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# R/D追録加除一覧表

No	プロジェクト名	取極文書の種類	署名日	協力開始日	協力終了日	協力期間	正文

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1008369[9]



# 協定・討議議事録集

## (1)実施中プロジェクト

国際協力事業団  
農業開発協力部

国際協力事業団	
受入 月日 '86.10.22	000
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登録No. 15523	ADD

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34. マレーシア・アセアン家禽病研究訓練計画・討議々事録及び暫定実施計画

実施中プロジェクトR/D一覧表

番号	プロジェクト名	取極文書の種類	署名日	協力開始日	協力終了日	協力期間	正文	相手側協力機関、所在地	予算費目
1	タイ家畜衛生改善計画 Technical Cooperation Project on Animal Health Improvement Programme in Thailand	R/D 延長① 延長② 延長③	S52. 3. 2	S52. 3. 2 S55. 3. 2 S57. 3. 2 S59. 3. 2	S55. 3. 1 S57. 3. 1 S59. 3. 1 S61. 3. 1	3年 2年 2年 2年	英文	農業協同組合省畜産振興局 ①口蹄疫ワクチン製造センター(バクチョン) ②南部家畜衛生センター(ツソソ) ③畜産振興局(バンコック)	
2	タイ・灌漑・農業開発計画 The Irrigated Agricultural Development Project	R/D R/D(延長) R/D (フォローアップ)	S52. 4. 8 S57. 3.16 S60. 3.27	S52. 4. 8 S57. 4. 8 S60. 4. 1	S57. 4. 7 S60. 3.31 S61. 3.31	5年 3年 1年	英文 # #	農業協同組合省 バンコック チャオピア、メクロン スハンプリ	
3	マレーシア水管理訓練計画 Water Management Training Programme	R/D R/D(延長) R/D (フォローアップ)	S52. 9. 3 S57. 8.26	S52. 9. 3 S57. 9. 3 S59. 9. 3	S57. 9. 2 S59. 9. 2 S61. 3.31	5年 2年 7ヶ月	英文 # #	農業省 ケランタン州コタバル市	
4	タンザニア・キリマンジャロ農業開発 センター計画 Kilimanjaro Agricultural Development Center	R/D R/D(延長)	S53. 9.13 S57. 8.23	S59. 9.13 S57. 9.13	S57. 9.12 S61. 3.12	4年 3.7年	英文 #	キリマンジャロ州開発庁 チュケレニ	
5	パラグアイ農林業開発計画 The Agriculture and Forestry Development Project in Southern Paraguay	R/D R/D(延長)	S54. 3.16	S54. 3.16 S59. 3.16	S59. 3.15 S61. 3.15	5年 2年	英文 #	農牧省 イタプア県カピタンミランダ ビラボ	
6	インドネシア中堅農業技術者養成 訓練計画 Middle Level Agricultural Technician Training Project	R/D R/D(延長)	S54. 3.29 S58.12.19	S54. 3.29 S59. 3.29	S59. 3.28 S61. 3.31	5年 2年	英文 #	農業教育訓練普及庁 ジャカルタ、チヘア、パタン カルソ	
7	インドネシア農業開発リモート センシング計画 Remote Sensing Engineering Project for the Development of Agricultural Infrastructure	R/D	S55. 2.16	S55. 4	S60. 3	5年	英文	公共事業省情報処理図化セン ター ジャカルタ	
8	タイ国立雑草科学研究所計画 National Weed Science Research Institute Project	R/D	S55. 4.18 S60. 3.21	S55. 4.18 S60. 4.18	S60. 4.17 S62. 3.31	5年 2年	英文 #	農業協同組合省 バンコック	



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9	インドネシア作物保護強化計画 Plant Protection Project	R/D R/D(延長)	S55. 6. 18 S60. 5. 24	S55. 6. 18 S60. 6. 18	S60. 6. 17 S62. 3. 31	5年 1.5年	英文 #	農業省 ジャカルタ	
10	インドネシア灌溉排水施工技術 センター計画 Construction Guidance Service Center Project	R/D	S56. 2. 19	S56. 4	S61. 3	5年	英文	公共事業省 プカシ	
11	メキシコ家畜衛生センター計画 Animal Health Center Project in Mexico	R/D	S56. 4. 14	S56. 6. 1	S61. 5. 31	5年	英文 西文	農業水資源省牧畜副省家畜衛生 局家畜衛生センター メキシコ州テカマック	
12	タイ・カセサート大学(農業普及・機械)計画 Agricultural Extension and Agricultural Mechanization Project in Kasetsart University	R/D	S56. 4. 30	S56. 7. 1	S61. 6. 30	5年	英文	大学庁カセサート大学 ①農業普及センター(ナコン パトム県カンベンセン) ②農業機械化センター(ナ コンパトム県カンベンセン)	
13	エジプト米作機械化計画 Rice Mechanization Pilot Project in Egypt	R/D	S56. 8. 18	S56. 8. 18	S61. 8. 17	5年	英文	農業省 カフルエルンシェイク県カリ ン市ミートエルディバ	
14	パラグアイ・アスンシオン市中 央食品卸売市場改善計画 Proyecto de Mejoramiento del Mercado Central de Abasto de La Ciudad de Asuncion	R/D R/D(延長)	S56. 12. 7 S60. 11. 29	S56. 12. 7 S60. 12. 7	S60. 12. 6 S62. 12. 6	4年 2年	西文 #	アスンシオン市市場管理局 アスンシオン	
15	韓国農業気象災害研究計画 Agrometeorological Disaster Research	R/D	S57. 9. 24	S57. 10. 1	S62. 9. 30	5年	英文	農水産部農村振興庁京畿道水 原市	
16	パラグアイ家畜繁殖改善計画 Cattle Reproduction Improvement Project in Paraguay	R/D	S57. 12. 3	S57. 12. 3	S62. 12. 2	5年	英文	アスンシオン大学獣医学部、 農牧省家畜人工授精センター 家畜防疫研究所 サンロレンソ市	
17	フィリピン・ボホール農業開発 計画 The Bohol Agricultural Promotion Center Project	R/D	S58. 2. 2	S58. 2. 2	S63. 2. 1	5年	英文	ボホール総合開発計画事務所 ダオ、ウバイ	

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18	ホンデュラス農業開発研修センター計画 Agriculture Development Training Center	R/D	S58. 5. 19	S58. 7. 1	S63. 6. 30	5年		天然資源省水資源局 コマヤグア	
19	ビルマ中央農業開発訓練センター計画 Central Agriculture Development Training Project	R/D	S58. 9. 19	S58. 10. 1	S62. 9. 30	4年	英文	農業公社 レグー郡ガヤット・クウィン	
20	タイ・東北タイ農業開発研究計画 Agricultural Development Research Project in North-east Thailand	R/D	S58. 12. 20	S58. 12. 20	S63. 12. 19	5年	英文	農業協同組合省、コンケン大学 バンコック、コンケン	
21	インドネシア動物医薬品検定計画 Veterinary Drug Control Project	R/D	S59. 2. 11	S59. 4. 1	S64. 3. 31	5年	英文	農業省畜産総局 ボゴール	
22	タイ農業協同組合振興計画 Agricultural Cooperative Promotion Project	R/D	S59. 7. 6	S59. 7. 6	S64. 7. 5	5年	英文	農業協同組合省協同組合振興局 バンコック、ナコンラチヤンマ	
23	ザンビア大学獣医学部技術協力計画 Veterinary Education Project University of Zambia	R/D	S60. 1. 22	S60. 1. 22	S65. 1. 21	5年	英文	ザンビア大学獣医学部 ルサカ市	
24	スリランカ・マハヴェリ農業開発計画 Integrated Agricultural Development Demonstration Project in Mahavele Area	R/D	S60. 2. 11	S60. 2. 11	S65. 2. 10	5年	英文	マハヴェリ開発庁 マハヴェリ	
25	タイかんがい技術センター計画 Irrigation Engineering Center Project	R/D	S60. 3. 8	S60. 4. 1	S65. 3. 31	5年	英文	農業協同組合省王室灌漑局 バンコック(サムヤン、パクレット)	
26	中国肉類食品総合研究センター計画 Meat Food Research Center in China	R/D	S60. 4. 10	S60. 4. 10	S65. 4. 9	5年	日本文 中国文 英文	商業部外事局 中国肉類食品総合研究センター 北京市豊台区西馬場	

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27	フィジー稲作研究開発計画 Improvement of Rice Cultivation Technology Project	R/D	S60. 4. 18	S60. 4. 18	S65. 4. 17	5年	英文	第一次産業省農業局 スヴ	
28	バングラデシュ農業大学院計画 Institute of Postgraduate Studies in Agricultural Project	R/D	S60. 7. 4	S60. 7. 4	S65. 7. 3	5年	英文	農業省 ジョイデプール	
29	中国三江平原農業総合試験場計 画 The SANJIANPINGYUAN Agricultural Research Center Project	R/D	S60. 9. 20	S60. 9. 20	S65. 9. 19	5年	日本文 中国文 英文	黒龍江省科学技術委員会 ハルビン市	
30	ネパール園芸開発計画 The Horticultural Development Project in the Kingdom of Nepal	R/D	S60. 10. 14	S60. 10. 14	S65. 10. 13	5年	英文	農業省農業局園芸開発センタ ー キルティプール	
31	ケニア園芸開発計画 Horticultural Development Project in Kenya	R/D	S60. 12. 4	S60. 12. 4	S65. 12. 3	5年	英文	農業・畜産開発省	
32	ブラジル農業研究計画(セラ ード農業研究及野菜研究) The Japan-Brazil Agricultural Cooperation Project	R/D	S60. 12. 9	S60. 12. 9	S65. 12. 8	5年	英文	ブラジル農業研究公社 (EMBRAPA) ブラジリア	
33	インドネシア家畜人工授精強化 計画 Strengthening of Artificial Insemination Centre Project in Indonesia	R/D	S61. 2	S61. 4. 1	S66. 3. 31	5年	英文	農業省畜産総局 (家畜生産局) シンゴサリ	
34	マレーシア・アセアン家禽病研 究訓練計画 ASEAN Poultry Disease Research and Training Project in Malaysia	R/D	S61. 4	S61. 4	S66. 4	5年	英文	農業省獣医局 イポー	

1. タイ・家畜衛生改善計画・討議々事録・合同会議事録要旨及び暫定実施  
計画

THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE AGRICULTURAL SURVEY TEAM AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THAILAND CONCERNING TECHNICAL CO-OPERATION PROJECT ON ANIMAL HEALTH IMPROVEMENT PROGRAMME IN THAILAND.

The Japanese Agricultural Survey Team, organized by the Japan International Cooperation Agency and headed by Dr. Muneo Ogata visited Thailand from February 17 to March 2, 1977, for the purpose of formulating concrete co-operation plans for the Technical Co-operation Project on Animal Health Improvement Programme which will be carried out with the Diagnostic Laboratory Centre and the Foot-and-Mouth Disease Vaccine Production Centre as its cores.

During its stay in Thailand, the Team exchanged views with the authorities concerned of the Government of Thailand on the necessary measures to be taken by both Governments to successfully implement the Technical Co-operation Project on Animal Health Improvement Programme. The Team also conducted necessary survey for the implementation of the Project.

As a result of the exchange of views and the survey, both parties agreed to recommend to their respective Governments to carry out the matters referred to in the attached Record of Discussions.

Bangkok, March 2, 1977



Dr. Muneo Ogata  
Head of the Japanese Agricultural  
Survey Team  
Japan International Cooperation Agency



Dr. Siri Subharnkasen  
Director-General  
Department of Livestock Development

in the presence of



Mr. Wanchai Sirirattana  
Deputy Director General  
Department of Technical  
and Economic Co-operation

RECORD OF DISCUSSIONS

- I. (1) To contribute to improvement of the animal health situation and its turn to livestock development in Thailand, both Governments will co-operate each other in implementing the Technical Co-operation Project on Animal Health Improvement Programme (hereinafter referred to as "the Project") with the Diagnostic Laboratory Centre and the Foot-and-Mouth Disease Vaccine Production Centre as its cores for the purposes of promoting the techniques of animal health, through animal health survey, diagnosis and the practical experiments for vaccine production.
- (2) The Project will be implemented in accordance with the Master Plan as stipulated in Annex I.
- (3) The Project will be implemented in accordance with the annual operational work plan to be formulated annually by the Joint Committee referred to in VIII.
- II. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to provide at their own expense the services of the Japanese experts as listed in Annex II through the normal procedures under the Colombo Plan Technical Co-operation Scheme.
- (2) The Japanese experts referred to in (1) above and their families will be granted in Thailand the privileges, exemptions and benefits no less favourable than those accorded to experts of third countries working in Thailand under the Colombo Plan Technical Co-operation Scheme.
- III. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to provide at their own expense such equipment, machinery, implements, vehicles, tools, spare parts and other materials required for the implementation of the Project as listed in Annex III through the normal procedures under the Colombo Plan Technical Co-operation Scheme.

(2) The articles referred to in (1) above will become the property of the Government of Thailand upon being delivered c.i.f. to the Thai authorities concerned at the ports of disembarkation, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese adviser (or the Team leader) referred to in Annex II.

IV. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to receive the Thai personnel engaged in the Project for technical training or study tour in Japan through the normal procedures under the Colombo Plan Technical Co-operation Scheme.

(2) The Government of Thailand will take necessary measures to ensure that the knowledge and experience acquired by the Thai personnel mentioned in (1) above through technical training and study tour in Japan may be utilized effectively for the implementation of the Project.

V. In accordance with laws and regulations in force in Thailand, the Government of Thailand will take necessary measures to provide at its own expense:

(1) the services of the Thai counterparts and other personnel as listed in Annex IV;

(2) buildings and incidental facilities as listed in Annex V;

(3) supply or replacement of equipment, machinery, implements, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided by the Japanese authorities concerned under III (1);

(4) suitably furnished housing accommodations for the Japanese experts and their families;

(5) transportation facilities and the grant of the travel allowance for the Japanese experts for the official travel within Thailand;

(6) expenses necessary for transportation within Thailand of the articles mentioned in III(1) as well as for the installation, operation and maintenance thereof;

(7) all running expenses necessary for the implementation of the Project;

(8) customs duties, internal taxes and any other charges, imposed in Thailand in respect of the articles referred to in III (1).

- VI. The Government of Thailand will be responsible for the administration and implementation of the Project, and the Japanese experts will provide primarily technical guidance and advice for the implementation of the Project.
- VII. The Government of Thailand shall undertake to bear claims, if any arises, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with, the discharge of their official functions in Thailand, except for those claims arising from willful misconduct or gross negligence of the Japanese experts.
- VIII. There will be close consultation between the Japanese experts and the officials concerned of the Government of Thailand for effective implementation of the Project. For this purpose, a Joint Committee will be established as specified in Annex VI.
- The Joint Committee will meet at least once a year.
- IX. For the successful implementation of the Project, both Governments will consult with each other when deemed necessary.
- X. The period of the technical co-operation mentioned in this Record of Discussions will be three (3) years from the date of signature and may be extended by mutual agreement between the authorities concerned of both Governments.

## Annex I

### Master Plan of the Project

#### Activities under the Project

##### 1. Diagnostic Laboratory Centre

The following activities will be implemented in the Administrative Regions No. 8 and 9 with the Diagnostic Laboratory Centre in Tung Song, Nakhon Si Thammarat Province as its core, in close collaboration with the related Institutions (refer to the attached chart).

- (1) Survey of the important animal diseases in the regions and diagnosis of animal diseases to be performed mainly in the veterinary fields of bacteriology, virology, pathology, parasitology and epidemiology
- (2) Establishment of the channels of sample collection from the field, storage and distribution of veterinary biologics, extension of animal health knowledge and participation in the disease control scheme to be carried out by the Thai authorities concerned in the Regions
- (3) Technical training in animal disease survey, diagnosis and control of animal diseases for technicians engaged in animal health activities, at the Centre and the related Institutions.

##### 2. Foot-and-Mouth Disease Vaccine Production Centre

The following activities will be implemented with the Foot-and-Mouth Disease Vaccine Production Centre in Pak Chong, Nakhon Ratchasima as its core.

- (1) The practical experiments for establishment of mass production techniques of foot-and-mouth disease vaccine and training of technicians at the Centre
- (2) Diagnosis and identification of types of foot-and-mouth disease virus for the whole area of the country in collaboration with the related Institutions



Annex II

List of Japanese Experts

Category	Field	Organization
1. Adviser		DLD
2. Experts	Veterinary microbiology	DLC
	Veterinary pathology	DLC
	Epidemiology	DLC
	Vaccine production techniques of foot-and-mouth disease	FMDC
	Diagnosis of foot-and-mouth disease	FMDC

- Notes:
1. Short-term experts of the above-mentioned fields or others may be dispatched, when necessity arises.
  2. The Adviser will coordinate the activities of the Project and may advise about animal health improvement in Thailand.
  3. A Team Leader will be nominated by JICA among the experts.
  4. DLD: Department of Livestock Development  
DLC: Diagnostic Laboratory Centre  
FMDC: Foot-and-Mouth Disease Vaccine Production Centre  
JICA: Japan International Cooperation Agency

Annex III

List of the articles to be provided by  
the Government of Japan

1. Equipment, machinery, implements and spare parts for disease survey, diagnosis and control of animal diseases
2. Veterinary Biologics and medicines including disinfectants for disease survey, diagnosis and control of animal diseases, and treatment
3. Equipment, machinery, implements, spare parts and other materials for the practical experiment work of vaccine production and diagnosis of foot-and-mouth disease
4. Teaching materials including audio-visual aids
5. Vehicles
6. Other necessary equipment, machinery, tools and materials to be mutually agreed upon.

Annex IV

List of Thai Counterpart Officials and  
Other Personnel

Category	Field	Organization
1. Project Director		DLD
2. Counterpart Officials		
	Veterinary Bacteriology	DLC
	Veterinary Virology	DLC
	Veterinary Pathology (including Veterinary Parasitology)	DLC
	Epidemiology	DLC
	Vaccine production techniques of foot-and-mouth disease	FMDC
	Diagnosis of foot-and-mouth disease	FMDC
3. Clerical and service employees		
4. Labourers		

Annex V

List of Buildings and Facilities

1. Department of Livestock Development  
Office for the Japanese adviser
2. Diagnostic Laboratory Centre
  - (1) Main building (including laboratories, autopsy room etc.)
  - (2) Experimental animal shed
  - (3) Garage
  - (4) Other necessary buildings and facilities
3. Foot-and-Mouth Disease Vaccine Production Centre
  - (1) Main Laboratory
  - (2) Factory
  - (3) Power house
  - (4) Shed for challenged animals
  - (5) Open type animal shed
  - (6) Breeding house of laboratory animals
  - (7) Aluminum hydroxide gel plant
  - (8) Garage
  - (9) Other necessary buildings and facilities

Note: The existing buildings and facilities of the Foot-and-Mouth Disease Laboratory will be utilized for the work mentioned in 2 of Annex I before completion of the Foot-and-Mouth Disease Vaccine Production Centre.

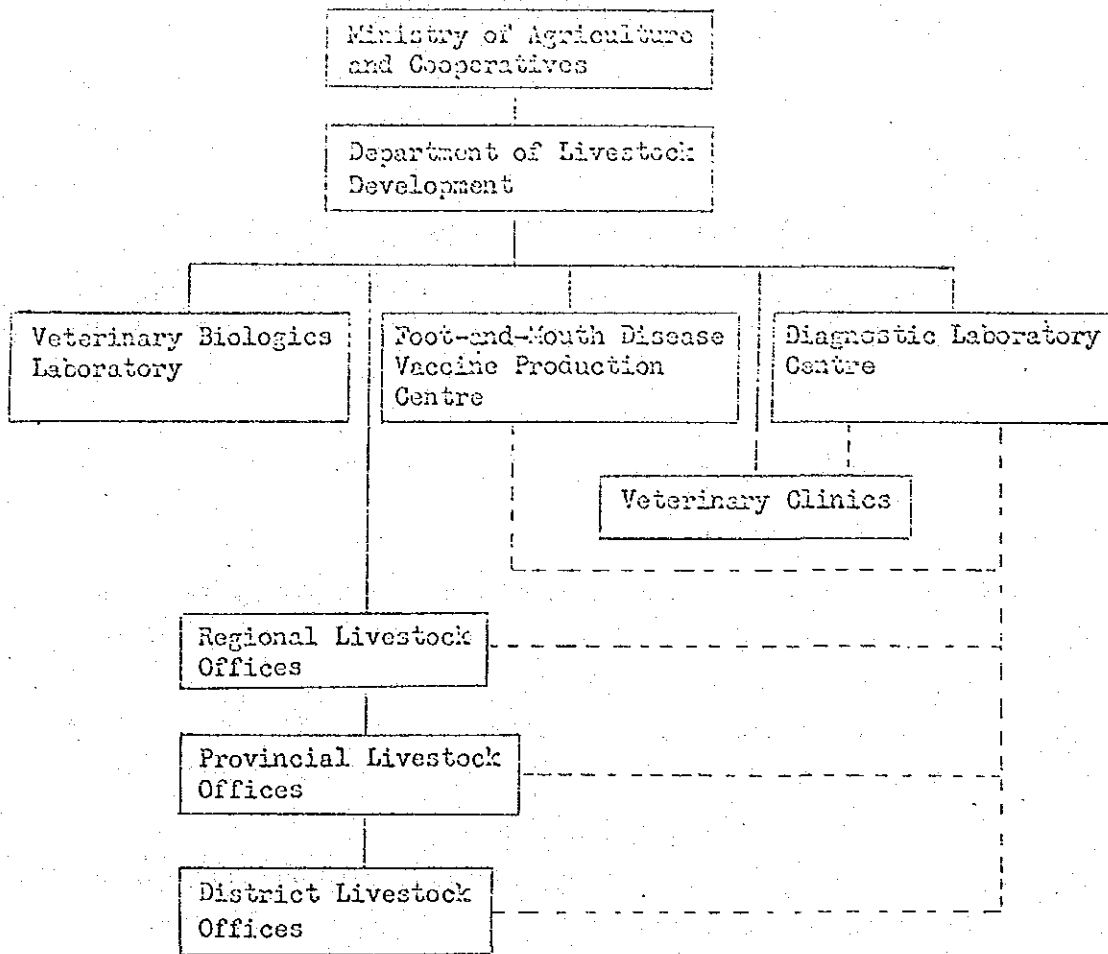
Annex VI

Composition of the Joint Committee

Chairman	Director-General of DLD
<u>Japanese side</u>	<u>Thai side</u>
1. Adviser	1. Project Director
2. Team Leader	2. Director of Veterinary Biologics Division of DLD
3. Expert(s) designated by the Team Leader	3. Director of Veterinary Research Division of DLD
4. Representative of JICA	4. Representative of Organizations concerned

Note: An official of the Embassy of Japan may attend the meeting  
of the Joint Committee as an observer.

(Attached chart) The related Institutions of the Project



Notes: \_\_\_\_\_; Administrative channel

-----; Technical linkage channel

SUPPLEMENTARY NOTES TO THE RECORD OF DISCUSSIONS  
CONCERNING ANIMAL HEALTH IMPROVEMENT PROGRAMME

Article II (1) "Japanese Experts"

a. Foot-and-Mouth Disease Vaccine Production Centre (FMDC)

Two (2) experts, one for suspension cell culture techniques and one for serology, will be assigned around July 1977 to the FMDC for commencing the necessary preparatory work of the Centre. The present assignment of Japanese staff from the Tropical Agricultural Research Centre might be discontinued by the end of June 1977.

b. Diagnostic Laboratory Centre (DLC)

Three (3) to four (4) experts in the fields of microbiology, pathology and epidemiology will be assigned around October 1977. Necessary arrangement for operation of the Centre by Thai side will be terminated by September 1977. A field of parasitology will be covered by the expert of pathology and that of microbiology may be divided into two (2) units; bacteriology and virology.

c. The term of office of Japanese experts will be continued in principle for three (3) years. However, some of the experts will relay his position to another new one during the period of cooperation prescribed in the Record of Discussions.

d. Experts will be requested to have experience in his field for not less than five (5) years.

Article III (1) "Provision of equipment etc."

a. Equipment, materials etc. listed in Annex III will be provided from Japan in each three (3) year to promote the Project.

b. In 1977, however, provision of those will be concentrated on the work at the DLC in Tung Song, and some of them for the first implementation of activity will be delivered by the end of September of the year (estimated value; about 50,000,000 yen or 173,000 US\$).

c. For this purpose, the list of equipment etc. to be attached to the so-called A4 form will be forwarded from the Department of Livestock Development to the authorities concerned through the DTEC at the earliest stage.

Article IV (1) "Training and Study tour of Thai Staff in Japan"

In connection with the activities of the DLC,

- a. Two (2) staff will be invited to Japan for about six (6) month training each three year. One (1) may participate in the group training course of Animal Health, while another will participate in the individual course.
- b. The staff to be appointed as head of the DLC will be sent to Japan for the study tour for about one (1) month to acquire the general knowledge and information on administration and operation of the Centre, before September 1977.

In connection with the activities of the FMDC,

- a. The following training programme will be considered during a period of cooperation.
- b. First priority will be given to training on Aluminum gel production.

(Training programme for staff of the FMDC)

a) Vaccine production;

Aluminum gel production	One person	4-6 months
General technique in virology	Two	6 months for each
Technique in cell culture with the emphasis on mass production	Two	6 months for each

b) Diagnosis;

Immunology	One	6 months
Production and health of laboratory animals	One	6 months

c) Miscellaneous;

Maintenance and repair of scientific apparatus and electrical work	One	6 months
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Bangkok  
March 2, 1977



Made by Dr. Muneo Ogata  
Leader of the Agricultural Survey  
Team



タイ家畜衛生改善計画に対する技術協力のための日本  
国農業調査団とタイ国政府との討議議事録（仮訳）

国際協力事業団によって編成された、緒方宗雄氏を団長とする日本国農業調査団は、家畜衛生センター及び口蹄疫ワクチン製造センターにおいて実施する家畜衛生改善計画プロジェクトの具体的協力計画を策定するため、1977年2月17日から3月2日までタイ国を訪問した。

同調査団は、タイ国滞在中、同国政府関係者と家畜衛生改善計画プロジェクトを成功させるため、両当事者により実施されるべき諸事項につき意見を交換した。

同調査団による調査及び両当事者間の協議の結果を両当事者は、各々の政府に対して別添討議議事録中にある事項について勧告することにつき合意に達した。

バンコク 1977年3月2日

緒方宗雄  
日本国農業調査団団長  
国際協力事業団

Dr. Siri Subharnngkasen  
畜産振興局長

Mr. Wanchai Sirirattna  
技術経済協力局次長  
の前において

## 討 議 議 事 録

- 第 1 (1) 両国政府は、タイ国における家畜衛生の改善を図り、もって畜産振興に貢献することを目的として、家畜衛生センター及び口蹄疫ワクチン製造センターを中心に家畜疾病の調査、診断並びに口蹄疫ワクチンの製造のための実用試験等を行い、家畜衛生技術の改善を推進するため、家畜衛生改善計画技術協力プロジェクト（以下「プロジェクト」と呼ぶ。）を相互に協力して実施する。
- (2) プロジェクトは付表Ⅰに定める基本計画に基づき実施される。
- (3) プロジェクトは第Ⅶ表にいう「合同委員会」が毎年作成する年次事業計画に従って実施される。
- 第 2 (1) 日本国政府関係当局は、日本国において施行されている法令に従い、付表Ⅱに掲げる日本人専門家の役務をコロンボ計画技術協力計画に基づく通常の手続きによって、自己の負担において供与するための必要な措置をとる。
- (2) (1)の日本人専門家とその家族は、タイ国において、他の国のコロンボプラン専門家に与えられていると同等の特権、免除及び便宜を与えられる。
- 第 3 (1) 日本国政府関係当局は、日本国において施行されている法令に従い、付表Ⅲに掲げるプロジェクトと実施に必要な設備、機械、器具、車輛、工具、予備部品及びその他の資材をコロンボ計画技術協力計画に基づく通常の手続きによって、自己の負担において供与するための必要な措置をとる。
- (2) (1)にいう物品は、陸揚港において、c. i. f. 建てでタイ国政府関係当局に引き渡されたときに、タイ国政府財産となり、かつ、これらの物品は、附表Ⅱに示す日本人アドバイザー（又はプロジェクト・リーダー）と協議のうえ、プロジェクト実施のためにのみ使用される。
- 第 4 (1) 日本国政府関係当局は、日本国において施行されている法令に従い、

プロジェクトに携わるタイ国人を、コロンボ計画技術協力計画に基づく通常の手続きによって、日本国に受入れ、訓練又は視察旅行を行うために必要な措置をとる。

(2) タイ国政府は、(1)のタイ国人が日本国における技術訓練により得た知識及び経験がプロジェクトの実施のために効果的に利用されることを確保するために、必要な措置をとる。

第5 タイ国政府は、タイ国において施行されている法令に従い、自己の負担において、次のものを準備するために必要な措置をとる。

- (1) 付表Ⅳに掲げるタイ側職員
- (2) 付表Ⅴに掲げる建物及び附滞施設
- (3) プロジェクトの実施のために必要な設備、機械、器具、車輛、工具、予備部品及びその他の資材（第3の(1)に基づき、日本国政府によって供与されるものを除く。）
- (4) 日本人専門家及びその家族のための適当な家具付宿舍
- (5) タイ国内の日本人専門家の公用旅行のための便宜及び旅費
- (6) 第3の(1)にいう物品の、タイ国内における輸送並びにこれらの物品の据付け、操作及び維持に必要な経費
- (7) プロジェクトの実施に必要なすべての運営費
- (8) 第3の(1)にいう物品につき、タイ国内で課せられることのある関税、内国税及びその他の課徴金等

第6 タイ国政府は、プロジェクトの運営及び実施について責任を負い、日本人専門家はプロジェクトの実施のために必要な技術上の指導及び助言を与える。

第7 タイ国政府は、プロジェクトに携わる日本人専門家のタイ国における職務の遂行に起因し、その遂行中に発生し、又はその他その遂行に関連し、日本人専門家に対する請求が生じた場合には、その請求に関する責任を負う。

ただし、日本人専門家の故意又は重大な過失から生ずる責任について

は、この限りでない。

第 8 プロジェクトを円滑に推進し、効果的に実施させるために、日本人専門家及びタイ国政府関係者は緊密に協議するものとし、付表Ⅶに掲げる構成による合同委員会を設置する。

委員会は少なくとも年 1 回開催する。

第 9 プロジェクトの実施を成功させるため、両国政府は必要に応じ、相互に協議を行う。

第 10 この討議議事録による技術協力期間は、署名の日より 3 カ年とするが、その後の技術協力に関しては両国政府関係機関の相互の合意による。

## 付 表 I

### プロジェクトの事業内容

#### 1. 家畜衛生センター

ナコンシタマラト県ツンソンの家畜衛生センターを中心として、関連機関（附図参照）の協力を得て、行政区域 8 及び 9 を対象に次のことを行う。

- (1) 細菌学、ウイルス学、病理学、寄生虫学及び疫学の獣医分野を中心に、区域での重要家畜疾病の診断
- (2) 病性鑑定材料の採取ルートの確立、動物用生物学的製剤の保管配布、家畜衛生知識の普及を図るとともに、地域においてタイ関係当局により実施される家畜伝染病の防疫への参画
- (3) センター及び関連機関において、家畜衛生技術者に対し、家畜疾病の調査、診断及び家畜伝染病の防疫技術に関する訓練

#### 2. 口蹄疫ワクチン製造センター

ナコンラーチャンマ県パクチョンの口蹄疫センターを中心に、次の事業を行う。

- (1) センターにおいて、口蹄疫ワクチンの大量製造技術の確立のための実用試験、技術者の養成
- (2) 関連機関の協力を得て、タイ国一円を対象とした口蹄疫の診断

付 表 Ⅱ  
日 本 人 専 門 家

( 専 門 家 の 職 別 )	( 分 野 )	( 所 属 実 施 機 関 )
1. アドバイザー		畜産振興局
2. 専 門 家	家 畜 微 生 物	家 畜 衛 生 セ ン タ ー
	家 畜 病 理	”
	疫 学	”
	口 蹄 疫 ワ ク チ ン	口 蹄 疫 ワ ク チ ン 製 造 セ ン タ ー
	製 造 技 術	
	口 蹄 疫 診 断	”

- 備考
1. 必要に応じ、上記及びその他の分野について短期の専門家を派遣することができる。
  2. アドバイザーは、プロジェクト業務の調整を行うほか、タイ国の家畜衛生改善について助言することができる。
  3. プロジェクト・リーダーは、国際協力事業団が専門家の中から指名する。

付 表 Ⅲ  
供 与 機 材

1. 家畜疾病調査、診断及び防疫のための資機材及びスペアパーツ
2. 家畜疾病調査、診断、防疫及び家畜疾病治療のための生物学的製剤並びに消毒薬を含む医薬品
3. 口蹄疫ワクチン製造のための実用試験用及び診断に必要な資機材
4. 訓練指導事業のための視聴覚機材
5. 車輛
6. その他必要資機材

付 表 IV

タイ人専門家及びその他の職員

(職員の種別)	(分 野)	(所属実施機関)
(1) プロジェクト・ディレクター		畜産振興局
(2) 技 術 者	家 畜 細 菌	家畜衛生センター
	家畜ウイルス	"
	家畜病理(家畜寄生虫を含む)	"
	疫 学	"
	口蹄疫ワクチン製造技術	口蹄疫ワクチン製造センター
	口蹄疫診断	"
(3) 事務職員及び業務員		
(4) 労 務 者		

付 表 V

建物及び附帯施設

1. 畜産振興局
  - 日本人アドバイザーのための事務室
2. 家畜衛生センター
  - (1) 本 館
  - (2) 実験動物舎
  - (3) 車 庫
  - (4) その他必要な建物及び附帯施設
3. 口蹄疫ワクチン製造センター
  - (1) 本 館
  - (2) 製 造 棟
  - (3) 動 力 棟

- (4) 感染牛舎
- (5) 免疫用動物舎
- (6) 実験動物生産棟
- (7) 水酸化アルミゲル製造棟
- (8) 車庫
- (9) その他必要な建物及び附帯施設

備考 口蹄疫ワクチン製造センターの完成までは、既存の口蹄疫研究所建物・施設が提供される。

付 表 VI

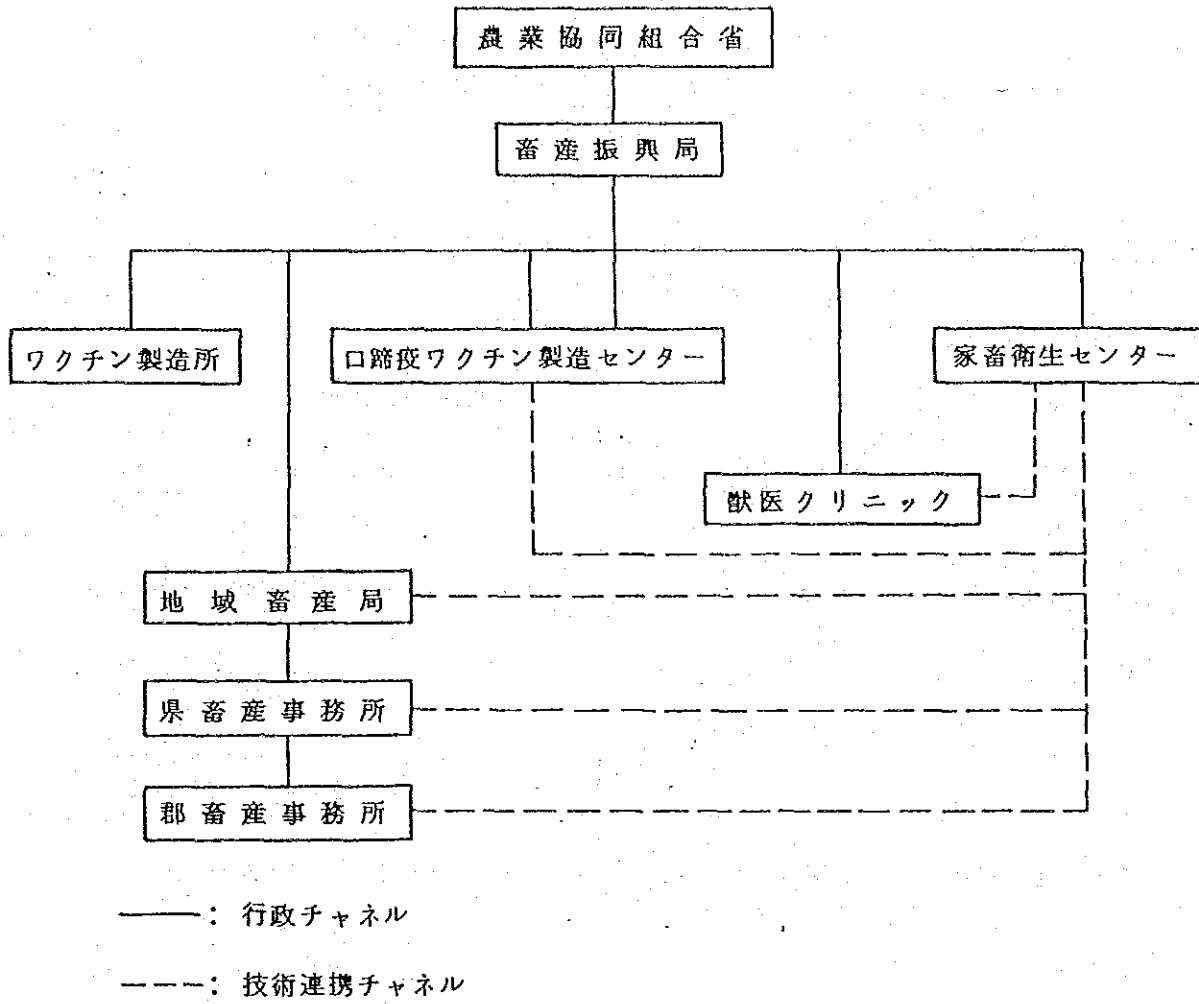
合同委員会の構成

委員長 畜産振興局長

<u>日本側</u>	<u>タイ側</u>
1. アドバイザー	1. プロジェクト・ディレクター
2. プロジェクト・リーダー	2. 畜産振興局動物用生物学的製剤部長
3. プロジェクト・リーダーが必要と認める専門家	3. 畜産振興局獣医研究部長
4. JICA代表	4. 関係機関の代表

備考：在タイ国日本国大使館員は、合同委員会の会合にオブザーバーとして出席することができる。

(附図) プロジェクト関連機関





タイ家畜衛生改善計画会議議事録要旨

SUMMARY OF MINUTES OF FINAL MEETING FOR TECHNICAL  
COOPERATION PROJECT ON ANIMAL HEALTH IMPROVEMENT  
PROGRAMME

Date & Time: 10.00-12.00 a.m. August 8, 1977  
Place: Department of Livestock Development (DLD)  
Attendance;

<u>Thai side</u>		<u>Japanese side</u>	
Dr. Siri	Director General, DLD	Dr. Kumagai	Leader of the Consultation team
Dr. Udom	Director, Vaccine & Serum Division, DLD	Dr. Okamoto	Member of the team
Dr. Phinit	Veterinarian, FMDC	Mr. Ono	Member of the team
Dr. Vises	Veterinarian, DLD	Mr. Imafuji	First Secretary the Embassy of Japan
Dr. Prapahd	Veterinarian, DLD	Mr. Kitano	Director, Bangkok Office of JICA
		Mr. Suwa	Bangkok Office of JICA

The meeting was held to discuss the matters and finalise the issues concerning the operational plan for the Technical Cooperation Project on Animal Health Improvement Programme which was mutually signed by the representative of the Thai and Japanese parties on March 2, 1977 as "the Record of Discussion", taking the occasion of the visit of the Japanese Consultation Team headed by Dr. T. Kumagai from August 2 to August 14, 1977.

Being based on the preliminary meeting on August 3 at Department of Livestock Development, Dr. Siri welcomed to the Japanese Team headed by Dr. T. Kumagai and presided the meeting.

Firstly, Dr. T. Kumagai reported the outcome of the observation and discussions with the Thai officials concerned at the Foot-and-Mouth disease Laboratory, Pak Chong.

Later on, some comments has been made by Dr. Siri particularly concerned to the term of experts as well as some technical problems.

After through discussions, both parties are agreed the operational plan for an effective implementation of the Project.

Dr. Siri also expressed appreciation and thanks to the Japanese Team.

I. Veterinary Activities under the Technical Cooperation  
Project on Animal Health Improvement Programme

FMD Vaccine Production:

A. Vaccine Production

1. Basic policy of vaccine production.

- a. The vaccine production is to start with the rolling bottle cell cultures.
- b. The volume of production is to be increased gradually up to 800,000 doses per year.
- c. At the first phase, the suspension culture in an experimental scale is to start.
- d. The size of suspension cell culture tanks is to be enlarged gradually up to 300 liters.
- e. The cell produced at an experimental phase will be used as the seeding cell for rolling bottle cell cultures, as well as used for experimental vaccine production in suspension culture tank.
- f. The regular production of vaccine with suspension cultures should start as early as possible.
- g. The target of annual vaccine production is five (5) million mono-valent doses.
- h. The production of swine vaccine (250,000 doses) will be considered annually.

2. Selection of cells.

- a. BHK-13 may be a base for the vaccine production.
- b. HmLu (Hamster Lung Cell Line) and CKY (Calf Kidney Cell Line) are possibly applicable.

3. Collection of bovine serum for culture medium.

- a. At least, one thousand (1,000) liters of bovine serum from 700 cattles are necessary for the production of five (5) million doses of vaccine.  
A half of them must be free from FMD virus antibody.
- b. The collection system of the FMD virus-antibody-free bovine serum should be established in Thailand at the early stage of the Project.

- c. Abattoirs with proper facilities for blood collection should be specified.
- d: The blood and serum are transported by a vehicle with refrigerator.
- e. Some amount of the bovine serum will be replaced by buffalo serum when experimental result proves usefulness of the buffalo serum.

4. Virus.

- a. Selection of strains is based on;
  - a) Antigenic differences among field isolates and vaccine strains determined by the serological methods (see "Diagnosis and Epidemiology")
  - b) Antigenicity:
    - 1) ability to stimulate antibody production in cattle.
    - 2) In vitro markers relating to antigenicity such as plaque size
- b. Viruses must be adapted to new cell culture system.

5. Control of antigen and potency test.

- a. Estimation of 140 S particle antigen by CF test is to be introduced.
- b. Potency tests in animals are performed by estimation of neutralizing antibody titer before challenge inoculation and clinical responses after challenging.
  - 1) Test in the cattle is performed routinely.
  - 2) Test in the buffalo and guinea-pig is sometimes performed in parallel with cattle test.

Diagnosis and epidemiology;

- 1. The diagnostic methods being applied at the World Reference Laboratory is to be introduced.
  - a. Typing by microtiter-CF
  - b. Inoculation to calf or lamb thyroid cells and suckling mice.
- 2. The virus is to be isolated from lesion samples collected as many outbreaks as possible. The isolates are typed and subtyped.

Subtyping is initiated by "Profile CF test". Selected strains are examined quantitatively together with vaccine strains by cross CF test.

3. The representative strain of the isolates and vaccine viruses are to be sent to the WFL for the antigenic comparison with reference strains.
4. Seroepidemiology in domestic and wild animals will be considered.

C. Small experimental animal.

Pure line of mice will be introduced.

D. Assignment of experts;

The following experts are expected to be assigned for FMD Vaccine Production Centre. These assignment schemes are subjected to normal procedure of the Colombo Plan.

- a. Three (3) experts in vaccine production, cell culture with rolling bottle and suspension method;
  - one expert 6 months from January, 1978
  - two experts 2-3 years from November, 1977 to March, 1980
- b. Two (2) experts in diagnosis epidemiology and virology for vaccine production;
  - one expert 6 months, from November, 1977
  - one expert 1 year, from November, 1977
- c. The assignment of short-term experts in above-mentioned fields will be followed continuously for effective implementation of the Project, taking into consideration the consistency of the activities under the operational plan.

II. Diagnostic Laboratory Centre in Tung Song.

A. Being based on the activities mentioned in "Record of Discussions" and Supplementary Note, the survey and the diagnostic system for the important diseases among listed below, should be established.

1. Hemorrhagic septicemia
2. Hog Cholera
3. Parasitic diseases

to Japan in Japanese fiscal year 1977.

Aluminum gel production, 4 months      Mr. Tongdee Kuant, Scientist FMD Laboratory

Observation Tour                              1 month      Dr. Prapahd Neramitman-sook  
Education and Research Division, DLD  
Dr. Vises Prasert  
Coordinator of DLC  
Project, Tung Song

Diagnosis of Animal Health, 6 months      A candidate from DLC, Tung Song (or a candidate from FMDS, Pak Chong)

The application form should reach the Government of Japan by January 1978 for necessary arrangements for training ( or observation) schedule.

V. Assignment Scheme of Thai staff

A. FMDC

In January 1978, the following staff would be available;

	Total	(1) existing staff	(2) newly assigned staff, Jan 78	(3) staff as of Jan, 78	(4) staff for Frenkel Method
Qualified veterinarian	15	11	4	14	1
Certified veterinarian	5	5		4	1
Pharmacist	1	1		1	
Biologist	2	0	2	2	
Electrician	2	1	1	2	
Metal engineer	1	1		1	
Animal Husbandry technician (non qualified)	2	0	2	2	
Administrative officer	1	1		1	
Worker	86	60	26	71	15
<b>Total</b>	<u>115</u>	<u>80</u>	<u>35</u>	<u>98</u>	<u>17</u>

Note

1. Number of existing staff in FMD Laboratory
2. Number of newly assigned staff in fiscal year 1978
3. Number of staff at FMD Vaccine Production Center as of January 1978.
4. Number of staff to work at FMD Laboratory.

B. DLC, Tung Song

At the first stage, the director and three veterinarians are to be temporarily appointed from the Research and Education Division for preparation of the project and around January, 1978 these three veterinarians will be replaced by the newly assigned veterinarians.

	as of Jan. '78
Director (qualified vet.)	1
Qualified veterinarian	5
Certified veterinarian	9
Worker	11
Scientist	3
Mechanic	1
Administrative officer	1
Typist	1
Driver	5
Total	<u>37</u>

Counterpart Fund for the Project

The counterfund to implement the Project in Tung Song and Pak Chong will be provided by Thai side.

ex 1: List of equipment, machinery for the Foot-and-Mouth Disease Vaccine Production Centre, Pak Chong

ex 2: Supplemental list of equipment for the Diagnostic Laboratory Centre, Tung Song.

SUPPLEMENTARY NOTE TO THE SUMMARY OF MINUTES  
of FINAL MEETING FOR TECHNICAL COOPERATION  
PROJECT ON THE ANIMAL HEALTH IMPROVEMENT  
PROGRAMME, CONCERNING THE DIAGNOSTIC LABORATORY  
CENTRE IN TUNG SONG

The Japanese Consultation Team headed by Dr. T. Kumagai made an observation trip to the Diagnostic Laboratory Centre in Tung Song and its surrounding area on August 9-10, 1977.

Following up the discussions at the final meeting on August 8, 1977, the Team made the following comments and recommendations to the Department of Livestock Development for the effective implementation of the Project.

The issues which are raised in this note, will be discussed by the Joint Committee to be held upon the arrival of the Advisor and Experts from Japan.

1. Water Supply

The existing water supply facilities are insufficient for the laboratory works. The water supply system to meet the demand of the Centre should be established as soon as possible.

- 1) to enlarge to a greater depth the existing well.  
It is necessary to conduct boring test in the near future.
- 2) to dig and build a reservoir.

2. Air-conditioners

The provision of an additional five (5) units of air-conditioners, ten(10) in total, will be considered by the Japanese side, for the six(6) laboratories and four(4) sterile rooms.

3. Incinerator

An incinerator is a necessity for the veterinary laboratories.

- 1) An incinerator is expected to be set up in the early



state.

2) It is desirable to build another post-mortem room for large animals, annexed to the incinerator.

#### 4. Fittings

1) Each laboratory will be equipped with sink, bench and working table by November, 1977. Cupboarded, desks, chairs and other fittings will be furnished shortly.

2) The gas facilities such as gas container, plastic tube and burner will be provided in the laboratories upon the arrival of Experts from Japan.

#### 5. Water Distilling Apparatus

A tank with a filter for rain water will be built next to the main building of the Centre to supply the water to each laboratory for producing the distilled water. In case of a shortage of rain water, the transportation of the distilled water from FMD Vaccine Production Centre in Pak Chong or other facilities should be considered.

#### 6. Experimental Animals

At the first stage, the following experimental animals are required; at least, two(2) sheep, ten(10) chickens and twenty(20) guinea-pigs. The Thai side will provide the cages for these animals except cages for the guinea-pigs.

#### 7. Communication Facilities

To keep closed cooperation between the Centre and related institutions as well as between the Advisor in DLD and the Experts in the Centre, a telephone should be installed.

#### 8. Garage

The garage, mentioned in Annex V of the Record of Discussions is expected to be built in time for the arrival of the vehicles (one mini-bus, one station wagon and motor cycles)

#### 9. Coordination with related institutions

The coordination with the related institutions, mentioned in Annex I of Record of Discussion particularly in Southern Regions, should be emphasized in order to implement

the Project smoothly.

10. Collection system of the bovine serum for FMD vaccine

Concerning the summary of minutes of the final meeting, the article I-A-3-b "collection system of the FMD Virus-antibody-free bovine serum" should be revised as follows:

The collection system of the bovine serum for FMD vaccine should be established at the early stage of the Project.

Concerning the way to collect FMD antibody free serum, it is desirable to establish a herd of donor cattle in a site suitable for protection of cattle from FMD infection.

An alternative is to import the serum from Japan or any other country which is free from FMD.

August 11, 1977

Dr. T. Kumagai  
Leader, The Japanese consultation  
Team for the Technical Cooperation  
Project on Animal Health  
Improvement Programme

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1. 討議議事録要旨(8月8日)

タイ家畜衛生改善計画技術協力プロジェクトに関する最終会議議事録要旨

日時 : 1977年8月8日 午前10時~12時

場所 : 畜産振興局

出席者 :	(タイ側)	(日本側)
Dr. Siri	局長	熊谷 計画打合チーム団長
Dr. Udom	製剤部長	岡本 " 団員
Dr. Phinit	口蹄疫研究所副所長	小野 " 団員
Dr. Vises	研究教育部	今藤 日本大使館一等書記官
Dr. Prapahd	研究教育部	北野 JICAバンコック事務所長
	(ツノンDLD所長予定) 諏訪	" 所員

1977年3月2日、日・タイ両国関係者の間で署名された「タイ家畜衛生改善計画技術協力プロジェクト」討議議事録に関する事業実施計画について協議するため、熊谷博士を団長とする計画打合チームの訪タイの機会(8月2日~8月14日)を利用して、この会議が開催された。

8月3日の第一回会議において、討議された事項をうけて、Siri 局長の主宰のもとに会議は行われ、まず、熊谷博士を団長とするチームを歓迎する旨、表明があった。

はじめに、熊谷団長より、パクチョンの口蹄疫研究所関係者との協議結果等について報告が行われた。

ひきつづき、Siri 局長より、いくつかの技術上の諸問題および専門家の(\*1)任期について意向表明があった。

討議の後、両国関係者は、プロジェクトを効率的に実施するため(別紙の)事業実施計画について合意した。

最後に、Siri 局長よりチームに対し、感謝の意の表明があった。

I タイ家畜衛生改善計画技術協力プロジェクト 事業実施計画

口蹄疫ワクチン製造センター

## A. ワクチン製造

### 1. ワクチン製造の基本的方針

- ( \* 2 )
  - a. ワクチン製造を回転培養法により開始する。
  - b. ワクチン製造量は徐々に増やし、年間80万ドーズまで達するようにする。
  - c. 第一段階においては、浮游培養法を実験的規模において開始する。

( \* 1 ) 当初、日本側より示された専門家派遣計画に対し、Siri局長より、専門家の任期をできるだけ長期に、短期専専門家の場合も少なくとも6カ月間に、との要望があった。

( \* 2 ) 現在、口蹄疫研究所においては、フレンケル法により年間約100万ドーズ、またBHK細胞静置培養法により10万ドーズのワクチンを製造している。

- d. 浮游培養タンクの大きさは徐々に拡大し、300ℓまでにする。
- e. 実験的規模の浮游培養法により、つくられた細胞は、浮游培養タンクによる実験的ワクチン製造の培養細胞として、使われると同時に、回転培養法の種細胞としても使われる。
- f. 浮游培養法による本格的ワクチン製造を、できるだけ早期に開始する。  
( \* 3 )
- g. ワクチン製造量の目標は500万ドーズ(単価)とする。
- h. 豚の口蹄疫ワクチン製造についても年間(1978年には)、25万ドーズを検討する。  
( \* 4 )

### 2. 細胞の選択

- a. ワクチン製造のベースとして、細胞BHK-13が選択される。
- b. HmLu またはCKT系統の細胞も使用可能と考えられる。

### 3. ワクチン培養液に用いる牛血清の採取システム

- a. 500万ドーズのワクチンを製造するには、少なくとも、牛700

頭からの1000ℓの血清が必要となる。

そのうち、半分(500ℓ)の血清は口蹄疫ウイルスの抗体をもたないものでなければならない。  
( \* 5 )

b. プロジェクトの初期の段階において、タイ国内に、口蹄疫ウイルス無抗体の血清の採取システムを確立する必要がある。

b. (改訂条項)

口蹄疫無抗体血清の採取システムについては、口蹄疫に罹らないように防護策を講じた適当な地域(南部タイ)に、血清採取用の牧場をつくることが望ましい。(フリーゾーン)代替策としては、口蹄疫無抗体血清を日本または口蹄疫のない国から、輸入することが考えられる。

c. 血清採取のため、設備の整った屠場を指定する必要がある。  
( \* 7 )

d. 血液、血清は冷蔵施設車により、輸送される。

e. 水牛血清の有効性が明らかとなった場合、牛血清の何割かを水牛血清をもって充てる。

4. ワクチン用ウイルス

a. ワクチン用ウイルス株の選択は次の方法に換る。

a) 血清学的方法により、ワクチン株と野外流行株との間の抗原的差異を調べ、よく一致した株を用いる。

( \* 3 ) 当初、日本側は1979年に本格的ワクチン製造開始を説明したが、Dr. Siriより「可能な限り、早期に」との要望があった。

( \* 4 ) 現在、口蹄疫研究所において、豚用ワクチンを試験的に生産し、好成績をあげており、1978年度25万ドーズの生産を目標にしている。

( \* 5 ) 口蹄疫無抗体血清の確保について、タイ側は当初、しばらくの間は日本、オーストラリア等から輸入したいと述べたが、

日本側は強く、タイ国内における特定の血清採取牧場の設立が望ましい旨、述べた。

( \* 6 ) 南部タイ、関係施設見学後、口蹄疫抗体のない血清採取用の牧場を南部に設立することが可能との感触を得て、8月11日の会議( D L D )の際、追加した。

( \* 7 ) Udom 部長より、現在バンコックの屠場より血液採取していると説明があった。

b ) 免疫原性

1 ) 牛における抗体産性刺激能力

2 ) フラークサイズのような免疫原性と関連のある試験管内標識

b. ウイルスは新しい細胞培養法に順応させる必要がある。

5. 抗原量測定および力価試験

a. 補体結合反応による 1 4 0 S 粒子抗原の測定を導入する。

b. 動物による力価試験は攻撃接種前の中和抗体測定と攻撃接種後の臨床反応で判定する。

1 ) 牛による効力試験を常時行う。

2 ) 水牛およびモルモットによる効力試験を牛による効力試験と平行して適時行う。

B. 診断および疫学

1. 世界口蹄疫センター(イギリス)で用いられている診断方法を導入する。

a. マイクロタイター、補体結合反応によるタイピング(タイプ決定)

b. 仔牛または仔羊の甲状腺細胞、乳のみマウスの接種

2. できるだけ多く、口蹄疫発病家畜の病変からサンプルを集め、ウイルスを分離する。分離されたウイルスについてはタイピング、サブタイピングを行う。サブタイピングは「プロフィル C F テスト」により

行う。選抜されたウイルス株は、ワクチン株とともに定量的交差CFテストを行う。

3. 分離されたウイルス株およびワクチンウイルス株の代表サンプルは標準ウイルス株との抗原性比較のため世界口蹄疫センター(WRL)に送付する。<sup>( \* 8 )</sup>
4. 家畜および野生動物の血清疫学調査は今後の検討課題とする。<sup>( \* 9 )</sup>

C. 小実験動物

純系マウスの導入を計画する。

D. 専門家派遣計画

口蹄疫ワクチン製造センターに、次の専門家の派遣が予定されている。この派遣計画はコロボ計画にもとづく通常の手続にしたがって実施される。

- a. ワクチン製造—細胞培養(回転培養法, 浮游培養法)分野の専門家3名

短期専門家1名 6カ月 (1978年1月~)

長期専門家2名 2~3年 (1977年11月~1980年3月)

- b. 診断(ワクチン製造のための疫学, ウイルス学)の分野の専門家2名

短期専門家1名 6カ月 (1977年11月~)

長期専門家1名 1年 (1977年11月~)

- c. 上記の短期専門家については、プロジェクトの効果的運営のため、継続的に、後任専門家を派遣するとともに、事業実施計画にもとづく、活動の一貫性を十分考慮しつつ、実施する。<sup>( \* 10 )</sup>

( \* 8 ) 以前、口蹄疫研究所より、WRLにウイルス株を送付した事例はあったが、WRLより回答がなかったとのタイ側の説明があった。今後、日本側よりもWRLの積極的協力を要請することを約した。

( \* 9 ) Siri局長より野生動物の調査は現実的に困難をともなう旨の説明があった。

( \* 10 ) Siri 局長より、短期専門家の交替により、( 研究 ) 活動の一貫性、計画性が損われないように配慮を望むとの要望があった。

#### ツンソン家 畜衛生センター

討議議事録および付属ノートに記載された事業活動にもとづき、下記に掲げる重要な家畜疾病について、調査、診断システムの確立をはかる。

1. 出血性敗血症 ( 牛 )
2. 豚コレラ
3. 寄生虫病

これらの疾病は、プロジェクトの対象とする地域 ( 行政地域 8 および 9 ) において、経済的損失の観点から、優先順に掲げたものである。その他の多くの家畜疾病については、十分調査を行い、プロジェクトを一年間実施した後に、リストアップすることとする。

#### 専門家派遣計画

微生物学、病理、疫学分野の専門家 3 名 ( 各々 1 名 ) は、供与機材がバンコック港で荷揚されると予想される 1 9 7 8 年 2 月頃、派遣される予定である。

#### 施設の整備

機材を適確に設置、使用するために、給水、ガス、十分な容量の電気等の設備がタイ側によって準備されることが必要である。

#### 畜産振興局、アドバイザーの派遣

プロジェクトの諸活動の調整、およびタイ国の家畜衛生改善についてアドバイザーするため、1 9 7 7 年 1 2 月頃アドバイザーの派遣が予定されている。



## コロナ計画の諸手続

### 専 門 家

できるだけ早期に、口蹄疫ワクチン製造センターに派遣される専門家の要請書（A1フォーム）を日本政府に送付する。

### 機 材

できるだけ早期に、本チームとタイ側関係者の中で討議、作成された機材リストにもとづき、要請書（Aフォーム）を日本政府に送付する。

付表に、リストアップされた機材は、日本側の予算の範囲内で1977および1978会計年度に供与される予定である。

### 研 修 員

「討議議事録」付属ノートに記載された「日本における研修計画」にもとづき、研修員受入要請書（A2, A3フォーム）を早期に日本政府に送付するように手続を迅速に行う。

日本の1977会計年度内に、次の研修員がタイ側より派遣される予定である。

アルミゲル製造	4 月	Mr. Tongdee 口蹄疫研究所, 科学研員
(家畜衛生事情) 視察	1 月	Dr. Prapahd DLD 教育研究部 (DLD 所長予定) Dr. Viset DLD 教育研究部 (DLD 担任)
家畜衛生・診断	6 月	DLC の候補者 (*11) (または FMD 研究所の候補者)

研修員受入要請書は、事前に研修計画等必要な準備をするために遅くとも1978年1月までに、日本政府に送付されねばならない。

V タイ側職員の配置計画

A 口蹄疫ワクチン製造センター

		1)	2)	3)	4)
	計	現在の職員	新規採用職員 (78年1月)	センター職員 (78年1月)	研究所に 残る職員
獣医師	15	11	4	14	1
獣医師補	5	5	0	4	
薬剤師	1	1	0	1	1
生物学研究員	2	0	2	2	
電気技師	2	1	1	2	
機械技師	1	1	0	1	
畜産技術者	2	0	2	2	
事務長	1	1	0	1	
補助員(worker)	86	60	26	71	15
計	115	80	35	98	17

注1) 口蹄疫研究所の現在の職員数(1977年8月)

2) 1978年会計年度に採用される職員数(1978年1月の予定)

3) 1978年1月時点における口蹄疫ワクチン製造センターの総職員数

4) (1978年1月時点において)ひき続き、口蹄疫研究所に残留する職員数(フレネル法によるワクチン製造)

B. 家畜衛生センター, ツンソン

第一段階(1978年10月頃)において、プロジェクトの諸準備のため、畜産振興局教育研究部より所長および3名の獣医師を任命し、ツンソンに派遣する。

このうち3名の獣医師は、1978年1月頃新規採用される獣医と交替する。

1978年1月時点

所長(獣医師)	1
獣医師	5
獣医師補	9
補助員	11

(\*11) 1978年に、少なくとも3名の新卒の獣医師がDLC(ツンソン)に配属される予定であるが、タイ政府の規則により6か月間は海外研修が困難な事情がある。その場合EMDからの候補者を受入れる予定。

科学研究員	3
機械技師	1
事務長	1
タイピスト	1
運転手	5
計	37

IV プロジェクト、タイ側予算

タイ側は、プロジェクトの実施に必要なカウンターファンドを準備する。<sup>(\*12)</sup>

付表1. 口蹄疫ワクチン製造センター向 機材リスト

付表2. 家畜衛生センター向 補充 機材リスト

2. 討議議事録要旨(8月11日)

(ツンソン家畜衛生センターに関する補足メモ)

熊谷博士を団長とする計画打合チームは1977年8月9日~10日、ツンソンの家畜衛生センターおよび周辺の施設を見学した。

8月8日の会議の際の討議を補足して、本チームは、プロジェクトを効率

的に実施するため、次の意見、勧告を畜産振興局に対し、述べた。

ここにあげたいいくつかの問題点は、アドバイザーおよび専門家が赴任した後、開催される「合同会議」においても討議されるであろう。

## 1. 給水施設

現在の給水施設は、センターの活動に十分ではない。できるだけ早期に、センターの活動に十分な給水設備を設置する必要がある。

1) 地下水を利用できる、深井戸を掘削する。今後、ボーリングテストも試みる必要がある。

(\*13)

2) 貯水池をつくる。

(\*12) ツンソン家畜衛生センター関係の1978会計年度の予算要求

内容は次のとおり。

1. 土地、建物整備費 42,500 US\$

(給水タンク等)

2. 備品、文房具購入費 13,810

3. 旅費、維持費 55,758

(ガソリン、電気、郵便、電話等)

4. 人件費 82,745

計 194,813 US\$

(389万Bahts)= 約5450万円

既に予算局の査定を受けたが、最終的に10%程度の削減が予想されるとのことである。

(\*13) Chua 次長は、十分な給水を得るため、近くの川より水をポンプアップし、貯水池に貯め、給水塔からセンターおよび住宅に給水する方法を講じると説明した。

## 2. 空調設備

実験室6室、無菌室4室に設置するため必要な空調設備を5台追加し、

合計10台供与することを日本側で検討する。

### 3. 焼却炉

焼却炉は家畜衛生施設に不可欠である。

- 1) 早期に、焼却炉設備を建設することが望ましい。
- 2) 焼却炉に併設し、大動物用解剖室を新たに設置することが望ましい。<sup>( \*14 )</sup>

### 4. 設備、備品等

- 1) 1977年11月までに、実験室にそれぞれ、流し台、実験卓(ベチ)、実験台を設置する。また(器具)戸棚、机、椅子その他の備品も近く備える。
- 2) ガス設備(ガスボンベ、プラスチック管、バーナー)は専門家の赴任時に実験室にそれぞれ設置する。

### 5. 純水性造装置

実験室に純水を供給するため、センター本部建物に、濾過装置付天水タンクを併設する。

雨水が不足する場合、パクチョンの口蹄疫センターまたは(近くの)他の施設から純水(蒸留水)の輸送し、純水を確保することを検討する。<sup>( \*15 )</sup>

### 6. 実験動物

第一段階においては次の実験動物が必要となる。

羊2頭、鶏10羽、モルモット20匹

タイ側はモルモット用以外の実験動物のケージ等を準備する。

### 7. 通信設備

センターと関係施設(周辺)との緊密な協力関係を維持し、同時にセンターに赴任する専門家と畜産振興局(バンコク)に赴任するアドバイザーとの連携を保つため、電話を設置する必要がある。<sup>( \*16 )</sup>

### 8. 車庫

「討議議事録」付表Vに記載する車庫については、日本から供与される車輛(マイクロバス1台、ジープ1台、ステーションワゴン1台、モーターサイクル)が到着するまでに、建設されることが予定される。

## 9. 関係機関との協力調整

「討議議事録」付表1に記載する「関係機関との協力調整」について、とりわけ南部地区（の機関）において、プロジェクトを円滑にするため、その必要性が強調される。

「最終会議議事録要旨」の1-A-3-b「口蹄疫ワクチン用牛血清採取システム」の項を次のように改訂する。

(\*14) Chua 次長より、焼却炉設置について1978会計年度（1977年10月～）に追加要求することは不可能であるので、とりあえず簡易焼却炉（ブロック）を仮設するとの説明があった。

(\*15) Chua 次長より、パクチョンより純水を輸送することはコスト高になるので、ツンソン周辺の都市より純水を購入する措置を講じたいと説明があった。

(\*16) Chua 次長より電話設置に努力するとの説明があった。

なるべく早期に牛血清の採取システムを確立する必要がある。

口蹄疫無抗体、血清の採取について、口蹄疫に罹らないよう防護策を講じた適当な地域に血液採取用の牧場をつくることが望ましい。

代替策として、口蹄疫無抗体血清を日本または口蹄疫のない国から輸入することが考えられる。

バンコック 1977年8月11日

能谷 団長

計画打合チーム

タイ家畜衛生改善計画合同会議議事録要旨

Summary of Minutes of the Joint Meeting for Technical  
Cooperation Project on Animal Health Improvement  
between Japan and Thailand.

In pursuance of activities under the Record of Discussions (R/D) signed on March 2, 1977, the Japanese Consultation Team organized by the Japan International Cooperation Agency (JICA) and headed by Dr. Shigetaka Shibata, visited Thailand from December 3 to 12, 1978 in order to discuss and investigate the detail of working programmes for the successful implementation of the Project.

During the period, the Team visited the Project sites at Foot-and-Mouth Disease (FMD) Vaccine Production Center, Pakchong and Diagnostic Laboratory Center (DLC), Tung Song, Nakorn Sri-Thammarat, and observed the present activities of the Project and exchanged views and opinions with relevant officials including Japanese experts assigned.

The Joint Meeting under the R/D was held at Bangkok on December 11, 1978 in attendance of the representatives of respective authorities concerned (see attached list). Presenting their deep condolence to Dr. W. Fujiwara, a Japanese Expert to DLC, who passed away by traffic accident on October 28, 1978, following discussions were made.

L. Assignment of the Japanese Experts.

1) Since February 1978, 4 long term and 4 short term experts have been assigned to the FMD Center, and 4 long term and 1 short term experts to the DLC of Tung Song, respectively, according to the R/D.

2) As normal procedures of the assignment under the Colombo Plan formalities require considerable time (approximately 3 months), prompt and close follow up action should be

arranged in both sides for future assignment. Especially such expert who intend to deal with emergency purpose (for example, investigation of particular disease) should be given highest priority to meet its urgent needs.

3) Among long term experts, 2 expert<sup>s</sup> of the FMD Center and 3 experts of the DLC of Tung Song will terminate their term of office in February to April 1970. It is agreed to follow the same field by successive experts at the time of their termination or extending their term of office. Request for the successive experts under the Colombo Plan should be made in due course.

4) For FMD Center, 4 short term experts on suspension culture, vaccine production, vaccine control and mechanics, for one to three months respectively, are needed in 1970.

5) A short term expert of virology should be considered to the DLC of Tung Song for about 1 month in 1970. His main purpose should be application of Fluorescent antibody techniques on diagnosis of viral diseases such as newcastle disease, hog cholera and rabies.

6) Necessity of the Project Advisor who will supervise and arrange the project progress and animal health activities was discussed. If his assignment as long term expert is found difficult, his regular visit (at least twice a year, each for 2 months) should be arranged.

## 2. Thai Counterparts and other Personnels of the Project.

1) The staffs and other personnels of the FMD Center and the DLC of Tung Song have been steadily strengthened. However, a capable engineer is urgently needed, in particular for smooth and efficient operation of the FMD Center.



2) Moreover, social and economic conditions for the staffs should be improved as much as possible in order to attract capable and talented staffs to the Project. Due consideration should also be given to the staffs of pharmacist, chemist, mechanical engineers and electrician, etc. who support veterinary laboratory works.

3) Training of the Thai counterparts in Japan in the fiscal year of 1979 (April 1979-March 1980) was discussed. There is no Animal Health Group Training Course at National Institute of Animal Health, Tokyo, for the year but ~~one~~ official for observation tour and four counterpart<sup>s</sup> for individual training are requested.

### 3. Provision of Equipment , etc.

1) In 1977 fiscal year, a total of 120 million yen equivalent equipments and chemicals including vehicles were introduced from Japan to the FMD Center and the DLC. And in 1978 fiscal year, 70 million yen is allocated for the same purpose for which application of equipment under the Colombo Plan (Form A4) has been made through DTEC in July 1978. Procurement of these commodities are now in underway at JICA, Tokyo and will be arrived by January 1979.

2) Budget for 1979 in Japan has not yet fixed but anticipated approximately 50 million yen. The items to be applied should be discussed in detail and formulated in the form of the Colombo Plan Application by the end of February 1979.

3) In connection with the provision of equipment certain difficulties and problems on custom clearance, acquisition and transportation of these commodities were reported during 1978. Some of the commodities had to be detained at custom-house for severel months waiting for clearance and the same were also happended at the Department of

Livestock Development for transportation to the Project sites although utmost efforts of relevant officials were devoted.

4) This situation often resulted not only considerable economic losses (increase of bonded warehouse charge, etc.) deterioration or damage of commodities, and inconvenience of insurance claim but also caused unnecessary delay of the project progress. Therefore, the commodities of 1978 fiscal year, this kind of constraint should be minimized by establishing well prepared custom formalities and allocation of necessary budgets for warehouse charge and transportation fee, etc.

5) Acquisition, storage and management of these commodities at the each Center are found satisfactory in general. Registration of non-expendable equipment, control of outlay of expendable materials were also arranged.

6) Provision of the equipment from Japan can be partially procured at local market if available. This new system should be further strengthened and expanded with close collaboration of Thai officials.

7) It is obvious that all the equipment and materials needed for the operation of the Projects could not be supported throughly by the Japanese provision. Therefore Thai side should further devote her efforts to strengthen the funds for operation especially after the Third year cooperation period.

#### 4. Activities of the Project-Present and Future Plan.

##### FMD Center

1) Activities and progress of the Project have been reported in the mostly progress reports by the Experts. The activities were executed with full cooperation between the

Thai and Japanese staffs. However, there have been certain problems encountered due to delayed delivery of Japanese instruments and chemicals, difficulty of local procurement of laboratory materials and disorder or improper operation of laboratory facilities and equipment .

2) After the preparatory work of the new production facility which took first several months, laboratory works have been focussed to the selection of cell lines and culture media to be introduced to mass production of FMD vaccine as well as quality control of laboratory water. The serial trials and experiments have been conducted at the Center, and necessary data were collected and fully evaluated for the efficient production of the vaccine. Then the production of seed cell was commenced according to this findings.

3) The selection of seed viruses for vaccine production was another subject to be considered. This still need considerable time and further work for evaluating antigenicity and immunogenicity and other properties of the virus strains. Virological and serological survey of field strains was also needed. Since the laboratory technique for this purpose was already established at the Center, positive efforts to collect field samples (strains) should be made continuously.

For the time being, the virus strains which are presently used for vaccine production at the Center should be employed as seed viruses.

4) Operation of rolling bottle culture and cell suspension culture have been launched with favorable results. Establishment of mass production technique should be given highest priority as for the immediate future plan. All the effort and arrangements including personnel should be concentrated into this purpose.

5) Secondly, systematic and efficient method of quality control of the vaccine should be arranged including production and arrangement of tests animals.

6) To accomplish these plans, procurement of chemicals, laboratory commodities and other necessary materials for vaccine production should be properly considered and arranged by the Thai side including budgetary appropriation.

#### DLC of Tung Song

1) The activities and progress of the Project have been reported monthly by the Progress Report of the Project. Due to incomplete laboratory facilities and equipment, shifting of some veterinary officers of the Center, delayed delivery of Japanese commodities and others, the activities of the first several months were mostly devoted to preparatory arrangement for DLC services.

2) Water supply, dissecting room for autopsy, incinerator, preparatory room for washing, cleaning and sterilization of equipment, etc. are still needed further arrangement. In spite of the above-mentioned inconveniences, laboratory services of the Center are gradually increased and expanded to surrounded areas and other particular institutions in the region of operation. Organized disease investigation and survey were also conducted in 3 provinces of the region.

3) As the results of diagnostic services and investigation, disease situation in the region has been clarified in some extent. However, more clear picture will be established by expanding and accumulating these activities in the future.

4) For immediate future, systematic channel of sample collection in the service areas should be established in practical ways. Institutional structure of the DLC should be formulated for efficient implementation of DLC services.

5) The importance of animal nutrition was revealed since the majority of non-infectious diseases in the field were

closely attributed to nutritional disorders. The necessary guidance to the farmer in this subject is considered essential. DLC should be equipped and deal with feed inspection and analysis. Equipment concerned for this purpose would be included in the provision of 1979 fiscal year.

5. Others.

Considering increasing importance of the FMD control in the Southeast Region, the Workshop on FMD Control for ASEAN member countries was discussed. It is hoped that the Government of Thailand will be hosted and JICA and APHCA be co-sponsored for the Workshop in early December 1979. Detailed schedule should be discussed and arranged by relevant authorities later on.

THE RECORD OF DISCUSSIONS ON EXTENSION OF  
THE PROJECT OF THE TECHNICAL COOPERATION  
PROJECT ON ANIMAL HEALTH IMPROVEMENT PRO-  
GRAMME IN THAILAND

The Japanese Project Formation Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency and headed by Dr. Muneo Ogata visited the Kingdom of Thailand from January 25 to February 3, 1984, had a series of discussions with the authorities concerned of the Kingdom of Thailand concerning the extension of the period of the Technical Cooperation based on the Record of Discussions which was signed on March 2, 1977 (hereinafter referred to as "R/D") and will terminate on March 1, 1984.

As a result of discussions, the Team and the authorities concerned of the Government of Thailand agreed to recommend to their respective Governments that Annex I of the R/D should be amended as attached hereto and that the technical cooperation for the Foot-and-Mouth disease Vaccine Production Centre and for the Department of Livestock Development (advisory services) should be extended until March 1, 1986, in order to fulfill the anticipated objectives. However the technical cooperation for the Diagnostic Laboratory Centre in Tung Song will be terminated as scheduled.

Bangkok, January 27, 1984

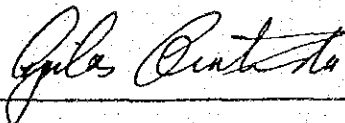


Dr. Muneo Ogata  
Head of the Japanese Project  
Formation Team  
Japan International Cooperation  
Agency



Dr. Tim Bhannasiri  
Director-General  
Department of Livestock  
Development

witnessed by



Mr. Apilas Osatananda  
Director - General  
Department of Technical and  
Economic Cooperation

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Formation Team  
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Agency



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Director-General  
Department of Livestock  
Development

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Annex I Master Plan of the Project

Activities under the Project

1. Foot-and-Mouth Disease Vaccine Production Centre
  - (1) The practical experiments for improvement of techniques on vaccine quality by means of the mass production method of Foot-and-Mouth Disease Vaccine and training of technical staff at the Centre
  - (2) Diagnosis and identification of types of foot-and-mouth disease virus for the whole area of the country in collaboration with the related institutions
2. Department of Livestock Development (Advisory services)

Advice on animal health improvement in Thailand including foot-and-mouth disease control programs



TENTATIVE IMPLEMENTATION PROGRAM FOR TECHNICAL  
COOPERATION PROJECT ON ANIMAL HEALTH IMPROVEMENT  
PROGRAMME IN THAILAND

Within the scope of the Record of Discussions signed on January 27, 1984, the Japanese Project Formation Team and Thai authorities concerned have jointly formulated the Tentative Implementation Program for the smooth implementation of the Japanese Technical Cooperation Project on Animal Health Improvement Programme in Thailand (hereinafter referred to as "the Project" ) as annexed hereto.

The Tentative Implementation Program is subject to change in the course of the implementation of the Project within the framework of the Record of Discussions, and also subject to the conditions that necessary budget will be allocated for the implementation of the Project.

Bangkok , January 27, 1984



.....  
Dr. Muneo Ogata  
Head of the Japanese Project Formation  
Team  
Japan International Cooperation  
Agency



.....  
Dr. Tim Bhannasiri  
Director-General  
Department of Livestock  
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Advice on animal health improvement in Thailand including foot-and-mouth disease control programs

Tentative Schedule of Implementation

Year	1984	1985			1986		
Months	3	5	7	9	11	1	3

(Main Activities)

- (1) To maintain and improve the massproduction techniques of foot-and-mouth disease vaccine and to train technicians at the Centre
- (2) To improve the quality of foot-and-mouth disease vaccine
- (3) To improve the safety test and potency test for foot-and-mouth disease vaccine
- (4) To improve the technique for diagnosis of foot-and-mouth disease
- (5) To advise for animal health administration with particular reference to control programme of foot-and-mouth disease

(Dispatch of Expert)

(Long-term Assignment)

- (1) Advisor
- (2) Vaccine production technique of foot-and-mouth disease
- (3) Diagnosis of foot-and-mouth disease

(Dispatch of Expert)

(Short-term Assignment)

(Training of Thai Personnel in Japan)

(Provision of Equipment and Machinery)

Several (man-month)  
Number and duration of these experts will be agreed upon during the operation of the Project

Several (man-month)  
Number of and duration of Thai Personnel to be trained in Japan will be agreed upon during the Operation of the Project

Participation to FMD Control in Indonesia as Regional Cooperation

The Animal Health Authorities of Japan and Thailand have great concern on the recent outbreaks of foot-and-mouth disease in Indonesia which started on July 20, 1983 as a regional menace of this malignant infectious disease of animals.

To cope with this situation, following measures shall be taken as emergency actions.

1. The regional Coordination of FMD Control as FMD regional reference Laboratory at the FMD Vaccine Production Center, Pak Chong, shall be strengthened as proposed by APHCA.
2. Efficacy and usefulness of the Thai produced FMD vaccine against current outbreak of FMD in Indonesia shall be evaluated in due course. For this purpose, necessary investigation programme and arrangement shall be discussed and established by the Thai and Indonesian authorities concerned.
3. Production of FMD vaccine which will meet for current FMD in Indonesia shall be examined in Thailand as well as in Indonesia.

Regional Collaboration including Japan shall be strengthened on this matter.

4. To assist and coordinate present FMD control activities in Indonesia, two project counterparts mentioned-below shall be sent from the Department of Livestock Development, Thailand to assist regional cooperation by the JICA's fund together with Japanese experts.

Field on FMD diagnosis:

- 1) Technology exchange of laboratory procedures of FMD diagnosis.
- 2) Laboratory tests and examination on the evaluation of different FMD vaccines including Thai produced one.
- 3) Advice and recommendations for the arrangement of FMD vaccine production in Surabaya Institute and systematic diagnostic services.

Field on FMD control and regional coordination

- 1) Coordination and assistance on FMD control programme inforce in Indonesia.
- 2) Exchange of technical and administrative know-how on FMD control which have gained in Thailand.
- 3) Cooperation programme of FMD control and prevention between the two countries.
- 4) Advice and recommendation on FMD control to be considered in future programme.

Proposed duration and date of visit:

Three weeks starting from April 1984.

Jan.27, 1984.

M. OGATA

Summary Report of the Discussion  
for Technical Cooperation on  
Animal Health Improvement Project  
(F.M.D. Center)

The Japanese Formation Team of J.I.C.A headed by Dr. Muneo Ogata visited Thailand from January 25 to February 3, 1984.

At Foot and Mouth Disease Vaccine Production Center, the Team member, relevant officials of Thai authorities, Japanese experts assigned to the Project and the counterpart officials (Appendix I) discussed about the Objectives and Detail of Implementation Plan as the main activities to be conducted during the period of extended cooperation schedule which will be ended by March 1<sup>th</sup> 1986.

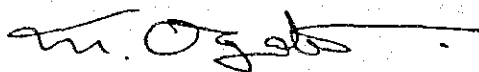
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Objectives and Detail of Implementation Plan.

1. Maintain and improvement of the mass production techniques of FMD vaccine and training of technicians.
  - 1) Maintaining the established technology of mass production of the vaccine for stable production.
  - 2) Improvement of technology for mass vaccine production particularly to obtain, a) increased yield of virus antigen, b) higher cell multiplication, c) decreased contamination rate, and d) routine checking and careful operation of equipments and facilities.
  - 3) Training of mechanical engineers for good maintenance of machinery.
2. Quality improvement of FMD vaccine.
  - 1) Selection of seed virus strains suitable for efficient vaccine production.
  - 2) Analysing and dissolving allergic reaction after the vaccination.
  - 3) Establishment of reduced serum content as vaccine component.
  - 4) Purification (refinement) of the vaccine by means of ultra filtration.
  - 5) Increase of immunogenicity by means of virus concentration.

3. Improvement of vaccine control.
  - 1) Introduction and establishment of tissue culture method as invitro safety test which is more sensitive than in vivo test.
  - 2) Estimation of 140 S content as evaluation of vaccine potency.
  - 3) Further analysis and improvement of PD<sub>50</sub> (50% protective dose) in different species of animal and introduction of neutralization test as evaluation of potency.
4. Improvement of FMD diagnosis.
  - 1) Strengthening of the systematic collection of field materials for diagnosis.
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  - 3) Evaluation of the vaccine produced and used with regards to the field viruses.
- 5) Advisory services for animal health administration.
  - 1) Assistance for planning and implementation of FMD control in general.
  - 2) Coordination of activities between DLD and JICA.

Pakchong, January 31, 1984



Dr. Muneo Ogata

The Leader of Japanese Formation  
Team, J.I.C.A

Appendix. I.

Dr. Muneo Ogata	Leader of Japanese Formation Team.
Dr. Tadashi Tokui	Member of Japanese Formation Team.
Mr. Shunnosuke Kuriki	- do -
Dr. Testuo Okamoto	Japanese expert (Advisor)
Dr. Koichi Namba	Japanese expert
Dr. Tomoyuki Tsuda	Japanese expert
Dr. Ichiro Takatori	Japanese expert
Dr. Smarn Pipitgul	Director of Veterinary Biologics, DLD.
Dr. Thinakorn Chandakeo	Director of FMD Vaccine Center
Dr. Ab Kongton	Chief of Research Diagonosis, FMD Vaccine Center
Dr. Suneejet Kongton	Chief of Vaccine Control, FMD Vaccine Center
Dr. Pichit Makarasan	Chief of Vaccine Production, FMD Vaccine Center



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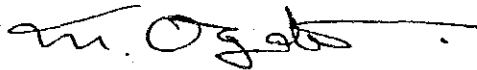
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Pakchong, January 31, 1984



Dr. Muneo Ogata  
The Leader of Japanese Formation  
Team, J.I.C.A

Appendix. I.

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Dr. Suneejet Kongton	Chief of Vaccine Control, FMD Vaccine Center
Dr. Pichit Makarasan	Chief of Vaccine Production, FMD Vaccine Center

## 2. タイ・灌漑農業開発計画・討議々事録及び実施計画試案

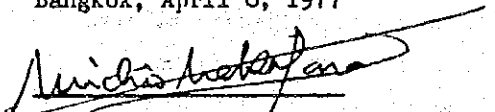
ON THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE AGRICULTURAL SURVEY TEAM AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THAILAND CONCERNING TECHNICAL CO-OPERATION PROJECT ON THE IRRIGATED AGRICULTURE DEVELOPMENT IN THAILAND

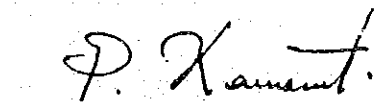
The Japanese Agricultural Survey Team, organized by the Japan International Cooperation Agency and headed by Michio Nakahara, visited Thailand from February 13 to April 13, 1977, for the purpose of formulating concrete co-operation plans for the Technical Co-operation Project on the Irrigated Agriculture Development which will be carried out with the Chao Phya Pilot Project, the Mae Klong Pilot Project and the Suphan Buri Rice Experiment Station and Training Center for the Irrigated Agriculture Development as its cores.

During its stay in Thailand, the Team exchanged views with the authorities concerned of the Government of Thailand on the necessary measures to be taken by both Governments to successfully implement the Technical Co-operation Project on the Irrigated Agriculture Development in Thailand. The Team also conducted necessary survey for the implementation of the Project.

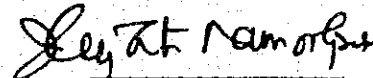
As a result of the exchange of views and survey, both parties agreed to recommend to their respective Governments to carry out the matters referred to in the Record of Discussions.

Bangkok, April 8, 1977

  
Mr. Michio Nakahara  
Head of the Japanese Agricultural  
Survey Team  
Japan International Cooperation Agency

  
Mr. Prida Karnasut  
Under-Secretary of State  
Ministry of Agriculture  
and Cooperatives

in the presence of



Mr. Kujati Pramoolpol  
Director-General  
Department of Technical  
and Economic Cooperation

## RECORD OF DISCUSSIONS

I. (1) Both Governments will co-operate with each other in implementing the Technical Co-operation Project on the Irrigated Agriculture Development in Thailand (hereinafter referred to as "the Project") with the Chao Phya Pilot Project, the Mae Klong Pilot Project and the Suphan Buri Rice Experiment Station and Training Center for the Irrigated Agriculture Development (hereinafter referred to as "the Suphan Buri Station") as its cores. The Project aims at contributing to the promotion of land consolidation, the improvement and extension of agricultural production technology, the development and strengthening of farmers' organization and other related activities which will be necessary for increase of rice yield and expansion of multi-cropping area.

(2) The Project will be implemented in accordance with the Master Plan as stipulated in Annex I.

(3) The Project will be implemented under the supervision and direction of the Project Director referred to in VIII.

(4) The Project will be implemented in accordance with the annual operational work plan to be formulated annually by the Joint Committee referred to in X.

The annual plan will be submitted to the authorities concerned of both Governments for their approval.

II. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to provide at their own expense the services of the Japanese experts as listed in Annex II through the normal procedures under the Colombo Plan Technical Co-operation Scheme.

(2) The Japanese experts referred to in (1) above and their families will be granted in Thailand the privileges, exemptions and benefits no less favourable than those accorded to experts of third countries working in Thailand under the Colombo Plan Technical Co-operation Scheme.

III. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to provide at their own expense such equipment, machinery, implements, vehicles, tools, spare parts and other materials required for the implementation of the Project as listed in Annex III through the normal procedures under the Colombo Plan Technical Co-operation Scheme.

(2) The articles referred to in (1) above will become the property of the Government of Thailand upon being delivered c.i.f. to the Thai authorities concerned at the ports of disembarkation, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese Team Leader referred to in Annex II.

IV. (1) A part of the goods referred to in III (1) may be rented at reasonable rates to farmers in areas to be decided after mutual consultations between the authorities concerned of both Governments and a part of consumable items such as fertilizer, agricultural chemicals, etc. may also be transferred at reasonable prices to the farmers in the above-mentioned areas.

(2) The proceeds from such rentals or transfers will be used exclusively for the implementation of the Project in accordance with laws and regulations in force in Thailand.

(3) The provisions of (1) and (2) above will be applied in accordance with the annual operational work plan referred to in I (4) above, and there will be close consultations between the Japanese Team Leader referred to in Annex II and the Thai Project Director referred to in Annex IV as regards their application.

V. (1) In accordance with laws and regulations in force in Japan, the Japanese authorities concerned will take necessary measures to receive the Thai personnel engaged in the Project for technical training or study tour in Japan through the normal procedures under the Colombo Plan Technical Co-operation Scheme.

(2) The Government of Thailand will take necessary measures to ensure that the knowledge and experience acquired by the Thai personnel mentioned in (1) above through technical training and study tour in Japan may be utilized effectively for the implementation of the Project.

VI. The Government of Thailand will take necessary measures to provide at its own expense:

(1) the services of the Thai counterparts and other personnel as listed in Annex IV;

(2) land and buildings as listed in Annex V as well as incidental facilities;

(3) supply or replacement of equipment, machinery, implements, vehicles, tools, and spare parts, and any other materials necessary for the implementation of the Project other than those provided by the Japanese authorities concerned under III (1) ;

(4) suitably furnished housing accommodations for the Japanese experts and their families;

(5) transportation facilities and the grant of the travel allowance for the Japanese experts for the official travel within Thailand.

VII. The Government of Thailand will take necessary measures to meet:

(1) expenses necessary for transportation within Thailand of the articles mentioned in III (1) as well as for the installation, operation and maintenance thereof;

(2) all running expenses necessary for the implementation of the Project;

(3) customs duties, internal taxes and any other charges, imposed in Thailand in respect of the articles referred to in III (1).

VIII. The Government of Thailand will appoint the Project Director who will be responsible for the administration and implementation of the Project, and the Japanese experts will provide primarily technical guidance and advice for the implementation of the Project.

IX. The Government of Thailand shall undertake to bear claims, if any arises, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with, the discharge of their official functions in Thailand, except for those claims arising from willful misconduct or gross negligence of the Japanese experts.

X. There will be close consultation between the Japanese experts and the officials concerned of the Government of Thailand for the smooth promotion and effective implementation of the Project. For this purpose, a Joint Committee will be established as specified in Annex VI. The Joint Committee will meet at least once a year.

XI. For the successful implementation of the Project, both Governments will consult with each other when deemed necessary.

XII. The period of the technical co-operation mentioned in this Record of Discussions will be five (5) years from the date of signature and co-operation thereafter will further be consulted between the authorities concerned of both Governments.



## Annex I. Master Plan of the Project

The Project consists of the Project Center and three sub-projects, namely Chao Phya Pilot Project, Mae Klong Pilot Project and Experiment and Training Project, in order to promote the Irrigated Agriculture Development Plan in an integrated and effective manner.

### 1. The Project Center

The Project Center will be established in Bangkok and will function as the headquarter.

The activities of the Center are as follows:

(1) To give necessary technical advices for planning and implementation of the Irrigated Agriculture Development Plan in the Lower Greater Chao Phya Basin and the Greater Mae Klong Basin, centering around the pilot areas in respective Basins;

(2) To conduct managerial and coordinating works in order to promote smooth and effective implementation of three sub-projects.

### 2. The Chao Phya Pilot Project

The Chao Phya Pilot Project of about 500 ha for agricultural development of the flood irrigation area will be set up in Tambol Phraya Sanlu, Amphoe Lat Bua Luang, Changwat Ayutthaya.

### 3. The Mae Klong Pilot Project

The Mae Klong Pilot Project (No. 1) of about 400 ha and the Mae Klong Pilot Project (No. 2) of about 500 ha will be set up in Tambol Maungchun and Banmai, Amphoe Tha Muang, Changwat Kanchanaburi and in Tambol Taklamen, Amphoe Tha Maika, Changwat Kanchanaburi respectively for agricultural development by means of multi-cropping.

The activities of the Pilot Projects mentioned in 2 and 3 above are as follows:

(1) To plan and execute the improvement works of agricultural physical infrastructure, such as field rearrangement, farm roads, irrigation and drainage facilities and empoldering dikes (as required in Chao Phya), in each pilot area;

(2) To advise on technical matters to farmers in the pilot areas and staff concerned for effective water management;

(3) To conduct trials with improved agricultural techniques of rice cultivation mainly at the trial farm of about 10 ha;

(4) To provide training and guidance to farmers in the pilot areas and their vicinities on improved agricultural techniques;

(5) To introduce and demonstrate improved agricultural techniques at a few model farms which will be selected in the pilot areas;

(6) To foster and strengthen farmers' organizations for water management, joint co-operative activities for distribution of agricultural materials, collection and forwarding of agricultural products and other activities necessary in the pilot areas including their vicinities when necessity arises.

The implementation of the Mae Klong Pilot Project (No. 2) will be of extensive method.

#### 4. Experiment and Training Project

The activities of the Suphan Buri Station located in Tambol Kua Yai, Amphoe Muang, Changwat Suphan Buri are as follows:

To conduct experiments and training on improved agricultural techniques for the successful implementation of the Irrigated Agriculture Development in the pilot areas and their vicinities.

The experiment mentioned above will be primarily carried out by the Government of Thailand and the trainees will be agriculture officers and staff concerned.

Annex II. List of Japanese Experts

Category	Field
1. Team Leader	
2. Experts and associated experts	Irrigation and Drainage Land Consolidation Agricultural Economy Agricultural Machinery Agronomy Extension Water Management
3. Liaison Officer	

- Note:
1. Team Leader, a land consolidation expert, an agricultural economy expert and a liaison officer will be attached to the Project Center.
  2. A sub-leader will be nominated from among experts in each sub-project.
  3. The number of long term experts including a few associated experts to be dispatched concurrently will not exceed 20 persons in total.
  4. Some additional short term experts in the fields mentioned above as well as others may also be dispatched when necessity arises.

Annex III. Articles to be provided by the Government of Japan

1. Construction machinery and equipment, including pumps and their accessories, and their spare parts.
2. Agricultural machinery and implements and their spare parts.
3. Fertilizer and agricultural chemicals.
4. Machines and tools for repair work.
5. Equipment, instruments, tools, their spare parts and other materials for experiment.
6. Equipment and materials for public utilities.
7. Vehicles and motor boats.
8. Teaching materials including audio-visual aids.
9. Other necessary equipment, tools, and materials to be mutually agreed upon for the effective implementation of the Project.

Annex IV. List of Thai Counterpart Officials and Other Personnel

Category	Field
1. Project Director	
2. Counterpart Officials	Irrigation and Drainage Land Consolidation Agricultural Economy Agricultural Machinery Agronomy Extension Water Management
3. Clerical and Service Employees	
4. Laborers	

Note: Thai experts will be posted as counterparts to Japanese experts.

Annex V. Land and Buildings

1. Project Center

Buildings

- a. Project Director's room
- b. Team Leader's room
- c. Office room
- d. Working room
- e. Store room
- f. Meeting room
- g. Garage
- h. Others

2. Each Pilot Project

(1) Land

- a. Land for trial farm
- b. Land for buildings

(2) Buildings

- a. Offices including lecture room and meeting room
- b. Sheds for machinery and equipment
- c. Storehouses for farming materials
- d. Fuel storage
- e. Workshop
- f. Garage
- g. Management office for trial farm
- h. Housing for staff
- i. Guest house
- j. Others

3. Experiment and Training Project

Buildings, farms and other facilities attached to the Suphan Buri Station.

Annex VI. Composition of the Joint Committee

Chairman                      Under-Secretary of State                      MOAC

<u>Japanese side</u>	<u>Thai side</u>
1. Team Leader	1. Project Director
2. Experts designated by Team Leader	2. Project Managers from RID CLCO ALRO DA
3. Liaison Officer	3. Coordinator from Foreign Relations Div., MOAC
4. Representative of JICA	4. Representatives of DAE, DCP, DLD, DTEC Budget Bureau and NESDB

Note: An official of the Embassy of Japan may attend the meeting of the Joint Committee as an observer if necessity arises.

Abbreviations:

- (1) MOAC = Ministry of Agriculture and Cooperatives
- (2) RID = Royal Irrigation Department
- (3) CLCO = Central Land Consolidation Office
- (4) ALRO = Agricultural Land Reform Office
- (5) DA = Department of Agriculture
- (6) DAE = Department of Agricultural Extension
- (7) DCP = Department of Co-operatives Promotion
- (8) DLD = Department of Land Development
- (9) DTEC = Department of Technical and Economic Cooperation
- (10) NESDB = National Economic and Social Development Board
- (11) JICA = Japan International Cooperation Agency

タイ灌溉農業開発計画実施計画試案

TENTATIVE IMPLEMENTATION PROGRAM  
TO THE RECORD OF DISCUSSIONS  
CONCERNING TECHNICAL CO-OPERATION PROJECT  
ON THE IRRIGATED AGRICULTURE DEVELOPMENT IN THAILAND  
BETWEEN  
MINISTRY OF AGRICULTURE AND COOPERATIVES  
GOVERNMENT OF THAILAND  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY



I. IMPLEMENTATION AGENCIES

Thai side : Ministry of Agriculture and Cooperatives  
Japanese side : Japan International Cooperation Agency

II. PROJECT STAFF

The Project staff will consist of Japanese experts and Thai counterpart personnels to be attached to the Project Center and other three sub-projects. It must be noted that activities of the Project are mainly carried out by the Thai counterpart personnels with assistance of Japanese experts.

III. PROGRAM FOR THE IMPLEMENTATION

A. Implementation Schedule

The construction works of the Project will be implemented generally in accordance with schedule as shown in Annex 1.

The Japanese experts to be stationed in the Project will be assigned in accordance with the schedule as indicated in Annex 2.

B. Terms of Reference of Japanese Experts

The Japanese experts will discharge their duties in accordance with the Broad Terms of Reference as attached in Annex 3.

IV. TRAINING AND STUDY TOUR IN JAPAN

The training and study tour in Japan for Thai personnel will be carried out along the schedule as indicated in Annex 4.

V. EQUIPMENT AND MACHINERY TO BE PROVIDED

The equipment and machinery will be provided in accordance with the provisional list of equipment as shown in Annex 5.

Bangkok  
April 8, 1977

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Made by Mr. Michio Nakahara  
Leader of the Japanese Agricultural  
Survey Team

Annex 1. Tentative Construction Schedule

I. Chao Phya Pilot Project (500 ha)

- |   |  |
|---|--|
| 1. Field Office and Trial Farm                            | Starting in late 1977<br>Complete in 1979  |
| 2. Polder Dikes   | Starting in early 1978<br>Complete in 1979 |
| 3. Pumping Station<br>Main Station<br>Irrigation Stations | 1979 and 1980<br>1979 and 1982             |
| 4. Land Consolidation Works                               | Starting in early 1980<br>Complete in 1982 |

II. Mae Klong Pilot Project

- |                                |  |
|--------------------------------|--|
| 1. Field Office and Trial Farm | Starting in late 1978<br>Complete in early half 1979 |
| 2. Land Consolidation          | Starting in early 1979<br>Complete in 1982           |

Note: In Japanese Fiscal Year : starting April & ending next March

Annex 2      Assignment Schedule of Experts (\*)

Speciality	Fiscal Year					
	1977	1978	1979	1980	1981	1982
1. Project Center						
a. Team Leader						
b. Agri'l Economist						
c. Land Consolidation Expert						
d. Liaison Officer						
2. Chao Phya Pilot Project						
a. Land Consolidation Expert						
b. Irrigation and Drainage Expert						
c. Agricultural Machinery Expert						
d. Agronomist						
e. Extension						
f. Water Management						
3. Mae Klong Pilot Project						
a. Land Consolidation Expert						
b. Irrigation and Drainage Expert						
c. Agronomist						
d. Extension						
4. Suphan Buri Station						
a. Agronomist						
b. Agronomist						
c. Extension						

(\*) Subject to change in accordance with the progress of Project implementation.

Annex 3 Broad Terms of Reference for Experts

A. Team Leader :

1. To represent the Team of Japanese Experts and to maintain close contact and consultations with Thai authorities concerned;
2. To coordinate the activities of the Japanese experts to be assigned to the Project and to promote its smooth and effective implementation; and
3. To offer comments and advice to Thai officials concerned on matters related with the Project and other agriculture development in the Lower Greater Chao Phya and the Greater Mae Klong Basins.

B. Land Consolidation Expert (Project Center) :

1. To assist the Team Leader and to represent him when the necessity arises;
2. To consult with, and advise to other land consolidation experts to be stationed in each sub-Project on layout, design criteria, implementation program and other related matters on land consolidation and irrigation and drainage development;
3. To offer comments and advice to Thai officials on matters related with land consolidation and others in and around the Project areas.

C. Agricultural Economist (Project Center) :

1. To assist the Team Leader in the fields of agriculture in general and agricultural economics relating to the Project and the development of its vicinities;
2. To collect and analyze the data and information on improvement to be achieved by the Project;
3. To carry out agricultural economic surveys in and around the Project areas, together with Thai and other Japanese experts, and to make proposals for improvement of farm operations and rural life; and
4. To assist Thai and other Japanese experts in (economic) evaluations on improvement trials in the Project and of other projects in the vicinities.

D. Irrigation and Drainage, Land Consolidation and Water Management Experts:

1. To formulate, in consultation with Thai counterparts, the design criteria for irrigation and drainage development and for land consolidation suited to the conditions of the Project sites, and to assist Thai counterparts in the preparation of designs;
2. To assist Thai counterparts in the preparation of Project implementation, including preparation of schedule, specifications, cost estimates and tender documents;
3. To assist Thai counterparts in project implementation activities such as construction supervision, construction management and management of construction machinery;
4. To formulate, in consultation with Thai officials and other experts, the standard water management procedures, and to train the concerned staff with them with necessary modifications for better application to individual site conditions; and
5. To offer chances of in-service training to Thai field staff during the course of services.

E. Agronomists, Extension, and Agricultural Machinery Experts:

1. To study, with Thai counterparts, the existing cropping patterns, farming practices and operations in the Project areas and to formulate proposals for improvement;
2. To carry out trials at Trial Farms on improved farming methods and demonstrate them at model farms to be selected in the Project areas;
3. To participate in the training to be implemented at the Suphan Buri Center, and to train agriculture officers and other personnel, as required, at the Trial Farms in the Project, including in addition to others use and management of agricultural machinery;
4. To provide, together with Thai counterparts, extension services to the farmers in the Project areas and their vicinities;

5. To study, with Thai counterparts, on farmers' group activities/ organizations concerned with farming operations, use of agricultural machinery, processing and marketing, credit systems, etc., and to advise the beneficiaries of the Project and others concerned on ways and measures for improvement of such group activities, including promotion and guidance for formation of integrated farmers' cooperatives and for initial operation of such organizations;
6. To gather field data and information on farm operations for economic evaluation of the Project; and
7. To offer opportunities of in-service training to Thai counterparts.

- NOTE:
1. Details of the Terms of Reference for individual experts will be finalized through further consultations between two parties.
  2. Terms of Reference for short term experts to be dispatched by Japanese authorities will be prepared separately, when the necessity arises.

ANNEX 4 Training and Study Tour in Japan (\*)

(Unit : person)

	1977	1978	1979	1980	1981
1. Study Tour (about 2 weeks)	2	1	1	1	1
2. Training (about 1 to 5 months)					
Irrigation and Drainage		1	1		
Land Consolidation		1	1	1	
Agricultural Economy			1		
Agricultural Machinery			1		1
Agronomy				1	
Agricultural Extension		1		1	1
Water Management		1			
Others	1**			1	2
<u>Total</u>	<u>3</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>

(\*) This training program is subject to changes in accordance with the progress of project and annual country allotment of trainees.

(\*\*) Water Resources for Agriculture

2. Machinery, Equipments and Materials for Trial Farms  
(Chao Phya and Mae Klong)

<u>Name</u>	<u>Nos.</u>
<u>A. Machinery and Equipment for Field Trials &amp; Trainings</u>	
Tractor 20 - 70 HP	10
Power Tillers 9 HP	10
Rice Planters	10
Combine Harvestors	4
Binders	6
Sprayer with Engine	4
Water Pumps	10
Trucks 2 - 4 t	6
Thrashers	2
Wind Graders	2
Rice Milling Equipments	4
<u>B. Equipment for Training Services</u>	
Electronic Calculators	10
Movies (8 mm) with Projector	2
Slide Projector	2
Copiers	2
Printers	2
Tape Recorders	2
Microscope	2
Microphones and Speakers	2
<u>3. Equipment for Laboratory</u>	
Temperature Control Equipment for Experiments	6
Freezers (Deep)	4
Engines for Boats	2
Balances 500 g. - 100 Kg.	3
Dryers	2
Moisture Meters	
Soil	2
Seed	2
Fertilizer and Agricultural Chemicals	
<u>3. Equipments and Materials for Sukhan Buri Center</u>	
<u>1) Laboratory Trainings</u>	
Balances 1 - 100 Kg.	12
500 g	3 (rough)
500 g	3 (chemical balance)
Moisture Content Meters	
Soil	1
Grain	1
Dry Cans with Ventilator	4



<u>Name</u>	<u>Nos.</u>
Insect Collectors	2
Soil Hardness Meters	2
Electric Calculators	5
Tools and Equipments for Photography	1 set
Movie Cameras (8 mm) and Projectors	1
Tape Recorders	1
Freezers (deep)	2
Drafts	2
Temperature Control Equipment for Experiments	3
Microscopes	5
Microphone and Speaker (Ordinary)	1
Photometers	2

ii) Outdoor Training

Micro Bus	1
Vehicle	1
Microphone and Speaker (Handy Type)	4

iii) Farming Equipments

Tractors 20 - 70 HP	3
Power Tillers 8 HP	2
Plow-planters	2
Combine Harvesters	2
Binders	2
Sprayers with Engine	1
Water Pumps	2
Truck	1
Generators (220 V)	2

4. Vehicles and Office Necessaries for the Project Center and Sub-Project Offices

	<u>Project Center</u>	<u>Chao Phya</u>	<u>Kae Klung</u>	<u>Total</u>
Vehicles	2	1	2	5
Office Necessaries	L.S	L.S	L.S	L.S

5. Equipments and Tools for Workshop

### 3. マレーシア水管理訓練計画・討議々事録

THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE  
AGRICULTURAL SURVEY TEAM AND THE DRAINAGE AND  
IRRIGATION DIVISION, MINISTRY OF AGRICULTURE  
OF THE GOVERNMENT OF MALAYSIA WITH REGARD TO  
TECHNICAL COOPERATION PROJECT ON  
WATER MANAGEMENT TRAINING PROGRAMME IN MALAYSIA

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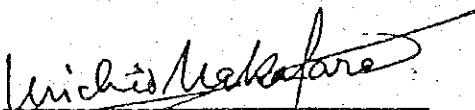
In pursuance of the detailed design for Water Management Training Programme, the Japanese Agricultural Survey Team, organized by the Japan International Cooperation Agency and headed by Mr. Michio Nakahara, Director, Agricultural Development Cooperation Department, Japan International Cooperation Agency, visited Malaysia from August 24 to September 3, 1977 for the purpose of finalizing concrete plans for the Technical Cooperation Project on Water Management Training Programme which will be carried out in order to contribute to the promotion of agricultural development in Malaysia.

During its stay in Malaysia, the Team exchanged views with the representatives of the Ministry of Agriculture and the Economic Planning Unit of the Government of Malaysia on the necessary measures to be taken by both Governments to successfully implement the above-mentioned Technical Cooperation Project.

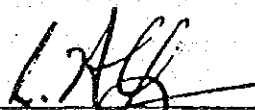
As a result of the exchange of views, both parties agreed to recommend to their respective Governments to carry out the various undertakings referred to in the Record of Discussions.

Kuala Lumpur, 3rd September, 1977.

For the Japan International  
Cooperation Agency

  
Mr. Michio Nakahara,  
Head of the Japanese  
Agricultural Survey Team.

For the Drainage and Irrigation  
Department

  
Mr. L. Ang Leong Hoon  
Director-General,  
Drainage and Irrigation Division,  
Ministry of Agriculture,  
Malaysia.

## RECORD OF DISCUSSIONS

### 1.

1.1 Both Governments, in accordance with the laws and regulations in force in the respective countries, will cooperate with each other in implementing the Technical Cooperation Project on Water Management Training Programme (hereinafter referred to as "the Project") for the purpose of contributing to the promotion of agricultural development in Malaysia through the establishment of water management techniques and its extension.

1.2 The Project, comprising a Training Centre (with a demonstration farm) and four Pilot Farms, will be implemented in accordance with the Project Plan as stipulated in Annex. I.

1.3 The Project will be implemented by the Drainage and Irrigation Division of the Ministry of Agriculture, Malaysia, in accordance with the operational work plan to be formulated annually by the Joint Committee referred to in paragraph 10 of this Record of Discussions.

### 2.

2.1 The Government of Japan will take necessary measures through the Japan International Cooperation Agency to provide at its own expense the services of the Japanese experts as listed in Annex II under the Colombo Plan Technical Cooperation Scheme.

2.2 The Japanese experts referred to in paragraph 2.1 above and their families will be granted in Malaysia the privileges, exemptions and benefits in accordance with General Circular No. 1 of 1969 of the Government of Malaysia.

### 3.

3.1 The Government of Japan will take necessary measures through the Japan International Cooperation Agency to provide at its own expense

such equipment, machinery, instruments, vehicles, tools, spare parts and other materials required as listed in Annex III for the implementation of the Project under the Colombo Plan Technical Cooperation Scheme.

3.2 The goods referred to in paragraph 3.1 above will become the property of the Government of Malaysia upon being delivered c.i.f. at the ports of disembarkation to the Drainage and Irrigation Division of the Ministry of Agriculture, Malaysia, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese Team Leader referred to in Annex II.

4.

4.1 The Government of Japan will take necessary measures through the Japan International Cooperation Agency to sponsor Malaysian personnel engaged in the Project for technical training and/or study tours in Japan under the Colombo Plan Technical Cooperation Scheme.

4.2 The Government of Malaysia will take necessary measures to ensure that the knowledge and experience acquired by the Malaysian personnel mentioned in paragraph 4.1 above through technical training and/or study tours in Japan will be utilized effectively for the implementation of the Project.

5.

5.1 Some of the equipment and machinery referred to in paragraph 3.1 may be rented out at reasonable rates to farmers in Pilot Farms and portions of the consumable items such as fertilizers and agricultural chemicals may be supplied at reasonable prices to the farmers in the above-mentioned areas with the joint approval of the Project Director and the Japanese Team Leader.

5.2 The Government of Malaysia will take necessary measures to secure the budget, no less than the amount of the estimated annual proceeds

from the above-mentioned rentals and supplies, for the implementation of the Project.

6. The Government of Malaysia will undertake to bear claims, if any, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with, the discharge of their official duties in Malaysia, except for those claims arising from wilful misconduct or gross negligence of the Japanese experts.
  
7. The Government of Malaysia will take necessary measures to provide at its own expense :
  - (i) the services of the Malaysian counterparts and other personnel as listed in Annex IV;
  - (ii) land and buildings as listed in Annex V;
  - (iii) supply or replacement of equipment, machinery, implements, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided by the Government of Japan through the Japan International Cooperation Agency under paragraph 3.1 above.
  
8. The Government of Malaysia will take necessary measures to meet :
  - (i) expenses necessary for the construction and improvement of buildings, demonstration farms, irrigation facilities, roads, etc. for the implementation of the Project;
  - (ii) customs duties, internal taxes and any other charges imposed in Malaysia in respect of the goods referred to in paragraph 3.1 above;
  - (iii) expenses necessary for transportation within Malaysia of the goods referred to in paragraph 3.1 above as well as for the installation, operation and maintenance thereof;
  - (iv) all running expenses necessary for the implementation of the Project.

9. The Drainage and Irrigation Division of the Ministry of Agriculture of the Government of Malaysia, will be responsible for the administration and implementation of the Project, and the Japanese experts will provide necessary technical guidance and advice for the implementation of the Project.
10. There will be close consultation between the Japanese experts and the officials concerned of the Government of Malaysia for effective implementation of the Project. For this purpose a Joint Committee will be established as specified in Annex VI. The Joint Committee will meet at least once in six (6) months.
11. Both Governments will consult with each other with respect to any major issues that may arise from or in connection with the implementation of this Record of Discussions.
12. The provisions of the various undertakings mentioned in this Record of Discussions will come into force on the date of signature and remain in force for a period of five (5) years, and may be extended by mutual agreement between the two parties for a further specified period. However, either party may, at any time, give notice to the other party of its intention to terminate these provisions in which case the technical cooperation related to the Project will terminate six months after such notice has been given.

## ANNEX I - The Project Plan

### 1. Training Centre

Water Management Training Centre (with a Demonstration Farm) will be set up in Kota Bharu, Kelantan, and the following activities will be implemented :

- (a) establishment of basic water management techniques;
- (b) training of water management officers;
- (c) demonstration of improved paddy cultivation system with emphasis on water management techniques;
- (d) management and operation of Pilot Farms;
- (e) investigation, planning, guidance and advice necessary for the activities related to the items mentioned above.

### 2. Pilot Farms

Training Centre will set up four (4) Pilot Farms each of about 20 ha. nearby and will implement the following activities with the cooperation of authorities concerned :

- (a) installation of irrigation, drainage, farm roads, and other facilities in the Pilot Farms;
- (b) introduction of water management techniques and on-the-job training for technical staff;
- (c) guidance and advice to farmers in Pilot Farms for introduction of improved paddy cultivation system with emphasis on water management techniques;
- (d) guidance and advice on the formation of water management organizations.

ANNEX II - List of Japanese Experts

Category	Subject Matter
(1) Team leader	
(2) Experts	Irrigation Water management Agronomy
(3) Coordinator	

Note : (i) At least one expert will be provided for each subject matter.

(ii) Short-term experts on the above-mentioned or other subject matter may be dispatched when necessary.

ANNEX III - List of the Goods to be provided  
by the Government of Japan

1. Construction equipment, machinery and their spare parts.
2. Agricultural machinery, implements and their spare parts.
3. Experimental and research instruments and their spare parts.
4. Teaching materials including audio-visual aids.
5. Fertilizers and agricultural chemicals.
6. Machinery and tools for repair and their spare parts.
7. Vehicles and their spare parts.
8. Other necessary equipment, machinery, tools and materials to be mutually agreed upon.



ANNEX IV - List of Malaysian Counterpart  
Officials and other Personnel

Category	Subject Matter
(1) Project director	
(2) Counterpart officials	Irrigation Water management Agronomy
(3) Field staff	Irrigation Agronomy Agricultural machinery
(4) Administrative support staff	
(5) Labourers	

ANNEX V - List of Land and Buildings

1. Training Centre :

- (a) Land about 11 ha.
- (b) Office
- (c) Classrooms
- (d) Laboratory
- (e) Hostel
- (f) Instructor rooms
- (g) Meeting room
- (h) Sheds for agricultural machinery
- (i) Garages and workshop
- (j) Storehouse for farming materials
- (k) Other necessary buildings and facilities

2. Pilot Farms (on farmers' land) :

- (a) Land about 80 ha. (each Pilot Farm about 20 ha. x 4 Pilot Farms)

ANNEX VI - Composition of the Joint Committee

Chairman : Secretary-General of the Ministry of Agriculture, Malaysia,  
or his representative

Secretary : Project Director of the Training Centre

Japanese Side :

1. Team Leader
2. Experts
3. Coordinator
4. Representative of the JICA

Malaysian Side :

1. Representative of EPU
2. Representative of the State Government of Kelantan
3. Representative of DID
4. Representative of DOA
5. Representative of KADA
6. Representative of MARDI

Note : Officials of the Embassy of Japan and person appointed by the  
Embassy may attend the meeting of the Joint Committee as an  
observer.

Abbreviations :

- (1) JICA -- Japan International Cooperation Agency.
- (2) EPU -- Economic Planning Unit of the Prime Minister's  
Department.
- (3) DID -- Drainage and Irrigation Department.
- (4) DOA -- Department of Agriculture.
- (5) KADA -- Kemubu Agricultural Development Authority
- (6) MARDI -- Malaysian Agricultural Research and Development  
Institute.

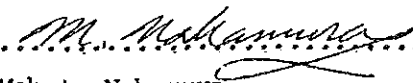
THE RECORD OF DISCUSSIONS ON EXTENSION OF  
THE PERIOD OF THE TECHNICAL COOPERATION  
FOR THE WATER MANAGEMENT TRAINING PROGRAMME  
IN MALAYSIA

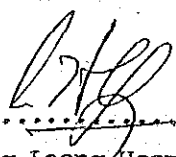
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With regard to the recommendations made by the Malaysian-Japanese Joint Evaluation Team which conducted the evaluation study on the technical cooperation for the above-captioned programme, the Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through Mr. Makoto Nakamura, the Resident Representative of JICA in Malaysia, with the Authorities concerned of the Government of Malaysia on the extension of the period of the Technical Cooperation for the Water Management Training Programme in Malaysia which is underway, based on the Record of Discussions signed in Kuala Lumpur on 3rd September, 1977, and which will terminate on 2nd September, 1984.

As a result of the discussions, both parties agreed to recommend to their respective Governments to make necessary amendments to the "ANNEX II" of the above-mentioned Record of Discussions as "AMENDED ANNEX II" attached hereto and to carry out a follow-up cooperation and to extend the period of the Technical Cooperation on the basis of this amended Record of Discussions until 31st March, 1986, in order to attain the anticipated objectives of the Project.

Kuala Lumpur, 30th August, 1984

  
.....  
Makoto Nakamura  
Resident Representative  
of Japan International Cooperation  
Agency (JICA)

  
.....  
Pang Leong Hoon  
Director-General  
Drainage and Irrigation Department  
Ministry of Agriculture

AMENDED ANNEX II - List of Japanese Experts

Subject Matter	Duration
(1) Irrigation	3rd September, 1984 to 31st March, 1985
(2) Agronomy	3rd September, 1984 to 31st March, 1986
(3) Water Management	3rd September, 1984 to 31st March, 1986

- Note :
- (1) One of the Japanese experts listed above will act as a Team Leader
  - (2) Short-term experts in the fields listed above as well as other fields may be dispatched, if necessary
  - (3) Japanese experts listed above will advise on and assist in mainly the following subjects;
    - i) Construction and operation of the Pilot Farms
    - ii) Development of modern operational techniques for water management and paddy cultivation in the Demonstration Farm and the Pilot Farms
    - iii) Improvement of present training curricula following the completion and operation of the remaining Pilot Farms, so as to include more practical aspects
    - iv) Preparation of lecture notes on specialized subjects
    - v) Preparation of technical reports on all studies carried out, and operation and maintenance manuals for the Demonstration Farm and the Pilot Farms

*M.M.*



4. タンザニア・キリマンジャロ農業開発センター計画・討議々事録及び実施計画試案

THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE  
IMPLEMENTATION SURVEY TEAM (NEGOTIATION TEAM)  
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT  
OF THE UNITED REPUBLIC OF TANZANIA  
ON THE JAPANESE TECHNICAL COOPERATION  
FOR THE IMPLEMENTATION OF KILIMANJARO AGRICULTURAL  
DEVELOPMENT CENTER AND KILIMANJARO INDUSTRIAL  
DEVELOPMENT CENTER PROJECTS

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as JICA) and headed by Mr. Michimoto Goto, Director of the Planning Division, the Planning Department, Japan International Cooperation Agency, visited the United Republic of Tanzania from 27th August 1978 to 13th September 1978 for the purpose of working out the details of the technical cooperation program concerning Kilimanjaro Agricultural Development Center (hereinafter referred to as KADC) and Kilimanjaro Industrial Development Center (hereinafter referred to as KIDC) Projects in the United Republic of Tanzania.

During its stay in the United Republic of Tanzania, the Team exchanged views and had a series of discussions with the Tanzanian authorities concerned in respect of the necessary measures to be taken for the immediate implementation of the above-mentioned Projects.

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

## THE ATTACHED DOCUMENT

### I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the United Republic of Tanzania will cooperate in implementing KADC and KIDC Projects (hereinafter referred to as "the Projects") for the purpose of contributing to the promotion of the regional development in Kilimanjaro Region through the agricultural development project which aims at the improvement of agricultural infrastructure and the increase in productivity and through the industrial development project which aims at the establishment of the industrial infrastructure and the promotion of industrialization.
2. (1) The Projects which will be implemented by the Government of Japan and the Government of Tanzania will comprise of the completion of the buildings and facilities necessary for the implementation of the Projects as outlined in Annex I.  
(2) The Projects will be implemented in accordance with the annual work plan to be formulated by the Regional Management Team (hereinafter referred to as RMT).

### II. DISPATCH OF EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense services of the Japanese experts as listed in Annex II through normal procedures under the Technical Cooperation Scheme of Japan and Tanzania.
2. The Japanese experts referred to in 1 above and their families will be granted in the United Republic of Tanzania the privileges, exemptions and benefits as listed in Annex III and normal privileges, exemptions and benefits given to the similar experts in Tanzania.

### III. PROVISION OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Projects as listed in Annex IV, through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The articles referred to in 1 above will become the property of the Government of the United Republic of Tanzania upon being delivered c.i.f. to the Tanzanian authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for the implementation of the Projects.

### IV. TRAINING OF TANZANIAN PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Tanzanian personnel connected with the Projects for technical training in Japan through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The Government of the United Republic of Tanzania will take necessary measures to ensure that the knowledge and experience acquired by the Tanzanian personnel from technical training in Japan will be utilized effectively for the implementation of the Projects.

### V. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE UNITED REPUBLIC OF TANZANIA

1. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to provide at its own expense:



- (1) Services of the Tanzanian counterpart personnel and administrative personnel as listed in Annex V;
  - (2) Land; temporary buildings and facilities necessary for the activities at the beginning of the Projects;
  - (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Projects other than those provided through JICA under III above;
  - (4) Whenever necessary, transportation facilities and travel allowance for the Japanese experts for the official travel within the United Republic of Tanzania;
  - (5) Suitably furnished accommodation for the Japanese experts and their families to the best of its capacities.
2. In accordance with the laws and regulations in force in the United Republic of Tanzania, the Government of the United Republic of Tanzania will take necessary measures to meet:
- (1) Expenses necessary for the transportation within the United Republic of Tanzania of the articles referred to in III above as well as for the installation, operation and maintenance thereof;
  - (2) Customs duties, internal taxes and any other charges, imposed in the United Republic of Tanzania on the articles referred to in III above;
  - (3) All running expenses necessary for the implementation of the Projects.

## VI. ADMINISTRATION OF THE PROJECTS

1. The Regional Development Director (hereinafter referred to as RDD) of Kilimanjaro Region, will bear overall responsibility for the implementation of the Projects under the supervision of Prime Minister's Office.
2. The Japanese experts will take the appropriate care on the technical matters and provide the advisory services on technical and managerial matters for the Projects in close collaboration with the Tanzanian counter-

part personnel concerned.

3. The activities for the implementation of the Projects will be carried out by the Tanzanian counterpart personnel with an assistance of the Japanese Experts.
4.
  - (1) A Regional Management Team shall be empowered to ensure successful and effective implementation of the Projects.
  - (2) The meeting of RMT, under the chairmanship of RDD, will be held regularly.
  - (3) Japanese experts will attend the meeting of RMT as advisors.

#### VII. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the United Republic of Tanzania undertakes to bear claims, if any arises against the Japanese experts engaged in the Projects resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the United Republic of Tanzania except for those arising from the willful misconduct or gross negligence of the Japanese experts.

#### VIII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

#### IX. TERM OF COOPERATION

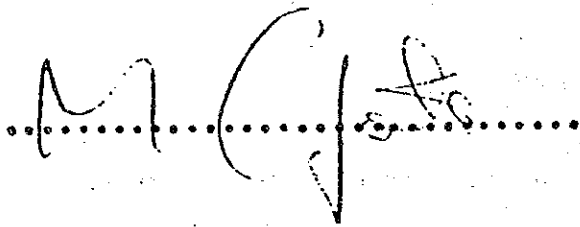
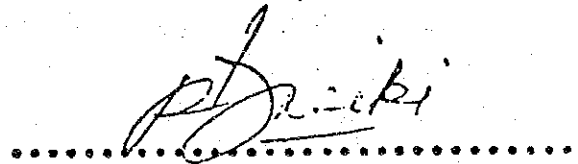
This Record of Discussions will be effective from the date of its signing and will be terminated after four (4) years from this date, or otherwise terminated or extended by mutual consultation.

Dar es Salaam, September 13, 1978

FOR THE JAPANESE DELEGATION    FOR THE TANZANIAN DELEGATION

Michimoto Goto  
Director of the Planning Division  
Planning Department  
Japan International Cooperation  
Agency

Richard E. Mariki  
Director of External Finance,  
Ministry of Finance and Planning

Handwritten signature of Michimoto Goto in cursive script, written over a horizontal dotted line.Handwritten signature of Richard E. Mariki in cursive script, written over a horizontal dotted line.

## ANNEX I ACTIVITIES FOR THE PREPARATORY STAGE

During the preparatory Stage, the Projects will consist of the following functional activities:

### A. Kilimanjaro Agricultural Development Centre Project

#### 1. Activities for the Preparatory Stage

##### (1) Technical Advice and Supervisory Works

Technical advice and supervisory works will be provided to carry out the following activities:

- To conduct planning and survey to improve agricultural infrastructure in Lower Moshi Area (about 3,000 ha) which includes pumping station, irrigation and drainage canal and farm road;
- To conduct surveys for water resources development in Mt. Kilimanjaro area, Lower Hai area, Lower Rombo area, North Pare area, and West Pare area;
- To construct buildings and utilities of the KADC;
- To establish facilities of the Agricultural Mechanical Center.

##### (2) Establishment of Trial Farm

A trial farm (10 ha) will be constructed in Chakereni and Mtakuja villages. Following activities will be carried out:

- To conduct studies and designing for a trial farm;
- To construct the trial farm;
- To cultivate rice and vegetables in the trial farm;
- To test the cultivation techniques for rice and vegetables to apply to other areas in Lower Moshi.

##### (3) Extension Services

Extension services will be conducted to farmers by mobile units in order to improve the techniques of:

- Cultivation for rice and vegetables;
- Agricultural machinery with spare parts provided in Section III above for better use and repair.

- (4) Training of Manpower
  - On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
  - Appropriate Tanzanian counterpart personnel will be trained in Japan.
- (5) Planning and Coordination
  - Detailed implementation programme will be made up in consultation with the Tanzanian counterpart personnel.
  - Coordination among various functional activities and programmes will be made in consultation with Tanzanian counterpart personnel.

B. Kilimanjaro Industrial Development Centre Project

1. Activities for the Preparatory Stage

- (1) Studies and Surveys
  - Surveys will be conducted to establish feasible workshops (foundry, forging, mechanical engineering and testing facilities) and pilot factories (ceramic and briquet) on raw materials, supplementary goods, order-made products to be produced.
  - Feasibility studies will be conducted to identify the potential industries for investment.
- (2) Technical Advice and Supervisory Works

Technical advice and supervisory works will be provided to carry out the following activities:

  - To construct buildings and utilities of the KIDC and its annexes;
  - To establish common facilities and pilot factories in the Moshi Industrial Estate, and other facilities in the extensional service stations (Rombo and Pare Industrial Stations) and unit (Moshi Exhibition Unit) of the KIDC;
  - To select and make specifications of machines and equipment to be installed in the factories in the Moshi Industrial Estate.
- (3) Industrial Promotion Services
  - Industrial Promotion Services will be provided by mobile units

on technological matters, marketing methods, management methods, new investments, etc.

(4) Training of Manpower

- On-the-job training will be carried out by the Japanese experts in consultation with the Tanzanian counterpart personnel.
- Appropriate Tanzanian counterpart personnel will be trained in Japan.

(5) Planning and Coordination

- Organization of the KIDC will be set up in accordance with the normal Government machinery in this Region.
- Detailed implementation programmes will be made up in consultation with the Tanzanian counterpart personnel.
- Coordination among various functional activities and programmes will be made in consultation with the Tanzanian counterpart personnel.

## ANNEX II JAPANESE EXPERTS

1. Project Manager
  - (A) Agricultural Team
    2. Team Leader
    3. Experts in the fields of;
      - Irrigation and drainage
      - Land Consolidation
      - Water Resources
      - Agronomy
      - Agricultural Machinery
      - Extension
    - (B) Industrial Team
      4. Team Leader
      5. Experts in the fields of;
        - Management
        - Mechanical Engineering
        - Electroplating
        - Foundry
        - Forging
        - Earthenware
        - Briquet

- Note:
1. Agricultural or Industrial Team Leader may assume the post of Project Manager concurrently.
  2. If necessary, short term experts will be dispatched.
  3. Above Annex II is subject to change by mutual consultation between the two Governments.

### ANNEX III PRIVILEGES, EXEMPTIONS AND BENEFITS

1. Exemptions from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemptions from import and export duties and any other charge in respect of personal and household effects, including one motor vehicle per family, which may be brought into the United Republic of Tanzania from abroad.
3. Free medical services and facilities to the Japanese experts and their families.



## ANNEX IV LIST OF MACHINERY AND EQUIPMENT

### A. Kilimanjaro Agricultural Development Centre Project

1. Construction machinery and equipment, including pumps and their accessories, and their spare parts
2. Agricultural machinery and implements and their spare parts
3. Machines and tools for repair work
4. Equipment and materials for public utilities
5. Vehicles

### B. Kilimanjaro Industrial Development Centre Project

1. Mobile units with tools and equipment for industrial extension services
2. Machines and tools for training purposes
3. Machines and tools for repair work
4. Vehicles

Note: Other necessary machines, equipment, tools and materials to be mutually agreed upon the implementation of the Project.

## ANNEX V LIST OF TANZANIAN PERSONNEL

### A. Kilimanjaro Agricultural Development Centre Project

1. Project Director
2. Engineer
3. Staff
4. Worker
5. Driver

### B. Kilimanjaro Industrial Development Centre Project

1. Project Director
2. Department Manager
3. Engineer
4. Staff (Qualified and Non-qualified)
5. Worker
6. Secretary
7. Driver

**Note:** Above Annex V is subject to change by mutual consultation between the two Governments.

タンザニア・キリマンジャロ農業開発センター計画・実施計画試案

TENTATIVE IMPLEMENTATION PROGRAM  
FOR THE  
KILIMANJARO AGRICULTURAL DEVELOPMENT CENTER  
AND  
KILIMANJARO INDUSTRIAL DEVELOPMENT CENTER

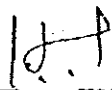
Within the scope of the Record of Discussions signed on September 13, 1978, the representatives of Japan International Cooperation Agency and Kilimanjaro Regional Development Director's Office have jointly formulated the Tentative Implementation Program for the implementation of Kilimanjaro Agricultural Development Center and Kilimanjaro Industrial Development Center Projects.

This Tentative Implementation Program is subject to change in accordance with the progress of implementation of the Projects.

November 25, 1978

  
KANEHIDE NISHIKAWA

Representative  
Japan International  
Cooperation Agency  
in Tanzania

  
HORACE KOJIMA  
Principal Secretary  
Prime Minister's Office

## I. Kilimanjaro Agricultural Development Center Project

### 1. Objectives

Kilimanjaro Agricultural Development Center Project (hereinafter referred to as KADC) aims at contributing to the promotion of agricultural development in Kilimanjaro region through the improvement of agricultural infra-structure, cultivation techniques and mechanized agriculture and their extension.

### 2. Functions and Facilities

KADC has the following functions and facilities to achieve its objectives:

- (1) To plan and supervise construction of agricultural infra-structure such as irrigation canals and farm roads

Facilities: Office Rooms with Design Equipment

- (2) To improve cultivation techniques for agricultural development in Lower Moshi Area

Facilities: Trial Farm (10ha)

Experimental Facilities

- (3) To diffuse agricultural techniques by extension services

Facilities: Agricultural Mechanical Service Center

Mobile Unit

Garage

- (4) To train manpower

Facilities: KADC

- (5) To plan and coordinate the activities of KADC

Facilities: Office Room

Meeting Room

Car Park

### 3. Programs

#### (1) Program for the Activities of KADC

Chart 1 shows the tentative program for the activities of KADC by function for four years stipulated in the Record of Discussions.

#### (2) Program for the Dispatch of Japanese Experts

Chart 2 shows the tentative program for the Japanese Experts to be dispatched to KADC.

#### (3) Program for the Training of Tanzanian Personnel

Chart 3 shows the tentative program for the training of Tanzanian personnel in Japan.

#### (4) Special Support by the Japanese Side

Japan International Cooperation Agency provides the following special support to the KADC by dispatching experts teams wherever necessary;

Technical Support Team

Evaluation Team

### 4. Organization

#### (1) Staffing

Chart 4 shows the organization and staffing plan of the KADC during four years stipulated in the Record of Discussions.

#### (2) Job Description of the Staff

##### A. Japanese Experts

##### a. Team Leader

- (i) To advise and assist the Tanzanian Project Director for programming, operation and administration of the project.
- (ii) To coordinate the activities of Japanese Experts attached to the Project as the head of the Japanese team.
- (iii) To represent Japanese Experts in KADC and KIDC as necessity arises.

**b. Experts**

- (i) To advise and assist Tanzanian counterparts in their respective fields.
- (ii) To provide farmers with technical guidance in their respective fields.

**c. Liaison Officer**

- (i) To support the Japanese Team Leader and Experts for programming and administration of the Project.
- (ii) To conduct accounts work and others in accordance with the regulations in force in Japan and to take charge of contract business concerning construction of Trial Farm.
- (iii) To prepare the progress reports on the achievement of targets of the Project which are to be submitted to both Tanzanian and Japanese authorities concerned.

**B. Tanzanian Counterparts**

**a. Project Director**

- (i) To manage and coordinate all the operational activities for the implementation of the Project.
- (ii) To manage all the Tanzanian personnel engaged in the Project.

**b. Technical Staff**

- (i) To prepare and implement the detailed action programs in their respective fields.
- (ii) To submit progress report to the Project Director in their respective fields.

5. The Government of Japan will consider the construction of buildings and equipment of KADC as will be agreed between the two Governments.

6. The Government of Tanzania will take necessary measures to enable the Government of Japan to expedite the construction of buildings of KADC as follows;

- (1) To secure the land necessary for the construction of buildings of KADC and to readjust it.
- (2) To prepare for facilities such as electric supply, water supply, drainage and other incidental facilities outside the site if necessary.

7. Temporary Facilities

For the Preparatory Stage, the following facilities are temporarily secured by the Tanzanian side;

Office room , Meeting room , Garage, Others

8. Machinery and Equipment

Following machinery and equipment will be provided by the Japanese side;

Furniture

Equipment for documentation

Audio-visual aids

Vehicle

Refrigerator

Machinery and equipment with attachment for soil preparation

Machinery and equipment with attachment for cultivation and processing

Experimental equipment

Agricultural tool

Construction machinery and equipment for trial farm

Machine and tool for repair work

Equipment for survey

Boring machine with attachment for well

Equipment for water supply on trial farm

Fertilizer and pesticide

Others



Chart 1. Program for the Activities of KADC

Activities	Contents	Section in charge	Schedule
1 Establishment of Trial Farm	<p>A. Design of Trial Farm</p> <p>B. Construction of Trial Farm</p> <p>C. Test for applicability of the improved farming techniques</p> <p>D. Field practice for training</p>	<p>A. Survey and Planning Sec. A. Improvement of Farming Technique Sec. A. Training and Extension Sec. B. Construction Sec.</p> <p>C. Improvement of Farming Technique Sec. D. Training and Extension Sec.</p>	<p>A. Early in 1979</p> <p>B. Late in 1979</p> <p>C. 1980 ~</p> <p>D. 1980 ~</p>
2 Training in KADC Trainees will be selected in Lower Moshi Area, but those in other areas in Kilimanjaro region also attend the training by permission of R.D.D.	<p>In KADC, following training courses will be conducted during four years stipulated in the Record of Discussions.</p> <p>A. Cultivation Course Lecture : At Site Office of KADC Practice : At Trial Farm</p> <p>B. Agricultural Machinery Course Lecture : At Site Office of KADC Practice : Repair work at Agricultural Mechanical Center Better use work at Trial Farm</p> <p>C. Agricultural Extension Course Lecture : At Site Office of KADC Practice : At Trial Farm and Farmfield in this area</p>	<p>A. Training and Extension Sec. A. Improvement of Farming Technique Sec. B. Training and Extension Sec.</p> <p>C. Training and Extension Sec.</p>	<p>A. Immediately after completion of KADC facilities</p> <p>B. -do-</p> <p>C. -do-</p>
3 Technical Advice and Supervisory works	<p>A. A series of basic studies for following matters :</p> <p>a. Improvement works agricultural infrastructure in Lower Moshi Area ( about 3000 ha )</p> <p>b. Water resources development in Kilimanjaro region</p> <p>B. Construction works of agricultural infrastructure in Lower Moshi Area</p>	<p>a. Survey and Planning Sec. b. -do- B. Construction Sec.</p>	<p>a. 1979 ~</p> <p>b. -do-</p>

Foot Note : 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the " Record of Discussions".

Chart 2. Program for the Dispatch of Japanese Experts

Field	Fiscal Year		1980	1981	1982
	1978	1979			
(Construction of Buildings and Facilities)	Basic Design	Detail Design 2/1	Construction		
1 Team Leader					
2 Irrigation and Drainage					
3 Land Consolidation					
4 Water Resources					
5 Agronomy (two persons)					
6 Agricultural Machinery					
7 Extension					
8 Liaison Officer					

Foot Note : 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions".

3 Tanzanian side suggested to have one Liaison Officer for KADC and KIDC.

Chart 3. Program for the Training of Tanzanian Personnel

( Unit : Person )

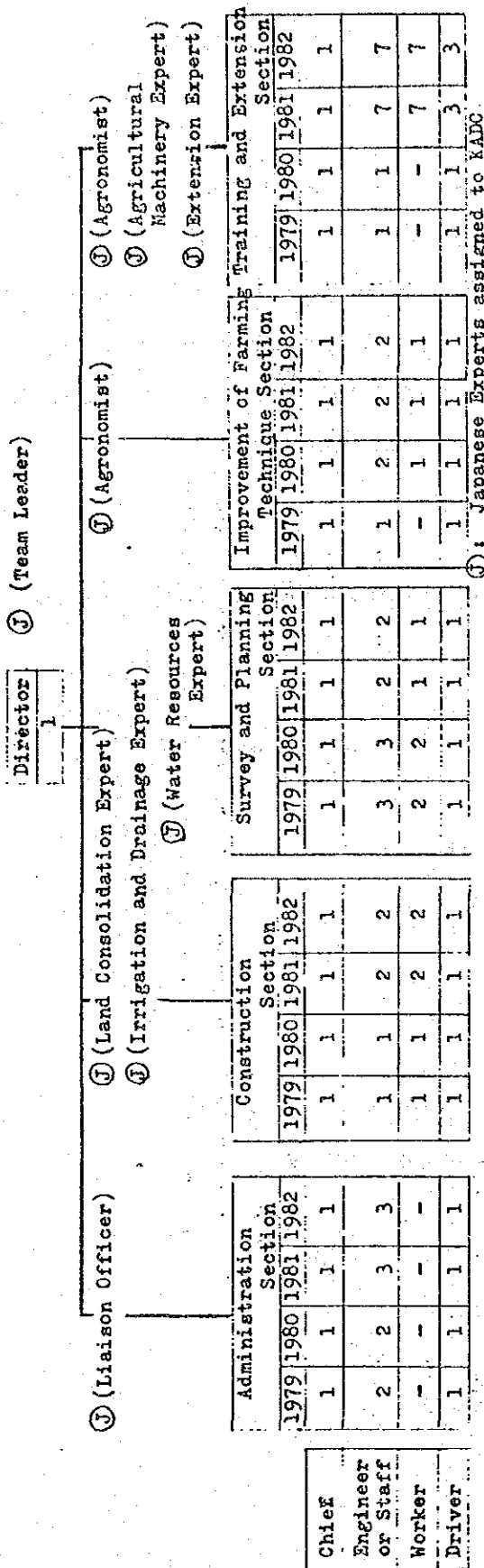
Fiscal Year	1978	1979	1980	1981	1982
Field					
1 Study Tour ( about 3 weeks )		2 ( 2 )	( 2 )		2 ( 0 )
2 Training					
(1) Irrigation and Drainage		1 ( 3 )	1 ( 1 )	1 ( 1 )	
(2) Land Consolidation		( 2 )	1 ( 1 )		1 ( 1 )
(3) Water Resources		( 2 )	1 ( 1 )	1 ( 1 )	
(4) Agronomy		1 ( 1 )		1 ( 1 )	1 ( 1 )
(5) Agricultural Machinery		( 2 )	1 ( 1 )	1 ( 1 )	1 ( 1 )
(6) Extension				1 ( 1 )	1 ( 1 )
Total		4 ( 12 )	4 ( 6 )	5 ( 5 )	6 ( 4 )

( ) is requested by Tanzanian side.

Foot Note : 1. This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2. This scope Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the " Record of Discussions ".

Chart 4. Organization and Staffing Plan of KADC



Tanzanian Annual Staffing Plan

	1979	1980	1981	1982
Director	1	1	1	1
Chief	5	5	5	5
Engineer	8	9	16	16
or Staff				
Worker	3	4	11	11
Driver	5	5	7	7
Total	22	24	40	40

Foot Note: 1 This program is subject to conditions that necessary budget will be acquired for the implementation of the Project.

2 This Scope of Technical Cooperation is subject to change, if necessity arises in the future. Within the scope of the provisions given in the "Record of Discussions".

3 Number of part time labourers and watchmen is excluded from the figures.

4 Agricultural Mechanical Service Center is one of the facilities of Training and Extension Section.

④: Japanese Experts assigned to KADC

## II. Kilimanjaro Industrial Development Center Project

### 1. Objectives

This Project aims at establishing Kilimanjaro Industrial Development Center (hereinafter referred to as KIDC) as a regional organization, which will develop small scale industries in Kilimanjaro region by providing technical assistance, extension services and manpower training as well as conducting programming and coordination of the activities on the basis of research and development to be undertaken by KIDC.

### 2. Functions and Facilities

KIDC has the following functions and facilities to achieve its objectives:

#### (1) Functions

##### a. Development of Appropriate Technologies in;

- \* Repair and Maintenance
- \* New Production Technology
- \* Inspection and Testing
- \* Product Development
- \* Quality Control

##### b. Promotion of Appropriate Technologies in;

- \* Establishment of New Industries
- \* Extension Service
- \* Consultancy and Information Service
- \* Marketing Assistance

c. Training of Manpower;

- \* Staff Training (in Japan and Tanzania)
- \* Participants Training (Group training in Tanzania)
- \* Workers Training in New Industries (On -the- job training in Tanzania)

d. Programming and Coordination;

- \* Feasibility Studies
- \* Investment Planning
- \* Preparation of Detailed Programs of Activities
- \* Coordination of Activities

(2) Facilities

a. Administration Building of KIDC

- \* Office Room
- \* Working Room
- \* Meeting Room
- \* Car Park

b. Accommodation

- \* Dormitory for Trainees
- \* Other Necessary Facilities

c. Workshops

- \* Foundry Workshop
- \* Forging Workshop
- \* Mechanical Engineering Workshop
- \* Testing and Inspection Facilities

d. Pilot Factories

\* Ceramic Factory

\* Briquet Factory

e. Other Instrumental Facilities

\* Rombo Industrial Promotion Station

\* Pare Industrial Promotion Station

\* Moshi Industrial Exhibition Unit

3. Programs

(1) Program for the Activities of KIDC

Chart 5 shows the tentative program for the activities of KIDC by function for four years.

(2) Program for the Assignment of Japanese Experts

Chart 6 shows the tentative program for the Japanese Experts to be assigned at KIDC.

(3) Program for the Training of Manpower

Chart 7 shows the tentative program for the training of Tanzanian personnel.

a. Staff training is conducted in Japan and Tanzania for those who are expected to become chiefs and/or instructors of KIDC.

b. Participants training is conducted for would-be skilled workers in specific industries.

c. Workers training is conducted for the factory workers in new industries.

(4) Special Support by the Japanese Side

Japan International Cooperation Agency provides the following special support to KIDC by dispatching experts teams wherever necessary;

Installation Experts Team

Technical Support Team

Evaluation Team

#### 4. Organization

##### (1) Staffing

Chart 8 shows the organization and staffing plan of the KIDC during the Preparatory Stage.

##### (2) Job Description of the Staff

###### A. Japanese Experts

###### a. Team Leader

- (i) To advise and assist the Tanzanian Project Director for programming, operation and administration of the Project.
- (ii) To coordinate the activities of Japanese Experts attached to the Project as the head of the Japanese team.
- (iii) To represent Japanese Experts in KADC and KIDC as necessity arises.

###### b. Experts

- (i) To advise and assist Tanzanian counterparts in their respective fields.
- (ii) To provide existing industries with technical guidance in their respective fields.

###### c. Liaison Officer

- (i) To support the Japanese Team Leader and Experts for programming and administration of the Project.



(ii) To conduct accounts work and others in accordance with the regulations in force in Japan and to take charge of contract business.

(iii) To prepare the progress reports on the achievement of targets of the Project which are to be submitted to both Tanzanian and Japanese authorities concerned.

**B. Tanzanian Counterparts**

**a. Project Director**

(i) To manage and coordinate all the operational activities for the implementation of the Project.

(ii) To manage all the Tanzanian personnel engaged in the Project.

**b. Technical Staff**

(i) To prepare and implement the detailed action programs in their respective fields.

(ii) To submit progress report to the Project Director in their respective fields.

5. The Government of Japan will consider the construction of buildings and equipment of KIDC as will be agreed between the two Governments.

6. The Government of Tanzania will take necessary measures to enable the Government of Japan to expedite the construction of buildings of KIDC as follows;

(1) To secure the land necessary for the construction of buildings of KIDC and to readjust it;

(2) To prepare for facilities such as electric supply, water supply, and other incidental facilities outside the site if necessary.

## 7. Temporary Facilities

For the Preparatory Stage, the following facilities are temporarily secured by the Tanzanian side;

Office room, Meeting room, Workshop, Garage and Others.

## 8. Machinery and Equipment

Following machinery and equipment will be provided by the Japanese side;

- \* Cupola
- \* Shot blast
- \* Moulding machine
- \* Air hammer
- \* Oil furnace
- \* Cutting machine
- \* Engine lathe
- \* Milling machine
- \* Planer
- \* Equipment for material testing
- \* Crusher
- \* Kiln and furnace
- \* Dryer
- \* Carbonization furnace
- \* Drilling machine
- \* Tool
- \* Machinery and equipment of new industries for leasing purpose;
- Drawing pin
- Chisels and carpentry tool
- Sheet metal fabrication
- Hand sprayer

Sensitized paper

Oil extraction

Scrap metal sorting and treatment

U-type cement block

Oil revitalization

Wheel barrow

\* Equipment for documentation

\* Audio-visual aids

\* Furniture

\* Refrigerator

\* Mobile unit

\* Vehicle

\* Others

Chart 5. Program for the Activities of KIDC

Functions	Functional Activities	1979	1980	Immediately after the Completion of KIDC Facilities
(1) Development of Appropriate Technology	Repair and Maintenance New Production Technology Inspection and Testing Quality Control Product Development	* Research on the needs of sub-materials, availability of raw materials, energy and tools	* Research continued * Installation and test-run of machinery and equipment	* Production continued * Testing and analysis continued * Trial production continued * Improvement of design of products
(2) Promotion of Appropriate Technology	Establishment of new Industries Extension Service Consultancy and Information Service Marketing Assistance	* Establishment of new industries * Extension service by mobile unit * Market research * Consultancy on technological problems	* Establishment of new industries * Extension service by Rombo and Para Station added * Consultancy and Information service continued * Marketing promoted	* Establishment of new industries * Extension service continued * Consultancy and Information service continued * Marketing promotion continued
(3) Training of Manpower	Staff Training Participants Training Workers Training in New Industries	* Staff training in Japan	* Staff training in Japan and Tanzania * Workers training for four months	* Staff training in Tanzania * Workers training * Participants training in 6 Beginners courses
(4) Programming and Coordination	Feasibility Studies Investment Planning Programming of Activities Coordination of Activities	* Studies on new industries * Action program making for the Preparatory Stage * Organizational set-up	* Studies and planning continued * Programming for Phase * Organizational set-up * Coordination	* Studies and planning continued * Programming continued * Coordination continued

Foot Note: 1. This program is subject to conditions that necessary budget will be acquired for the implementation of the project.  
2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

Chart 6. Program for the Assignment of Japanese Experts to KIDC

Items	Fiscal Year	1978	1979	1980	1981	1982
(Construction of Buildings & Facilities)		Basic Design	E/N Detail Design	Construction		
	Team Leader		1	1		
	Mechanical Engineer		1	1		
	Machining Expert					
	Foundry Expert		1	1		
	Forging Expert in Forming		1	1		
	Heat Treatment Expert					
	Management Expert		1			
	Ceramic Expert			1		
	Briquet Expert			1		
Experts	Wood Pattern Expert		1	1	3	3
	Short Term Experts				6	
	New Industries					
Liaison Officer				1		

Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.  
 2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

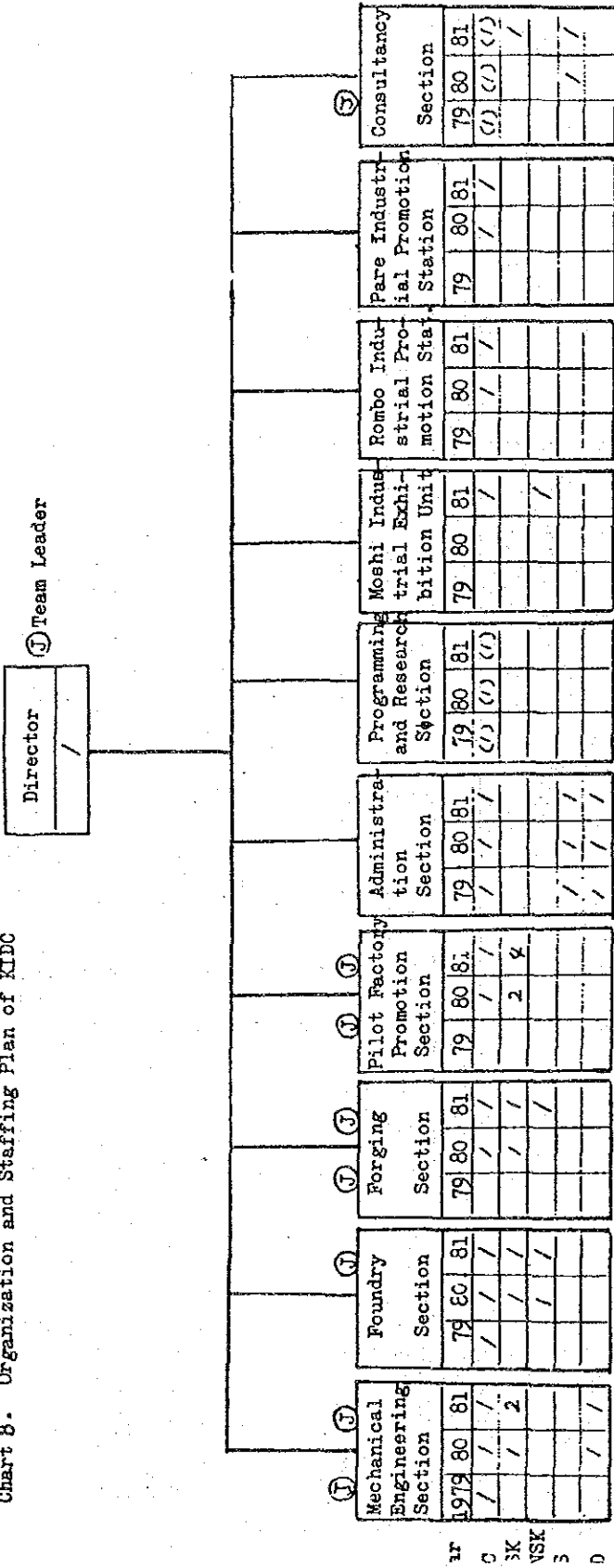
3. Tanzanian side suggested to have one Liaison Officer for KAI and KIDC.

Chart 7. Program for the Training of Tanzanian Personnel

Trainings	Fields of Training	1979	1980	1981	1982
Staff	Small Enterprise Development	A-(1)		A-(1) → B-(1)	
	Foundry	A-(1) → B-(1)	A <sup>s</sup> -(1) → B <sup>s</sup> -(1)		
	Metal Working in General	A-(1) → B-(1)		A-(2) → B-(2)	
	Forging		A-(1) → B-(1)	A <sup>s</sup> -(1) → B <sup>s</sup> -(1)	
	Mechanical Engineering	A-(1) → B-(1)	A <sup>s</sup> -(1) → B <sup>s</sup> -(1)		
	Ceramic Engineering	A-(1) → B-(1)	A-(1) → B-(1)	A <sup>s</sup> -(1) → B <sup>s</sup> -(1)	
	Briquet Engineering			A <sup>s</sup> -(1) → B <sup>s</sup> -(1)	
	Management	A-(1)		A-(1)	
	Foundry			6M	6M
	Forging			6M	6M
Participants	Mechanical Engineering			6M	6M
	Ceramics			6M	6M
	Briquet			6M	6M
	Marketing & Management			3M	3M
				4M	4M
Training in New Industries	1st Group	4M			
	2nd Group		4M		
	3rd Group			4M	

Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.  
 2. This Scope of Technical Cooperation is subject to change, if necessary arises in the future, within the scope of the provisions given in the "Record of Discussions."

Chart 8. Organization and Staffing Plan of KIDC



Temaydrich Annual Staffing Plan

Ab.	Staff	1979	1980	1981	1982
	Director	/	/	/	/
C	Chief	3	7	8	8
SK	Skilled Worker		5	9	9
NSK	Non-skilled M.		/	3	3
S	Secretary	/	2	2	2
D	Driver	/	2	2	2
	Total	6	18	25	25

(J): Japanese Experts assigned to KIDC

Foot Note: 1. This Program is subject to conditions that necessary budget will be acquired for the implementation of the project.

2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the "Record of Discussions."

RE: Number of part-time laborers and watchmen is excluded from the figures.