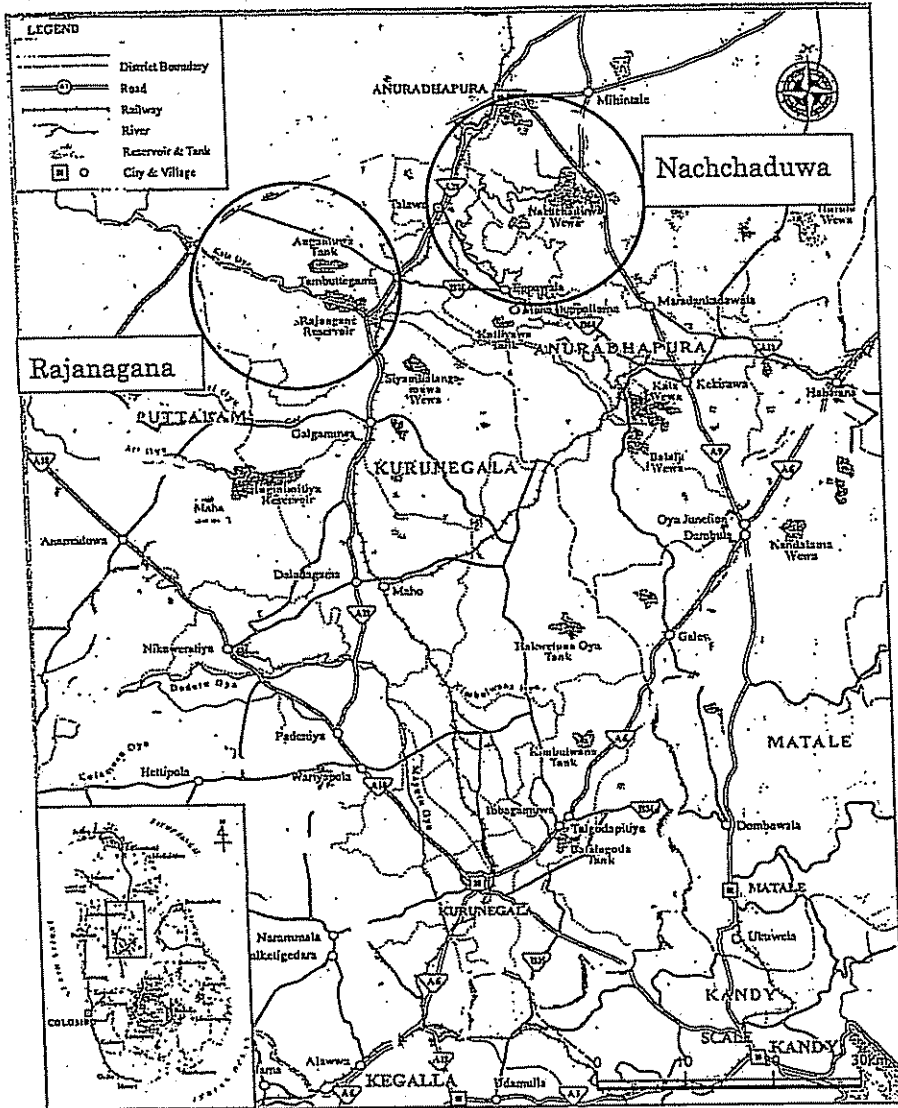
JICA and MoALLI shall consult each other in respect of any matters that may arise from or in connection with the Study.

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*OKS*  
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Study Area



Work Schedule

Year/Month	Y2005				Y2006			
	8	9	10	11	12	1	2	3
Phase	← Phase 1 →				← Phase 2 →			
Work Schedule								
Work in Sri Lanka								
Work in Japan	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
Report	↑				↑		↑	↑
	Ic/R				P/R(1)		P/R(2)	DF/R F/R

Note 1 : Phase 1: Formulation of a draft of "Plan for increasing the capacity of integrated management in irrigation sector".  
 Note 2 : Phase 2: Examination and finalization of "Plan for increasing the capacity of integrated management in irrigation sector".  
 Note 3 : Ic/R: Inception report, P/R(1): Progress Report(1), P/R(2): Progress Report(2), DF/R: Draft Final Report, F/R: Final Report

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## 添付資料-4

インセプションレポートに係る協議議事録 (M/M)  
2005年11月11日



MINUTES OF MEETING  
FOR  
INCEPTION REPORT  
ON  
THE STUDY ON INCREASING THE CAPACITY  
OF  
INTEGRATED MANAGEMENT IN IRRIGATION SECTOR IN SRI LANKA

Colombo, November 11, 2005

The Scope of Work for the Study on Increasing the Capacity on Integrated Management in the Irrigation Sector in Sri Lanka (hereinafter referred to as the Study") agreed upon between the Ministry of Irrigation, Mahaweli and Rajarata Development (MIMRD) and the Japan International Cooperation Agency (JICA) on July 6, 2005. In accordance with the Scope of Work, JICA sent to Sri Lanka the Study Team headed by Mr. N. Morioka. The Study Team submitted the Inception Report (the Report) to the Sri Lankan side.

The meeting to discuss the Inception Report was held between the Steering Committee and the Study Team on November 2, 2005. The attendants of the meeting are listed in the attachment. After a series of discussions with the Committee and officials concerned, the mutual confirmation was made on the following issues:

Clarification

1. Research Officer of Department of Agriculture (DOA) asked whether the Study seeks to overcome the farmer dependency on Government for irrigation water management and O&M through increased farmer income leading to self-reliance and self-management.  
The Study Team explained that the approach is to promote motivation for resource management, self-management of farmer organizations and production technologies emphasizing farm income through capacity building.
2. Secretary of MIMRD stated that there are two types of Farmers' Organizations (FOs) in the Study area, namely those registered under the Agrarian Development Act and those registered under the Companies Act for economic activities, and both should be considered for development in the Study. The Study Team agreed on this.
3. Director General of Irrigation (DGI) and Addl. Director (Agronomy), Irrigation Management Division (IMD) requested to incorporate micro-level land and soil classification in the maps as a separate layer since land

suitability is important factor in crop selection.

The Study Team explained that soil classification has not been included as an item in the plan for mapping. However, it can be incorporated as a layer provided that the relevant information is made available by the Irrigation Department (ID) within the scheduled timeframe for mapping. DGI agreed to offer the services of Land Use Division of ID for this.

4. Director (IMD) and Secretary (MIMRD) pointed out that fragmentation of the irrigated land is a common arrangement not reflected in the Land Registers, and the actual field position can only be assessed by individual farmer interviews. They asked about any program to study the land tenure system in the Study Area.

The Study Team explained that information on land tenure will be included only in the detailed map and cover about 200 farmers, and ID could incorporate such information to the GIS database when available to other mapping areas later on.

Other Matters

5. National Steering Committee (NSC):  
MIMRD will inform the Government Agents of Anuradhapura, Kurunegala and Puttalam Districts of their membership in the National Steering Committee (NSC). Ministry of Agriculture is to be requested to confirm the nominee for its member of NSC.  
Mr. P.D. Dayaratna and Mr. Chandradasa will represent the Provincial Secretaries of Irrigation Ministries NCP & NWP respectively.  
Mr. Ananda Jayasinghe, Addl. Director (Agronomy) - IMD, Mr. P. D. Dayaratna, Addl. Director, Provincial Council (NCP) and Mr. A. Nandasiri Addl. Director, Provincial Council (NWP) were nominated as additional National Counterparts.
6. Snr. Deputy Director of Irrigation suggested having an institutional setup consisting of Regional Steering Committee (RSC) and Project level Working Groups (WGs) where RSC will compose of relevant key regional officers and the WGs will consist of relevant field officers of selected pilot areas.
7. Regional Steering Committee:  
As many organizations will be benefited from the data gathered and technology transfer during the Study, officers attached to these organizations should get involved at the Regional Steering Committee. Following nominees were agreed upon and MIMRD will inform the respective Heads of Departments.

Chairman: RDI (Anuradhapura)  
 ID & IMD: IE, RPM (Rajangana); IE, RPM (Nachchaduwa);  
 PMM of Medium Schemes  
 DOA: Asst Director, Agriculture, Segment AO  
 (Anuradhapura)  
 DAD: Asst. Commissioner, Regional Engineer  
 (Anuradhapura)  
 Asst. Commissioner, Regional Engineer  
 (Kurunegala)  
 (DAD- Department of Agrarian Development)


8. Working Group


It was agreed that the members for the Working Group would be nominated at the first Regional Steering Committee to be held at Anuradhapura in the next week.

9. Pilot Areas

The number of pilot areas for the Study has been decided. It was agreed that a decision on the sites of pilot areas would be made at the first Regional Committee Meeting in the next week with the participation of national counterparts.

The National Steering Committee finally endorsed the Inception Report, and further suggestions to improve the study were requested from the Steering Committee members and the Counterparts.

  
 Mr. T. M. Abayawickrema  
 Secretary  
 Ministry of Irrigation, Mahaweli and  
 Rajarata Development

  
 Mr. Naoto Morioka  
 Team Leader  
 JICA Study Team

LIST OF PARTICIPANTS

1. National Steering Committee
 

Mr. T. M. Abayawickrema	Secretary, MIMRD
Mr. K. S. R. de Silva	Director General, ID
Mr. Gamini Rajakaruna	Director IMD
Mr. K. A. U. S. Imbulana	Director Water Resources, MIMRD
Mr. D. S. Pattiarachchi,	Director Planning, MIMRD
Mr. Jayalal Chandrasiri	Res. Officer DOA (rep. of DG/DOA)
Mr. W. J. Lowe	Addl. District Secretary (Rep of GA/ Puttalam)
  
2. National Counterparts Officials
 

Mr. H. M. Jayatilake,	Snr. DDI, ID - Focal Point
Mr. K. R. P. M. Mullegamgoda	Addl. Director (Eng) IMD
Mr. A. P. R. Jayasinghe	Addl. Director (Agr) IMD
Ms. T. J. Meegastenna	CIE (I&WM), ID
Mr. R. K. A. D. Kularatne	Director River Basin Development, MIMRD
Mr. Prabath Withana	Engineer, DAD
  
3. Study Team
 

Mr. N. Morioka	Team Leader
Mr. Y. Sano	Water Management
Mr. J. Watanabe	Farmer Organizations
Mr. L. Devasiri	Agriculture
Mr. Akutsu	Marketing
Ms. W. Yamamoto	Coordinator
  
4. JICA Experts
 

Mr. M. Hiraiwa	MIMRD
Mr. M. Kawaguchi	MOA
  
5. JICA, Colombo Office
 

Mr. T. Azagami	Asst. Resident Representative
Dr. S. M. Punchi Banda	Snr. Advisor

## 添付資料-5

プロGRESS・レポート1に係る協議議事録 (M/M)  
2005年12月20日

MINUTES OF MEETING  
FOR  
PROGRESS REPORT 1  
ON  
THE STUDY ON INCREASING THE CAPACITY  
OF  
INTEGRATED MANAGEMENT IN IRRIGATION SECTOR IN SRI LANKA

Colombo, December 20, 2005

The Scope of Work for the Study on Increasing the Capacity on Integrated Management in the Irrigation Sector in Sri Lanka (hereinafter referred to as the Study") agreed upon between the Ministry of Agriculture, Irrigation and Mahaweli Development (MAIMD) and the Japan International Cooperation Agency (JICA) on July 6, 2005. In accordance with the Scope of Work, JICA sent to Sri Lanka the Study Team headed by Mr. N. Morioka. After the 1<sup>st</sup> Field Work in Sri Lanka, the Study Team submitted the Progress Report 1 (the Report) to the Sri Lankan side.

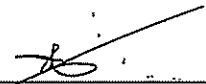
The meeting to discuss the Report was held between the Steering Committee and the Study Team on December 19, 2005 at the Meeting Room of MAIMD. The attendants of the meeting are listed in the attachment. After a series of discussions with the Committee and officials concerned, clarification and mutual confirmation were made on the following issues:

1. The Engineer of Department of Agrarian Development (DAD) asked about inclusion of minor irrigation schemes in the Study.  
The JICA Study Team answered that one of major components in the Study is a detailed mapping work for which a major irrigation area is more appropriate than minor schemes. However, the experiences gained in the operation of minor irrigation schemes would be considered in the plan formation process.  
The JICA Expert explained that a number of studies on minor schemes have already been conducted by many agencies, and JICA and Colombo University are presently engaged in studies on small village schemes. These reports will be reviewed by the Team.
2. Additional Secretary of MAIMD stated that the Study identifies capacity building in such organizations of DOA, ID, Mahaweli, etc., and asked how the Study plans to achieve this end.  
The Study Team explained that problem analysis will be conducted with the counterparts to identify problems and issues to obtain the common understanding and develop problem trees. Problem trees will be discussed with the stakeholders for preparation of plans in respect of each sub-sector. Along with this process, manuals will be prepared giving guidelines for capacity building at all


levels for implementation.

3. Director, Irrigation Management Division (IMD) pointed out that according to the Study result limited capacity of the officers and FO has contributed to the present situation, and therefore, before preparation of plans, it would be necessary to identify the factors causing low capacities. He suggested detailed analysis of these factors in terms of social, economic and environmental components needs attention for better understanding.  
The JICA Study team explained that problem analysis proposed for the next stage of the Study attempts to identify the causal factors that contribute to low capacity at all levels. The planning process will be based on the causal factors identified during the Study.
4. Senior Deputy Director of Irrigation suggested to explain the process and benefits of the mapping works proposed in the Study, since some members of the Steering Committee were not present at the First Seminar.  
The JICA Study Team made a review of presentation to the participants.
5. Research Officer of Department of Agriculture (DOA) asked whether it be possible to add another layer to show the organizations involved in different activities in the field.  
The JICA Study Team answered that addition of another layer is possible, but this will make the system heavy. The priority at this stage is given to establishment of the system.
6. Director General of Agriculture pointed out that there are many organizations involved in providing services to farmers in the field, and this has resulted in confusion among farmers and has also tended to encourage the dependency syndrome. What is the present situation of farming communities in Japan?  
The JICA Study Team explained that change in farmer's attitude towards self-reliance took place few generations ago in Japan, and the present day farmers are quite independent. If the farmers can manage their own affairs, the role of the government as service providers can be minimized. In fact, the farmers should develop self-reliance and management capacities assisted by the government service providers. To move in this direction, an attitudinal change is needed, which essentially is a gradual process. An example is the case of System C, where farmers have now taken over the O&M of D- and F- canals very satisfactorily.  
The Secretary, MAIRD stated that the government officers are ready to accept the farmer community as a self-reliant and independent entity or do we expect them to continue to be dependent. It is relevant that in this Study, the situation of the farmers is looked at from a different perspective.

The National Steering Committee finally endorsed the Draft Report and the Report will be submitted accordingly.



Mr. T. M. Abayawickrema  
Secretary  
Ministry of Agriculture,  
Irrigation and Mahaweli Development



Mr. Naoto Morioka  
Team Leader  
JICA Study Team

#### LIST OF PARTICIPANTS

1. National Steering Committee
  - Mr. T. M. Abayawickrema Secretary, MAIMD
  - Mr. H. P. S. Somasiri Additional Secretary, MAIMD
  - Mr. B. M. S. Somarasekara Director General of Irrigation
  - Dr. C. Kudagama Director General of Agriculture
  - Mr. Gamini Rajakaruna Director, IMD
  - Mr. D. S. Pattiarachchi Director Planning, MAIMD
  - Mr. W. J. Lowe Addl. District Secretary (Rep. of GA/ Puttalam)
  - Ms. A. N. Hettiarachchi Rep. of ERD
2. National Counterparts Officials
  - Mr. H. M. Jayatilake, Snr. DDI, ID - Focal Point
  - Mr. K. R. P. M. Mullegamgoda Addl. Director (Eng), IMD
  - Mr. A. P. R. Jayasinghe Addl. Director (Agr), IMD
  - Ms. T. J. Meegastenna CIE (I&WM), ID
  - Mr. R. K. A. D. Kularatne Director River Basin Development, MAIMD
  - Mr. Prabath Withana Engineer, DAD
  - Mr. G. W. J. Chandrasiri Res. Officer, DOA
3. Study Team
  - Mr. N. Morioka Team Leader/Training
  - Mr. Y. Sano O&M and Water Management 1
  - Mr. S. Otsuka O&M and Water Management 2
  - Dr. J. Watanabe Farmer Organizations
  - Mr. L. Devasiri Agriculture
  - Mr. Akutsu Marketing
  - Ms. W. Yamamoto Coordinator
  - Mr. G. A. Jayawickrama Institution
4. JICA Experts
  - Mr. M. Hiraiwa MAIMD
  - Mr. M. Kawaguchi MOA
5. JICA, Colombo Office
  - Dr. S. M. Punchi Banda Snr. Advisor

## 添付資料-6

プロGRESS・レポート 2 に係る協議議事録 (M/M)  
2006 年 3 月 15 日

MINUTES OF MEETING  
FOR  
PROGRESS REPORT 2  
ON  
THE STUDY ON INCREASING THE CAPACITY  
OF  
INTEGRATED MANAGEMENT IN IRRIGATION SECTOR IN SRI LANKA

Colombo, March 15, 2006

The Scope of Work for the Study on Increasing the Capacity on Integrated Management in the Irrigation Sector in Sri Lanka (hereinafter referred to as the Study") was agreed upon between the Ministry of Agriculture, Irrigation and Mahaweli Development (MAIMD) and the Japan International Cooperation Agency (JICA) on July 6, 2005. In accordance with the Scope of Work, JICA sent to Sri Lanka the Study Team headed by Mr. N. Morioka. After the 2<sup>nd</sup> Field Work in Sri Lanka from the middle of January to the middle of March 2006, the Study Team submitted the Progress Report 2 (the Report) to the Sri Lankan side. The list of participants is given in the attachment.

The meeting to discuss the Report was held between the Steering Committee and the Study Team on March 15, 2006 at the Meeting Room of MAIMD. While the content of the Report was presented by the Team Leader Mr. N. Morioka, Mr. S. Otsuka presented the work done on the GIS based Irrigation Block Mapping.

The report was accepted in principle by the Sri Lankan side after a series of discussions with the Committee and officials concerned. Clarification and mutual confirmation were made on the following issues:

1. Additional Secretary, Irrigation sought clarification on profit of paddy per kg and per household for Nachchaduwa.

The Study Team answered that the figure was calculated based on cost of production, marketable surplus, reservation for seed, family consumption and an average sale prices as shown in Table 4.1.1 (page T-61). Similar assessments on Thuruwila and Rajangana are also presented in the Table.

2. Secretary / MAIMD observed that the paddy yield level of 3.9 ton/ha recorded for Rajangana appeared too low. Director, Irrigation & Water Management (I & W/M) / Irrigation Department (ID) noted that the yield recorded, highest in Thuruwila and lowest in Rajangana was in accord with the general trend in the area. However a crop cut survey would have eliminated the subjective nature of the yield data collected from farmers though it was not possible this time due to busy schedules of the Census and Statistical Department officials. Deputy Director (DD) (Extension & Training: E&T) / Department of Agriculture (DOA) also stated that the yield level for Rajangana is too low, compared to that of the Dept. of Census and Statistics.

The Study Team explained that the information was based on interview survey with sample number of some 33 respondents and high degree of variation in individual yield levels has been observed.

DD (E&T) / DOA agreed that the high yields recorded under trial conditions were not always sustained. He explained that the low adoption rate was due to inadequate technological know-how and poor resource allocation or decision making efficiency by farmers.

3. DD (E&T) / DOA emphasized on the need for farmer groups smaller than the Farmers' Organizations (FOs) for effective extension.

The Study Team stated that, small groups at Field Canal (FC) level and the FC Groups (FCGs) functioning under FOs are considered under the Study.

4. Additional Secretary, Irrigation inquired whether it is proposed to shift the farmers from paddy cultivation to other crops through the Study.

The Study explained that under irrigated conditions paddy would remain the major crop in the dry zone in the country. Further, in view of the national goal of self sufficiency, improvement of rice production would be the priority followed by the promotion of crop diversification.

5. Additional Director (Eng) / Irrigation Management Division (IMD) sought explanation on the working of open paddy market.

The Study Team explained that the retail price of milled Rice of around Rs. 40 per kg of Samba type agrees with the international price level, but the farm gate price remains very low meaning that the margin is too high. This is mainly due to lack of a suitable marketing system for paddy. The farmers, therefore, should have proper storage facilities for bulking the produce so that it could be subjected to quality checks by prospective buyers and to negotiate prices with farmers acting as a group, not as individuals to increase bargaining power. Such a system can later develop into a paddy auction. Similar systems are in operation in other countries, particularly Thailand. The FOs could extend their activities beyond water management to include marketing as well.

6. Director General of Irrigation (DGI) stated that the problem of marketing also should be viewed in the context of farmers' cash flow requirement. Farmers need to find some initial capital before the next season to start the cultivation.

The Study Team explained that the socio-economic survey indicates substantial debts of farm household budgets for farm inputs and operation. In the Marketing Approach, money saving to reduce the debt and to accumulate the capital is included for improvement.

7. Addl Secretary, irrigation observed that in addition to value addition through agricultural production, other avenues of income generation must also be considered for development.

The Study Team answered that income generation activities have been already studied and explained under the approach. Any suggestions would be welcome after participants review the report.

8. DD (E & T) / DOA suggested that it would be better if GIS-based Irrigation Block Maps have soil nutrient and productivity information for the use of agricultural input and production planning.

The Study Team replied that, based on result of soil textural classification, fertility in the pilot area will be briefed in the final report as preliminary assessment. Based on such information, ID / IMD and other relevant organization would hopefully continue survey to develop database into more practical style.

9. Director (I&WM) / ID stated that the analysis in Table S3 showed 17% of the canals in Rajangana pilot area need to be rehabilitated. However, this might not reflect the condition in the entire area and it should be specifically mentioned that this result is based on the survey of particular area. Such a low level of deterioration observed even after 25 years after rehabilitation is due to the specific technologies that was adopted in this particular canal at the time of last rehabilitation as a pilot study and it gives some direction on the technologies that should be used in future rehabilitation work.

The Study Team replied that the team understood the condition is different in different areas. Pilot area survey result shown in Table S 3 would be explained with clearly specifying the area. Since the time limitation of the Study, in-depth survey covering entire area was not possible, however, specific condition such as water shortage in the downstream blocks have been already mentioned in the report with the support of secondary data so as to elaborate entire characteristics of the schemes.

Director (I&WM) also expressed that the size of FCG is sometimes a too larger entity to work as a production group and suggested that developing mini groups consisting of around 5 to 7 farmers be considered for specific activities such as farm mechanization, credit etc.

The Study Team is of the feeling that since the FCGs are not functioning properly at the moment attention is first proposed to be made developing FCGs.

Director (I&WM) suggested looking into the possibility of establishing some form of bonded storage with FOO to improve marketing of paddy and also to solve immediate cash flow problem of farmers.

The Study Team noted that there have been such attempts in the past with individual farmer level but has not been practical as some farmers sell their paddy without keeping to the bond. Bonded storage is possible and can be used to the advantage of the farmers if bulk marketing is arranged at a central location as mentioned in 5 above.

10. JICA Expert, M/ AIMD referred to the Figure on Training Mechanism (page S-10) and requested opinion of the participants on its workability or feasibility since the Study Team will be engaged in examining the training component during the next stage.

The Secretary stated that the time available at the present meeting was not sufficient to make a comment. However, proposals and/or comments, if any, would be presented to the Study Team in the next phase.

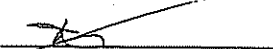
11. Director of IMD inquired whether policy recommendations would be made in the study report.


The Study Team stated that the objective of the study was to formulate capacity development plan for the Officials and FOs. Policy issues needed a separate discussion.

12. Director (I&WM) inquired whether soil nutrient and yield information that would be provided by the DOA could be incorporated as a separate layer in the Irrigation Block maps.

The study team stated that Mr. Otsuka's term ends with this assignment and the request will have to be considered in that light.

The Secretary/ MAIMD in winding up stated that a substantial quantum of work has been done by the Study Team during a short period and their efforts are well appreciated. And it is now time for something tangible to be achieved to benefit the farmers as early as possible based on the Study findings and all are looking forward to that.

  
Mr. T. M. Abayawickrema  
Secretary  
Ministry of Agriculture, Irrigation  
Mahaweli Development

  
Mr. Naoto Morioka  
Team Leader  
JICA Study Team



Attachment: LIST OF PARTICIPANTS OF MEETING FOR PROGRESS REPORT 2  
HELD ON MARCH 15, 2006 AT MAIMD

1. National Steering Committee

Mr. T. M. Abayawickrema Secretary, MAIMD  
Mr. H. P. S. Somasiri Additional Secretary, MAIMD  
Mr. B. M. S. Samarasekara Director General of Irrigation  
Mr. Gaminj Rajakaruna Director, IMD  
Mr. K. A. U. S. Imbulana Director, WR, MAIMD  
Mr. D. S. Pattiarachchi, Director Planning, MIMRD  
Mr. J. W. M. R. T. Seimon Director Eng., MAIMD  
Mr. G. A. M. S Emityagoda DD, Extension, DA  
Mr. U. S. Agalawatta AD, ERD

2. National Counterparts Officials

Mr. H. M. Jayatillake, Director (I & WM), ID - Focal Point  
Mr. K. R. P. M. Mullegamgoda Addl. Director (Eng), IMD  
Ms. T. J. Meegastenna CIE (I&WM), ID  
Mr. R. K. A. D. Kularatne Director River Basin Development, MAIMD  
Mr. R. M. W. Ratnayake RDI, Anuradhapura  
Mr. D. M. Abhayaratne RDI, Kurunegala

3. Study Team

Mr. N. Morioka Team Leader/Training  
Mr. S. Otsuka O&M and Water Management 2  
Dr. J. Watanabe Farmer Organizations  
Mr. L. Devasiri Agriculture  
Mr. T. Akutsu Marketing  
Ms. W. Yamamoto Coordinator  
Mr. G. A. Jayawickrama Institution

4. JICA Experts

Mr. M. Hiraiwa JICA Expert, MAIMD  
Mr. M. Kawaguchi MOA

5. JICA, Colombo Office

Dr. S. M. Punchi Banda Snr. Advisor  
Mr. Tomohiro Azegami Asst. Resident Representative

6. Embassy of Japan

Mr. Yasuhiro Watanabe Secretary

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## 添付資料-7

ドラフト・ファイナル・レポートに係る  
協議議事録 (M/M)  
2006年6月20日

MINUTES OF MEETING  
FOR  
DRAFT FINAL REPORT  
ON  
THE STUDY ON INCREASING THE CAPACITY  
OF  
INTEGRATED MANAGEMENT IN IRRIGATION SECTOR IN SRI LANKA

Colombo, June 20, 2006

The Scope of Work for the Study on Increasing the Capacity on Integrated Management in the Irrigation Sector in Sri Lanka (hereinafter referred to as the Study") agreed upon between the Ministry of Agriculture, Irrigation and Mahaweli Development (MAIMD) and the Japan International Cooperation Agency (JICA) on July 6, 2005. In accordance with the Scope of Work, JICA sent to Sri Lanka the Study Team headed by Mr. N. Morioka. After the 3<sup>rd</sup> Field Work in Sri Lanka in May 2006, the Study Team submitted the Draft Final Report (the Report) to the Sri Lankan side.

The meeting to discuss the Report was held between the Steering Committee and the Study Team on May 29, 2006 at the Meeting Room of MAIMD. The list of participants is given in the attachment. The content of the Report was presented by the Team Leader Mr. N Morioka. The report was accepted in principle by the Sri Lankan side after a series of discussions with the Committee and officials concerned. Clarification and mutual confirmation were made on the following issues:

1. Mr Karunasena of JBIC sought clarifications on the following:
  - (1) The necessity of seeking alternative institutional models if the current FOs based on Philippines model is not performing well despite large number of training etc carried out under different projects
  - (2) A risk analysis on threats in project implementation is desirable, e. g., effect on paddy price due to rice and flour imports.
  - (3) Necessity of the private sector involvement
  - (4) Changes of government policy on agriculture and FOs from time to time and whether the subsidies on agriculture are to be continued as in some other countries such as Japan.

Team Leader explained that

- (1) In Philippines IAs were initially tasked with water management, but later economic activities are incorporated. In Sri Lanka, FOs were started in the 80s for water management, the actual transfer documentation took place as late as 2000. Short term facilitation is not enough for self management of FO by farmers, and follow-up needs to be associated with continuous monitoring. As sample cases, Mahaweli and FAO SPFS (Special Project for Food


Security) have shown good progress. Participatory development approach is a multi-stepped process, and each step needs to be subjected to monitoring and evaluation.

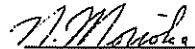
- (2) Assumptions made for formulation of the basic approach, and other assumptions for the plan are presented in the project design matrix and hence the risks involved.
  - (3) Most activities of the marketing sector are carried out by the private sector, acting as a service provider. FO could also be take part in the process through group activity such as bulk purchasing and storage to improve its bargaining power. Open paddy market is another strategy proposed for further study.
  - (4) The study is conducted within the existing government policy and macro-policy of government is beyond the scope of this study.
2. Director of IMD stated that the draft plan should provide recommendations on achievement of the three study objectives identified in the proposal.
  3. DD (E&T) / DOA appreciated the study, in particular, on the marketing aspects, and stated that the attempts made to get private sector involved under the GAP program has had limited success. Training is a continuous process and cannot be stopped at a particular stage as the technologies change.
  4. Add. Director (Agr) / IMD observed that crop diversification and yield increases are highly dependent on water management at field level. Importance of training farmers on water management cannot be overstressed. The proposal should address to this issue deeply.
  5. JICA Expert, M/ AIMD explained that an average unit yield in Study Area is 4 to 5 ton/ha could be increased to 6 t/ha by integrated activities under GAP along with proper water management and cost reduction by better resource management. Decimation of knowledge by penetration at FO and FCG level has been difficult so far and budget, technology and human resources are proposed along with monitoring and evaluation at the FO level.
  6. Director (I&WM) / ID stated that the GIS study contributed to improvement in water and soil management. The target group in training on water management should change from farmer group to individual farmer.
  7. Engineer / DAD stated that for the minor irrigation schemes, the technical aspects and water management are very important in general. The clause in Agrarian Development Act of 2000, on crop diversification is not a restriction, but a regulatory one due to multifunctional nature of paddy fields.
  8. Add. Director (Eng) / IMD explained that there is a high concentration of training,

but training is a continuous process. The recent studies revealed that the training remained only with the leaders, and is not extended to lower levels. Some FOs are operating well and open market system functioned. However, due to policy changes, the approaches needed to be changed. The recommendations of the Study are in conformity with the present government policy.

9. JICA Resident Representative stated that at the time of discussion on Scope of Work for study preparation, no policy and institutional level recommendations were included in the Study taking into account the prevailing conditions in the Ministry. However, as many participants are concerned about such issues now, an effort will be made to this effect in the final report.
10. The Secretary / EOJ stated that the Study has now been almost completed, and the Government of Japan has decided to offer and go ahead with Technical Cooperation Project to implement the plan starting next year.
11. Additional Secretary proposed that further comments and observations should be made available to the Study Team. Director (I&WM) / ID is requested to summarize and submit such proposals by June 2<sup>nd</sup> (Friday) for onward transmission.

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 Mr. T. M. Abayawickrema  
 Secretary  
 Ministry of Agriculture, Irrigation  
 Mahaweli Development

  
 Mr. Naoto Morioka  
 Team Leader  
 JICA Study Team

Attachment: LIST OF PARTICIPANTS

1. National Steering Committee
 

Mr. M. Weerasingha	Additional Secretary, MAIMD
Mr. H. P. S. Somasiri	Additional Secretary, MAIMD
Mr. B. M. S. Samarasekara	Director General of Irrigation
Mr. Gamini Rajakaruna	Director, IMD
Mr. K. A. U. S. Imbulana	Director, Water Resources, MAIMD
Mr. D. S. Pattiarachchi,	Director Planning, MIMRD
Mr. J. W. M. R. T. Seimon	Director Eng., MAIMD
Mr. G. A. M. S. Emitiyagoda	DD, Extension, DA
Mr. A. N. Hettiarachchi	RA, ERD
2. National Counterparts Officials
 

Mr. H. M. Jayatillake,	Director (I & WM), ID - Focal Point
Mr. K. R. P. M. Mullegamgoda	Addl. Director (Eng), IMD
Mr. A. P. R. Jayasingha	Addl. Director (Agr), IMD
Ms. T. J. Meegastenna	CIE (I&WM), ID
Mr. Prabath Witharana	Engineer / Water Management, DAD
Mr. R. M. W. Ratnayake	RDI, Anuradhapura
Mr. D. M. Abhayaratne	RDI, Kurunegala
3. JBIC Colombo Office
 

Mr. H. A. Karunasena	
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4. Study Team
 

Mr. N. Morioka	Team Leader/Training
Mr. Y. Sano	O&M and Water Management
Dr. J. Watanabe	Farmer Organizations
Mr. L. Devasiri	Agriculture
Ms. W. Yamamoto	Coordinator
Mr. G. A. Jayawickrama	Training/Institution
5. JICA Experts
 

Mr. M. Hiraiwa	JICA Expert, MAIMD
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6. JICA, Colombo Office
 

Mr. T. Ueshima	Resident Representative
Dr. S. M. Punchi Banda	Snr. Advisor
Mr. Tomohiro Azegami	Asst. Resident Representative
7. Embassy of Japan
 

Mr. Yasuhiro Watanabe	Secretary
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