

付 録

付一 R/D 協議要約表

日本側 R/D 原案	協議内容要	相方の合意点とその処理
<p>1. プロジェクト関連施設の整備について (ATTACHED DOCUMENT V-1(1), (2)に基づき ANNEX V.(2), (3)について)</p>	<ul style="list-style-type: none"> ・スリランカ側より、スリランカ側負担による整備事項として ANNEX V にあげられているプロジェクト関連施設の内、(2) Seed Processing Plant, (3) Milling and Parboiling Plant については、長期調査員との協議を通じて、日本側での負担が予定されており、この削除が要求された。 ・これに対し、日本側は、プラント建設及び機械は別途スリランカ側の要請に基づき日本側で負担するが、プロジェクトの基盤としての施設は、本来的に被援助国の負担事項として R/D に記載したいとした。 	<p>R/D は原案通りとし、左記協議内容を R/D の R/D の Supplementary Note に記録した。</p>
<p>2. 日本人専門家のスリランカ国内業務旅費及び家族を含む宿舍の提供について (ATTACHED DOCUMENT V-1. (3), (4)について)</p>	<ul style="list-style-type: none"> ・スリランカ側は、予算が限られており、日本人専門家の旅費、及びプロジェクトサイト以外(キャンディー等)における宿舍(家族別居の場合等)については負担できないとした。 ・これに対し、日本側は、これらは実際には日本側で負担するが、コロポブランに基づく基本事項として、R/D 上は記載しておきたいとした。 	<p>R/D は原案通りとし、左記協議内容を R/D の Supplementary Note に記録した。</p>
<p>3. 機材の設置経費について (ATTACHED DOCUMENT V-2. (1) について)</p>	<ul style="list-style-type: none"> ・スリランカ側より、機材の設置、運用、管理等の内ブランドに関する日本側の設置経費負担が強く要望された。 ・これに対し、日本側はブランドについては別途スリランカ側の要請に基づき日本側で負担するとした。 	<p>R/D は原案通りとし、左記協議内容を R/D の Supplementary Note に記録した。</p>
<p>4. 協力内容(マスタープラン)の内、政府種子農場に対する協力事項 (ANNEX I. (4) について)</p>	<ul style="list-style-type: none"> ・スリランカ側より、政府種子農場への協力は、ANNEX I. によると "technical advice" のみとされているが、試験、演示圃場での活動を種子農場へも拡げてほしいと要望があった。 ・これに対し、日本側は、"technical advice" は必要に応じて願をもった協力内容を含むとした。 	<p>R/D は原案通りとし、左記協議内容、及び、協力の具体例について、R/D の Supplementary Note に記録した。</p>
<p>5. Joint Committee の開催について (ANNEX I. I. について)</p>	<ul style="list-style-type: none"> ・スリランカ側より、ANNEX I. による Joint Committee は、原案年 1 回に対し、プロジェクトの効率的運営のため 2 回としてはどうかとの提案があった。 ・日本側はこれに同意した。 	<p>R/D 原案を変更し、最低年 2 回開催とした。 ("The Joint Committee will meet at least twice a year whenever necessity arises, ...")</p>

付-2 覚書きノート

(1) 1984年12月18日

NOTES OF DISCUSSION
ON
INTEGRATED AGRICULTURAL DEVELOPMENT DEMONSTRATION PROJECT

The meeting was held at the Conference Room of Mahaweli Authority of Sri Lanka on December 17th, 1984 between JICA Mission and Japanese Officials concerned and Sri Lanka Officials concerned as stated below :

Present :

JAPANESE SIDE

Mr. T. Sato - JICA Mission
Mr. Y. Yoshizumi - JICA Mission
Mr. T. Seki - JICA Mission
Mr. M. Kobayashi - Embassy of Japan
Mr. Y. Ikeda - JICA Resident
Representative

SRI LANKAN SIDE

Mr. K.H.S. Gunatilaka - Director General/MASL
Mr. D.J. Bandaragoda - Executive Director/MEA
Mr. Lalit Godamunne - Secretary General/MASL
Mr. D.W. Kannangara - Manager, PM&C/MEA
Mr. P.H.K. Dayaratne - Project Co-ordinator-'C',
MEA
Mr. G.W. Liyanage - Senior Agronomist/MEA
Mr. W.M.R. Iddawala - Mechanical Engineer/MEA

Mr. Y. Ikeda, JICA Resident Representative introduced the Mission to Director General of MASL who presided over the meeting.

The Mission explained the major contents of the Field Report. This was discussed and finally the draft detailed scheme of the proposed Technical Co-operation was accepted by both sides.

As explained in the earlier Meetings, MASL requested the Mission to indicate as to what part of the capital expenditure relating to infrastructure for the Demonstration Project will be borne by the Japanese Government. Mr. Ikeda stated that he has not received any confirmation on this matter from JICA in Japan. MASL re-stated their interest in this regard.

The Mission explained that another Japanese Mission may be despatched for designing of infrastructures such as buildings, plants etc. They requested to provide with suitable counterpart officers to help this Mission in designing work. This was agreed upon.

The Mission also explained that the draft detailed scheme and the draft list of machinery and equipment for the proposed Technical Co-operation as described in the Interim Report and the Field Report will be examined and finalized by Japanese and Sri Lanka Officers concerned.



.....
T. SATO

Team Leader
JICA Mission



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K.H.S. GUNATILAKA

Director General
Mahaweli Authority of Sri Lanka

18.12.1984.

-/mr.

(2) 1984年11月15日

NOTES OF DISCUSSION
ON
INTEGRATED AGRICULTURAL DEVELOPMENT DEMONSTRATION PROJECT

The meeting was held at the Conference Room of the Mahaweli Authority of Sri Lanka, at 3.30 pm on November 12th 1984, between JICA Mission and Japanese Officials concerned and Sri Lanka Officials concerned as stated below :

Present :

JAPANESE SIDE

Mr. T. Kasai - JICA Project Planner
Mr. T. Sato - JICA Mission
Mr. Y. Yoshizumi - JICA Mission
Mr. T. Seki - JICA Mission
Mr. M. Itami - Embassy of Japan
Mr. Y. Ikeda - Resident Representative/JICA

SRI LANKAN SIDE

Mr. N.G.P. Panditharatne - Director General
Mr. D.J. Bandaragoda - Executive Director
Mr. Lalit Godamunne - Secretary General
Mr. D.W. Kannangara - Manager/PM & C
Mr. P.H.K. Dayaratne - Project Co-ordinator
System 'C'
Mr. G.W. Liyanage - Senior Agronomist
Mr. W.M.R. Iddawala - Mechanical Engineer

The Interim Report on the formation of Integrated Agricultural Development Demonstration Project and a memorandum submitted by Mr. Kasai were taken up for discussion.

Mr. Kasai requested the MEA to appoint an acting Project Manager to the demonstration/experiment farm since the Japanese Government consider this project as a very important one where Sri Lanka could benefit by the technical co-operation offered by the Japanese Government.

Director General explained that there is only one Project Manager for a system and he cannot designate an Officer as an acting Project Manager due to administrative problems. However, he agreed to appoint a suitable person as the Farm Manager to the demonstration farm in order to liais between the Japanese experts and the Project Manager and the other staff in the MEA Head Office. The Executive Director suggested that the Farm Manager who will be appointed to the seed farm could in fact look after the demonstration farm as the area involved is around 23 ha. Further one of the counterparts could also act as Farm Manager/Demonstration Farm between the Japanese experts and the Project Manager/System 'C'. Director General stated that the counterpart Officers for the Japanese experts will be on a full-time basis and raised no objection for co-ordination with the Girandurukotte Research Station, Alutharama seed farm and MECA in executing the project. Director

General agreed for the title of the Project which ^{is} "Integrated Agricultural Development Demonstration Project".

The covering area of the project would be Unit 1 of Block 302 which is (known as the project site) and Block 302 would be project area for the technical co-operation. Director General agreed to the proposal on the Detailed Design and implementation of Model Infra-structure which include :

- civil works for Demonstration/Experiment Farm
- plants for cleaning, processing and milling,
- re-confirmation and advices on common utilities,
- facilities in Unit 1, project office and accommodation for Japanese experts.

Mr. Kasai explained that they are not in a position to import seed from a third country although this was discussed at the previous meeting. Director General said that he would be able to get such seed from countries other than Japan. The Japanese Mission then agreed to carry out experiments if such seeds are provided by the MEA. Further, the mission agreed to conduct experiments with seeds of Japanese origin.

As indicated earlier, tropical fruit trees would not be included in the project, but experiments on new vegetable crops and annual fruit crops would be undertaken (eg. melon).

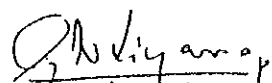
As suggested by the Japanese Mission the extension service to the farmers in the project will be assigned only to local Extension Officers.

The Japanese Mission also explained the training courses in Japan would be of 03, 06, and 08 months and 01 year duration.

Mr. Kasai stated that JICA will despatch another Mission in February to finalize the Project proposal.

All contents of the Interim Report were agreed to among all attendants at the meeting.

Director General agreed to provide the finances required as indicated in the Annex=B of the Interim Report.


G.W. Liyanage
Senior Agronomist
MAHAWELI ECONOMIC AGENCY.

15th, November 1984.

(3)

NOTES OF DISCUSSION
ON
INTEGRATED AGRICULTURAL DEVELOPMENT DEMONSTRATION PROJECT

The meeting was held at the Conference Room of the Mahaweli Authority of Sri Lanka, at 2.30-4.00 pm on November 09th, 1984 between JICA Mission and Japanese Officials concerned and Sri Lankan Officials concerned as stated below :

Present :

JAPANESE SIDE

Mr. T. Kasai, JICA Project Planner
Mr. T. Sato, JICA Mission
Mr. Y. Yoshizumi, JICA Mission
Mr. T. Seki, JICA Mission
Mr. M. Itami, Embassy of Japan
Mr. M. Kobayashi, Embassy of Japan
Mr. Y. Ikeda, Resident Representative

SRI LANKAN SIDE

Mr. N.G.P. Panditharane, Director General
Mr. Lalit Godamunne, Secretary General
Mr. D.J. Bandaragoda, Executive Director
Mr. D.W. Kannangara, Manager/PM & C
Mr. P.H.K. Dayaratne, Project Co-ordinator-'C'
Mr. G.W.Liyanage, Senior Agronomist
Mr. W.M.R. Iddawala, Mechanical Engineer

The Executive Director/MEA introduced the Japanese Mission and the other Members of the Japanese Government to Director General of MASL who presided over the meeting.

The Interim Report on the formation of Integrated Agricultural Development Demonstration Project in Mahaweli area was taken up for discussion. Executive Director briefed Director General on the background of the Project.

The Japanese Mission explained the major components of the proposed technical co-operation to Director General.

- (1) To demonstrate a series of agricultural techniques from cultivation to post-harvest processing for production of high quality rice.

The Japanese Mission explained to Director General the present quality of rice is far below the expected specifications. Director General agreed to the necessity of the improvement of rice quality and pointed out that high quality rice could be^a substitution of present import quality rice and there would be an export possibility of high quality rice to be produced in future. He further stated that present varieties are not good for export purposes and requested the mission

to try out cultivation of quality varieties like Basmathi in the experiment and demonstration farm. He further explained that, if quality varieties are successfully grown in the demonstration farm, farmers in Unit 2 and 3 could produce the same.

The Japanese Mission explained in the production of high-quality rice, post-harvest techniques will be demonstrated with the present available high quality varieties in the first stage. However, Director General requested to try out the demonstration of exportable varieties as well as present high quality varieties with high quality processing for the purpose of future export and also requested to provide the seed material for high quality varieties to be cultivated in the demonstration/experiment farm. It was understood to provide the seed material of high quality varieties if MASL would clear the legal procedures to import the seed with the concurrence of Ministry of Agriculture.

- (2) To demonstrate the appropriate farming systems including other crops to the settlers in the project area.

Director General requested the Mission to elaborate on these proposed farming systems. The mission explained that crops like Onions, Chilli, Green gram, Cow pea, Cabbage and Soya bean will be tried out in different combinations to incorporate higher incomes of the farmers in the project area. Director General mentioned that the cultivation of red onions and chilli has a market and is already self-sufficient. He further stated that he is not in favour of over-production of these crops as it will invariably result in lower levels of income elsewhere. In order to avoid such a situation, Director General requested the mission to try out new crops like Bombay onions, Garlic, Corriander, Mustard and good quality ginger. Further he requested an expert to try out citrus cultivation at least in five acre block in the project area. Although countries like Pakistan, Malaysia are willing to co-operate in such a venture, at this instance Director General does not like to invite them into this project area as he recognizes this project as a Japanese venture. The mission stated that they could not try out perennial fruit crops due to three major reasons :-

- i) the selected area for demonstration is an irrigated area.
- ii) the technical co-operation is limited to 05 years.
- iii) the Japanese lacks the expertise on tropical fruit culture.

While agreeing to these factors, Director General requested the mission at least to try short term fruit crops like melon, egg plants and vegetables, for there is a great potential in the Middle East market for Sri Lanka to export fruits. The mission took note of some possibility of experiment for some vegetable fruits.

- (3) To demonstrate better on-farm water management techniques for (1) and (2).

Director General was very pleased with this and agreed to give his fullest co-operation for demonstrating better on-farm water management techniques to farmers in the project area.

- (4) To extend possible assistance and co-operation to the government seed farm in Unit 1 of Block 302.

Director General welcomed the assistance and co-operation to the seed farm.

Director General requested to amend as follows :-

- Page 8 (5) Government Seed Farm

pre-amendment

- To provide supply of machinery and equipment.

past - amendment

- To provide supply of machinery and equipment and seed material.

- Page 9 (6) Strategy of Tehcnical Co-operation

pre-amendment

- (i) At the early implementation stage of the proposed technical co-operation, experiments and demonstrations will be carried out in the newly built farms specially designed for this purpose in Unit 1 Block 302.
- (ii) At the latter stage, techniques demonstrated at the demonstration farms in Unit 1 will be extended to the farmers settled in Unit 2 & 3 through the local extension system.

post-amendment

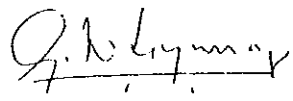
- (i) At the early implementation stage of the proposed technical co-operation, experiments and demonstrations will be carried out in the demonstration farms specially designed for this purpose in Unit 1 Block 302.
- (ii) At the latter stage, techniques demonstrated at the demonstration farms in Unit 1 will be extended to Unit 1 and the farmers settled in Unit 2 & 3 through the local extension system.

The Executive Director explained that the proposed project was compiled with the assistance of Officers/MEA. The Japanese mission expressed the possibility to bear some part of capital expenditure in the demonstration farm, taking the shortage of Sri Lanka local budget into consideration. However, Mr. Kasai explained that he has to get the approval from Japan on his return to provide this amount.

If the Sri Lanka Government and the Japanese Government agree to the proposed technical co-operation, the implementation of the project would start in August 1985. The MASL requested the mission to despatch Japanese experts as early as possible. The MASL also requested the mission to send the curriculum vitae of Japanese experts to reach it early next year and to obtain its consent, before the "Record of Discussions" in February. In response to the request, the Japanese side explained that the normal procedures with A-1 form should be initiated following to "Record of Discussions".

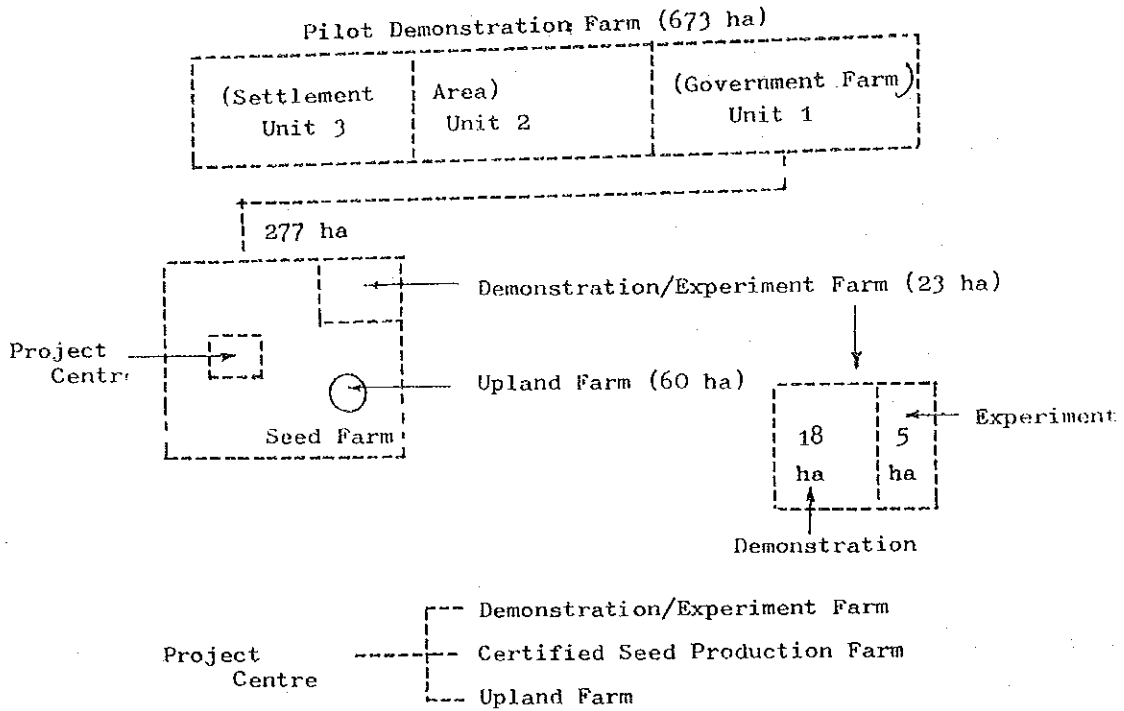
It was decided to meet again on 12th November, 1984 at 3.30p.m. for further discussions.


(T. Kasai)
JICA Project Planner

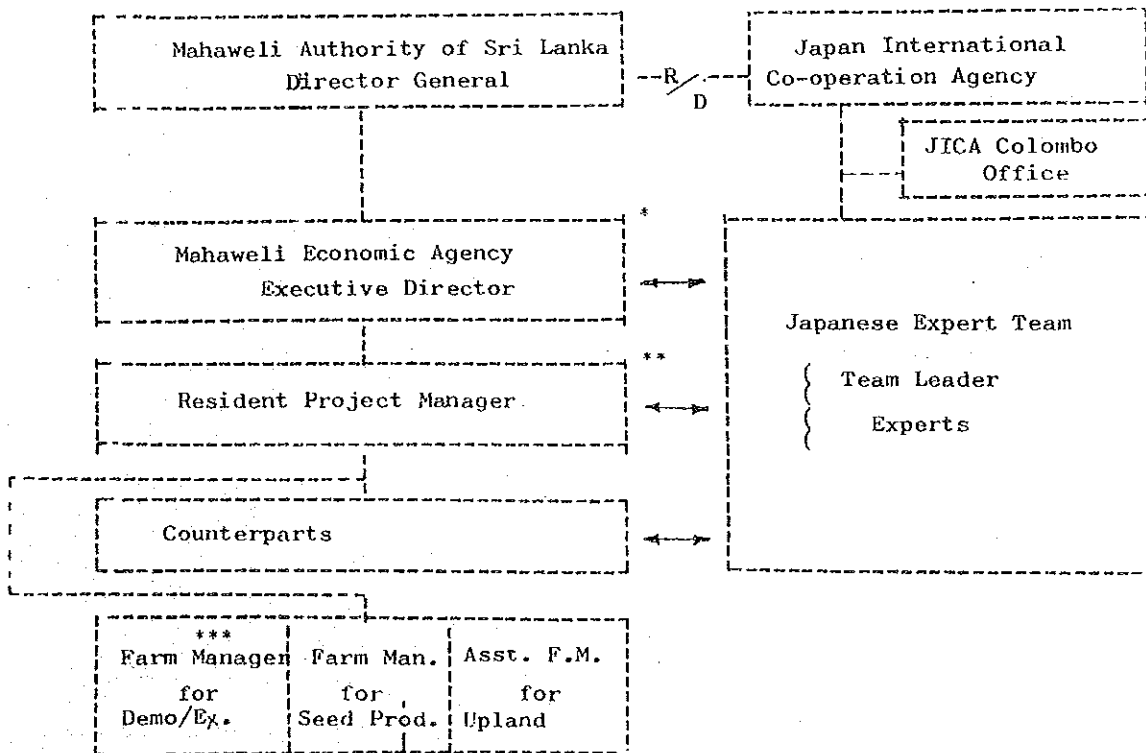

(G.W. Liyanage)
Senior Agronomist, MEA.

A MEMO, FOR
INTEGRATED AGRICULTURAL DEVELOPMENT DEMONSTRATION PROJECT

I.
 01. Function



02. Organization (Proposed)



- * Executive Project Manager (high administration level)
- ** Project Manager (resident)
- *** Acting Project Manager (field level)

- Counterparts as well as Farm Managers should be on full-time basis assigned by the Headquarter of MEA.

- Well -coordination with the Special Research Centre in Girandurukotte, Aluḥharama Seed Farm and Mahaweli Engineering and Construction Agency (MECA) is strongly expected at field level.

03. Title of the Project (tentative)

Integrated Agricultural Development Demonstration Project.

04. Covering area of the Project

- Demonstration/Experiment Farm for the base for the Project.
- Unit 1 (Project Site) for some portion of project activities like water management, post-harvesting,
- Block 302 (Project area) for some portion of project activities as part of demonstration.

05. Detailed Design and implementation of Model Infra-structure (Proposal) For D/D :

- Civil works for Demonstration/Experiment Farm
- Plants for cleaning, processing and milling
- Re-confirmation and advices on common utilities, facilities in Uni 1, project office and accommodation for Japanese experts.

For Implementation :

- Civil works for Demonstration/Experiment Farm
- Plants for cleaning, processing and milling.

survey period :

One and half a month from January or February, 1985.

Implementation of Model Infra-structure

July - October, 1985 for civil works and foundation of plants
January - March, 1986 for plant installation and trial
operation.

For this preparation, the Japanese Project Formation Team will carry out the preliminary survey in the latter half period of its stay, in collaboration with counterparts.

II. Some conditions on technical co-operation for the Project

- 1) Breeding of seed is not included. Introduction of foreign country's seeds is not included. All matters ^(Word) regarding seeds should be guaranteed by the Ministry of Agricultural Development & Research. Seed selection for the Project should be initiated through a delivery of the Ministry.
- 2) Tropical fruit trees and other perennial crops are not included. New vegetable crops will be only on experiment/demonstration basis.
- 3) Farm guidance and extension services to the farmers in the Project area is out of assignment for Japanese experts. Those activities are considered as a routine work of MEA.
- 4) Despatchment of Japanese experts, after the Record of Discussion becomes due, shall be initiated through normal procedures with A-1 Form. Similarly, Training Programmes in Japan and Procurement of equipment and machinery shall be due to A-2, 3 forms and A-4 Forms respectively.

(4)

MINUTES OF THE MEETING ON THE TECHNICAL CO-OPERATION OF
INTEGRATED AGRICULTURAL DEVELOPMENT IN MAHAWELI AREA

This minutes presents the contents of the captioned meeting which were discussed and confirmed between both parties. The meeting was held at M.E.A. Resident Manager's Office, Girandurukotte, on October 13th, 1984. Attendants are as follows:-

<u>M.E.A.</u>	<u>J.I.C.A. Mission</u>
Mr. P.V. Pathirana, R.P.M.	Mr. T. Sato
Mr. W.W. Udupihilla, C.E.E.	Mr. Y. Yoshizumi
Mr. N.A.G. Hethiarachchi, S.Ag. Officer	Mr. T. Seki

1. Two cropping patterns will be proposed respectively i.e. One is for the demonstration farm and the other is for the paddy seed farm.
2. Proposed upland crops to be cultivated in the demonstration farm will be as follows:-
 - Bombay onion (cash crop)
 - Greengram & Cowpea (" ")
 - Chilli (" ")
 - General vegetables (home consumption)
3. Period of water issue will be flexible.
4. Optimum scales of rice and rice-seed processing plant will be decided after getting further information at Regional Research Station in Maha Illuppalama.
5. Main purpose of the government farm is to produce high-quality seed and also to produce high quality rice from excess high quality paddy in the government farm.
6. General plan of the demonstration and experiment farm was basically accepted among the attendants.

T. Sato

T. Sato
Leader
J.I.C.A. Mission

22nd October, 1984.

-/sj

(5)

MINUTES OF THE MEETING ON THE TECHNICAL COOPERATION
OF INTEGRATED AGRICULTURAL DEVELOPMENT IN MAHAWEELI AREA

This minutes presents contents of the captioned meeting which were confirmed and agreed between both parties. The meeting was held at MEA Resident Project Manager's Office, Girandurukotte on October 5th, 1984. Attendants is as follows;

<u>MEA</u>	<u>JICA Mission</u>
Mr. P.V. Pathirana, R.P.M.	Mr. T. Sato
Mr. W.W. Udupihilla, C.E.I.	Mr. Y. Yoshizumi
Mr. W.M.R. Iddawela, M.E.	Mr. T. Seki

"Note of Understanding on the Technical Cooperation", confirmed and agreed in Colombo between MEA and JICA Mission, was explained by JICA Mission. All items in the note were confirmed and agreed by the attendants in the meeting.

In addition, followings were further discussed and confirmed mutually in the meeting.

1. To demonstrate an optimum semi-mechanized farming pattern which is suitable and adoptable for farmers. The above demonstration will be carried out in "Demonstration Farm" in Unit 1 of Block 302 which scale will be 20-30 Ha.
2. Examination on adaptability of agro-machinery will be made in demonstration farm. Based on the examination, suitable and adoptable agro-machinery will be introduced for demonstration.
3. To demonstrate the production of high quality rice which will be acceptable in world markets. It is the time when much emphasis on the production of high quality rice should be placed in Mahaweli area.
4. To demonstrate rice processings for the production of high-quality rice. Processing plant will be economical and optimum scale which can be acceptable and adoptable for the government or private sector to copy the plant in Mahaweli Area.
5. The plant to be installed in the technical cooperation will contribute to farmers and consumers.
6. Diversified crops will be onion, green-gram and cow-pea but will be further discussed.
7. Main technical cooperations on water management are as follows:
 - (1) To estimate respective crop water requirements in the proposed cropping patterns.
 - (2) To operate and maintain the irrigation facilities with better water management in collaboration with water management counterpart experts and engineering assistants.

T. Sato

T. Sato
Leader/JICA Mission.

(6)

2nd October, 1984

NOTE OF UNDERSTANDING ON THE PROPOSED TECHNICAL CO-OPERATION
OF INTEGRATED AGRICULTURAL DEVELOPMENT IN MAHAWELI AREA

This note presents the mutual understanding reached between the Mahaweli Economic Agency (MEA) and Japan International Cooperation Agency (JICA) mission through a series of meetings on the proposed technical cooperation project of "Integrated Agricultural Development in Mahaweli Area".

Meetings have been held at the Mahaweli Economic Agency Meeting Room thrice. The attendants at the last meeting are as follows:

<u>MEA</u>	<u>JAPANESE</u>
Mr. D.J. Bandaragoda - Executive Director	Mr. T. Sato - JICA Mission
Mr. D.W. Kannangara - Manager	Mr. Y. Yoshizumi "
Mr. P.H.K. Dayaratne - Project Co-Ordinator	Mr. T. Seki "
Mr. G.W. Liyanage - Senior Agronomist	Mr. M. Itami - Embassy of Japan
Mr. H.A. Wickramaratne - Chief Irrigation Engineer	Mr. M. Kobayashi " "
Mr. W.M.R. Iddawala - Mechanical Engineer	Mr. Y. Ikeda - Resident Representative-JICA

At the meetings the objectives of the proposed technical cooperation were discussed between the attendants and the following have been mutually confirmed between both parties.

- 1) To demonstrate a series of agricultural techniques from cultivation to post-harvest processing for production of high quality rice.
- 2) To demonstrate the appropriate farming system including upland crops to the settlers in the project area.
- 3) To demonstrate better on-farm water management techniques for (1) & (2) above, and
- 4) To extend possible assistance and cooperation to the seed farm in Unit 1 Block 302.

Next, the followings in connection with the above were discussed and have been mutually confirmed by both parties.

Interim Report on the technical cooperation programme mutually confirmed will be prepared by JICA mission and the MEA counterpart experts, and, will be presented to the Mahaweli Authority in early November, 1984.

- 2) High quality rice, which will be cultivated in the Project Area, firstly will be intended for the domestic demand in Sri Lanka and later will be developed to an exportable grade.
- 3) Rice processing will be done in the following areas.
 - On-farm level processing; i.e. from threshing stage to milling stage.
 - Scale of processing equipment/machinery will be further discussed.
- 4) An optimum cropping system including paddy/upland-crops will be experimented and demonstrated by the proposed technical cooperation ultimately for generating a higher income of the farmers in the project area.
- 5) Fruit culture will not be included in the proposed technical cooperation.
- 6) Kinds/varieties of upland crops to be introduced to the project will be discussed after further investigations and discussions between both parties.

Processing of upland crops will be at farmers level. However further discussions will be done after varieties or kinds are determined by both parties. (MEA expressed the necessity of centralized processing plants.)

- 8) Water management in the proposed technical cooperation will be on-farm level. Main technical cooperation will be as follows:
 - To estimate respective crop water requirements and further to estimate for diversified cropping patterns proposed. The above estimated water requirements will be used for future irrigation planning for diversified cropping patterns.
 - To operate and maintain the irrigation facilities constructed in the project area with better on-farm water management in collaboration with water management counterpart experts and engineering assistants.
- 9) Contents of the proposed technical cooperation to the government seed farm (217 H) in Unit 1 will be further discussed after investigations and study on the farm by the mission. (MEA expressed that necessity of machinery and equipment for the farm)

- 10) First priority placed in the above-mentioned objectives of the proposed technical cooperation will be on production of high quality rice and secondarily on production of upland crops.
- 11) In order to attain the abovementioned objectives, mutually confirmed between both parties, it has been mutually agreed that the following concepts of basic strategies be employed for implementing the proposed technical cooperation:
 - a) At the early implementation stage of the proposed technical cooperation, experiments and demonstrations will be carried out in the newly built farms specially designed for this purpose in Unit 1 block 302.
 - b) At the latter stage, techniques demonstrated at the demonstration farms in Unit 1 will be extended to the farmers settled in Unit 2 & 3 through the local extension system.

Colombo
3rd October, 1984

Mr. D.J. Bandaragoda,
Executive Director,
Mahaweli Economic Agency.

Dear Sir,

Since our arrival in Colombo on 23rd September, 1984, the JICA team has had meetings and discussed with the Mahaweli Economic Agency on the proposed technical co-operation project of "Integrated Agricultural Development in Mahaweli Area". Based on the meetings above, a NOTE OF UNDERSTANDING was prepared which is attached herewith.

Please be good enough to make your frank and constructive comments, if any, regarding the note.

Yours sincerely,



T. Sato
TEAM LEADER
JICA MISSION

(7) マハヴェリ農開事前調査団

Colombo
March 28' 1984

Mr. N.G.P. Panditharatne,
Director-General,
Mahaweli Authority of Sri Lanka,
Colombo 10,
Sri Lanka.

Dear Sir, .

Since the arrival at Colombo on March, 18, 1984, our team conducted a field survey in Kandy, System "C" and System "H" and had a series of discussion with Sri Lankan authorities concerned pertaining to technical cooperation for Integrated Agricultural Development Project in Mahaweli Area.

I thank you for your excellent arrangement during the period of our stay. The team was eventually able to formulate the provisional framework of the technical cooperation mentioned above. Now I have the pleasure to present to you the Tentative Note of Understanding as attached hereto which summarized the content of discussion on the framework.

Since the framework of the team is partially modified from the original one, based on the field survey and the discussion, it has to be conveyed to and discussed among Japanese authorities concerned after the team comes back to Japan. The result of the discussion will be duly informed to Sri Lankan side as soon as possible.

Again I would like to express our sincere gratitude for your kind co-operation on behalf of the team.

Yours sincerely,


Haruo Tsuchiya

LEADER

JAPANESE PRELIMINARY SURVEY TEAM
ON TECHNICAL COOPERATION FOR
INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT IN MAHAWELI AREA

TENTATIVE NOTE OF UNDERSTANDING ON THE TECHNICAL COOPERATION
FRAMEWORK OF INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT IN MAHAWELI AREA

1. Background

At present rice production almost reaches to self-sufficiency stage in Sri Lanka and even surplus of rice is expected in quite near future. In this situation there are mainly two kinds of approaches to be taken for agricultural development in Sri Lanka.

One is improvement of rice quality. The quality of rice produced in Sri Lanka is rather poor. Accordingly it is inevitable that the demand for high quality rice will be increased even in the local market in the situation where the supply of rice tends to exceed the demand. This will also enable Sri Lanka to look for potential market for exporting high quality rice.

The other is diversification of crops. Cultivation of upland crops as well as rice should be sought in order to increase the benefits from agricultural production.

Considering the above, effective technical cooperation will be described as follows:

2. Purpose

- a. To demonstrate a series of agricultural technique from cultivation to post-harvest processing for production of high quality rice and eventually to contribute to agricultural development in Mahaweli Area.
- b. To demonstrate the appropriate farming system including upland crops to the project area for the farmers to be settled in Mahaweli area.

3. Project Organization

a. Executing organization

Mahaweli Authority of Sri Lanka

b. Related organization

For the promotion of implementation, the technical cooperation will hold close relations with

- a) Ministry of Agricultural Development and Research especially Department of Agriculture.
- b) Ministry of Lands and Land Development

4. Term of the technical cooperation
 - 5(five) years from the date which will be decided in the Record of Discussions or the date of signing on the Record of Discussions for the project.
5. Contents of the technical cooperation

The technical cooperation will be carried out through technical advise and guidance to counterpart experts of Sri Lankan side in line with the following fields and framework.

 - a. Demonstration of technique of high quality rice production.
 - a) Cultivation

Transplanting, weeding, harvesting etc.
 - b) Post-harvest processing.

Threshing, drying, winnowing, husking, milling etc.
 - b. Demonstration of the appropriate farming system to the project site.
 - a) Demonstration of appropriate cropping pattern including upland crops and rice.
 - b) Demonstration of appropriate farming practice.
 - c) Estimation of water requirement for each kind of crop and demonstration of appropriate water management.
6. Japanese experts to be assigned
 - a) Team Leader
 - b) Rice cultivation
 - c) Upland crop cultivation
 - d) Agricultural machinery
 - e) Post-harvest technique(including quality control)
 - f) water management
 - g) Co-ordinator

NOTE: Team leader may hold an additional field concurrently.
Some of the above experts will be assigned in short term.
Expert of other field may be assigned in short term, if necessary.
7. Expected Sri Lankan counterpart experts to be assigned
 - a) Project Manager
 - b) Rice Cultivation
 - c) Upland Crop cultivation
 - d) Agricultural Machinery
 - e) Post-harvest technique(including quality control)
 - f) water management
 - g) Other experts corresponding to the other fields of Japanese experts.

8. Supporting staff to be assigned by Sri Lankan side.
 - a) Clerical staff
 - b) Drivers
 - c) Technical Assistant
 - d) Worker
 - e) Other necessary personnel
9. Project Site
Block 302, Zone 3 in system "C" has been tentatively selected as project site where the facilities are being established. Necessary accommodation will be provided for Japanese experts within the project area.
10. Measures to be taken by Japanese side
 - a) Despatch of experts mentioned in 6
 - b) Provision of equipment
Provision of equipment, machinery, vehicles and materials necessary for the project implementation.
 - c) Training of Sri Lankan personnel in Japan
Acceptance of Sri Lankan personnel connected with the Project.
11. Measures to be taken by Sri Lankan side
 - a) providing land, buildings and facilities for the project.
 - b) Administration and running costs necessary for the project.
 - c) Allocation of the number of qualified personnel as needed.
12. Future procedure
Before the initiation of the technical co-operation a few expert(s) will be despatched to formulate the detailed scheme of the cooperation and prepare the list of necessary machinery and facilities for the cooperation. (prior to the Record of Discussions)

(8)

MINUTES OF DISCUSSION ON THE DRAFT REPORT OF THE BASIC DESIGN STUDY
ON
THE ESTABLISHMENT OF PILOT DEMONSTRATION FARM IN MAHAWELI
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

The Government of Japan has sent, through Japan International Cooperation Agency ("JICA"), a Basic Design Survey Team ("the Team") to the Democratic Socialist Republic of Sri Lanka from 1st to 10th October, 1982 for the purposes of the submission and the explanation of the Draft Final Report ("the Report") of the Basic Design Study on the project for the Establishment of Pilot Demonstration Farm in Mahaweli ("the Project").

The Team had a series of discussions with the authorities concerned of the Government of the Democratic Socialist Republic of Sri Lanka to explain and discuss on the Report.

This minutes records the following major points of understanding reached between both parties regarding the Project, subject to further review and approval of the respective Governments for the implementation of the Project.

1. The Report principally satisfied the Sri Lankan side and appropriate alterations in design agreed during the discussions will be incorporated in the Final Report.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of the Democratic Socialist Republic of Sri Lanka by the end of November, 1982.
3. The Sri Lankan side has newly proposed to utilize a part (approximately 200 hectares) of the Project area as a Governmental Model Farm ("the Model Farm") where the Government of the Democratic Socialist Republic of Sri Lanka would demonstrate new techniques of cultivation and improved agricultural practices as well as produce multiplied seed and so on under the guidance of Japanese experts requested in 6 below.

4. The Government of the Democratic Socialist Republic of Sri Lanka will take necessary measures and undertake the following on the condition that the grant assistance by the Government of Japan is extended to the project.

- (1) to carry out the detailed survey of the final alignment of canals and plot demarcation and grid survey in the irrigable lands.
- (2) to clear the lands necessary for the construction of facilities.
- (3) to provide plot ditch and construct three tanks.
- (4) to make all settlement programme in accordance with the progress of the Project.
- (5) to clear any trouble claimed by the settlers in the responsibility of the Sri Lankan side.
- (6) to provide data and information required for the detail design and preparation of tender documents for civil works.
- (7) to provide counterpart personnel for detail design and construction supervision during the construction period.
- (8) to provide facilities for distribution of electricity, water supply and other incidental facilities for the project office.
- (9) to provide office and quarters with necessary facilities for the consultant during the period of the detail design and construction supervision.
- (10) to ensure prompt unloading and customs clearance at ports of disembarkation in Sri Lanka and prompt internal transportation therein of equipment, plants and materials required for the construction of the project.

- (11) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Sri Lanka with respect to supply of the products and the services under the Grant.
- (12) to accord Japanese nationals whose services may be required in connection with the services under the Grant such facilities as may be necessary for their entry into Sri Lanka and stay therein for the performance of their work.
- (13) to provide timely all such funds, personnel and facilities as will be necessary for ensuring the facilities under the Grant be maintained and used properly and effectively.
5. The Sri Lankan side will take all the responsibilities for operation and maintenance of the Model Farm referred to in 3 above including the provision of buildings and other related facilities such as office, staff quarters and garage necessary for the management of the Model Farm.
6. The Sri Lankan side requested the dispatch of some Japanese experts as the technical assistance for the Model Farm and will provide all the living facilities for their accommodation at Alutharama.
7. The Team will convey the proposal and the request made by the Sri Lankan side in 3. and 6. above to the Government of Japan.

8th October, 1982

Isamu Minamiyama.
.....
ISAMU MINAMIYAMA
TEAM LEADER
JICA BASIC-DESIGN SURVEY TEAM
FOR ESTABLISHMENT OF PILOT
DEMONSTRATION FARM.

Lalith Godamunne
.....
LALITH GODAMUNNE
SECRETARY GENERAL
MAHAWELI AUTHORITY
OF
SRI LANKA.

DAILY NEWS, MONDAY FEBRUARY 11, 1985

MAHAWELI DEVELOPMENT AUTHORITY

Japanese expertise for farmers

Japanese experts will teach Lankan farmers the finer points of cultivating and harvesting high grade export quality rice, under the terms of an agreement to be signed today.

The agreement is a follow-up to the Japanese-aided Demonstration Farm now established in System C of the Mahaweli development programme.

The additional technical co-operation today's agreement is providing for, will have as its main aim the introduction of a series of techniques for the production of high quality rice and other appropriate upland crops, designed to add to farmer income.

The project will be for a 5-year pe-

riod with the major components identified as:

- the demonstration of a series of post-harvest processing techniques for rice.

- the demonstration of a farming system which would include other appropriate crops.

- the demonstration of better on-farm water management techniques; and

- the provision of technical advice to the government seed farm in unit 1 of block 302.

Mr Takami Tauchi, head of the Japanese delegation now in Sri Lanka, will sign the agreement with Mr. K. H. S. Gunatilleke, Director-General of the Mahaweli Authority.

FOREIGN NEWS 3

Japanese technical know-how for Mahaweli

Under the Mahaweli Development Scheme, Japan extended its assistance to establish the Demonstration Farm in System "C" of Mahaweli Development Programme under grant aid basis, in order to demonstrate new techniques of integrated farm management for the settlers.

The construction work has already been completed and it was ceremonially opened on November 1, 1984.

Following the assistance for the establishment of this Demonstration Farm, Japan will also provide technical co-operation assistance for the project. The main aim of this technical co-operation is to introduce the series of techniques of production of high quality rice and other appropriate crops which will contribute further to increase of farmers' income in the area.

In preparation towards signing of this agreement for technical co-operation by Japan to Sri Lanka, a Japanese delegation headed by Mr. Takami Tauchi visited Sri Lanka on 5th February 1985. The agreement will be

signed on 11th February 1985, between the head of the delegation and Mr. K. H. S. Gunatilleke, Director-General, Mahaweli Authority of Sri Lanka. The technical co-operation scheme will take effect from the date of signing up to a period of five (5) years.

The following steps will be taken as major components:-

- * to demonstrate a series of agricultural techniques from cultivation to post-harvest processing for production of high quality rice;
- * to demonstrate the farming system including other appropriate crops to the local farmers in the project area.

付一4 昭和60年度分(初年度分)機材供与リスト(案)

LIST OF MACHINERY AND EQUIPMENTS	
No	Items
01	Agricultural Machinery & Equipment
02	Seed Processing Plant
03	Workshop Equipment & Tools
04	Vehicles
05	Experimental apparatus for Agronomy
06	Measuring Apparatus for Processing
07	Water Management Experiment Apparatus
08	Meteorological Observation Equipments
09	Agricultural Materials and Chemicals
10	Office Equipment and Common Uses

LIST OF AGRICULTURAL MACHINERY AND EQUIPMENT

No	Item	Specification	Unit
01	4 Wheel Tractor	25 ps Diesel Engine with Rotervator 4 Wheel Drive	2
02	Drive Harrow	For 25 ps Tractor	2
03	Broad Caster	For 25 ps Tractor	2
04	Paddy Wheels	(Pair) for 25 ps Tractor	2
05	Trailer	(Dump Type) 1 ton capacity	2
06	Power Tiller	7 ps Diesel Engine with Rotervator	3
07	Paddy Wheels	(Pair) for 7 ps Tiller	3
08	Lime Sower	For 7 ps Tiller	2
09	Leveler	For 7 ps Tiller	3
10	Trailer	For 7 ps Tiller	3
11	Field Bridge	3-4 m (L) x 0.45 m (W) (Aluminium hard panel)	5
12	Transplanter	4 Rows with Nursery box	1
13	Seedling Box	300 Boxes in a lot	1
14	Power Sorayer	Carryable type 10 lit./min w/Diesel Engine Gun Nozzle	1
15	Knap Such Power Duster Mister	2 cycle Gasolin Engine 3.5 lit/min (liquid)	10
16	Compressed Sprayer	Manual operation type	2
17	Hand weeder	25 cm (W)	10
18	Reaper Binder	3 Rows with Diesel Engine	1
19	Power Thresher	80-100 cm (W) with Diesel Engine	2
20	Peddal Thresher	45 Cm (W) with kerosene Engine	2
21	Winnower	Manual operation with kerosene Engine	7
22	Lift Pump	3" Centrifigure type with Diesel Engine	2
23	Bush Cutter	2 cycle engine	1
24	Electric Generator	220V 50HZ 10KVA, with Diesel Engine	1
25	Pump and Pipes	2 in dia., 170ft., 3,500 GPH/120 ft. 440V, 50HZ, 3.7 KW, 3phase	1
26	Transformer and Wires	33KV/440 V, 400 KVA, 50HZ, 3 phase	1

LIST FOR SEED PROCESSING PLANTS

No	Item	Specification	Unit
01	Pre-Cleaner	1 ton/H	1 set
02	Separator	1 ton/H	1 set
03	Scale Shutter	20 - 50 kg	1 set
04	Sewing Machine	200 - 300 Bags/Hr	1 set
05	Shutter	Electric Motor driven	4 sets
		Note : Electric Supply 440V 50 HZ 3 Phase	
		220V 50 HZ 1 Phase	
06	Other raw materials		1 set

WORKSHOP EQUIPMENT AND TOOLS

No	Item	Quantity
01	Hammer drill (Hand)	1
02	Angle grinder (Hand)	1
03	Arc welding set (35-200 AMP)	1 set
04	Oxy/Acetylene welding and cutting set	1 set
05	Sets of servicemen tool kits (complete)	1 set
06	Sets of heavy duty ring spanners	1 set
07	Adjustable spanners (shifters)	1
08	'C' clamps	2
09	Set of sledge hammers (½ kg - 5 kg)	1 set
10	Chain blocks	1
11	Set of chisels	1 set
12	Hydraulic jacks	2
13	Wheel stands	2
14	Pipe wrenches	1
15	Bench vices	2
16	2 jaw and 3 jaw pullers	2
17	Air Compressor	1
18	Tyre inflator with pressure gauge	1
19	Tube vulcanizer	1
20	Tyre removing tools	1
21	Measuring tapes (steel) 2 meters - length	3
22	Stainless steel scales (30 cm)	3
23	Inside & outside callipers (firm joint)	3
24	Vernier caliper	1
25	Feeler gauges	2
26	Screw pitch gauges	1
27	High pressure grease pump & gun	2
28	Hand operated lubricating oil pump	1
29	Oil sprayers with nozzle and container	1
30	Tappet wrench	1
31	Shock driver	1
32	Stud extractor	1
33	Oil trays or pans	1
34	Garrage lamp	1
35	Electricians screw driver ser with indicator lamps for L.V. and H.V.	1
36	Electric Carpenter's tool set	1 set

LIST OF VEHICLES

No	Item	Specification	Unit
01	4 Wheel Drive Station Wagon	103 ps Diesel Engine (4,000 cc)	2
02	Motor Cycle	90 cc Standard Model (including helmet)	5
03	Truck	4 - 4.5 ton equipped with Crane	1
04	Passenger Van	9 Passenger, 4 Door, Diesel Engine	1

LIST OF EXPERIMENTAL APPARATUS FOR AGRONOMY

No	Item	Specification	Unit
01	Sieves		
	(i) Grain sieve sets	Round	01 Set
	(ii) Pulses sieve sets	Round	01 Set
02	Seed sample pan	Round	20
03	Granometers		
	(i) 100 grains		2
	(ii) 500 grains		2
04	Reaping Area		
	Determinater	(3 m ² , 4 m ²)	3
05	Quadrat Sampling		
	Thresher	Ac. 220 V, 50 HZ (1 ph)	1
06	Quadrat Sampling		
	Huller	Hopper capacity 15 l. Ac 220 V, 50 HZ (1 ph)	1
07	Test Huller	10 - 15 kg/h, Ac 220 V, 50 HZ (1 ph)	1
08	Rice Polisher	15 kg/h, Ac 220 V, 50 HZ (1 ph)	1
09	Quadrat Sampling		
	Winnower	Ac 220 V, 50 Hz (1 ph)	1
10	Soil Moisture Meter	Electric Resistance Plaster Block Electrode Battery	1
11	Soil sieve sets	Mesh, of 10 cm, Stainless	1 Set
12	Soil & Plant Nutrient Tester with supplement Reagent	Tanagita Type	1 Set
13	Canvas		
	(i) 6 ^m x 6 ^m		5
	(ii) 2 ^m x 2 ^m		30
14	Balances		
	(i) Beam Balance	1 kg	1
	- do -	2 kg	1
	(ii) Table Spring Balances	2 kg	3
	- do -	10 kg	3
	(iii) Platform Balances	20 kg	1
	- do -	100 kg	1

15	Oven	Max. 200°C	45 x 40 x 40 cm	1
16	Stirrer	35, 45, 60 W	1500 -- 4000 rpm	1
17	Testing Apparatus for Soil Mechanics			1 set
18	Storage Case	W	D H 130 x 45 x 185 cm	2
19	Water Still (Electrically Heated)	3 l/h,	220 V, 50 HZ	1
20	Glass Electrode H Meter p	Battery		1
21	Microscope	7 x 80		1
22	Table Balance (i)	100 g		1
23	"	200 g		1
24	Desiccator (glass)	300 ^{mm}	(dia)	4
25	Germinator, Lieben- berg Type			5 Sets
26	Thermostatic Germinator	5 partitions		1
27	Glassware			1 set
28	Refrigerator for Seed stock	250 lit.	220 V, 50 HZ	2

LIST OF MEASURING APPARATUS FOR PROCESSING

No	Item	Specification	Unit
01	Electric Moisture Meter	UMI Battery operated	4
02	Infra red ray Moisture Meter	AC 100V	1
03	Automatic Voltage Regulator	Input 220 V \pm 2.5% output 100V 50 HZ, 1KW	1
04	Seed Sample Pan	Square, Round, with Hopper type each	100 Sets
05	Thermostatic Germinator	AC 220 V 250 W. 5 storages	1
06	Germination Dish	25 x 20 x 3 cm Unglazed Pottery	10
07	Testing Rice Huller	Roller Type	2
08	Grain Micrometer	0 - 10 mm (max) 0.05 mm	7
09	Stalk Balances	Double Beam Type 200g sens. 50 mg	2
10	Filling Hopper and Measure	For Grain	1
11	Rice Light - Piercer	50 Grains	2
12	Quadrat Sampling Winnower	B-3M, AC 220 V 50 HZ 1 phase	1
13	Micro Scale	7 x 22 (dia)	3
14	Mess Cylinder	200 cc., 1000 cc each	5
15	Pin set	AA. Dental each	20
16	Illuminated magnifier	AC 220-V 50 HZ x 7	1
17	Assman Psychrometer	Clock spring type	1
18	Measure Tape	50 m	1

LIST OF WATER MANAGEMENT EXPERIMENT APPARATUS

No	Item	Specification	Unit
01	Soil Tensiometer	Terada Type ; Depth 20 cm	7
	Soil Tensiometer	Terada Type ; Depth 40 cm	3
	Soil Tensiometer	Air Pool System Type ; Depth 20 cm	1
	Soil Tensiometer	Air Pool System Type ; Depth 40 cm	1
02	Intake Rate Cylinder	Normal Type	1
03	Paddy Field Receded Depth Tester	Todai N - Type	3
	Paddy Field Receded Depth Tester	RR-20 Type Automatic Recorder 07 days	6
04	Hook Gauge	Normal Type for paddy field	6
05	Rapid Leakage Capacity Tester	Todai Type	2
06	Digital Current Meter	0.1 - 3.0 m/sec	1
07	Water Level Recorder	Reshall Type RR - 1 Type	2
08	Automatic Discharge Recorder	Parshall Flume Type 0-30 lit/sec	2
	Automatic Discharge Recorder	Parshall Flume Type 0-10 lit/sec	6
09	Lysimeter Parts		1

LIST OF METEOROLOGICAL OBSERVATION EQUIPMENTS

No	Item	Specification	Unit
01	Meteorological Instrument Screens	600 x 600 x 645 mm	1
02	Thermographs	Self recording - 15 to + 40°C	1
03	Recording Raingauge	Tipping Bucket type 0 - 50mm	1
04	Max & Min Thermometer		1
05	Evaporation Gauge	Copper 20 cm x 25 cm	1
06	L-Tube Earth Thermometer	- 20 to + 50°C 0 cm 5 cm 10 cm Depth each	1
07	Wet & Dry Bulb Thermometer	- 30 to + 50°C	2
08	Recording paper, Ink Spare pen	For Recording Thermometer & Rain Gauge for 02 years	1 set
09	Cup Contact Anemometer	with Event Counter DC 3 0 (steel case)	1

LIST OF AGRICULTURAL MATERIALS AND CHEMICALS

No	Item	Specification	Quantity
01	Urea	N 46%	6 Tons
02	Concentrated Super-phosphate	P2 O5 42%	6
03	Muriate of Potash		4
04	Insecticide	Monocrotophos, Carbosulfam Granule	1 Unit
05	Weedicide	Stun 63 Granule, MCPA 33	1 Unit

LIST OF OFFICE EQUIPMENT & COMMON USES

No	Item	Specification	Unit
01	Photocopy machine		1
02	Spare parts	Toner, Drum, Paper	1 set
03	Typewriter	Electric (English)	1
04	Typewriter	Manual, Table type (English)	2
05	Filing Cabinet	45 x 90 x 120 (cm)	5
06	Book Cabinet	120 x 45 x 180 (cm)	5
07	Black Board	1200 x 900 (mm)	4
		1800 x 900 (mm)	1
08	Air Conditioner	18000 BTU 220 V. 50 HZ (1 P)	1
09	Refrigerator	140 lit. 220 V 50 HZ	1
10	Electric Calculator	Normal Type	5
11	Portable Computer	Normal Type	1
12	Office Utensils		1 set

LIST OF FOREIGN ASSISTANCE FOR MAHAWELI PROGRAMME

<u>PROJECT NAME</u>	<u>FUND</u>		<u>AMOUNT</u>	<u>YEAR</u>
1st Mahaweli Project	IDA	(L)	US \$ 14.5 M	1970 - 76
(Polgolla Diversion)	WB	(L)	US \$ 14.5 M	
(Dikwela Power House)				
(Bowatenne Dam & Tunnel)				
System H	IDA, UK, USA			- 1983
Kotmale Project	Sweden	(G)	SEK 307 M	-1982
Kotmale Project	Sweden	(G)	SEK 1,828 M	1982 - 1988
Kotmale Project	Sweden	(L)	SEK 200 M	1982 - 1988
Victoria Project	UK	(G)	£ 4.7 M	- 1979
Victoria Project	UK	(G)	£ 100 M	1979 - 1984
Victoria Project	UK	(L)	£ 20 M	1979 - 1984
Maduru Oya	Canada	(G)	CAN \$ 7 M	- 1979
Maduru Oya	Canada	(L)	CAN \$ 76 M	1979 - 1983
Computer	Canada	(G)	CAN \$ 2.8 M	- 1983
Randenigala	W.Germany	(G)	DM 8.5 M	- 1978
Randenigala	W.Germany	(L)	DM 500 M	1981 -
System B (Left)	USA	(L)	US \$ 10 M	- 1980
System B (Left)	USA	(L)	US \$ 35 M	1981 - 1986
System B (Left)	Saudi	(L)	US \$ 26 M	1981 - 1986
System B (Right)	Saudi	(L)	US \$ 50 M	1984 - 1987
System B (Right)	Canada	(L)	US \$ 40 M*	1984 - 1987
System B (Right)	IDA	(L)	US \$ 60 M*	1984 - 1987
* Expected				
Wild Life	USA	(G)	US \$ 1.5 M	
System C	IDA	(L)	US \$ 90 M	1981 - 1987
System C	Japan	(L)	US \$ 45 M	1981 - 1987
System C	Kuwait	(L)	US \$ 45 M	1981 - 1987
System C	EEC	(L)	US \$ 22.5 M	1980 - 1984
Maduru Oya Roads	Australia	(G)	US \$ 15 M	
Demonstration Farm in H	China	(G)	Rs. 3 M	
System G	FAO	(?)	US \$ 2 M	
Pilot Farm in C	Japan	(G)	Yen ¥ 996 M	1983 - 1984
Trunk Road in B & C	ADB	(L)	US \$ 22.5 M	1983 - 1985

Note ; L : Loan G: Grant

付 - 6

Nov. 12 1984

PROJECT PROPOSAL
FOR A
CERTIFIED SEED PADDY 'PRODUCTION FARM
IN
ZONE 3 - UNIT 1, BLOCK 302
SYSTEM 'C'

BY

G. W. LIYANAGE
SENIOR AGRONOMIST
MEA OF THE MASL
SRI LANKA

Nov. 12. 1984

ESTABLISHMENT OF A SEED PADDY PRODUCTION FARM
IN SYSTEM 'C'

Introduction :

Development of an organized production scheme for rice seed has been the focal point of Government of Sri Lanka (GOSL) in its agricultural development programme. Rice breeding and varietal improvement programme of the GOSL had paid dividends and Sri Lanka is approaching self-sufficiency in rice. The GOSL has also recognized the need for a systematic seed production scheme in rice to achieve the above goal. A well organized production and distribution programme of seed paddy also act as a strong link between the plant breeder, extension worker and the farmer.

02. Seed Paddy Development Programme :

Production and distribution of seed paddy in Sri Lanka at present is primarily a public function. It lies in the hands of the Department of Agriculture (DA) of the Ministry of Agricultural Development and Research.

2.1 Breeder Seed:-

Breeder seed is maintained and multiplied by the plant breeder and fed into the multiplication system every season.

2.2 Foundation Seed:-

Foundation seed is multiplied from breeder seed in Seed Farm and Research Stations of DA.

2.3 Registered Seed:-

Registered seed is developed from foundation seed and are produced in most of the farms of the DA. (Production about 3000 - 3500 Mt).

2.4 Certified Seed:-

Certified seed is the class of seed multiplied from registered seeds in DA farms, private seed farms and other State Institutions like Mahaweli Economic Agency.

Production of certified seed paddy is done under the technical supervision of the Seed Certification Service (SCS) of the Department of Agriculture. Basic features of the Seed Paddy Production Programme are shown in annexures I and II.

03. Estimate of Certified, Registered, Foundation and Breeder Seed Requirement :

Annual Extent Cultivated	-	800000 Ha
Seed requirement at 5 bushel/ha	-	4,000,000. Bushels
Risk 20%	-	800,000. Bushels
Total annual Seed Requirement	-	4,800,000. Bushels.

3.1 Annual Certified Seed Need (CSP):-

On a 04 year renewal pattern	-	1,200,000 Bushels
Buffer stock for emergency 5%	-	60,000 Bushels
Annual need of CSP	-	1,260,000 Bushels.
Extent required to produce certified seed at 150 bu/ha	-	8400 hectare.

3.2 Annual Registered Seed Need:-

Requirement of (RSP) for 8400 ha at 5 bu/ha	-	42000 Bushels
Extent required to produce at at 150 bu/ha	-	280 hectare.

3.3 Annual Foundation Seed Need (FSP):-

Requirement of FSP for 280 ha at 5 bu/ha	-	1400 Bushels
Extent required to produce at 150 bu/ha	-	9.34 hectare.

3.4 Annual Breeder Seed Need (BSP):-

Requirement of BSP for 9.34 ha at 5 bu/ha	-	46.7 Bushels.
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The total hectareage needed for production of basic seed (breeder, foundation and registered) is 290 ha. The extent of paddy land available for seed paddy production in Government Farms is 1988 hectares (Table-1).

It is also estimated that annual production in government seed farms is around 400,000 bushels of basic seed needed by the country. Therefore the balance of certified seed paddy needed for distribution among farmers is produced by contractual seed farmers and other state institutions.

04. Seed Cleaning and Processing:

With generous gifts from Australian Methodist Church, West German Republic Government and through IDA loan facilities, 12 seed cleaning plants had been established in farms of Department of Agriculture. Table-2 summarises the available processing facilities.

The demand for certified seed paddy will continue to increase with the adoption of improved cultural practices by the farmers and with the increase in paddy area under new irrigated development projects.

05. Accelerated Mahaweli Programme :

In 1977, the GOSL decided to speed up the development of Mahaweli River Basin Project. The construction of five head reservoirs has already been completed. This programme would involve settlement of around 130,000 farm families, each family being allocated 1 ha of irrigable land.

Downstream development work consists of a number of systems. (Map 1). Of these, System 'H' has already been completed. The next systems to be developed are Systems 'C', 'B' and 'G'. Table-3 summarises the Accelerated Mahaweli Development Programme.

5.1 Seed paddy requirement of Mahaweli Programme:-

The Mahaweli Economy Agency (MEA) of Mahaweli Authority of Sri Lanka (MASL), is responsible for the procurement and distribution of seed paddy to farmers settled under

the Accelerated Mahaweli Project. At present the MEA is totally dependent on the Department of Agriculture for its seed paddy requirement. The estimated requirement of seed paddy for the Mahaweli Development Programme at its full development is around 660000 bushels. Certified seed paddy needed to meet the accepted 04 year renewal pattern is estimated around 165,000 bushels.

The Department of Agriculture has indicated the MEA its inability to meet this requirement of certified seed paddy of Mahaweli in future, due to non-availability of production and processing facilities in its farms, (discussions between Director General, Executive Director of MASL and Secretary/Ministry of Agriculture and Director of Agriculture. The Mahaweli Economic Agency has then decided to establish certified seed paddy producing farms in Mahaweli areas under the technical guidance of seed certification service (SCS) of Department of Agriculture.

06. System 'C' :

With the completion of the settlement programme in System 'H), development of System 'C' is being given the highest priority under the Accelerated Mahaweli Project. Approximately 27000 ha in System 'C', which includes 22,000 ha of newly developed land, will be provided with irrigation water. Administration in the newly developed area comprising of Zones 2-6 comes under the Mahaweli Economy Agency (MEA). The Ministry of Agriculture and the Department of Census & Statistics have recognized the area as a distinct Agricultural District.

6.1 Seed Paddy Requirement - System 'C':-

The recommended cropping pattern for System 'C' is double cropping paddy except in Zone 4 where sugarcane is recommended as an alternative crop. At a cropping intensity of 175%, the estimated annual certified seed paddy

requirement of System 'C' would be 48,125 bushels. The closest seed production and cleaning farm of DA namely Alutharama (Map-1) though located within the project area, the extent of land available for seed production is limited to 80 ha, per annum. Also this farm meets the seed paddy requirement of the adjoining agricultural districts. In view of this, the MEA decided to establish a certified seed producing farm in System 'C'. It was also decided to locate this farm in Unit 1 of Block 302 (Zone 3) in System 'C', where the entire land and irrigation infrastructure development work has been carried out by the Government of Japan.

6.2 Seed Farm - Unit 1 Block 302 - System 'C':-

The site is ideal to establish a seed production farm due to the following reasons :-

- (a) land consolidation is done for the cultivation of paddy. Features includes ideal size of liyaddes, hard pan.
- (b) availability of a concrete lined canal system for efficient water management.
- (c) existence of storage tank within the farm.
- (d) assured supply of irrigation water as the farm is located at the head-end of Ratkinda reservoir.

6:2:1 Extent - 217 ha paddy area
60 ha upland crop area.

6:2:2 Cropping Pattern - Maha Paddy - Yala Paddy.

6:2:3 Cropping Programme :

Age Group (months)	Season	
	Maha	Yala
4 - 4½	10%	60%
3½	30%	30%
3	60%	10%

6:2:4 Varieties :		
	<u>Age Group (months)</u>	<u>Variety</u>
	4 - 4½	Bg 11 - 11
		Bg 400 - 1
	3½	Bg 24 - 1
	3	Bg 34 - 8
		276 - 5

- 6:2:5 Staff Requirement Annex- 111
- 6:2:6 Machinery and Equipment Requirement Annex-IV
- 6:2:7 Capital Development Annex-V
- 6:2:8 Capital Expenditure Annex-VI
- 6:2:9 Recurrent Expenditure Annex-VII
- 6:2:10 Estimated Profit/loss Account Annex VIII

Location Of Mahaweli Development Systems & Department Of Agriculture Seed Farms.

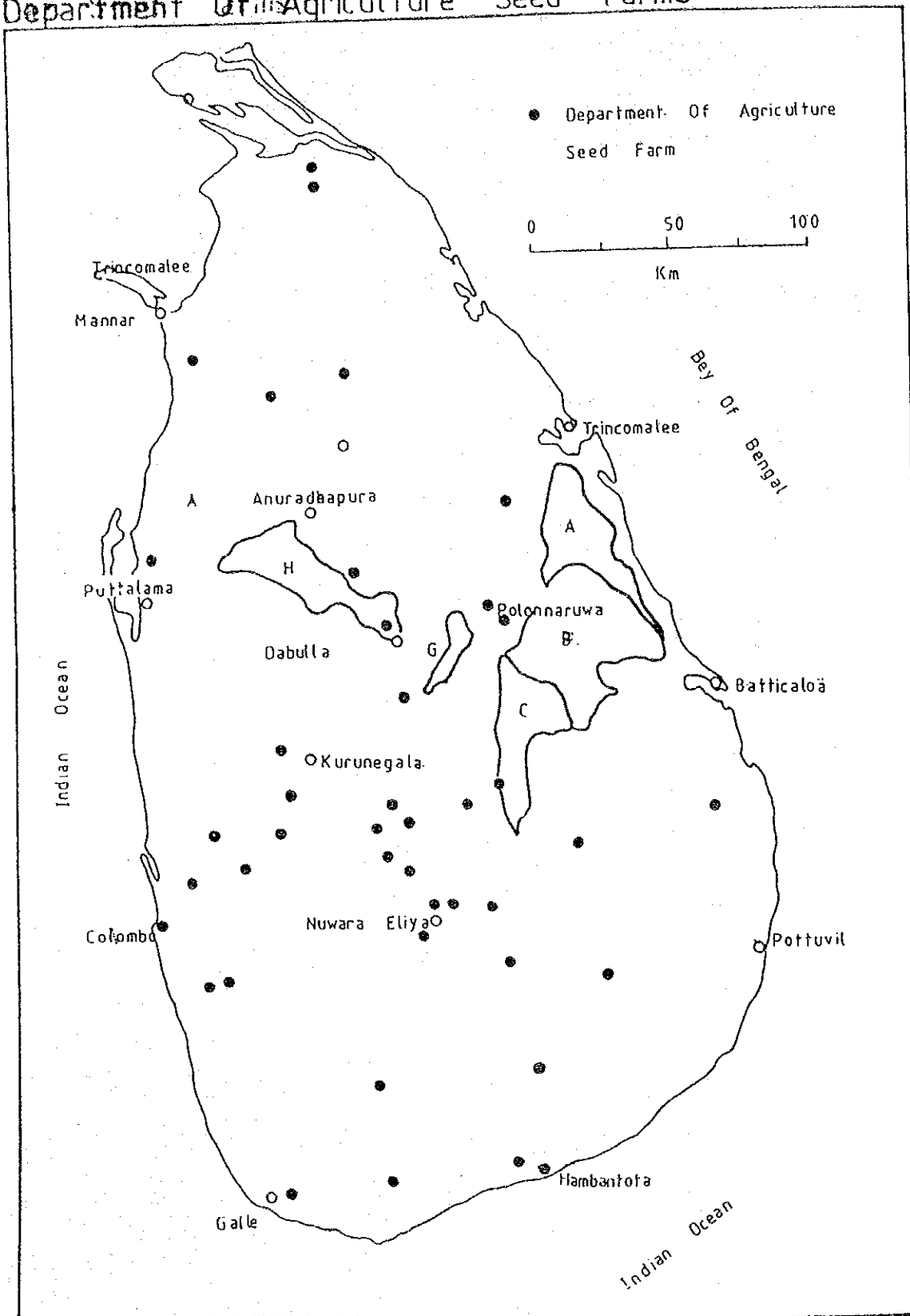


TABLE-1

SEED PADDY PRODUCTION FARMS OF DEPARTMENT
OF AGRICULTURE

Farm	Developed Cultivable Acreage	Paddy
Karapincha	52	60
Kundasale	281	20
Nilambe	29	14
Polgahawela	168	17
Rahungala	60	02
Killinochchi	240	218
Parathan	90	140
Murunkan	81	75
Vavunia	71	40
*Higurakoda	1200	1650
*Polonnaruwa	334	594
*Kantalai	175	254
*Pelwehera	570	310
*Maha Illuppallama	325	345
Malwatte	406	275
Inginiyagala	192	50
Karandiyanaru	556	372
Wariyapola	93	16
Puliyankulum	40	80
* Alutharama	450	187
Ulpothagama	35	01
Mawka	45	02
Bibile	150	22
Okkampitiya	130	137
Batta-atta	480	12
Ambalantota	62	108
Weerapana	60	04
Labuduwa	100	65
T O T A L		4970 (a)

* - Farms in close proximity to Mahaweli Areas

+ - Sum of Yala 1982 and Maha 1982 / 83

(a) - = 1988 Hectare.

TABLE-II

SEED CLEANING FACILITIES IN
DEPARTMENT OF AGRICULTURE FARMS

Farm	Estimated Production (Bushels)	Annual Capacity 8 hs x 120 dys/yr (Bushels)	Remarks
*Polonnaruwa	33,000	48,000	
*Higurankgoda	66,000	80,000	
*Maha-Illuppallama	10,800	48,000	O.F.C. seed cleaning too
*Pelwehera	15,000	48,000	O.F.C. seed cleaning too
*Alutharama	5,000	28,800	O.F.C. seed cleaning too
Malwatta	9,000	48,000	
Murankan	9,000	28,800	
Bata-ata	1,500	48,000	O.F.C. seed cleaning too
Ambalantota	4,800	19,200	
Kantalai	12,000	48,000	
Karandiya - ara	9,000	28,000	
Parathan	5,500	48,000	
Killinochchi	8,500		
Kundasala	1,200	19,200	Vegetable seed OFC seed chiefly
Sita - eliya	--	24,000	Vegetable seed only
T O T A	180,300	534,000 (+)	

* - Farms in close proximity to Mahaweli areas
produced

- 353,750 bushels of seed paddy in contractual seed
farms are processed

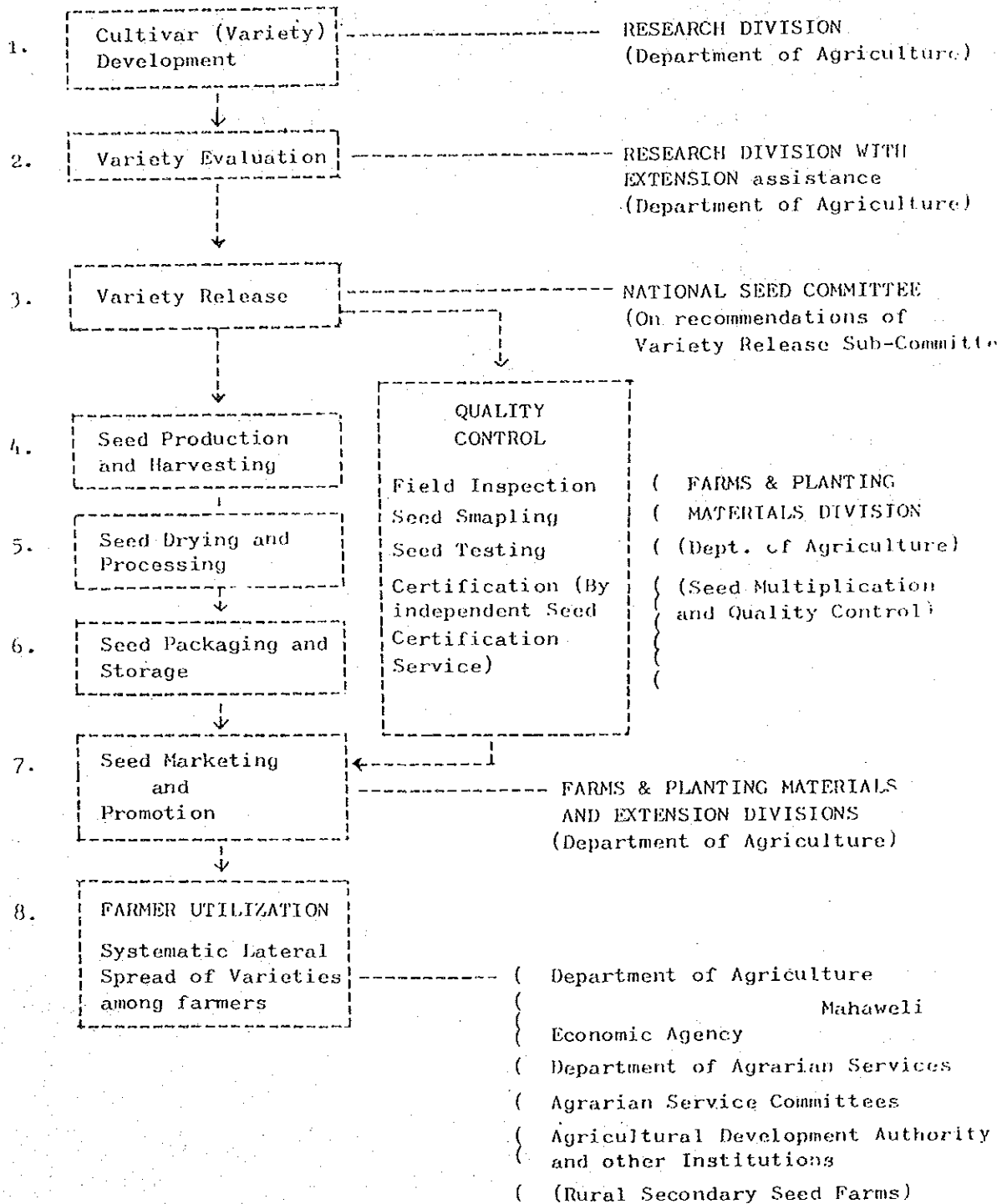
Source : Department of Agriculture.

TABLE-III

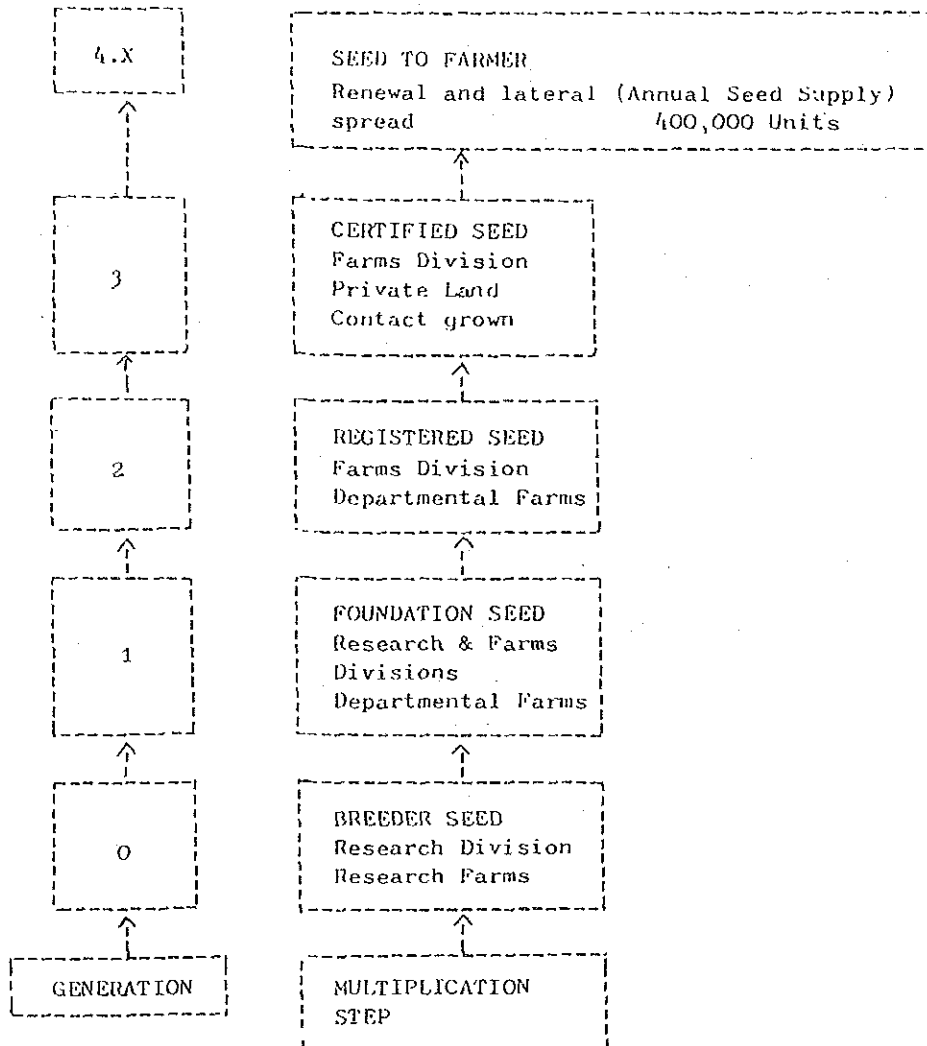
ACCELERATED MAHAWELE DEVELOPMENT PROGRAMME

System	Total Gross Area (Hectares)	Irrigable Area (Hectares)	Paddy Cultivated Area (Hectares)	
			1982/83 Maha	1983 Yala
'B'	135,000	48,850	2542	1401
'C'	66,700	22,565	3364	1607
'G'	8,492	5,160	2961	1003
'H'	93,000	24,800	22096	3630
TOTAL 303,192		101,375	30963	7641
Source : Mahaweli Economic Agency				

ELEMENTS OF THE SEED PADDY PROGRAMME



STEPS IN SEED PADDY MULTIPLICATION



STAFF REQUIREMENTS

Project Manager	-	01
Assistant Project Managers	-	03
Field Assistant in (Agriculture)	-	05
Store Keeper	-	01
Assistant Store Keeper	-	02
Clerk	-	01
Typists	-	01
Drivers	-	02
Peon	-	01
Watchers	-	06
Tractors Operators	-	10

MACHINERY AND EQUIPMENT REQUIREMENT
 (* estimated minimum requirement)

<u>Item</u>	<u>No</u>
01. Agricultural Tractors 4 wheel drive 70-80 HP	02
02. Agricultural Tractors 4 wheel drive 40-50 HP	10
03. Agricultural Tractors 2 wheel drive 7-10 HP with rotovator	07
04. Disc Harrow - suitable for use with 70-80 HP tractor	01
05. Disc Harrow - suitable for use with 40-50 HP tractor	01
06. 3 Farm Disc Plough	02
07. 2 Farm Disc Plough	02
08. Rotovator - suitable for 40-50 HP tractor	09
09. Reversible Ploughs - for use of 2 wheel tractors	07
10. 1½ ton trailers for 2 wheel tractors	07
11. Trailers for 4 wheel tractors	03
12. Transplanters	04
13. Paddy Reaper	04
14. Power Sprayers	20
15. Threshers (suitable for 2 wheel tractors)	08
16. Winnowers (suitable for 2 wheel tractors)	08
17. 05 ton lorry	02
18. Pickup trucks 4 wheel drive	01
19. Motor cycles 90-125 cc	04

CAPITAL DEVELOPMENT

<u>Quarters</u>		<u>No</u>
Grade IV	-	01
Grade III	-	01
Grade II	-	09
Twin House	-	01
 <u>Stores Building</u>		
Seed stores (100' x 40')	-	07
Fertilizer Chemical Store	-	01
Consumable Store	-	01
Field Store	-	01
Tractor Shed	-	01
Field Sheds	-	05
Drying Floors (25 x 30 m)	-	04
Seed cleaning plant building	-	01
Water Tank	-	01
Power supply	-	
Telephone Link	-	

CAPITAL EXPENDITURE

(Rupees)

Quarters	-	2,200,000
Stores	-	3,500,000
Tractor Sheds	-	580,000
Drying Floors	-	175,000
Seed Cleaning Shed	-	250,000
Fencing	-	312,000
Water Supply	-	250,000
Telephone Link	-	350,000
Power Supply	-	1,000,000

8,617,000
=====

RECURRENT EXPENDITURE
(Rupees)

Staff	-	402,000
E.P.F.	-	40,200
Overtime	-	160,000
Travelling Subsistence	-	20,000
Maintenance		
(i) buildings/irrigation work	-	75,000
(ii) vehicles/farm machinery	-	224,000
Fuel/Transport	-	182,500
Electricity		
quarters, etc	-	268,000
seed processing plant	-	157,000
Stationery, Postage	-	12,000
Farm Implements	-	100,000
Cultivation :		
Labour	-	2,459,000
Seed	-	300,000
Agrochemicals	-	540,000
Fuel Land Preparation	-	324,000
Fertilizer	-	719,820
T O T A L	-	5,983,520

ANNEX-VIII

EXPENDITURE INCOME OF THE FARM

Production :

Total Production of Paddy	-	108,500 Bushels
CSP Production	-	81,375 Bushels
Commercial Paddy Production	-	21,700 Bushels
Losses at 5%	-	5,425 Bushels

Income : (Rupees)

CSP at Rs. 95/ bushel	-	7,730,625 -
Commercial paddy at Rs. 60 / bus.	-	1,302,000 -
T O T A L	-	9,032,625 -

09.11.1984.

-/mr.

付7 昭和59年度単独機材供与リスト

番号	品名及び仕様	メーカー名	数量
1	トラクター M7500DT	クボタ	2
	スペアパーツ(10%)	"	2
2	トラクタ L405	クボタ	4
	スペアパーツ(10%)	"	4
3	Power Tiller YZP2-N×ES80C	ヤンマー	4
	スペアパーツ	"	4
4	Disk Harrow DHT2418	タカキタ	1
5	Disk Harrow DHO1818	"	1
6	Disk Plow TDP263	"	2
7	Disk Plow TDP262	"	2
8	Rotavator FM1802	クボタ	3
9	Reversible Plow MR83N	ニプロ	2
10	Trailer DZ-2B	デリカ	4
11	Corn Sheller 3型	チクマ	1
12	Rice Transplanter YP.250AN	ヤンマー	2
	Seeding Box K-3	"	300
13	Auto-Feed Thresher KB-15	大竹	4
	Seeding バック 54101-64120	"	300
14	Power Sprayer MK130		6

JICA