

GOVERNMENT OF THAILAND  
MUTUAL SECURITY AGENCY  
PROGRAM  
JULY 1, 1952 - JUNE 30, 1953

UNITED STATES OF AMERICA  
SPECIAL TECHNICAL AND ECONOMIC MISSION  
TO THAILAND

275, Samsen, Road.

Bangkok, Thailand  
August 18, 1952

Mom Luang Dej Snidvongs  
Chairman, Thai Technical and Economic Committee  
Bangkok, Thailand

Dear Mom Luang Dej:

I hand you herewith Project Descriptions covering the joint Thai Government-MSA Program for the U. S. fiscal year 1953 in the amount of \$6,200,000 along the lines outlined by your Committee and approved in principle by us. You are advised that final MSA allocations for fiscal year 1953 for Southeast Asia are still under study in Washington by the Director of Mutual Security and the Bureau of the Budget. It is quite possible that the total aid figure for Thailand may be increased above the amount you have programmed. The summary breakdown of the \$6,200,000 program is as follows:

1. <u>Public Health</u>	\$2,075
<u>Preventive Medical Services</u>	<u>1,105</u>
Malaria & Filariasis Control	500
Venereal Disease Control	100
Intestinal Parasitic Disease Control	120
Plague Control	30
School Health	105
Environmental Sanitation	130
Nutrition	60
Vital Statistics	60
<u>Clinical Medical Services</u>	<u>460</u>
Hospitals	270
Rural Health Centers	190
Drug Analysis	20
<u>Training and Education</u>	<u>510</u>
Health Education	75
Medical & Allied Professions Schools	315
Cholburi Demonstration and Training Center	120

2.	<u>Agriculture, Forestry, Fisheries</u>	<u>\$1,830</u>	
	<u>Agriculture Production</u>		<u>1,328</u>
	Irrigation & Reclamation		307.4
	Cooperatives		170.6
	Extension		349.6
	Fisheries		143.8
	Forestry		137.3
	Livestock Development		219.3
	<u>Agricultural Education and Research</u>		<u>502</u>
	Education		125
	Research		377
3.	<u>Transportation, Power, Other Public Works</u>	<u>830</u>	
	Railroad Rehabilitation		320
	Highway Maintenance		305
	Harbor Develop. & Administration		36
	National Integrated Power System System		145
	Telephone & Telegraph Training		24
4.	<u>Handicraft &amp; Mfg. Mining &amp; Other Industry</u>	<u>560</u>	
	Mining		560
5.	<u>Education</u>	<u>800</u>	
	Vocational Education		475
	Elementary Education		160
	Teacher Training		85
	University Education (Technical)		80
6.	<u>Public Administration</u>	<u>105</u>	105
	 <u>TOTAL COST OF PROGRAM</u>	 <u>\$6,200</u>	

Mom Luang Dej Snidvongs

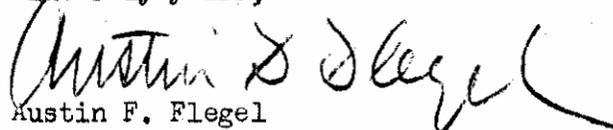
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August 18, 1952

The Project Descriptions have been prepared jointly by the Ministries and ourselves following your allotment of funds. If you find the project descriptions in order and conforming with your views, will you kindly sign the same in duplicate and return to us for our signature. I will return one copy for your files and retain one copy for ours.

May I express my personal thanks as well as the thanks of our staff for the splendid cooperation of your Committee and of the officials of the various Ministries involved in the preparation of this budget and Project Descriptions. I am sure that Project Descriptions will result in a better and clearer understanding by both parties of our plans for the coming year.

Sincerely yours,

  
Austin F. Flegel  
Chief of Mission

Attachments (33)

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Malaria and Filariasis Control

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>443,000</u>
Technical Assistance (Specialists) (4)	\$ <u>45,000</u>
Trainees to US (2)	\$ <u>12,000</u>
Total	\$ <u>500,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>                    </u>
Extraordinary Non-Capital Expenditures	฿ <u>4,576,470</u>
Extraordinary Capital Expenditures	฿ <u>640,500</u>
Total	฿ <u>5,216,970</u> *

C. Governmental Budget (Calendar year 1952)

Ordinary Expenditures	฿ <u>1,676,328</u>
Extraordinary Non-Capital Expenditures	฿ <u>1,000,000</u>
Extraordinary Capital Expenditures	฿ <u>                    </u>
Total	฿ <u>2,676,328</u> *

\* For period from January 1, 1952 to December 31, 1952.  
Counterpart Funds for calendar year 1953 are yet to be requested.

## II. What the Project Consists of

### A. Description of the Project

The Malaria and Filariasis Control project herein described covers the following items.

1. Assist the Division of Malaria Control to continue its nation-wide program started in FY 1951 to eliminate malaria as the most important cause of death and disease in Thailand by expanding the master plan of DDT residual spraying of houses in areas with high incidences of malaria and filariasis supplemented by Aralen and Hetrazan distribution. MSA will provide \$488,000 from dollar funds (\$443,000 for commodities and \$45,000 to continue the services of Dr. Melvin Griffith as Chief Malaria Control Advisor, D. C. Thurman, Jr., as Malaria Control Advisor, and Ernestine Thurman as Entomologist).

MSA has already provided Baht 5,216,970 to cover the local costs of the 1951 and 1952 malaria campaigns. It is anticipated that a counterpart contribution will be made toward financing the 1953 malaria campaign at a later date.

2. Send two trainees in medical entomology and methods of control of vector species to the U. S. for post graduate study at a cost of \$12,000.

### B. Justification

Malaria is the most important public health problem in Thailand with cases estimated up to 3 million and about 40,000 deaths a year. The disease is widely prevalent all over Thailand and has severe economic effect on the productive capacity of the country. It is especially concentrated in agricultural areas. The present organization and method have demonstrated the effectiveness of control of malaria. It requires only further implementation and expansion to bring malaria under complete control in Thailand.

### C. Results to be Obtained

1. Reduction in the incidence of malaria and its eventual elimination as a major disease problem throughout Thailand; also reduction in the prevalence of filariasis.

C. Results to be Obtained (Cont'd)

2. a. In 1951 campaign covered a population of 400,000 in the north.
- b. In 1952 campaign covered a population of over 1,500,000 in the north and northeast.
- c. In 1953 the malaria campaign will cover a population of about 2,700,000 in the north, northeast, central, south and southeast areas.
- d. After 1953 the spraying campaign will have progressed to the maximum and spraying thereafter can be reduced to selected areas where evidence of malaria continues to remain high.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> <u>(MSA Code Book Classification)</u>	<u>Dollar Value</u>
1. DDT wettable powder 300 tons	\$ 375,000
2. Vehicles and parts	\$ 35,000
3. Technical supplies	\$ 33,000
Total	\$ 443,000 =====

E. Summary of Items to be Procured from Counterpart Funds

Previously approved as CR no.6

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
<b>Ordinary Expenditure</b>	
1. Salary	1,644,060
2. Rent allowances for officers	32,268
<b>Extraordinary Non-Capital Expenditures</b>	
1. Personnel cost	120,000
2. Rent	46,800
3. Equipment and supplies	460,700
4. Operation and maintenance of equipment	257,000
5. Per diem for officers	50,000
6. Contingency	65,500
Total	2,676,328 =====

G. Technical Assistance (US Specialists)

1. Number: 4 now on duty. See G. 3 below.

2. General Objective of Assignment

Technical and advisory assistance in malaria control activities.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

Division of Malaria Control.

(b) Location or headquarters and geographical field of operations:

1. Chiangmai        2  
2. Bangkok         2

(c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See following job descriptions:

THA 200-T Dr. M.E. Griffith, Chief Malaria Control  
Advisor

THA 201-T D. C. Thurman, Jr., Malaria Control Advisor  
Ernestine Thurman, Entomologist.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Participating in advisory capacity in training of new field officers and assistants in technical aspects of malaria control at a rate of approximately 50 per year.

(e) Time Schedule:

Desired starting date:

Three already on duty, one as soon as possible.

Desired duration of assignment: Indefinite.

G. Technical Assistance (US Specialists) (Cont'd)

4. Thai Counterpart

Officers of Division of Malaria Control.

H. Trainees

1. Number of trainees to be sent to USA: Two.

2. Description of Training:

1) Formal training in public health at Johns Hopkins University, specialized in Medical Entomology and methods of control of vector species.

2) Travel Grant.

3. (a) General Objective of Proposed Training in USA:

1) Postgraduate training in tropical medicine related to vector borne diseases and observation of practical field programs.

2) Observation of public health laboratories and field programs, specifically related to control of vector borne diseases.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

1) Tropical medicine, vector borne diseases; diagnosis of diseases, identification of vector, life cycle and control method.

2) Vector borne disease control, identification and study of vectors and parasites and practical laboratory and field methods of control.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

1. 12 months
2. 3-6 months

H. Trainees (Cont'd)

4. Description of Trainees

- (a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Experienced malaria control medical officers.

- (b) Proposed utilization of trainees upon completion of training:

Positions of leadership in programs of malaria and other vector borne diseases control.

5. Specific Assignment upon Return:

1. Officer in charge of the control of malaria and other insect-borne diseases.
2. Chief of the Fourth Malaria Control Unit (Northern Region).

III Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

This is the long range plan.

B. Related Activities of International Agencies

The residual house spraying method of malaria control was originally demonstrated by a cooperative project of WHO and UNICEF and the Thai Government in 1950. It was on the basis of this demonstration that the joint TG-MSA malaria control program has been built.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

During 1951, and 1952, MSA has assisted with equipment, supplies and advisory service in the amount of \$1,529,074.

IV. Remarks

None

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-USA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Venereal Disease Control

1. Cost of Project

A. Dollar Cost (US\$)

Commodities	\$ 79,000
Technical Assistance (Specialists) (1)	\$ 15,000
Trainees to US (1)	\$ 6,000
Total	\$ 100,000

B. Counterpart Funds Required

Ordinary Expenditures	฿ 386,000
Extraordinary Non-Capital Expenditures	฿ -
Extraordinary Capital Expenditures	฿ 614,700
Total	฿ 1,000,700

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿ 1,000,000
Extraordinary Non-Capital Expenditures	฿ -
Extraordinary Capital Expenditures	฿ -
Total	฿ 1,000,000

## II. What the project consists of

### A. Description of the Project

The Venereal Disease Control Project described herein covers the following items:

1. Assist the Division of Venereal Disease and Yaws Control of the Ministry of Public Health to provide and operate clinic facilities for the diagnosis and treatment of V. D. by establishing V.D. diagnostic and treatment clinics in 25 provincial hospitals and 7 additional V.D. centers at a cost of \$80,000 from USA dollar funds and Baht 1,000,700 from the Counterpart Fund.
2. Continue the technical services of Dr. Clarence Hayes as V.D. Consultant at a cost of \$15,000.
3. Lend one Thai specialist in V.D. to the U.S. for observation and advanced training at a cost of \$6,000.

### B. Justification

Venereal disease control is one of the most important public health problems in Thailand. In some of the larger cities it is estimated that at least 8% of the population is infected with syphilis. A prevalence rate of 1% to 2% in other localities is common. Also in the larger cities 15% of all pregnant women show evidence of syphilitic infection. The prevalence of gonorrhea among the population is not known but it unquestionably exceeds that of infectious syphilis. In addition to reducing the working capacity of the adult population these diseases are responsible for a high percentage of the patients admitted to public institutions for blindness, insanity and severe cardiovascular diseases. These diseases can be controlled and ultimately reduced to a minimum by early diagnosis and early adequate treatment.

The Department of Public Health of the Ministry of Public Health, with the assistance of USA, has established eight new Venereal Treatment Centers, one each at Lampang, Nisamuloke, Udon, Choburi, Nakhon Phanom, Chiangrai, Korat and Pattani. In the four former provinces treatment and laboratory centers are to be constructed.

The Venereal Disease Control Program is to be further expanded by the establishment of seven additional centers to be located one each in Chiangrai, Nontai, Nakhon Phanom, Nakhon Phanom, Songkla, Kamuri and Uttaradit. Furthermore, 25 hospitals in following provinces i.e. Chandaburi, Tak, Prachinburi, Saethu, Ranong, Roi-et, Yala, Samud Songkhram, Sisaket, Letchaburi, Khou Khan, Mahasarakham, Surind, Rayon, Sukotai, Satul, Samud Prakan, Uthayathani, Trang, Narasinth, Bhuket, Supanburi, Rajaburi, Nakhon Phanom, and Chachengsue are going to be supplied with USA penicillin for V.D. treatment free of charge. In all of these places the venereal disease rate is known to be high and indications are that the rate is increasing.

II. What the Project consists of (contd.)

B. Justification (contd.)

Reports from the eight Venereal Disease Clinics that have been in operation for varying lengths of time indicate that it can be expected there will be an average treatment rate of 200 cases of venereal disease per clinic per week.

C. Results to be obtained

The reduction of the incidence of Venereal disease to the greatest degree possible. It is estimated that under this program 250,000 people would be treated and cured of V.D. annually.

D. Summary of Commodities to be Imported with U.S. Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Drugs	\$ 58,000
Scientific Supplies & Equipment	\$ 20,000
Miscellaneous	\$ <u>1,000</u>
Total	\$ <u>79,000</u>

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salary <u>1/</u>	196,200
2. Maintenance per diem allowance <u>1/</u>	9,000
3. Buildings for 4 V.D. Centers	500,000
4. Electric and water installation	114,700
5. Furniture	80,000
6. Type-writing machines 2	12,000
7. Miscellaneous supplies & drugs	88,800
	<u>81,000,700</u>

1/ To December 31, 1952. It is anticipated that this item will be included thereafter in the governmental budget.

II. What the project consists of (contd.)

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salary	฿ 660,000
2. Maintenance per diem allowance	฿ 50,000
3. Drugs	฿ 80,000
4. Miscellaneous	฿ 210,000
Total	฿ 1,000,000

G. Technical Assistance (US Specialists)

1. Number: One - now on duty. See G 3 below.

2. General Objective of Assignment

To give advice on modern therapy and control of Venereal Diseases.

3. Description of Assignment

(a) Department, Ministry, or other body to which experts are to be assigned:

Division of V.D. and Yaws Control under the Department of Health.

(b) Location or headquarters and geographical field of operations:

Bangkok and the entire country of Thailand.

(c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See job description THA 207-T for Dr. C.B. Moyes,  
V.D. Consultant.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Monthly lectures at Chulaburi Training Center.  
Lectures to senior medical students at the two universities.  
Assist with in-service training. Estimated number of Thai personnel trained annually - 300.

II. What the project consists of (contd.)

G. Technical Assistance (US Specialists)(contd.)

3. Description of Assignment (contd.)

(a) Time Schedule:

Desired starting date: Already started.

Desired duration of assignment: Indefinite

4. Thai Counterpart

Director of Venereal Disease and Yaws Control Division.

H. Trainees

1. Number of trainees to be sent to USA: One

2. Description of Training:

Modern control and treatment of venereal diseases, laboratory diagnosis, clinic administration

3. (a) General Objective of Proposed Training in USA:

To improve quality of diagnosis and therapy of venereal diseases to prepare trainee so that he can return to Thailand and train younger officers in this field.

(b) Specific training desired. Describe in detail, assigning priorities to various fields of training desired:

Modern treatment and control of venereal disease diagnostic laboratory procedures - serology, hospital and clinic administration.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each.

One year.

4. Description of Trainees

(a) Qualifications to be required of trainees(education, training, experience, present position, age, others):

MB degree, 5 years experience in the proposed field of study. Proposed trainee has been a physician in the V.D. Control Division for 27 years.

II. What the Project consists of (contd.)

H. Trainees (contd.)

4. Description of Trainees (contd.)

(b) Proposed utilization of trainees upon completion of training:

Continue to work in the V.D. Control Division; will aid in the training of technicians (Lab) and other officers in the division.

5. Specific Assignment upon Return:

Bangrak Hospital (V.D. Division)

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

STEM is participating in the overall V.D. programming of the Ministry of Public Health.

B. Related Activities of International Agencies

WHO-UNICEF are furnishing technical advice and some material aid in the form of drugs and equipment in the Yaws control campaign being conducted in the northeastern section of the country.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has provided supplies and equipment in the amount of \$263,200 during the fiscal years of 1951 and 1952.

IV. Remarks:

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Intestinal Parasitic Disease Control

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>99,000</u>
Technical Assistance (Specialists) (1)	\$	<u>15,000</u>
Trainees to US (1)	\$	<u>6,000</u>
Total	\$	<u>120,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>450,945</u>
Extraordinary Non-Capital Expenditures	฿	<u>          </u>
Extraordinary Capital Expenditures	฿	<u>          </u>
Total	฿	<u>450,945</u>

C. Governmental Budget (calendar year 1952)

Ordinary Expenditures	฿	<u>1,526,091</u>
Extraordinary Non-Capital Expenditures	฿	<u>          </u>
Extraordinary Capital Expenditures	฿	<u>          </u>
Total	฿	<u>1,526,091</u>

## II. What the project Consists of

### A. Description of the Project

The Intestinal Parasitic Disease Control Project described herein covers the following items:

1. Assist the Division of Communicable Diseases in its fight against intestinal parasitic diseases by providing equipment, supplies and technical assistance to carry on (1) a survey program including laboratory examinations to determine types of infections and incidence in certain selected areas and (2) to give treatment where cases are found at a cost of \$115,000 (including \$15,000 to continue the services of Dr. E. H. Sadun as Consultant in Medical Parasitology from the MSA dollar fund) and Baht 450,945 from the counterpart fund. This program which is so directly related to economic productivity is a Kingdom wide activity. Priority is being given to the Northeast area.
2. Lend one Thai physician to the U.S. for post graduate training in intestinal parasitic diseases at a cost of \$6,000.

### B. Justification

It is widely recognized by all medical authorities in Thailand that one of the major problems in public health is represented by the amount of intestinal and hepatic disorder brought about by common parasitic agents. The significance of such a group of infections cannot be readily measured in terms of lives lost since most of the parasites involved produce debilitating diseases rather than being the direct cause of death. However, there is practically no man or woman in the rural areas of this country whose working ability, and whose resistance to all other infections, have not been greatly reduced by the presence of enteric parasites making this program of the highest possible economic importance. An intensive program of diagnosis and treatment coupled with programs of Environmental Sanitation and Health Education are the only logical methods for meeting the problem.

This activity is under the jurisdiction of the Division of Communicable Disease Control which has personnel especially trained in the laboratory techniques necessary for diagnosis of the various types of infections. At this time local health personnel are wholly inadequate in numbers and abilities to assume responsibility for the work. The program is closely coordinated with the Environmental Sanitation Program and provides data for relocation of areas in which that activity is carried on. Treatment is done only as part of the preventive program.

C. Results to be Attained

Maximum possible reduction in incidence of intestinal parasitic infections through diagnosis and treatment. Also provide data to Environmental Sanitation activity for use in determining areas of preference for construction of wells and latrines.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
1. Vehicles and Parts	10,210
2. Equipment and Technical Supplies	18,417
3. Medical Supplies	70,373
Total	<u>99,000</u>

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	190,100
2. Travel expenses	50,000
3. Per diem	10,000
4. Fuel oil	18,800
5. Rent for office and lodging	9,600
6. Medical supplies	40,000
7. Miscellaneous etc.	<u>132,445</u>
Total	<u>450,945</u> 1/

1/ To December 31, 1952. It is anticipated that these items will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	333,420
2. Travel expenses	362,478
3. Rent for office and lodging	19,492
4. Medical supplies	<u>810,701</u>
Total	<u>1,526,091</u>

G. Technical Assistance (US Specialists)

1. Number: One. Now on duty. (See G 3 below)
2. General Objective of Assignment

Technical and advisory assistance in Intestinal Parasitic Control.

3. Description of Assignment

- (a) Department, ministry, or other body to which experts are to be assigned:

Division of Communicable Diseases Control.

- (b) Location or headquarters and geographical field of operations:

1. Nakorn Rajasima Province.
2. Cholburi Province.

- (c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See job description THA 213T for Dr. E. H. Sadun, Consultant in Medical Parasitology.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Training of approximately 12 laboratory assistants in technical aspects of Intestinal Parasitic control.

- (e) Time Schedule:

Desired starting date: Already on duty.

Desired duration of assignment: Indefinite.

4. Thai Counterpart

Officials of the Division of Communicable Disease Control.

H. Trainees

1. Number of trainees to be sent to USA: One

2. Description of Training:

Postgraduate training in Public Health with particular attention to intestinal parasitic diseases.

3. (a) General Objective of Proposed Training in USA:

Provide competency in techniques of diagnosis and treatment of intestinal parasitic infections.

- (b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

Laboratory procedures.

- (c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

12 months.

4. Description of Trainees

- (a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Graduate in medicine with experience and demonstrated ability in diagnosis of intestinal parasitic diseases.

- (b) Proposed utilization of trainees upon completion of training:

A position of leadership in intestinal parasites control program.

5. Specific Assignment upon Return:

Chief of the intestinal parasitic diseases field control center.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation To Long Range Plans)

The Thai Government has a long range plan to cope with intestinal parasitic diseases involving provision for safe water and sanitary latrine construction in villages. This activity provides for the determination of the incidence and location of the various types of infection and treatment of all cases found.

B. Related Activities of International Agencies

X

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

See Environmental Sanitation Project.

• IV. Remarks

X

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-USA

PERIOD: JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: School Health

I. Cost of Project

A. Dollar Cost (\$M)

Commodities	\$	<u>99,000</u>
Technical Assistance (Specialists)	\$	<u>-</u>
Trainees to US (1)	\$	<u>6,000</u>
Total	\$	<u>105,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>850,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>850,000</u>

C. Governmental Budget (calendar year 1952)

Ordinary Expenditures	฿	<u>1,527,865</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>1,527,865</u>

## II. What the Project Consists of

### A. Description of the Project

The School Health Project described herein covers the following items:

1. Assist the School Health Division and Provincial Health personnel of the Ministry of Public Health to expand its program of Provincial Health inspections, immunizations, health education, and school sanitation, and to carry forward the MSA assisted program of treating inflammatory diseases of the eye (trachoma) in the schools which was started in FY 1951-1952 by providing supplies and equipment and establishing five mobile units to supervise and conduct school health activities at a cost of \$100,000 from the MSA Dollar Fund, and Baht 850,000 from the Counterpart Fund. No direct technical assistance will be provided but the part time services of the U. S. specialists assigned elsewhere in the Public Health Program will be called upon for advice and guidance.
2. Send one trainee in the field of School Health Administration to the U. S. for advanced study at a cost of \$6,000.

### B. Justification

Thailand has approximately 3,000,000 children of school age in rural areas. Experience has shown that these children are handicapped by a high incidence of illness from such diseases as inflammatory diseases of the eye, intestinal parasitic infections, skin diseases, and malnutrition. The situation can only be improved by an intensive application of public health practices.

The School Health Service in Thailand has been conducted chiefly in Bangkok, the capital of Thailand, because the financial support could not cover the whole kingdom. With the aid of M.S.A. mobile units, well equipped teams will be established for the purpose of rendering and supervising School Health Services to the rural schools of the nation. Each mobile team will be led by one physician accompanied by one supervisor nurse, two first-class nurses, one dental hygienist, one caretaker and two drivers. The teams will be assigned specific areas, each of which will have a school population of about 30,000. Special priority will be given to the Northeast area.

### C. Results to be Attained

Improve the health of the school children by preventing communicable diseases and health education. Eliminate inflammatory diseases of the Eye as a major health problem among school children.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Pharmaceuticals	70,300
Vehicles (13) (5 mobile units with one extra ambulance)	25,500
5 Units of physical examination and treatment kits	1,000
7 Typewriters	1,400
2 Microscopes (Binocular)	<u>800</u>
Total	99,000 =====

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	234,300
2. Per diem, field living accommodations, transportation	258,175
3. Auto Maintenance - gas, oil, servicing and repairs	136,210
4. Publications, report forms, educational material	109,340
5. Miscellaneous - procurement of supplies not included above	<u>111,975</u>
Total	850,000 1/ =====

1/ Until December 31, 1952. It is anticipated that these items will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	543,000
2. Per diem, field living accommodations, transportation	188,180
3. Auto Maintenance - gas, oil, servicing and repairs	247,000
4. Publications, report forms, educational material	200,000
5. Miscellaneous - procurement of supplies not included above	<u>349,685</u>
Total	1,527,865 =====

G. Technical Assistance (US Specialists) None. Part time services of US Specialists assigned elsewhere to be used. See A 1. above.

H. Trainees

1. Number of trainees to be sent to USA: One

2. Description of Training:

School Health Administration.

3. (a) General Objective of Proposed Training in USA:

To study the modern School Health Administration in U. S. A.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

To study School Health Administration. An important phase in this study should include work in Pediatrics.

Field experience and observation in State and Local Health Department work in School Health.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

One year.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Education and training - training in Medical School (Thailand) passed examination for M. B.

Experience - School Health Work

Position of present trainee - Chief Investigation Section, School Health Division, Health Department.

(b) Proposed utilization of trainees upon completion of training:

To make School Health Work more effective in Thailand.

5. Specific Assignment upon Return:

Chief of Investigation Section, School Health Division, Department of Health.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

MSA assistance is part of the Ministry of Public Health program of protecting and improving the health of over 3,000,000 school children.

B. Related Activities of International Agencies

X

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has provided materials and equipment in the amount of \$214,000 during the fiscal years 1951 and 1952.

IV. Remarks:

X

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Environmental Sanitation

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>100,000</u>
Technical Assistance (Specialists) (2)	\$	<u>30,000</u>
Trainees to US	\$	<u>          </u>
Total	\$	<u>130,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>1,400,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>1,400,000</u>

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	<u>37,760</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>37,760</u>

## II. What the Project Consists of

### A. Description of the Project

The Environmental Sanitation Project described herein covers the following items:

1. Assist the Division of Sanitary Engineering of the Department of Health to initiate a program of water well and latrine construction in the Northeast and Southern areas to provide safe water supplies and sanitary methods for the disposal of excreta and thereby reduce the incidence of intestinal infection, Thailand's second leading cause of death, at a cost of \$100,000 from MSA dollar funds and Baht 1,400,000 from the counterpart fund.
2. Continue the services of Walter F. Broom as Public Health Engineering Adviser, and H. L. Roahrig as Chief Public Health Engineering Adviser at a cost of \$30,000.

### B. Justification

Intestinal infections have been estimated to be the second leading cause of death in Thailand. Therefore, it has been necessary to develop a good program for lowering the incidence of these diseases.

Observation of the hygienic and sanitation practice of the people in general, particularly in the rural areas, emphasized that a major factor in bringing about the high incidence from intestinal infections is the practice of simultaneously utilizing water in rivers, canals, and shallow water-holes for bathing, washing clothes and for drinking purposes.

To meet this situation, the Ministry of Public Health proposes the boring of wells which will be equipped with hand pumps and protected against surface drainage so as to provide safe drinking water. These wells will be constructed in the villages and smaller cities where construction of a water supply with a public distribution system is not feasible.

In order to keep human excreta off the ground surface where it is available for spreading hookworm and other parasitic infections, bored hole latrines are to be constructed, in the same areas where safe well water is provided.

The particular areas selected for the environmental sanitation program will be those areas where the incidence of intestinal infections is the highest as determined by the Intestinal Parasitic Disease Program. Priority has been given to the Northeast.

This activity is under the Division of Sanitary Engineering inasmuch as it requires the technical skills of Sanitary Engineering personnel. Local health services have not been developed to the point that satisfactorily trained personnel are available to carry on the work.

C. Results to be Attained

The provision of safe water supplies and sanitary methods for the disposal of excreta will materially reduce the incidence of diseases such as typhoid fever, and intestinal parasites. Both of these diseases are extremely prevalent in Thailand.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> (MSA Code Book Classification)	<u>Dollar Value</u>
1,000 feet 6" augers	
6 trucks Large or medium size (3 tons)	
3 units Portable water treatment equipment (gasoline engine driven)	
1,000 pumps Deep well force pumps	
50,000 feet 5" plastic casing	
1,000 pieces Special perforated well screen with expendable bit on one end	
5,000 pieces Cemented sleeves for plastic casing	
5 units Water detecting instruments (or equipment)	
Total	100,000 =====

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
Salaries and daily wages 1/	200,000
Transportation of equipment and materials 1/	80,000
Fuel, lubricants, etc., for mechanical equipment 1/	200,000
Tools, materials and equipment for construction work 1/	830,000
Travel expenses 1/	10,000
Travel per diem, lodging, entertainment 1/	50,000
Maintenance and repair of equipment 1/	30,000
Total	1,400,000 =====

1/ To December 31, 1952. It is anticipated that these items will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Salaries	30,200
Per diem	7,560

Remark: July 1, 1952 to December 31, 1952.

G. Technical Assistance (US Specialists)

1. Number: 2 - Now on duty, see G 3 below.

2. General Objective of Assignment

Advisors in Environmental Sanitation.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

Division of Sanitary Engineering, Department of Health, Ministry of Public Health.

(b) Location or headquarters and geographical field of operations:

One in Bangkok.  
One in Nakorn Rajasima for Northeastern Section of Thailand.

(c) Detailed description of specific functions (job description). If specified individuals or specific background or experience are desired, so state and explain reasons:

See following job descriptions THA 205T - H. L. Roahrig, Chief Public Health Engineering Adviser.

THA 214T - W. F. Broom, Public Health Engineering Adviser.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Estimated in-service training of 20 staff personnel, class teaching of approximately 150 undergraduates of university and School of Public Health per year.

(e) Time Schedule:

Desired starting date: now assigned.

Desired duration of assignment: Indefinite.

4. Thai Counterpart

Member of the Division of Sanitary Engineering.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The Ministry of the Interior is carrying on a program for providing safe water supplies to municipalities as part of the overall campaign against intestinal parasitic diseases.

B. Related Activities of International Agencies

None at present

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has provided supplies and equipment in the amount of \$404,600 during the fiscal years of 1951 and 1952. See also project on Intestinal Parasitic Diseases.

IV. Remarks

None

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Nutrition

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ 60,000
Technical Assistance (Specialists)	\$
Trainees to US	\$
Total	\$ 60,000

B. Counterpart Funds Required

Ordinary Expenditures	฿ 900,000
Extraordinary Non-Capital Expenditures	฿
Extraordinary Capital Expenditures	฿
Total	฿ 900,000

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿ 308,300
Extraordinary Non-Capital Expenditures	฿
Extraordinary Capital Expenditures	฿
Total	฿ 308,300

## II. What the Project Consists of

### A. Description of the Project

The Nutrition Project described herein covers the following item:

Assist the Nutrition Section of the Division of Food and Drugs of the Ministry of Public Health to initiate a program aimed at the eventual elimination of malnutrition in Thailand at a cost of \$60,000 from the MSA dollar fund, and Baht 900,000 from the counterpart fund. Special priority in this program is to be given to the vital Northeast and Southern areas.

Activities on nutrition will consist of:

- 1) training school teachers, pharmacists, and public health officers;
- 2) mass educational campaigns;
- 3) preparation of pamphlets and text books on dietetics in the Thai language;
- 4) surveys and investigations of local diets;
- 5) nutritional appraisal of health to determine deficiencies and
- 6) demonstrations in the content and preparation of balanced diets.

No direct technical assistance will be provided but the part time services of U. S. specialists (including the STEM Information Officer) assigned elsewhere will be called upon for advice and guidance.

### B. Justification

Nutrition is a comparatively new activity in Thailand, when compared with other activities such as anti-smallpox vaccination and anti-malaria control. Owing to the comparative abundance of food supplies and the traditional emphasis upon rice as the only true and good food, the science of nutrition has interested only a few persons, and thus any interest in diets concerns principally fancy cooking, flavor and taste. The monotonous one-sided rice diet, now chiefly white polished rice, has always been made highly palatable by the clever use of highly seasoned spices, condiments and the omnipresent chillies. While these are irritating as well as inflammatory the masses of our population, sooner or later, develop sufficient tolerance to enjoy such diets two or three times daily. These very unbalanced diets with 80% of total

B. Justification (Cont'd)

calories from refined carbohydrate foods (chiefly white rice) have primarily been responsible for both undernutrition and malnutrition throughout the Kingdom.

From past observation and some recent surveys, the following defects characterize the Thai diet, viz.

- 1) Animal protein deficiency,
- 2) Fat deficiency,
- 3) B-complex vitamin deficiency,
- 4) A-vitamin deficiency,
- 5) Iron-iodine-calcium deficiency.

C. Results to be Attained

The science of nutrition has progressed so much that food is now recognized as the foundation of health. As the majority of the Thai people exist on unbalanced diets (high carbohydrate diet more than 80% of calories derived from refined carbohydrate), the results to be obtained from the program for better knowledge on proper diets, the provision of essential Vitamin A and iodized salt will materially raise the standard of health.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> (MSA Code Book Classification)	<u>Dollar Value</u>
Transport vehicles for field units	\$ 5,000
Appliances, Machinery, Instruments, Laboratory supplies for nutrition work	\$28,000
Materials and equipments for Nutrition Clinic	\$ 1,000
Nutrition medicaments	\$25,000
Nutrition education materials	\$ 1,000
Total	\$60,000 =====

E. Summary of Items to be procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
Extra personnel and staff 1/	100,000
Foods and equipment for demonstration 1/	15,000
Travel expenses 1/	100,000
Material transport expenses and incidental 1/	90,000
Building construction - Nutrition Centers	<u>595,000</u>
Total	900,000 =====

1/ Until December 31, 1952, it is anticipated that these items will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Ordinary Expenditures	308,300 =====

G. Technical Assistance (US Specialists)

None. Part time services of US specialists assigned elsewhere to be used. See A above.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

MSA assistance is directed toward expanding the present limited activities of the Division of Nutrition in order to extend the activities to rural areas where the need is the greatest.

B. Related Activities of International Agencies

International agencies which have cooperated with Thai Government in Nutrition activities are FAO, WHO, UNICEF. But most material aids have been obtained from MSA.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has given materials in the amount of \$120,920, during 1951 and 1952. Availability of Counterpart Funds this year will give added impetus to the program.

IV. Remarks

None

.....  
APPROVED IN PRINCIPLE

FCR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-USA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Vital Statistics

1. Cost of Project

A. Dollar Cost (USA)

Commodities	\$	<u>60,000</u>
Technical Assistance (Specialists)	\$	<u>-</u>
Trainees to US	\$	<u>-</u>
Total	\$	<u>60,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>-</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>-</u>

C. Governmental Budget (calendar year 1952)

Ordinary Expenditures	฿	<u>222,988</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>222,988</u>

## II. What the Project Consists of

### A. Description of the Project

The Vital Statistics Project described herein covers the following item:

1. Assist the Division of Vital Statistics in its program to reorganize and improve its statistical services with emphasis on disease incidence at the Central Office and in the 71 Provincial Offices by providing required equipment at a cost of \$60,000 from the USA dollar fund. The reorganization to be undertaken is a result of recommendations made by WHO which has recently completed a study of the Vital Statistics activities of the Ministry of Public Health.

### B. Justification:

Improvement in Vital Statistics services is necessary in Thailand in order that the Divisions responsible for the control of various diseases may be able to define, measure, and evaluate the major health problems. In Thailand there is no true knowledge of the incidence of serious diseases such as malaria, trachoma, intestinal parasitic infections, tuberculosis and many others.

The Division of Vital Statistics is composed of two sections, namely, the Registrar and the Statistics and Analysis. Because of lack of personnel the work is practically not much beyond routine compilation of figures of births, deaths and a few notifiable diseases. In order to develop the routine to a certain degree of international uniformity and to better the health statistics activities in general, the existing personnel are being trained and additional personnel have been requested to speed up the work.

### C. Results to be Attained

1. Development of an international uniformity of the routine work and better statistical services for the health programs.
2. Modification of the process of routine compilation of the figures of births, deaths and notifiable diseases by the use of labor saving machines.
3. Elaboration of the routine function as mentioned and enlargement of the scope of the work into the health fields, including survey activities by the addition of personnel and other necessary facilities.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
591 Paper and tabulation forms	1,000
780 Office equipment and appliances	50,000
880 Motor Vehicles	4,400
890 Miscellaneous commodities	<u>4,600</u>
Total	<u>60,000</u>

E. Summary of Items to be Procured from Counterpart Funds

X

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salary	13,438
2. Recurrent expenditure	<u>209,550</u>
Total	<u>222,988</u>

- G. Technical Assistance (US Specialists) None. WHO specialists will be supplied as necessary.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

See above.

B. Related Activities of International Agencies

WHO has recently completed a study of the Vital Statistics activities of the Ministry of Public Health. The improvements contemplated are in accordance with the recommendations following this study.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

X

IV. Remarks

X

.....

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Dermatitis Control

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	_____
Technical Assistance (Specialists)	\$	_____
Trainees to US	\$	_____
Total	\$	_____

B. Counterpart Funds Required

Ordinary Expenditures	฿	148,000
Extraordinary Non-Capital Expenditures	฿	-
Extraordinary Capital Expenditures	฿	_____
Total	฿	148,000

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	1,424,251
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	_____
Total	฿	1,424,251

## II. What the Project Consists of

### A. Description of the Project

The Dermatoses Control Project herein described covers the following item:

Assist the Division of Skin and Leprosy Control by concurring in a request for Baht 148,000 to finance the costs of two survey teams each consisting of a doctor, sanitary inspectors and laborers to travel throughout the provinces and ascertain the number of patients suffering from leprosy. Recordings of the cases will be kept and tabulated for further action in planning a continuing program of control. All other cases of skin disease which are found will be treated.

### B. Justification

Skin diseases including leprosy are of common occurrence throughout Thailand. It is estimated that there is a minimum of 60,000 cases of leprosy. The government maintains four Centers for 1,250 leprosy patients. Sulfa drugs and chaulmoogra oil are being used.

Under the government plan ten additional leprosy villages are to be established. It is hoped that the approximate number of cases can be ascertained, so that necessary action of control will be properly organized and fully implemented with minimum economy and maximum results. It is necessary to organize survey and treatment units to arrive at the objective outlined in this request.

### C. Results to be Attained

It is hoped that infectious diseases including leprosy will be reduced to a negligible problem within five years. If adequate facilities will be accorded to the Health Department for control of these diseases, eventually the man-power and health standards of the people will be raised, and in turn the economy of the country will be simultaneously improved.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> <u>(MSA Code Book Classification)</u>	<u>Dollar Value</u>
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None

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
Salary	9,380
Per diem	70,000
Fuel Oil	13,600
Cylinder Oil	1,860
Sulfa Drugs	<u>48,160</u>
Total	148,000 =====

F. Summary of Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Salary, wages and per diem of personnel, and maintenance of the office and living quarters of lepers	1,424,251

G. Technical Assistance (US Specialists)

None

H. Trainees

None

III. Relationship of STEM Participation to Thai Government Projects,  
to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include  
Relation to Long Range Plans)

This project ties in with the overall Dermatoses and Leprosy Program of the Ministry of Public Health.

B. Related Activities of International Agencies

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA provided supplies and equipment for survey teams in 1952 in the amount of \$68,000. This material will be used in work during 1953.

IV. Remarks

X

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-USA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....FOREIGN QUARANTINE DISEASES CONTROL PROJECT.....

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Foreign Quarantine

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	_____
Technical Assistance (Specialists)	\$	_____
Trainees to US	\$	_____
Total	\$	_____

B. Counterpart Funds Required

Ordinary Expenditures	฿	233,700
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	_____
Total	฿	233,700

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	85,280
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	_____
Total	฿	85,280

II. What the Project Consists of

A. Description of Project

The Foreign Quarantine Disease Control Project observed herein covers the following items:

1. Concur in the expenditure of Baht 233,700 by the Division of Communicable Disease Control of the Ministry of Health to enable more effective measures to be taken in the prevention of the entry of epidemic disease into Thailand at the principal points of entry into the country, i.e., Bangkok seaport & Don Muang Airport, by maintaining efficient inspection and control of all incoming passengers to determine the presence and prevent the spread of disease. This counterpart supplements an expenditure of \$33,500 during FY51-52 to assist the activity.

B. Justification

Due to the prevalence of dangerous infectious diseases in SEA, provision for detection of diseases at ports of entry into Thailand is necessary if the citizens are to be free from the dangers of imported diseases. Also International agreements provide that each country maintain effective quarantine procedures for its own protection as well as the protection of travelers and other countries.

C. Results to be Attained

Thailand to be free of the danger of diseases brought from other countries.

D. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries <u>1/</u>	33,600
2. Travel expenses <u>1/</u>	1,000
3. Fuel oil <u>1/</u>	3,500
4. Inventory	20,000
5. Motorboat construction	100,000
6. Construction for Steam Sterilizer	50,000
7. Miscellaneous etc. <u>1/</u>	<u>25,600</u>
Total	<u>233,700</u>

1/ To December 31, 1952. It is anticipated that these items will be included thereafter in the governmental budget.

E. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	81,780
2. Fuel oil	3,000
3. Cylinder oil	<u>500</u>
Total	<u>85,280</u>

APPROVED IN PRINCIPLE

FOR STEM:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
For the TTEC

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Hospitals

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>207,000</u>
Technical Assistance (Specialists) (2)	\$ <u>15,000</u>
Trainees to US (8)	\$ <u>48,000</u>
Total	\$ <u>270,000</u>

B. Counterpart Funds Required

---

Ordinary Expenditures	฿ <u>8,920,000</u>
Extraordinary Non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>          </u>
Total	฿ <u>8,920,000</u>

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿ <u>34,287,428</u>
Extraordinary Non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>          </u>
Total	฿ <u>34,287,428</u>

II. What the project consists of

A. Description of the Project

The Hospital Project described herein covers the following items:

1. Assist the Department of Medical Services of the Ministry of Public Health by (1) Training hospital personnel and providing equipment and supplies needed for the improvement of hospital care throughout the Kingdom at a cost of \$207,000 from the MSA dollar fund and (2) Supporting the overall hospital building program with Baht 8,920,000 from the Counterpart Fund. Priority in this project will be given to hospitals in Northeast Thailand.
2. Continue the services of Lillian A. Gardiner as Chief Nurse at a cost of \$15,000.
3. Send 8 physicians and/or nurses to the U.S. for post graduate training at a cost of \$48,000.

B. Justification

The Department of Medical Services has under its jurisdiction 44 provincial general hospitals with a total bed capacity of 1,791, seven municipal general hospitals with a bed capacity of 310, thus making a total of 2,101 general hospital beds for the 70 Provinces outside of Bangkok which have a combined population of about 17,000,000. These hospitals are inadequately staffed and poorly equipped. Proper medical care demands improvement of these hospitals as well as increase in the number hospital beds. The program outlined herewith for MSA assistance is aimed at this needed improvement.

C. Results to be obtained

1. Increase the efficiency of selected provincial hospitals.
2. Increase the ability to handle outpatients by at least 50% in the selected hospitals by providing additional facilities for diagnosis and treatment.
3. Assist in training 100 nurses yearly and improve the curriculum of the Nurse Training School at Women's Hospital.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
1. Surgical and Medical supplies and equipment	\$ 127,000
2. X-Ray and accessories	\$ 20,000
carried forward	\$ 147,000

D. <u>Commodity Group (contd.)</u>	<u>Dollar Value</u>
Brought forward	\$ 147,000
3. Ambulances	\$ 55,000
4. Hospital administration equipment, e.g., . typewriters, mimeograph, etc.	\$ 5,000
Total Cost	\$ 207,000

(Code details available when F.R. is prepared)

H. Summary of Items to be Procured from Counterpart Funds.

<u>Items</u>	<u>Value (Baht)</u>
1. Laundry building at Women's Hospital	860,000
2. Generator building at Women's Hospital	52,000
3. X-Ray and Radium building at Women's Hospital	1,538,000
4. Laundry building at Pitsanulok Hospital	820,000
5. Surgical buildings at 9 Provincial Hospitals	1,650,000
6. X-ray buildings at 16 Provincial Hospitals	3,850,000
7. Transportation of commodities	<u>150,000</u>
Total Cost	<u>8,920,000</u>

F. Summary Budgetary Expenditures (Calendar Year 1952)

<u>Items</u>	<u>Value (Baht)</u>
Ordinary Expenditures	Total <u>34,287,428</u>

G. Technical Assistance (U.S. Specialists)

1. Number: 1 - Now on duty. See G 3 below.

2. General Objective of Assignment

To cooperate with Department of Medical Service in making the **services** of the **Provincial Hospitals** more effective.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

Assigned to STEM, but working with Department of Medical Service.

(b) Location or headquarters and geographical field of operations:  
Bangkok.

3. Description of Assignment (contd.)

- (c) Detailed description of specific functions (job description). If Specific individuals or specific background or experience are desired, so state and explain reasons:

See job descriptions of following persons:

THA 203T-Lillian Gardiner, Chief Nurse, now on duty

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Nurse Advisor assisting in training an estimated 100 nurses annually.

- (e) Time Schedule:

Desired starting date: July 1, 1952

Desired duration of assignment: Indefinite.

4. Thai Counterpart

Officials of the Department of Medical Services.

H. Trainees

1. Number of trainees to be sent to USA: 8 trainees.

2. Description of Training:

1. Physician for Radiology - 1
2. Physician for Bacteriology - 1
3. Physician for orthopedics - 1
4. Physicians for General Surgery - 2
5. Nurses for special lines for teaching - 3

3. (a) General Objective of Proposed Training in USA:

Improvement of Nurse Training School at Women's Hospital and post-graduate training in various subjects for the professional staffs of the Hospitals under jurisdiction of the Department of Medical Services.

- (b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

Radiology, Bacteriology, Orthopedics, General Surgery, Pediatric Nursing, Obstetric Nursing, Mother and Child Welfare.

H. Training (contd.)

3. (c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

About one year including studying and observation.

4. Description of Trainees

- (a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Experienced graduate Medical Officers and Nurses.

- (b) Proposed utilization of trainees upon completion of training:

Chiefs of sections concerned and Medical Officers in charge of the Provincial Hospitals.

5. Specific Assignment upon return:

Nurse training school at Women's Hospital and Medical Officers in charge of Provincial Hospitals and chiefs of hospital sections.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

STEM is participating in the long range hospital plan which aims at having a minimum of one provincial hospital in each of the 71 provinces.

B. Related Activities of International Agencies

None.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has assisted in 1951 and 1952 by providing training and supplies and equipment in the amount of \$711,402.

IV. Remarks None

.....

APPROVED IN PRINCIPLE

FOR STEM:

• FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Rural Health Centers

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>164,000</u>
Technical Assistance (Specialists)	\$ <u>-</u>
Trainees to US	\$ <u>6,000</u>
Total	\$ <u>170,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>1,000,000</u>
Extraordinary Non-Capital Expenditures	฿ <u>-</u>
Extraordinary Capital Expenditures	฿ <u>-</u>
Total	฿ <u>1,000,000</u>

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿ <u>3,575,172.</u>
Extraordinary Non-Capital Expenditures	฿ <u>-</u>
Extraordinary Capital Expenditures	฿ <u>-</u>
Total	฿ <u>3,575,172.</u>

## II. What the Project consists of

### A. Description of Project

The Rural Health Centers project described herein covers the following items:

1. Provide equipment and medical supplies to approximately 200 first and second class rural health centers (out of total of 679) and maintain 11 existing mobile units to serve areas inaccessible to permanent health centers in the N.E. and Southern areas, at a cost of \$164,000 from MSA dollar fund, and Baht, 1,000,000 from the counterpart fund. This project which will be carried on by the officials of the Divisions of Provincial Health and Maternal and Child Health and the provincial health officers and sanitarians will strengthen the centers to be assisted by providing additional equipment and supplies and by on the job training as well as through the training to be given at the Choburi Training Center. While no specific US technical personnel will be assigned, it is expected that the part-time advising services of the Chief of the STEM Division of Public Health and members of his staff will be used.
2. Send one training to the U.S. for training in Communicable Disease Control; cost \$6,000.

### B. Justification

In order that people in the rural districts particularly in the economically retarded N.E. and in the rubber and mining districts of the South will receive more and better medical aid in both curative and preventive services, 200 key health centers will be improved by receiving adequate equipment and medical supplies. The mobile health units will reinforce the activities of health centers by giving supplemental services including health education in areas now inaccessible to the permanent centers.

Thailand is essentially an agrarian nation and as such a large majority of the people reside in strictly rural areas. Transportation facilities are meager. For the rural people to receive medical care the facilities for this service must be within walking distance. To this end the Ministry of Public Health has established 679 Rural Health Centers. These centers are staffed primarily with one sanitarian and one midwife, each of whom has received but one year of special training. Also lack of funds prevented the Ministry from adequately equipping these centers. At present the centers are inefficient and ineffective. The extremely large number of illness in Thailand cannot be treated properly unless the rural health centers can be improved. The program for this year provides for measures to strengthen a minimum of 200 of the centers and to supplement the services of the existing centers with 11 mobile medical units. This activity is directly tied in to other joint TG-MSA programs designed to increase agricultural productivity.

C. Results to be attained

Improvement in the quality of health services rendered in 200 existing health centers in the N.E. and in the South by giving more medical aid in curative medicine and increasing efficiency in the work of the health centers to be assisted. The raising of the standards of health and well-being of the people served by these health centers is expected to be directly reflected in higher productivity and consequently in higher standards of living.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Equipment for health centers	\$ 90,000
Medical supplies	<u>\$ 74,000</u>
(Code details available when FR is prepared) Total	\$ 164,000

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salary (1)	฿ 145,000
2. Per diem (1)	฿ 150,000
3. Operational expenses (1)	฿ 500,000
4. Permanent improvements to existing buildings	<u>฿ 205,000</u>
Total Cost	<u>฿1,000,000</u>

(1) Until December 31, 1952. It is anticipated that these expenses will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salary	฿1,681,800.00
2. Various expenditures (Including fund of medical services for indigents 360,742.40)	฿ 854,242.
3. Non-recurrent	<u>฿1,039,130 .</u>
Total	<u>฿3,575,172.</u>

G. Technical assistance (U.S. Specialists) None. Part-time services of U.S. Specialists assigned elsewhere to be used. See A above

II. What the Project consists of (contd.)

H. Trainees

1. Number of trainees to be sent to USA:

One

2. Description of Training:

Training in techniques for the control of communicable diseases.

3. (a) General Objective of Proposed Training in USA:

Provide well qualified physicians for nationwide communicable disease control program to be carried on by municipal and local health organizations.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

Control measures in urban and rural areas. Clinical diagnosis of diseases and immunizations.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

12 months

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Graduate physicians with on-the-job experience in Communicable Disease Control.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other R&A Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

At present time there are 679 first and second class Rural Medical Centers. The overall plan is first to improve the existing centers and then to increase the number of centers to approximately 1000 as qualified personnel become available.

B. Related activities of International Agencies

UNICEF has been requested by Ministry of Public Health to provide training to midwives and to provide supplies and equipment which is necessary for Maternal and Child Health work.

C. Related R&A Activities (State relationship as between past and projected projects in Same Field as well as Relationship between Fields, if any)

Activity just beginning.

IV Remarks:

Health Centers will be improved in provinces where provincial personnel have been trained at Chalaburi or other field training units. Health Centers in provinces of the northeastern and peninsular areas of the country will be considered first for training of personnel and assistance.

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the PTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Drug Analysis

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>8,000</u>
Technical Assistance (Specialists)	\$	<u>-</u>
Trainees to US (2)	\$	<u>12,000</u>
Total	\$	<u>20,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>-</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>-</u>

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	<u>655,970</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>-</u>
Total	฿	<u>655,970</u>

II. What the Project Consists of

A. Description of the Project

The Drug Analysis Project described herein covers the following items:

1. Assist the Division of Pharmacy of the Ministry of Public Health to safeguard the public against the use of hazardous drugs by initiating an orderly and systematic study of local medicinal plants and drugs to determine their therapeutic values and to develop and project standards of quality for drugs at a cost of \$10,000 from the MSA dollar fund.
2. Send 2 Thai pharmacists to the U.S. for postgraduate study at a cost of \$12,000.

B. Justification:

As the quality of medical care is raised by improvements in medical facilities and better training, it is imperative that the highest possible quality of drugs be made available. In the past, no work of an intensive nature has been done in determining the true medicinal value of many plants and herbs used by the so-called ancient practitioner. As a safeguard to the health of the citizens of Thailand, it is desired to inaugurate work of this type with M. S. A. assistance at as early a date as possible. The present knowledge in Thailand as regards quality of many drugs needs improvement to safeguard the public against the use of hazardous drugs. This is a non-recurrent expenditure.

C. Results to be Attained

- a. Quality control of drugs.
- b. Classification and appraisal of pharmacologic actions of local medicinal plants.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Miscellaneous Laboratory Equipment	5,500
Technical Books	<u>2,500</u>
Total	<u>8,000</u>

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
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None

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	480,060
2. Current expenditures •	53,310
3. Non-current expenditure	122,600
Total	<u>655,970</u>

G. Technical Assistance (US Specialists) None

H. Trainees

1. Number of trainees to be sent to USA: Two

2. Description of Training:

- a. Pharmaceutical Chemistry.
- b. Systematic Botany.

3. (a) General Objective of Proposed Training in USA:

To have one well trained in analysis of drugs and the other in classification of plants.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

- (1) Post-graduate work in Pharmaceutical Chemistry. Working in Food and Drug Administration, Washington, D. C.
- (2) Post-graduate work in Systematic Botany. Working in a research laboratory to be decided later.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

One academic year in post-graduate school; the rest of the time, working elsewhere.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Education: College graduate.

Experience: Five years in Division of Pharmacy.

(b) Proposed utilization of trainees upon completion of training:

Standardization of drugs according to "Sale of Drugs Act."

5. Specific Assignment upon Return:

One to work on analysis of drugs, the other to analyze medicinal plants.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

STEM participation will give impetus to the now static activity of the Division of Pharmacy.

IV. Remarks          None

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-NSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Health Education

1. Cost of Project

A. Dollar Cost (NSA)

Commodities	\$	75,000
Technical Assistance (Specialists)	\$	-
Trainees to US	\$	-
Total	\$	75,000

B. Counterpart Funds Required

Ordinary Expenditures	฿	634,535
Extraordinary Non-Capital Expenditures	฿	-
Extraordinary Capital Expenditures	฿	-
Total	฿	634,535

C. Governmental Budget (calendar year 1952)

Ordinary Expenditures	฿	272,175
Extraordinary Non-Capital Expenditures	฿	-
Extraordinary Capital Expenditures	฿	-
Total	฿	272,175

## II. What the Project Consists of

### A. Description of Project

The Health Education Project described herein covers the following items:

1. Assist the Division of Health Education of the Ministry of Public Health with a program of public dissemination of health information by radio, posters, pamphlets, moving pictures and exhibits throughout Thailand but with special attention on the Northeast and Southern Peninsula areas. This project which will cost \$70,000 from MSA dollar funds and B t 634,535 from the Counterpart Fund will be implemented by existing personnel of the Ministry of Health working under the provincial health officers in collaboration with special health information field units from the Division of Health Education. The technical service of the STEM Information Officer will also be used as will the part-time services of the STEM Health Educator provided in the Chelburi Health Demonstration and Training Center Project.

### B. Justification

Experience in public health work has shown that unless the general population of a country is informed relative to the cause and prevention of disease, the effectiveness of the health department is drastically limited. To meet this situation it is incumbent upon the Ministry of Public Health to carry on an intensive health education program utilizing all media for dissemination of health information. As the citizens are made aware of the health hazards and are instructed in ways to personally combat the diseases, greater cooperation is given the health personnel and the effectiveness of all activities is enhanced. In emphasizing health education in the Northeast and South, where the greatest need for this activity exists, the public health program joins with other joint Thai Government-MSA projects in assisting the politically sensitive and economically retarded Northeast and the rich rubber and mining area of Southern Thailand.

### C. Results to be obtained

1. The increased awareness on the part of the Thai people of their health problems.
2. Secure greater cooperation from the Thai people for all parts of the Public Health Program.
3. Raise the standards of personal hygiene.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
1. Joint TG-MSA Information Program (See project write-up "Information")	40,000
2. Health Education Equipment and materials	<u>35,000</u>
Total	<u>75,000</u>

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries <sup>1/</sup>	195,710
2. Equipment for Health Education Units	130,555
3. Dark room and dark room equipment	223,970
4. Incidental expenditure <sup>1/</sup>	20,000
5. Equipment and maintenance for mobile vans and motor boats	<u>64,300</u>
Total	<u>634,535</u>

<sup>1/</sup> Until December 31, 1952. It is anticipated that these items will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	207,600
2. Equipment for Health Education Units	<u>64,575</u>
Total	<u>272,175</u>

G. Technical Assistance (U.S. Specialists)

None. Part time services of U.S. specialists assigned elsewhere to be used. See A 1 above

H. Trainees

1. Number of trainees to be sent to USA: None

III Relationship of STEH participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

Thai Government has been doing health education for 23 years. M. S. A. program has been integrated with the long range plans in order to make this activity more effective.

B. Related Activities of International Agencies

WHO has been asked for 3 fellowships for Health Education for 1954.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any.

Material, equipment and technical advice in the amount of \$70,000 is being furnished covering the fiscal years 1951 and 1952.

IV Remarks:

X

APPROVED IN PRINCIPLE

FOR STEH:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Medical and Allied Professional Schools

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>58,000</u>
Technical Assistance (Specialists) (6-12)	\$	<u>125,000</u>
Trainees to US (23)	\$	<u>132,000</u>
Total	\$	<u>315,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	B	<u>500,000</u>
Extraordinary Non-Capital Expenditures	B	<u>          </u>
Extraordinary Capital Expenditures	B	<u>3,000,000</u>
Total	B	<u>3,500,000</u>

C. Governmental Budget (Calendar year 1952)

Ordinary Expenditures	B	<u>5,731,080</u>
Extraordinary Non-Capital Expenditures	B	<u>-</u>
Extraordinary Capital Expenditures	B	<u>-</u>
Total	B	<u>5,731,080</u>

## II. What the Project Consists of

### A. Description of the Project

The Medical and Allied Professional Schools project described herein covers the following items:

1. Supplement the faculty and provide post graduate medical instruction for the students and faculties of two medical and two nursing schools (Siriraj and Chulalongkorn) through a technical assistance contract with the Washington University Medical School of St. Louis at a cost of \$125,000 from the MSA dollar fund.
2. Assist the building and equipment program of the Department of University Medical Sciences of the Ministry of Public Health in the Schools of Medicine, Dentistry, Pharmacy, Veterinary Sciences, Nursing and Post Graduate Public Health by providing technical supplies and equipment from MSA dollar funds in the amount of \$58,000 and Baht 3,500,000 from the Counterpart Fund to finance the local currency costs of technical supplies and the construction of a building for the School of Public Health.
3. Send 22 medical and allied professional people to the U.S. for further training so as to qualify them for positions on the faculties of the assisted schools at a cost of \$132,000.

### B. Justification

The two medical schools (Siriraj and Chulalongkorn) graduate approximately 200 physicians each year. The faculties and facilities of these two schools are inadequate to train this number of students properly. MSA assistance is directed towards improving teaching techniques and increasing the facilities of the schools thereby raising the standard of training. Postgraduate training is necessary for the faculty members as a measure to improve the quality of teaching as well as to make it possible at a later date to increase the size of the faculties to meet the needs for expansion. The lack of trained doctors, nurses, etc., is one of Thailand's principal health bottlenecks. There are at present only 2000 qualified doctors in all of Thailand as against estimated requirements for 18,000 doctors. This project is designed to assist in breaking this bottleneck.

C. Results to be Obtained

The standard of teaching will be raised and thereby Thailand will have the benefit of better qualified professional workers in the field of Health.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> ( <u>MSA Code Book Classification</u> )	<u>Dollar Value</u>
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Technical supplies and equipment in the amount of \$58,000.

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
School of Public Health Building	3,000,000
Technical supplies and equipment for Medical Schools	100,000
Technical supplies and equipment for School of Public Health	<u>400,000</u>
Total	<u>3,500,000</u> =====

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Salary of the staff	924,080
Non-recurrent Expenditure	<u>4,857,000</u>
Total	<u>5,781,080</u> =====

G. Technical Assistance (US Specialists)

1. Number: 6 to 12. (See Washington University Contract)

2. General Objective of Assignment

To supplement and train the faculties of the two Medical and two Nursing Schools (Siriraj and Chulalongkorn).

3. Description of Assignment

- (a) Department, ministry, or other body to which experts are to be assigned:

Department of University of Medical Sciences

- (b) Location or headquarters and geographical field of operations:

Bangkok.

- (c) Detailed description of specific functions (job description) If specific individuals or specific background or experience are desired, so state and explain reasons:

See MSA contract with Washington University Medical School of St. Louis to provide technical assistance staff, and assume responsibility for professional aspects of project.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

In-service training and postgraduate training for approximately 1000 professional personnel.

- (e) Time Schedule:

Desired starting date:

Presently assigned.

Desired duration of assignment:

Indefinite.

4. Thai Counterpart

The members of the faculties of the assisted schools.

H. Trainees

1. Number of trainees to be sent to USA:

22

2. Description of Training:

Postgraduate and field training. Trainees to be selected from various fields of medicine and allied professions.

3. (a) General Objective of Proposed Training in USA:

To improve quality of teaching in Thailand's schools of medicine and allied professions.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

Varies as to special field.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

4 to 12 months.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Graduation specific field of professional activity, and 2 to 5 years experience.

(b) Proposed utilization of trainees upon completion of training:

Participation as faculty members in academic training of students in respective schools.

5. Specific Assignment upon Return:

Not presently known.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

STEM participation is at present playing the major role in the general plan for improvement in the training of medical and allied personnel. This is an essential first step to pave the way for a future expansion program.

B. Related Activities of International Agencies

X

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has given Thai Government technical assistance, supplies and equipment in the amount of \$567,160 during the fiscal years 1951 and 1952.

IV. Remarks

X

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....FIELD HEALTH DEMONSTRATION AND TRAINING CENTER, CHOLBURI.....

MAJOR PROJECT CATEGORY: Public Health

PROJECT TITLE: Cholburi Health Demonstration and Training Center.

I. Cost of Project

A. Dollar Cost (MSA)

Commodities		\$	<u>39,000</u>
Technical Assistance (Specialists) (5)		\$	<u>75,000</u>
Trainees to US (1)		\$	<u>6,000</u>
	Total	\$	<u>120,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	1/	B	<u>2,710,900</u>
Extraordinary Non-Capital Expenditures		B	<u>-</u>
Extraordinary Capital Expenditures		B	<u>-</u>
	Total	B	<u>2,710,900</u>

1/ Remarks- Through December 31, 1952. Supplemental request will be made for 1953.

C. Governmental Budget (calendar year 1952)

Ordinary Expenditures		B	<u>189,957</u>
Extraordinary Non-Capital Expenditures		B	<u>-</u>
Extraordinary Capital Expenditures		B	<u>-</u>
	Total	B	<u>189,957</u>

## II. What the Project consists of

### A. Description of Project

The Cholburi Health Demonstration and Training Center project described herein covers the following items:

1. Continue MSA support started in FY 51 and 52 of the model Provincial Health Center at Cholburi in order to provide (a) a well balanced province-wide pilot demonstration health program including clinical medical services and (b) a field training center for Provincial Health officers, nurses, midwives and sanitarians from all over the Kingdom. This project will cost \$40,000 for supplies and equipment from MSA dollar funds and Baht 2,710,900 from the Counterpart Fund, and will be implemented by presently existing Provincial Health personnel.
2. Continue the services of Robert Milligan as Health Education Advisor, Dr. V. J. DePaulo as Advisor in Medicine, W. S. Wilson as Sanitary Engineering Consultant, M. J. Yardley as Nurse Consultant, and Dr. H. E. Zion as Advisor, Public Health Administration, at a cost of \$75,000.
3. Send one trainee in the field of Public Health Administration to the U.S. for advanced study at a cost of \$6,000.

### B. Justification

The effective application of public health procedures requires technical knowledge and experience. Thailand, although it has established a very satisfactory plan of organization for meeting the nation's health problems, has not made satisfactory progress in reducing disease incidence and the number of premature deaths. This lack of success is due primarily to the fact that the personnel in the field have been inadequately trained.

The training of public health personnel in Thailand has been seriously hampered by the lack of a field center for the demonstration of public health activities. The Ministry of Public Health is establishing, therefore, a Field Health Demonstration and Training Center in Cholburi Province where it is proposed to offer field training under model conditions to provincial health personnel from the entire Kingdom.

This Center is to involve the entire province and deal with all phases of public health work. Diverse health programs will be inaugurated under the Provincial Health Officer to serve as a model for Thailand. These programs throughout the province will be used for practical training of public health personnel and students in various health fields such as Transmissible Diseases Control, Environmental Sanitation, Maternal and Child Health, School Health, Nutrition, Emergency Medical Care, etc.

C. Results to be Obtained

1. A higher standard of training and of official health methods and procedures leading to improved health for the people in Thailand.
2. An estimated 36 provincial health officers, 100 nurses and midwives, and 100 sanitarians are expected to be trained each year.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Medical supplies and equipment	39,000

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Materials <u>1/</u>	437,670
2. Transportation and per diem etc. <u>1/</u>	750,000
3. Drugs and equipment <u>1/</u>	400,000
4. Salaries <u>1/</u>	123,230
5. Buildings	<u>1,000,000</u>
Total	<u>2,710,900</u>

1/ Until December 31, 1952. It is anticipated that these items will be included thereafter in the Government budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
1. Salaries	174,630
2. Drugs and equipment	9,797
3. Operating expenses	<u>5,530</u>
Total	<u>189,957</u>

G. Technical Assistance (US Specialists)

1. Number: 5 - now on duty, see G 3 below.
2. General Objective of Assignment

To advise and assist in development and operation of generalized health services on a province-wide basis, and preparation of training guides. Also to participate in training.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

Department of Health.

(b) Location or headquarters and geographical field of operations:

1. Headquarters - Cholburi
2. Field of operation - Cholburi Province.

(c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See following job descriptions:

THA 209-T Dr. V.J. DePaulo, Advisor in Medicine.

~~THA 206-T~~

Consultant.

THA 212-T Mary Jane Yardley, Public Health Nurse  
Consultant.

THA 210-T Dr. H. E. Zion, Public Health Administration  
Advisor .

THA 211-T Robert C. Milligan, Health Education Advisor.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Ultimate training of all provincial health personnel in all phases of public health, amounting at present to 2000. An estimated 236 provincial health personnel to be trained during FY 53. Types of personnel to be trained are Provincial

H. Trainees

1. Number of trainees to be sent to USA: One

2. Description of Training:

Public Health Administration.

3. (a) General Objective of Proposed Training in USA:

Qualify trainee in advanced public health methods, so that he can assume duties as Director of the field training activities.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

All phases of Public Health Administration leading to a M. P. H. degree.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

One year.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Graduate from medical school and with demonstrated interest and ability in field public health work and training.

(b) Proposed utilization of trainees upon completion of training:

Administrator, Cholburi Demonstration and Training Center.

5. Specific Assignment upon Return:

Cholburi project.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

This project is the project of Thai Government carried on in co-operation with provincial health authorities. It is part of a long range plan to develop this demonstration area so that it will serve the dual purpose of a model for other provinces and the Ministry of Public Health's principal field training center for provincial health personnel.

B. Related Activities of International Agencies

X

C. Related USA Activities (State Relationship as between Past and Projected projects in Same Field as well as Relationship between Fields, if any)

USA has provided supplies and equipment in the amount of \$161,674 during the fiscal years 1951 and 1952.

IV. Remarks

X

APPROVED IN PRINCIPLE

FOR STEA:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Irrigation & Reclamation

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>196,500 *</u>
Technical Assistance (Specialists) (7)	\$ <u>75,000</u>
Trainees to U.S. (6)	\$ <u>36,000</u>
Total	\$ <u>307,500</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>                    </u>
Extraordinary Non-Capital Expenditures	฿ <u>7,676,000 **</u>
Extraordinary Capital Expenditures	฿ <u>                    </u>
Total	฿ <u>7,676,000</u>

C. Governmental Budget

Ordinary Expenditures	฿ <u>                    </u>
Extraordinary Non-Capital Expenditures	฿ <u>11,232,440</u>
Extraordinary Capital Expenditures	฿ <u>                    </u>
Total	฿ <u>11,232,440</u>

\* \$2,230,000 Phd in FY 51 and FY 52

\*\* Already approved as follows:

฿ 3,500,000 - Tank Irrigation 1951  
21,000 - Per Diem Irrig. Rep. U.S.  
4,155,000 - Tank Irrigation 1952

## II. What the Project Consists of

### A. The Irrigation & Reclamation Project described herein covers the following items:

1. Continue assistance to the Northeast Thailand Tank Irrigation Project at a cost of \$196,500. This assistance, which was started in FY 51, is part of a plan to build upwards of 1,000 small reservoirs in the Northeast and adjacent deficient rainfall areas. 25 medium to large tanks were included in the FY 51 program and 21 in the FY 52 program. An additional 60 are planned for FY 53.
2. Continue the services of Stanley Phillippi (THA-93-T) as Irrigation Specialist at a cost of \$15,000. Continue the services of August L. Ahlf and Maurice E. Day as Design Engineers on loan from the U.S. Bureau of Reclamation at a cost of \$23,000; and provide the services of one Mechanical Engineer (THA-95-T), one Construction Equipment Operation Specialist, one Construction Engineer, THA-94-T, and one Design Engineer for low dams in the Tank Program, at a cost of \$37,000. Total for Technical Assistance \$75,000.
3. Send 6 technical officials of the Royal Thai Irrigation Department to the U.S. for advanced study at a cost of \$36,000.
4. In addition the following projects on which procurement was completed during FY 51 and 52 will go forward. No additional dollar or counterpart funds will be needed during FY 53.

#### a. Northeast State Irrigation

MSA assistance here consisted only of furnishing four large drag-line excavators and some miscellaneous equipment to expedite the earthwork on three large irrigation projects and two flood control projects which have been under construction for several years. This equipment is on hand or on order and no dollar costs or counterpart will accrue in this year. Work is progressing on these projects with regular government funds.

#### b. Portable Pump Project (Northeast Region)

This consists of 30 pumping units furnished by MSA to be mounted on trucks or trailers furnished by the Thai Government to move from place to place in the Northeast region to supply supplemental water for irrigation. All but 2 of the pumping units are on hand and are now being assembled and prepared for use.

#### c. Portable Pump Project (Yom Nan Delta)

This consists of 2 large (24") pumping units furnished by MSA to be mounted on 2 barges furnished by the Thai Government to move from place to place along the Yom and Nan rivers pumping water from the river into the land in the delta area. The pumping units are on hand and the barges are being assembled.

d. Ditching and Diking

This consists of construction by machinery of small lateral ditches and control dikes between the large canals and supply streams in the central plains region. It will provide a much more stable control and use of water and will increase unit production in areas where work is done by 15 to 20 percent. MSA contribution to this is in the form of tractors and ditching machines which have already been supplied.

e. Petchburi Land Reclamation

This is primarily a Cooperative Project which is not yet under way. It consists of clearing, leveling and ditching for cultivation and irrigation of large areas of brush covered land in the Petchburi Irrigation Project area. Present tenants and landless farmers will be settled on the reclaimed lands. MSA assistance consists of furnishing 3 tractors and items of auxiliary land clearing and working equipment for the job. The tractors are on hand but auxiliary equipment has not arrived. However, it is on order so no dollar funds are required. Also no counterpart has been requested. Irrigation Department is in the picture as it was initially planned that the Department perform the actual clearing work. This, however, has not as yet been settled.

f. Ban Thuan Pump Project

This is a project to provide irrigation to 50,000 rai in Kanchanburi Province by using 2 large (30") pumps provided by MSA as a stationary installation in the Rangkok river. The pumps for this project are on order but will not arrive for installation this year.

B. Justification

The Northeast region of Thailand bordering on Laos, Viet Nam and Cambodia comprises about one-third the area of the country and contains about one-third of the population. It is an area of generally infertile soils, low agricultural yields, extremely critical water shortages during the dry season (December through March) and generally depressed economic and social conditions throughout. It is a fertile field for social and political unrest and is the gateway to all Thailand for infiltration from the northeast and north. The present government of Thailand is conscious of these conditions and of the past neglect of the region, and as one very potent means of improving the conditions has embarked on this irrigation program to alleviate the critical water shortage situation both for increased agricultural production and for domestic use. To move this program ahead at a rapid pace so benefits

can be achieved at an early date, the use of hand labor must be supplemented by the use of heavy earth moving equipment as the farmers themselves supply what labor is available and they are busy in the fields or in the harvest for eight months of the year. The projects under construction and planned are ideally suited for the use of heavy equipment. By supplying the equipment needed MSA will give a great lift to the improvement of the lot of six million people.

C. Results to be Obtained

In Tank Irrigation, projects now under construction will furnish supplemental irrigation to 170,440 rai when complete. 80,000 rai are expected to be ready for 1953 crop season. Other benefits are water for domestic use and livestock and fish breeding. This is a continuing program.

Portable pumps will furnish water for irrigation of 50,000 rai annually in the Northeast and 50,000 rai annually in the Yom Nan basin. Most of this will not be effected until the 1953 crop season.

Ditching and diking will give control over water supply to 100,000 rai during the 1953 crop season, increasing production by 20%.

This is a continuing project to continue annually until all areas of the Central Plains are covered. Approximately 200,000 rai will be completed annually from 1953 on.

Two thousand rai are expected to be cleared of brush and reclaimed for cultivation in Petchburi in 1953. This will continue from 1953 until 25,000 rai are reclaimed in this area.

D. Summary of Items to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Code 740 - Construction Equipment	44,000
Code 820 - Motor Vehicles	81,000
Code 680 - Hand Tools for N.E. Shops	15,000
Code 750 - Machine Tools for N.E. Shops	35,000
Ocean Freight	<u>21,500</u>
Total -	\$ 196,500

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Baht Value</u>
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See budgets attached to Counterpart Requests 7 and 34 heretofore submitted.

F. Summary Budgetary Expenses (Calendar Year 1952)

<u>Item</u>	<u>Baht Value</u>
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Northeast State Irrigation (Sam Ridi Plain Project only)	240,000
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Tank Irrigation	8,000,000
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Northeast Portable Pump Project	2,192,440
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Central Plains, Ditching & Diking	350,000
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Yon Nan Portable Pump Project	200,000
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Petchburi Land Reclamation	250,000
----------------------------	---------

Total -	<u>฿ 11,232,000</u>
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G. Technical Assistance (U.S. Specialists)

1. Number: 7 -- 3 now on duty.

2. General Objective of Assignment

To assist the personnel of the Royal Irrigation Department in advancing its irrigation program through direct action taken in performance of their duties and in teaching Thai personnel with whom they work the modern basic principles and methods of operation in their specific fields.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned

All will work with or be assigned to the Royal Irrigation Department, Ministry of Agriculture.

(b) Location or Hdqtrs. and geographical field of operations:

- (1) Senior Irrigation Specialist. Headquarters Bangkok. Field of operations all Thailand with large part of time in Northeast.
- (2) Design Engineers. Headquarters and field of operations & at Department Office, Bangkok. Occasional trips to
- (3) project sites.
- (4) Mechanical Engineer. Headquarters and field of operations in Department shops at Bangkok and Rangsit and Pakret.
- (5) Construction Equipment Operation Specialist. Headquarters Bangkok. Field of operations wherever equipment is working.
- (6) Construction Engineer. Headquarters Korat. Field of operations Korat office of Irrigation Department.
- (7) Design Engineer (Low Earth Dams). Headquarters Korat. Field of operations Korat office of Irrigation Department.

(c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

- (1) One Irrigation Specialist (Stanley I. Phillippi, THA-93-T) to correlate relations of the Department with the STEM program, to oversee work of other specialists and to act as special adviser and consultant on the irrigation program with special emphasis on the Northeast.
- (2) Two Design Engineers (August L. Ahlf and Maurice E. Day) whose chief duty is to supervise design on the
- (3) barrage and canal system and structures of the large Chao Phya Project but who will also assist in design of other projects as requested by the Thai Government.
- (4) One Mechanical Engineer (Position Vacant - THA-95-T) to act as Machine Shop Foreman to supervise operations of the machine shop which manufactures most of the mechanical parts required in the irrigation structures and repair parts for equipment.
- (5) One Construction Equipment Operation Specialist (Position Vacant - see job description attached) to assist in training men for the operation, maintenance

and repair of this equipment. In this it is planned that young men from technical schools will be given initial training in the engine operation and detailed schooling in maintenance in the equipment repair shop at Bangkok, then taken to the field to work with experienced operators at one of the projects under supervision of the specialist in actual operating circumstances until they are proficient enough to be put on as operators. They will continue to work for some time with the more experienced until able to take care of a machine themselves.

- (6) One Construction Engineer (Position Vacant - THA-94-T) to advise and consult on construction in the field in all phases of the construction work including dams, spillways, canals and auxiliary structures. Special emphasis is to be placed on construction of "Tank" projects in the Northeast.
- (7) One Design Engineer, Low Earth Dams (Position Vacant - see job description attached), to be stationed at Korat and to supervise the work of young engineers in the Korat office in design of dams, spillways and auxiliary structures for the Tank Irrigation Program.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

All assignments involve training to extent that all young engineers and technicians working with the specialists receive and absorb instructions and advice in the methods and techniques involved in carrying on the work. Total number directly affected and receiving training by this method probably exceeds 40 now and will increase as other positions filled.

- (e) Time Schedule

Desired starting date:

Phillippi, Ahlf, Day on duty; others desired soonest.

Desired duration of assignment:

All desired through FY 53. One Design Engineer, Chainat, may be dropped in FY 54. Others desired longer if program permits.



B. Related Activities of International Agencies

- (1) The International Bank for Reconstruction and Development has loaned \$16,000,000 for purchase of equipment and supervisory costs of Chao Phya.
- (2) ECAFE is giving some technical advice on flood control and hydroelectric power development.
- (3) No international agencies have assisted on MSA supported projects but ECAFE and FAO have encouraged them.
- (4) FAO has offered to furnish a water use engineer if requested.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

Irrigation Specialist assists Cooperatives Specialist and agricultural group in plans for small irrigation works.

IV. Remarks

None.

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

CONSTRUCTION EQUIPMENT OPERATIONS SPECIALIST, FSS-4, VACANCY

Part I - GENERAL STATEMENT

Under the direction of the Agriculture Officer and supervision of the Senior Irrigation Specialist, the Construction Equipment Operations Specialist will serve as advisor and instructor to Thai supervisory personnel in the training of operators and maintenance personnel for the operation and maintenance of all types of construction equipment. This will include advising and assisting in setting up and carrying on schools for operator training and in following through to on-the-job training at regular construction projects in the field. He will also assist in selection and programming use of equipment for special projects and in implementing a sound program of maintenance, repair and replacement of parts.

Part II - TASK LIST

A. Basic Operations Training

1. Assist in planning, implementing, and operation of special school for construction prime movers and allied equipment operators, supervisors, and trainee instructors.

- (a) Assist in preparation of curriculum and detailed master schedule for course devoted to practical instruction of heavy crawler tractors, heavy wheeled prime movers, and auxiliary and allied equipment, operation and preventative maintenance.
- (b) Select and devise training aids.
- (c) Select and recommend text and reference material for instructional uses.
- (d) General assistance in detailed operation of school to insure maximum practical instruction based on needs of the field.

B. Field Operations Training

1. On-the-job Training.

- (a) Assist in on-the-job instruction of field personnel in operation and maintenance techniques.
- (b) Assist in conduct of field training of equipment inspectors and supervisors on the job.
- (c) Assist in evaluating field effect of basic training activity and recommend necessary Basic Training School changes to improve and coordinate with on-the-job training activities.

C. General Technical Assistance to Thai Officials

1. Assist in preparation of operation plans for all types of construction equipment for use in construction programs, particularly in the Northeast.
2. Assist in development of preventative maintenance and service programs for equipment.
3. Periodic inspection service on equipment in use on the job to see that it is kept in good operating condition with particular reference to equipment used on the Tank Irrigation Program.

PART III - SPECIAL KNOWLEDGES, SKILLS, AND ABILITIES REQUIRED

1. Broad and thorough knowledge of utilization, operation, and maintenance of construction machinery as well as agricultural power and machinery equipment. Broad experience background both in operation and maintenance of heavy crawler tractors, wheeled prime movers, scrapers, bulldozers, winches, hoists, etc. Minimum of 2 years as instructor in practical operation of all types of tractors and allied equipment. Graduate engineer degree in a field of power and machinery for agriculture and construction is desirable. A minimum of ten years experience in construction machinery maintenance and operation or operator training with at least five years in responsible charge of important work.
2. Be willing to travel extensively throughout the rural areas of Thailand where food, housing, and health conditions are below American standards.
3. Physically fit and able to withstand physical hardships.
4. Able to express himself clearly and concisely; orally, in writing, and where applicable by demonstration.
5. Able to cooperate and work with Thais having little practical experience in overall operation activities of construction and agricultural machinery and equipment.

## DESIGN ENGINEER, LOW EARTH DAMS, FSS 3, VACANCY

### Part I - GENERAL STATEMENT

Under the direction of the Senior Irrigation Specialist and in consultation with the Thai Engineer in Charge of the Tank Irrigation Program, the Design Engineer, Low Earth Dams, will supervise the engineering activities of the Tank Irrigation Design Office in the Regional Headquarters of the Royal Irrigation Department at Korat (Nakorn Rajisima).

### Part II - TASK LIST

1. Supervise and direct all activities of the young Thai engineers in the Tank Irrigation Design Office at Korat relating to the layout and design of the various tank projects. This includes:

- a. Review and evaluation of field surveys.
- b. Evaluation of hydrological information.
- c. Layout of project.
- d. Design computations.
- e. Design of dams and appurtenant structures.
- f. Tabulation and recording pertinent design data.
- g. Preparation of initial cost estimates.

2. At all times endeavor to train effectively the Thai engineers in the basic and practical methods and procedures to be followed in general design work.

3. Correlate design activities with construction in the field so best results can be obtained.

### Part III - SPECIAL KNOWLEDGES, SKILLS AND ABILITIES REQUIRED

1. Must be a graduate civil engineer with a thorough technical and practical knowledge of design of earthfill dams up to 50 feet in height. Must have had at least ten years' experience in civil engineering design and construction work with at least three years in responsible charge of important projects.

2. Must have the personality and temperament to work in complete harmony with the Thai people. This is a primary requisite.

Design Engineer, Low Earth Dams, FSS 3 , Vacancy

Part III - Special Knowledges, Skills and Abilities Required, Continued

3. Must be willing to live at Korat where only a few Americans are stationed (currently four families of MAAG and STEM plus three missionary families), and living conditions are not the equivalent of Bangkok. (Expenses, however, are considerably less.) It is to be noted that there is daily train service to and from Bangkok, and bi-weekly plane service. Also, MAAG planes are available for emergencies.

4. Must be physically fit and active.

5. Must be able to express himself clearly and concisely, orally and in writing, and by demonstration.

## INSERVICE TRAINING IN GROUND WATER DEVELOPMENT

A. PROJECT DESCRIPTION

A project for inservice training for a period of 12 months in the United States for 6 technicians of the Royal Irrigation Department with the United States Geological Survey, the U.S. Bureau of Reclamation or other Federal, State or private agencies in the field of ground water research and development.

B. PROJECT JUSTIFICATION

1. Thailand's ground water development problems are those of any country faced with a critical surface water shortage for a large part of the country during a considerable part of each year plus the facts that (a) so far nothing has been done in this field and (b) there are no trained personnel qualified to initiate and carry on program of investigation and development. Except for local shallow wells in scattered farming communities and villages which supply a part of the immediate domestic needs all attention so far has been directed toward use and development of surface flow for all purposes, agricultural, domestic, and industrial. For this reason any program of ground water development planned for the future, must, in effect, be started from scratch.

2. The need for some such program becomes quickly obvious to any person who may have occasion to make a study or survey in northeast, southeast or southwest Thailand, be the survey in connection with agriculture, industry, public health, social life, economics or politics. All comprehensive reports of United Nations Agencies on agriculture in Thailand stress this need. The government itself is cognizant of the need but the stress of more urgent considerations has delayed any action in this field in the past. In the Northeast Region for example where water shortage during the dry season is most critical it was considered more practical to first get a sound program under way to utilize, conserve and store known larger quantities of surface flow before starting on development of unknown but probable ground water resources. Since the larger programs are now under way plans for the other are being made.

3. Concerning such plans the first step to be taken is the training of personnel. After personnel have been trained a program of operations would follow. To initiate the program the Director General of the Royal Irrigation Department in consultation with the Irrigation Specialist of STEM has proposed that part of the funds in the STEM 1953 budget for technical assistance be utilized for one year of comprehensive training in the United States in the field of ground water development for a team of 6 selected men of the Department with the purpose in mind that this team will return to Thailand and form the nucleus of a new Ground Water Development Unit or Section in the Department. This unit would then initiate and carry on the program. This group would include, besides a leader with a background in hydrology, one additional man with a background in hydrology, two men with backgrounds in geology and two men with mechanical engineering backgrounds.

4. A recommended team for training in the United States in Ground Water Development follows.

a. Chief of party (1 man)

To be an older or more experienced man, a University graduate with at least 6-7 years service with the Department and who has a basic knowledge of both geology and hydrology and whose principal work has been in hydrology. Should have had practical experience in the field (i.e., outdoor work) in irrigation engineering work and should have a desire to make ground water development his future field of operations.

b. Hydrology member of party (1 man)

Should be a University graduate with a basic knowledge of geology but with a more advanced knowledge of hydrology preferably having majored in this subject. Should have been with the Department at least 3 or 4 years and have worked in the hydrology section with a good part of that time having been spent in the field.

c. Geology members of party ( 2 men)

Should be University graduates with a basic knowledge of hydrology but with a more complete knowledge of geology, preferably having majored in that subject. Should have been with the Department at least 3 or 4 years in a field of work where his knowledge of geology would have been put to practical use.

d. Mechanical engineer members of party (2 men)

May be University graduates or graduates of a lesser school but must have a well founded and practical knowledge of mechanical engineering principles. Should have been with the Department at least 3 or 4 years, preferably with the mechanical division or in the construction division in a capacity where mechanical knowledge is essential to carry out the work.

5. Training should cover all phases of ground water development possible, including:-

a. Relation of geology to ground water with particular emphasis on (1) water bearing capacities of various types of rocks and soils, (2) productive capacities of these, (3) flow of ground water through various types of rock formation including directional flow patterns in relation to different strata, (4) effect of geological materials on composition of water.

b. Precipitation and its effect on ground water. This includes rainfall-runoff relationships and percolation into various soils from various rainfall intensities and durations.

- c. Relationship of topography of terrain to or its influence on ground water supply.
- d. Plants as indicators of ground water.
- e. Determining or estimating ground water probabilities from the above.
- f. Economic uses of ground water in agriculture, industry, and for domestic supply.
- g. Artesian development in proven artesian areas.
- h. Well drilling methods and types of equipment used including costs of equipment and costs of drilling.
- i. Pumping methods and types of equipment used, including costs for various lifts and types of equipment.

6. Training of the hydrology and geology members of the team would be primarily in those fields noted in paragraphs 5a to 5g above. It should also include however enough of the basic principles of drilling and pumping to familiarize them with the basic problems of putting down wells, so it is proposed that they be given some of the training outlined for the mechanical engineers, specifically that shown in paragraph 7, a(3) and (4) below and observation of actual drilling with various types of equipment as noted in 7,b below and also the observation of results of drilling noted in 7,c below. This last phase of training may well be made as a team project wherein many basic questions might arise which could be discussed and cleared with the group.

7. It is proposed that the training of the mechanical engineers include, but not necessarily be confined to, the following:

- a. Preparatory instruction and laboratory work (6 to 8 weeks)
  - (1) Composition of rocks and soils to aid in determination of equipment to be used and in logging holes dug or drilled.
  - (2) Simple methods of water analysis.
  - (3) Introduction to drilling methods showing:
    - (a) Types of equipment used for drilling various materials and principles on which each works.
    - (b) Why it is used.
    - (c) Methods of selecting proper equipment for the work to be done.
    - (d) The uses of compressed air, water jets, etc.
    - (e) Logging the well.
  - (4) Completing the well
    - (a) Setting casing
    - (b) Types of casings or well walls.
    - (c) A study of the principles of operation of different types of pumps.
    - (d) Selection of the pump.
    - (e) Seating and testing the pump.

b. Training in actual drilling operations in the field  
(8 months)

The time in the field should be spent in following through on actual drilling operations and principles learned in the preparatory courses. This should include learning actual operation of equipment by handling the equipment themselves. Such training should be given in the use of the various types of drilling equipment including that for driven, and jetted wells, drilled wells using rotary or percussion methods with air or water jets, setting of casing and all other of the auxiliary jobs that go into drilling a well. The whole process from selecting and assembling equipment for the job to seating and testing the pump should be followed through on several different types of wells in different types of formation, for different depths and for different purposes.

During this period the trainees should be given instruction and training in equipment maintenance, in ordering supplies for planning operations ahead, in logging the results of the drilling and in determining costs for drilling in the different categories of wells and equipment.

c. Observation of drilling and results of drilling in  
the U.S. (2 months)

This should include:

- (1) Observation of oil and gas well drilling.  
(Note: Since no exploration has been made in Thailand no one knows what might be encountered).
- (2) Visit to and study of proven artesian basins in the U.S.
- (3) Observation of deep well irrigation in California.
- (4) Some industrial or city water supply wells and pumping installations.

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Cooperatives

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>51,000</u>
Technical Assistance (Specialists) (4)	\$ <u>40,000</u>
Trainees to U.S. (9)	\$ <u>48,000</u>
Total	\$ <u>139,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>          </u>
Extraordinary Non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>3,500,000</u>
Total	฿ <u>3,500,000</u> <sup>1/</sup>

C. Governmental Budget

Ordinary Expenditures	฿ <u>          </u>
Extraordinary Non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>          </u>
Total	฿ <u>90,191,103</u> <sup>2/</sup>

<sup>1/</sup> Does not include proposed Counterpart Loan described under Item II. A. 3. below.

<sup>2/</sup> For detail see Item II. F. below.

## II. What the Project Consists of

### A. The Cooperatives Project described herein covers the following items:

#### 1. Cooperative and Economic Training.

Continue aid to Cooperative training and promotion program.

Equip new training division with mobile unit, projectors, screens, cameras, duplicators and the like. Activities in Bangkok and country at a cost of \$10,000.

Furnish technical assistance to the School of Cooperative and Economic Sciences (present enrollment 60), and for in-service and pre-service training in the Ministry of Cooperatives (1,500 employees). Activities in Bangkok and country at a cost of \$10,000.

Send three trainees for foreign study and observation. One in training techniques, to European countries; one in consumer cooperation, to the United States and Japan, and one in agricultural economics to the United States at a cost of \$18,000.

#### 2. Land Development and Improvement for increased farm production and farm welfare in Cooperatives Department of Land.

Supplementary repair and maintenance equipment will be supplied at a cost of \$5,000 to complete 7 repair units requested in the 1952 program. Three of the units will be mobile, two will be in the Northeast where land development equipment is being used and two will be at points in the Central Plains where cooperative equipment is in use.

80 small low head pumping units will be supplied for demonstrating the benefits of continuous water supply and the practicability of this type of pump at a cost of \$36,000. 50 of them will be located in the Northeast region. 30 will be located throughout the country where water supply is a limiting factor in production. They will be distributed through the cooperative system for cooperative use by farmers.

Counterpart grants in the amount of \$3,500,000 will be made for construction of equipment and employee housing facilities and for certain temporary operating costs in the Northeast and Central Plains. This supplements the maintenance, repair and operation of equipment furnished in the 1952 program.

Two Technical Assistance Specialists will be furnished, one for land development planning and one in the use and maintenance of land equipment at a cost of \$15,000.

Three trainees will be sent for U.S. study and observation; one in land district organization, one in land development engineering and one in land equipment use and maintenance at a cost of \$18,000.

3. Credit and Cooperative Bank Demonstration.

Counterpart loans will be requested for two District Cooperative Banks at Uttaradit and Chiangmai to supplement their capital resources in view of insufficient funds availability from the Central Bank for Cooperatives to afford a fair demonstration of the practicability of this new system. \$5,000,000 will be allocated to Chiangmai and \$3,000,000 to Uttaradit.

Counterpart loans will be requested for four amphur farm credit demonstrations at \$2,000,000 each. Locations to be determined. This amount is expected nearly to saturate the supply of credit in the communities selected but may need to be supplemented in future years. Emphasis will be on loan service and productivity.

One Technical Assistance Specialist is now on duty at a cost of \$15,000. He will furnish advice with respect to the establishment and operation of these demonstrations.

Three trainees will be sent to the U.S. for study and observation; one will go as delegate to the International Credit Conference at the University of California and the other two will study credit and banking systems and methods at a cost of \$12,000.

B. Justification

1. There are more than 1,500 employees in the Ministry of Cooperatives and this number will be considerably increased with the recent raising of Cooperatives from Departmental to Ministry status. Many employees have never had any special cooperative training and many more have only had narrow training in banking methods and principles. The normal breadth of cooperative work and changing policy and practice requires continual in-service training. The lack of sufficient school facilities requires that pre-service training in cooperative principle and practice be given. The present meagreness of school facilities requires that these be expanded and that their curricula and course content be broadened and made more accurate. Such improvement, however, must be based on economic information in Thailand. Very little agricultural economic study and analysis has been carried on so far. For further background information and justification refer to the general Report on Cooperatives, prepared by Richard Pringle, dated November 1951.

2. Thailand is a country of large undeveloped resources and low unit productivity. The program for land development and improvement will directly increase production through increasing land area and yields as rapidly as men and machinery can complete the work of installation and improvement. Paddy yields are extremely low, averaging 200 kilograms per rai. Wages of farm labor are relatively high, estimated 30 times pre-war. Mechanical skill is low, particularly in country areas and intensive supervision and training are required. Irrigation is only partly under control and wide fluctuations in paddy yield occur in many areas because of the vicissitudes of the weather.

The Land Cooperative Ministry has had 15 years experience with various land development programs and has several well conceived

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and carefully planned projects for cooperative promotion. The aid program is aimed toward giving assistance with the most promising of these.

Population is expanding at a rate of 2.2% per year to make approximately 50,000 new farm families each year. Little land use and development planning has been done to date, although there are numerous governmental programs bearing on the land problem.

3. The cooperative farm credit system in Thailand which was begun 36 years ago has never been able to affect materially the overall credit situation despite excessive interest rates generally prevailing and despite intensive effort by governmental cooperative employees. The wartime inflation of at least 15 times has reduced the effective size of cooperative loans, and only limited amounts of new capital can be secured from usual sources. Farmers who are in need of credit cannot initially furnish their own capital. The proposed projects would both hasten the accumulation of farmer owned and controlled share capital and reserves and alleviate intolerable economic and social conditions among farm people. No country with conditions similar to Thailand's has ever satisfactorily solved the farm credit problem. A test demonstration type of project is therefore proposed. For further background information on the cooperative credit system and its problem refer to the general Report on Cooperatives mentioned above in Item II. B. 1.

The curriculum of the School of Cooperative and Economic Science will be broadened and course content will be improved to make for more practical training. Enrollment will be expanded to meet growing needs for men trained in agricultural economics. Study and analysis of Thailand problems and situations will be promoted.

2. The repair units along with the technical assistance provided will provide for adequate maintenance of 25 tractor units, 16 truck units, 31 large and 80 small pumping units supplied by MSA and many other items of equipment.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Repair Units (part of request initiated in 1952 program). See FR 281, PR 93-680-00-309-3001.	5,000
Visual aid equipment for training and cooperative promotion. Will include mobile unit, projectors, screens, cameras, typewriters, duplicators, etc.	10,000
80 small low head irrigation pumping units	36,000
Total -	<u>\$ 51,000</u>

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Baht Value</u>
<u>Cooperative Land Development</u>	
8 storage sheds for tractors, trucks, etc.	194,000
3 rest houses for equipment operators & field officers	30,000
Road construction Petchburi, 8 km.	178,200
Fuel and repairs, 1952 <sup>1/</sup>	35,000
4 motor trucks for supply	280,000
Workmen and mechanics' wages, 1952 <sup>1/</sup>	132,300
Cadastral survey	15,000
Materials for pump bases	7,200
Total -	<u>฿ 871,700</u>
<u>Northeast Tank Irrigation Cooperatives</u>	
14 tractor sheds	320,000
16 truck sheds	420,000
14 fuel storages	147,000
14 rest houses for field workers	595,000
Inspection motor vehicles	75,000
16 truck bodies and canvases	80,000
Total -	<u>฿ 1,637,000</u>
<u>Central Plains Irrigation Pumps</u>	
20 pump stations and fuel storages	520,000
10 rest houses for field workers	312,500
Inspection boat without engine	40,000
Construction 20 pump bases	118,800
Total -	<u>฿ 991,300</u>

GRAND TOTAL - ฿ 3,500,000

<sup>1/</sup> Until Jan. 1, 1952. It is expected that these costs will be absorbed thereafter in the governmental budget.

F. Summary Budgetary Expenses (Calendar Year 1952) <sup>1/</sup>

	<u>Non-Capital</u>	<u>Revolving Funds</u>
Department of <del>Credit</del> <sup>Land</sup>	1,854,970	6,471,163
Department of <del>Land</del> <sup>Credit</sup>	1,679,970	80,000,000
Division of Promotion and Training <sup>2/</sup>	85,000	-
Division of Economics <sup>2/</sup>	100,000	-
	<u>3,719,940</u>	<u>86,471,163</u>

GRAND TOTAL -- 90,191,103

<sup>1/</sup> Includes supplemental budget request.

<sup>2/</sup> Estimated.

G. Technical Assistance (U.S. Specialists)

1. Number: 4

- (1) Agricultural Economist, Richard Pringle, now on duty.
- (2) Associate Agricultural Economist
- (3) Land Development Economist
- (4) Land Equipment Specialist

2. General Objective of Assignment

- (1) Advise and assist with cooperative credit and marketing and supervision of the program in agricultural economics.
- (2) Advise and assist with the school and government in-service training in cooperative and agricultural economics.
- (3) Advise and assist with land development and study and analysis of land economic problems.
- (4) Advise and assist with the use and maintenance of equipment used on the land.

3. Description of Assignment

(a) Department, ministry or other body to which experts are to be assigned:

- (1) Ministry of Cooperatives; Kasetsart University
- (2) Ministry of Cooperatives; School of Cooperative and Economic Sciences
- (3) Ministry of Cooperatives, Department of Land
- (4) Ministry of Cooperatives, Department of Land

(b) Location or Hdqtrs. and geographical field of operations

- (1) Bangkok and country
- (2) Bangkok, Bangkok and country
- (3) Bangkok and country
- (4) Bangkok and country

(c) Detailed description of specific functions (job description).  
If specific individuals or specific background or experience  
are desired, so state and explain reasons:

- (1) See Job No. THA-98-T. Mr. Pringle now on duty.
- (2) See attached job description. Position not yet classified.
- (3) " " " " " " " "
- (4) " " " " " " " "

(d) If assignment involves specifically the training of Thai  
personnel, describe type and numbers of such personnel and  
type of training:

See job descriptions

(e) Time Schedule:

Desired starting date:

- (1) Now on duty
- (2) Soon as possible
- (3) " " "
- (4) " " "

Desired duration of assignment: 2 years

4. Thai Counterpart

Nai Pongse Srivatana - Registrar of Cooperatives  
Phra Picharn Panich - Dean, School of Cooperative and Economic  
Sciences; Manager, Bank for Cooperatives  
Pantoom Thisyanandol - Secretary, School of Cooperatives  
Phra Te Wan - Cooperatives Land Department  
Manu Viriyanon - Chief, Division of Land Improvement  
Theb Sayinon - Chief, Division of Land Colonization  
Khun Varoon - Chief, Division of Land Hire-Purchase  
Nai Cheua Vayavananda - Director General, Department of  
Cooperative Credit  
Nai Theb Semthiti - Chief, Division of Training and Promotion  
Nai Thanu Satraphai - Chief, Division of Economic and Foreign Affairs

H. Trainees

1. Number of trainees to be sent to USA: 9

2. Description of Training:

1. Credit Conference Delegate - to attend International Credit Conference and study foreign farm credit systems.
2. Cooperative Training and Promotion - to learn educational methods and techniques used in training cooperative officers and committeemen and for promotion of the cooperative movement.
3. Cooperative Economic Survey and Analysis - to learn methods of making and analyzing economic survey data and farm management.
4. Cooperative Credit and Banking - to study and observe credit and banking systems in foreign countries.
5. Local Credit Systems and Loaning Methods - to learn local credit and banking methods and practices.
6. Organization and administration of conservation and irrigation districts - to study and observe the administration, organization and management of conservation and irrigation districts.
7. Land Equipment Engineering - to learn use, repair and maintenance of land equipment.
8. Land Development Engineering - to study land development engineering methods, including land surveying.
9. Organization and Management of Consumer Cooperatives - to study and observe the organization and management of the consumer and farm purchasing cooperatives.

3. (a) General Objective of Proposed Training in USA:

See Item H.2. above.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

When Firm Requests are prepared, specific training requests will be entered thereon.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

Generally, one year. This information will appear on the Firm Requests when prepared, and is subject to Washington approval.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Bachelor's degree or equivalent experience in cooperative work. Minimum 5 years experience. Minimum Grade III officer engaged in same or similar work. Return to position in Cooperative Ministry for which training is given. Good spoken and written English required. Age - minimum 30 years.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects:

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The Ministry of Cooperatives is engaged in a long range educational, promotional, supervisory and operational program to aid farm people through farm cooperatives with credit extension and land development and improvement projects. The Credit program was begun in 1916 and there are now over 8,000 local credit societies registered throughout the country. The land development work was begun about 15 years ago. There are now a total of 99 such cooperatives with a membership of 3,179 families, occupying 46,000 acres of land. Five year plans of the Ministry provide for expanding credit cooperatives at the rate of 800 per year if adequate capital funds are available and for expanding land development work in five colonization areas and 16 land improvement and land hire purchase areas.

Part of the credit program is carried on in coordination with the quasi-governmental Bank for Cooperatives which currently loans to credit cooperatives approximately B140,000,000 and plans to expand as capital is available.

The Ministry of Interior, Department of Public Health and Welfare, also carries on land development work in its self-help settlements.

B. Related Activities of International Agencies

The FAO is furnishing technical advice in cooperative marketing in the Ministry of Cooperatives. Marketing cooperatives are organized on a base of credit cooperatives. Securing adequate capital funds is a problem with both.

C. Related MSA Activities (State relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

The land improvement and development work is carried on in coordination with Irrigation Department activities. Cooperatives are usually organized and land improvements made following basic irrigation developments which are being aided by MSA. In the Northeast region the tank irrigation dams are constructed by irrigation and the cooperative organization and improvement follows.

The technical training work with the School of Cooperative and Economic Sciences is in coordination with Kasetsart University of which the School is part.

IV. Remarks:

None



APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

ASSOCIATE AGRICULTURAL ECONOMIST, FSS 4, VACANCY

Part I - GENERAL STATEMENT

Under the direction of the Agriculture Officer, and supervision of the Agricultural Economist, with considerable latitude for independent action and decision, advises and assists in development of the School of Cooperative Sciences in the Agricultural University and in-service training programs and courses for the Ministry of Cooperatives.

The program in agricultural economics is designed to increase and improve training in this field and to aid and assist the Thai Government in determining more effective plans for agricultural development. The School of Cooperative Sciences is the only institution in Thailand teaching agricultural economics and is therefore an essential basic training ground for agricultural development. The Ministry of Cooperatives is engaged in a broad educational and supervisory program with over 200,000 members in credit, marketing and land development. Most of its 1500 employees are young men in field offices with limited experience and partial training for their jobs.

Part II - TASK LIST

1. Works in close cooperation with leaders and instructors in the Faculty of Cooperative Sciences of the Agricultural University, toward the development of an improved course in Agricultural Economics.
  - a) Aids in the full integration of the present Faculty of Cooperative Sciences with the University.
  - b) Encourages and assists with the development of a coordinated and broadened curriculum for the College.
  - c) Advises and assists with the determination of course content, preparation of course material and introduction of effective teaching methods.
  - d) Advises and assists with projects and programs for research and extension in Agricultural Economics. Assists with field investigations and surveys in cooperation with Thai specialists. Advises with appropriate analyses.
  - e) Advises with regard to the need for aid materials and equipment and assists with preparation of budgets and requests.
2. Aids and advises the Division of Promotion and Training in the Ministry of Cooperatives.
  - a) Assists with development and implementation of in-service training programs.

- b) Assists with development of new employee short courses.
  - c) Assists with development and carrying out cooperative promotion campaigns.
  - d) Assists with regard to the need and procurement of aid materials and equipment for cooperative training and promotion.
3. Carries out activities in keeping with Mission policy and purpose.
- a) Advises Thai specialists who are assigned to him with particular consideration to training them in agricultural economics.
  - b) Assists with activities insofar as practicable in project form and prepares project statements for review and approval of proper Governmental and Mission authority.
  - c) Prepares reports, regular and special, as required by STEM.

Part III - SPECIAL KNOWLEDGES, SKILLS AND ABILITIES REQUIRED

Wide knowledge in the field of agricultural economics; ability to plan curriculums and teach in agricultural economics and to prepare and conduct economic surveys, investigations and analyses; and skill in written and oral presentation are required. A general knowledge of farming, agricultural materials and equipment and the educational aspects of working with people are also necessary.

Should have at least 5 years experience in teaching or extension agricultural economics or equivalent and not less than 10 years total agricultural experience.

LAND DEVELOPMENT ECONOMIST, FSS-4, VACANCY

Part I - GENERAL STATEMENT

Under the direction of the Agriculture Officer and the supervision of the Agricultural Economist, advises with problems of land use and land development, giving particular attention to the Ministry of Cooperatives, Department of Land programs for land settlement and improvement.

Part II - TASK LIST

1. In close cooperation with the officials in the Cooperative Department of Land, works for improvements in the program.
  - a. Advises and assists in economic analysis of present and future projects for land settlement and improvement.
  - b. Advises in the administration and supervision of land development projects.
  - c. Encourages thorough and careful planning and execution of land development with emphasis on productivity.
2. Advises with training in land use and development.
  - a. Encourages and assists with inservice training courses in land development problems for all government employees concerned.
  - b. Advises and assists with undergraduate courses in land economics.
3. --- Advises and promotes research in land economic problems.

Part III - SPECIAL KNOWLEDGES, SKILLS AND ABILITIES REQUIRED

∟This section will be completed at time Firm Request is submitted for this position.∟

LAND EQUIPMENT SPECIALIST, FSS 5, VACANCY

Part I - GENERAL STATEMENT

Under the direction of the Agriculture Officer, administrative supervision of the Agricultural Economist assigned to the Cooperative Ministry and technical supervision of the Mission's Agricultural Engineer, advises and assists with training programs for the use, maintenance and repair of machines and equipment operated by the Ministry of Cooperatives and the cooperatives under its jurisdiction.

The Department of Land Development in the Ministry of Cooperatives is engaged in fostering large-scale cooperative settlement and land improvement schemes designed to increase agricultural production and alleviate land tenure problems. Sizable inventories of machinery are maintained by the Ministry and made available to the cooperatives on a rental basis. Because of the lack of mechanical experience and ability in the cooperatives themselves the Ministry must take responsibility for use and repair of equipment.

Part II - TASK LIST

1. Technically advises and assists the Land Development Department of the Ministry of Cooperatives in:
  - a) Development of training programs in machine and equipment use, maintenance and repair.
  - b) Set up and operation of mobile and stationary maintenance and repair units.
  - c) Determination of practical use conditions and operation of pumping, clearing, dyking, ditching and tillage equipment on the land.
  - d) Preparation of machine and equipment specifications for order and purchase.
  - e) Supervision of equipment use in the field.
2. Technically advises and assists Thai personnel assigned to him, working with them in the field on a practical on the job training basis.
3. Prepares regular and special reports of problems, situations and work accomplished as required.

Part III - SPECIAL KNOWLEDGES, SKILLS AND ABILITIES REQUIRED

General knowledge of machine operation, maintenance and repair and specific knowledge of the use of clearing, dyking, ditching, pumping and tillage equipment on the land are required. Skill in the handling and repair of such equipment is necessary. Ability to work on an educational and cooperative level with Thai personnel is important. Should have at least three years experience in actual operation of dirt moving and tillage equipment of various kinds and a minimum of five years experience with land development or conservation work.

GOVERNMENT OF THAILAND-MSA PROGRAM

July 1, 1952 - June 30, 1953

MAJOR PROJECT CATEGORY: AGRICULTURE, FORESTRY, FISHERIES

PROJECT TITLE: AGRICULTURAL EXTENSION

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ 246,600
Technical Assistance (Specialists) - 5	\$ 45,000
Trainees to US - 3	\$ 18,000
Joint TG-MSA Information Project*	\$ 40,000
Total	\$ 349,600

\*See Project write-up for "Information"

B. Counterpart Funds Required

Ordinary Expenditures	฿ 2,964,000
Extraordinary Non-Capital Expenditures	฿ --
Extraordinary Capital Expenditures	฿ --
Total	฿ 2,964,000

C. Governmental Budget

Ordinary Expenditures	฿ 4,204,880
Extraordinary Non-Capital Expenditures	฿ 4,924,886
Extraordinary Capital Expenditures	฿ 2,258,000
Total	฿ 11,387,766

II. What the Project Consists of:

A. Description of the Project

The Extension Project described herein covers the following items:

1. Conduct four joint TG-MSA pilot extension projects in the chungwads of Chiangmai (North), Lopburi (Central), Ubol (Northeast) and Chacherngsao (East) at a cost of \$51,600. The Chacherngsao project will be assisted by FAO technical personnel.
2. Assist the Thai Government in a joint TG-STEM-FAO project in standardizing and improving rubber production techniques at a cost of \$70,000.
3. Conduct training courses at Kasetsart University for agricultural officers in modern extension methods designed to teach farmers the principle of self help through extension demonstration tours, meetings, and other appropriate educational methods.
4. Strengthen the over-all agricultural extension program by developing the Central Office of Extension and bringing the principles developed in the four pilot projects to agricultural officers throughout the Kingdom. One of the features of this phase of the program will be fertilizer demonstrations with emphasis on rice at a cost of \$125,000.
5. Provide Baht 2,964,000 from the Counterpart Fund for the local currency support of the above.
6. Continue the services of Howard W. Ream as Extension Advisor and Darwin D. Solomon as Agricultural Extension Specialist and provide the services of two additional Extension Specialists (one for Lopburi and one for Ubol) and one additional Agricultural Extension Information Specialist at a cost of \$45,000.
7. Send three TG officials from the Extension Division of the Ministry of Agriculture to the US for observation and study at a cost of \$18,000.

B. Justification

The most important single deterrent to increased agricultural production in Thailand is the lack of education and training on the part of farmers in the use of good farm practices, proper land utilization and improved methods of soil, crop, and livestock management. Until such time as a system of communication and education based upon the principle of helping farmers to help themselves is developed, the effects the Thai Government will have

in improving agriculture will be decidedly limited. The development of such a system is dependent upon training a staff of agricultural workers in effective methods and techniques of reaching and training farmers to use better training methods, improve the home and raise their children to appreciate the opportunities in agriculture and to teach them to become good citizens. The objective of this project is to train a staff of Thai agricultural workers so they can carry the training to other agricultural officers in the future.

C. Results to be Obtained

1. Increased production of agricultural products through the adoption of better farming methods and improvement of the general welfare of the farm family.
2. Provide the nucleus of a staff of agricultural officers trained in modern agricultural extension methods involving teaching farmers in the principle of self help.
3. Instruct in better knowledge of the value of fertilizer for increased production as part of the overall agricultural production program.
4. In the pilot projects bring county agent type extension work to about 60 chugwad and amphur agricultural officers and about 100,000 farmers directly and indirectly.
5. Teach about 120 additional agricultural officers at the Extension Training Center at Kasetsart University.
6. Advise and assist the Central Extension Office on the preparation and distribution of extension material so that it may most effectively reach and interest the farmer.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
770, 880 (Agricultural equipment, tools, etc.) <sup>1/</sup>	\$ 46,600
230, 233, 235 (Fertilizer)	125,000
120 (Seed)	5,000
780 (Pilot Rubber Plant) <sup>2/</sup>	70,000
	<u>\$246,600</u>

<sup>1/</sup> FR 346 - Visual Aids Equipment - \$6,600 already submitted  
FR 352 - Laboratory Equipment - \$15,000 already submitted

<sup>2/</sup> FR 370 - Rubber Laboratory Equipment - \$70,000 already submitted

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
Office furniture, supplies and printing expenses	360,000 $\frac{1}{2}$
Building construction	960,000
Pumps, boats, etc.	140,000
Persornel	678,000 $\frac{1}{2}$
Labor	126,000 $\frac{1}{2}$
Travel and transportation	154,000
Agricultural materials, seeds, etc.	80,000
Training courses	416,000
Miscellaneous	50,000
	<u>2,964,000</u>

$\frac{1}{2}$  Until Jan. 1, 1953. It is expected that thereafter these items will be included in the governmental budget.

F. Summary Budgetary Expenses (Calendar Year 1952)

<u>Item</u>	<u>Value (Baht)</u>
Department of Agriculture budget for Extension Service	11,387,766

G. Technical Assistance (U.S. Specialists)

1. Number: 5

2. General Objective of Assignment

One Agricultural Extension Advisor to assist in the development of an overall extension program. Now on duty.

Three Agricultural Extension Specialists (one now on duty at Chiangmai, one to be located at Lopburi, one to be located at Ubol) to demonstrate modern agricultural extension methods and train Thai agricultural officers.

One Agricultural Information Specialist to assist in developing an agricultural extension information program for Thailand.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

Department of Agriculture

(b) Location or headquarters and geographical field of operations:

Extension Advisor and Agricultural Extension Information Specialist to be headquartered in Bangkok but will give assistance as needed in all parts of Thailand.

One Agricultural Extension Specialist to be located at Chiangmai, one at Lopburi and one at Ubol.

FAO has supplied one Agricultural Extension Specialist at Chacherngsao and MSA is furnishing materials, equipment and assistance.

(c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See job descriptions acknowledged MSA/W MUSTO A-109.

See job descriptions for following TA personnel now on duty:

Howard W. Ream, THA-100-T, Extension Advisor  
Darwin D. Solomon (no number yet assigned), Agricultural  
Extension Specialist

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Concentrated on-the-ground training to be given to 60 chungwad and amphur agricultural officers in four agricultural extension centers.

Specialized training courses to be given to an additional 120 agricultural officers at Bangkok and at the four agricultural extension centers.

(e) Time Schedule:

Desired starting date: In operation in 2 centers, Chiangmai and Chacherngsao. Propose starting at Lopburi and Ubol in October 1952.

Desired duration of assignment: Continuous.

4. Thai Counterpart

Director and deputy director of Agricultural Extension Division to work with Agricultural Extension Advisor.

4. Thai Counterpart (Continued)

One counterpart now available to work with Agricultural Extension Information Officer.

Twelve chungwad and 48 amphur agricultural officers to work with MSA and FAO Agricultural Extension Specialists in the four centers to be assigned but presently available.

H. Trainees

1. Number of trainees to be sent to USA

Three

2. Description of Training:

Special course being arranged by MSA Washington.

3. (a) General Objective of Proposed Training in USA and Hawaii:

To observe and receive on-the-job training in agricultural extension methods and to study the organization and administration of extension work.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

First priority to on-the-job training with U.S. or Hawaiian county agents on how to plan and organize an extension program for an area; how to teach farmers to help themselves; how to conduct effective demonstrations, tours and meetings; how to develop youth and homemakers programs; and the most effective methods and techniques in getting technical information across to farmers.

Second priority to training in the overall organization objectives and administration of extension work.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

To be arranged by MSA Washington but our suggestion is to spend at least 3 to 3½ months of a 4-month period on the first priority above.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Should have at least three years experience as an agricultural officer and have had the equivalent of a high school education or have at least one years experience as an agricultural officer and be a graduate of Kasetsart University.

Trainees should be presently employed by the Division of Extension or have special aptitudes for extension work. Only those who will be assigned to do extension work upon their return should be given this training.

(b) Proposed utilization of trainees upon completion of training:

Director of Extension to receive training and upon return assist in strengthening the extension organization based upon knowledge acquired.

Two agricultural officers to return to chungwads and train amphur agricultural officers.

5. Specific Assignment upon Return:

See above.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The Thai Department of Agriculture has in the past carried on reporting and materials distribution operations through agricultural officers. Little has been done to serve the farmer or to teach him improved agricultural production techniques. With the aid of MSA and FAO a four year plan has been developed which is designed to strengthen the extension service and advance the principle of self help by farmers through service rendered by Government.

B. Related Activities of International Agencies

FAO has made the assistance of Dr. Chang, Far East Regional Extension Officer, available part time to assist in developing overall plans and has assigned Dr. Frank Dickinson to work as Agricultural Extension Specialist at Chacherngsao.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

Agricultural extension is tied closely with research and education as the foundation of an agricultural production program which is the major task of the joint TG-MSA agricultural program.

V. Remarks

None.

.....

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Forestry

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	₪	<u>191,300</u>
Technical Assistance (Specialists)	\$	<u>NIL</u>
Trainees to US (6)	₪	<u>36,000</u>
Total	₪	<u>227,300</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>-</u>
Extraordinary Non-Capital Expenditures	฿	<u>-</u>
Extraordinary Capital Expenditures	฿	<u>1,000,000</u>
Total	฿	<u>1,000,000</u>

C. Governmental Budget (sanctioned for 1952)

Basic Salary	฿	<u>1,047,120</u>
Ordinary Expenditures	฿	<u>2,331,860</u>
Extraordinary Non-Capital Expenditures	฿	<u>8,540,172</u>
Extraordinary Capital Expenditures	฿	<u>705,925</u>
Total	฿	<u>12,625,077</u>

## II. What the Project Consists of

### A. Description of Project

In view of FAO activities in the forestry field, it has been agreed that MSA will cease support of technical assistance, supplies, and equipment in FY-54. The FY-53 items for supplies and equipment represent commitments made to the Department of Forestry during FY-52 but held in abeyance pending decision on the FAO take-over. This project consists of the following items:

1. Assist in the reclamation of watershed teak areas at Doi Suthep, Chiangmai; Doi Chang and Doi Tung, Chiangrai in northern Thailand at a cost of \$36,000 from the MSA dollar fund.
2. Assist in the establishment of forest plantations at the various regeneration centers throughout the country at a cost of \$53,300 from the MSA dollar fund and baht 1,000,000 from the Counterpart Fund.
3. Provide books for the library of the Forestry Department at Bangkok at a cost of \$10,000.
4. Send six trainees to the U.S. for advanced study at a cost of \$36,000.

### B. Justification

Forests cover 60 per cent of the total land area of Thailand. They are fairly distributed over all the country and provincial forest officers are stationed in nearly all provinces. The nature of work presently carried out is necessarily diversified: conservation, forest improvement, production increase, research, education and extension in forestry.

In conformance with the present MSA policy of giving top priority to projects directly concerned with the production of food and other commodities (preferably of export significance), and because of the increasing interest of FAO in forestry, the 1953 forestry program is confined to the following categories based on TG-MSA understandings made before the final decision on FAO participation in this field.

#### 1. The Reclamation of Watershed Areas

The principal objective will be the safeguarding of the watersheds of the Menam Chow Phya. The project will result directly in the production of export items of importance, such as Tung Oil (*Alleurites montana*) and local food products, and prospectively in the initiation of temperate and semi-tropical fruit production on the hills of Northern Thailand. The indirect benefits of general soil and water conservation as well as favorable climatic influences will be achieved.

2. The Establishment of Forest Plantations

This is a production project especially oriented to the planting of teak which has always been an important export commodity of Thailand. In 1953 the project will be confined mainly to obtaining ~~much needed~~ labor-saving equipment for nursery work. This equipment has been recommended by the specialist on Mechanization of Forest Plantations, supplied by FAO in 1951-1952.

3. The Forestry Department's Library

This is also a backlog item from last year. The library is trying very hard to recover lost ground due to complete inaction during the War. Without additional help, progress cannot be made.

C. Results to be Obtained

1. It is hoped that with the period of the program, the colonization scheme for the nomadic hilltribes will get well under way, thus assuring the main purpose of conservation. The cultivation of Tung Oil will be strongly established, and by the introduction of temperate and semi-tropical fruits in the hills, a new vista of progressive utilization of hilly country will be opened.
2. Plantations of teak and other economically desirable species will proceed according to schedule. The mechanization and other improvements will result in more acres of established plantations, while effective preparation for the future intensification of the effort will be made. The financial value of these plantations to the future of the country alone will be enormous, since plantations are formed only when it is assured that they eventually will be profitable.
3. A well equipped central library to be used by the forestry staff and for in-service training courses, will be realized, together with a separate library in Silviculture. Indexing of technical information, both general and specific will be completed.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Seeds and planting stocks	\$ 5,000
Tractors and parts	) 22,300
Miscellaneous equipment, threshers, plows, etc.)	
Bulldozers (heavy duty tractors)	36,000
1½ ton pickup trucks for all-purpose utilities at plantation centers	12,000
Pumps	16,000
Technical books	<u>10,000</u>
Total	\$101,300

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. <u>Experimental Station</u> - Construction of garage	538,000
2. <u>Forest Products Research</u>	
Building for dry kiln and wood working	252,000
Building for wood testing machine	64,000
Building for caretaker	36,000
Cost of ground preparation	60,000
Cost of installation of electricity, etc.	30,000
Cost of installation of dry kiln	20,000
	<hr/>
	1,000,000

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (baht)</u>
1. Reclamation of Watershed Areas	730,000
2. Forest Plantations	2,401,330
3. Library	30,000
	<hr/>
	3,161,330

G. Technical Assistance (FAO Specialists to be supplied)

H. Trainees

1. Number of Trainees to be Sent to USA: 6
2. Description of Training
  1. General Forest Products Research
  2. General Forest Plantation Techniques
  3. Kiln Seasoning
  4. Silvicultural Experiment Station with Emphasis on Tropical Forests
  5. Nursery Practices and Mechanization
  6. Wood Technology
3. (a) General Objective of Proposed Training in USA:
  - (1) To acquaint the trainees with advanced techniques and practices in specialized subjects for adaptation to Thailand's conditions.

- (2) To obtain first-hand information on the organization and actual operation of the various branches of work, with a view to improving the general efficiency of the Forestry Department.
  - (3) To study the actual working of some new processes and specific projects, the machinery or equipment for which have been supplied by MSA, or are already available from the ordinary budget.
  - (4) To broaden the general and profession outlook of the Forestry personnel through international travel and experience.
  - (5) To effect personal contact of the key personnel with their counterparts in USA and other countries, so that an exchange of views and collaboration in other ways may contribute to the betterment of professional work and understanding in the future.
- (b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

(1) General Forest Products Research

General organization of forest products research. A course of training in general wood technology and a general study tour with special emphasis on wood seasoning, timber testing, and wood working.

(2) General Forest Plantation Techniques.

General organization, routine and executive procedures, nursery practices, mechanization in forest plantations, land clearing, planting, tending operations, and upkeep of plantations.

(3) Kiln Seasoning

All dry kiln practices and technology, especially of tropical hardwoods, both in laboratory and actual operations. Special study will be carried out concerning the operation of the type of dry kiln already supplied by MSA in 1952.

(4) Silvicultural Experiment Station

This assignment will concentrate on the general works in experimental aspects of silvicultural research carried out by an average experiment station, preferably with some work on tropical or semi-temperate species. The trainee will devote as much time as possible to the general study of Forest Genetics.

(5) Nursery Practices and Mechanization.

The trainee will study in detail all the aspects of nursery practices, especially mechanization for mass production of nursery stocks. In addition to technical instruction, emphasis should be given to the vocational aspects of mechanization as applied to forestry nursery practices.

(6) Wood Technology

Study on general principles and practices in wood identification and general taxonomy. Special emphasis should be placed on microtechnique and photomicrography.

(c) Time Schedule. For all trainees, a period of one year.

4. Description of Trainees.

(a) Qualifications to be required of trainees.

The Royal Forestry Department in late 1951 decided on the selection of prospective trainees for the various training assignments. These nominees have been advised of their selection and accorded facilities to make a thorough study of their respective subjects in preparation for the coming study tour in 1953.

The following list represents the trainees nominated by the Royal Forestry Department, together with the proposed date of departure.

- (1) Mr. Krit Samapuddhi. First Class Forestry Technician attached to the Forest Products Research Division. Subject: General Forest Products Research. Departure: February 1953.
- (2) Mr. Chao Chamruangsri. Chief of Forest Improvement Section, Division of Silviculture. Subject: General Forest Plantation Techniques. Departure: February 1953.
- (3) Mr. Sagan Sutthithani. Chief of Forest Products Information, Division of Forest Products Research. Subject: Kiln Seasoning. Departure: March 1953.
- (4) Mr. Sorayut Karatna. Research Ranger in charge of Doi Suthep Experimental Station (for Northern Region). Division of Silviculture. Subject: Experimental Station. Departure: February 1953.

(5) Mr. Tum Thapthimthong. Research Ranger in charge of Phu Kae Experimental Station (for Central Region), Division of Silviculture. Subject: Nursery Practices and Mechanization. Departure: February 1953.

(6) Mr. Chob Yasothon. Chief of Section of Wood Technology, Division of Forest Products Research. Subject: Wood Technology. Departure: January 1953.

(b) Proposed Utilization of Trainees upon Completion of Training

All trainees will be reinstated in their present positions, except Mr. Krit Samaphuddhi who is slated to be Chief of Forest Products Research Division upon the retirement of the incumbent.

5. Specific Assignment upon Return

- (a) Mr. Krit Samapudhi - Organize research in Wood Technology, Kiln Seasoning, Wood Preservation. Initiate research programs on plywood and veneer.
- (b) Mr. Chao Chamruangsri. - Improve on current practices in forest plantations so as to be assured of better success with less expenditure. Bring about a workable mechanization scheme of work and prepare personnel and technical know-how in readiness for the foreseeable big boost in plantation formation in the near future.
- (c) Mr. Sagan Sutthithani - Operate the dry kiln supplied by MSA. Organize further works necessary in this line.
- (d) Mr. Sorayut Karatna - Organize the various branches of work of the silvicultural experiment station, especially the experimental aspect. Train forest technicians to operate the other station and branch station properly.
- (e) Mr. Tum Thapthimthong - Streamline the nursery work in all its branches. Operate tractors and other labor-saving equipment supplied by MSA with a view to effecting a marked increase in production at less cost. Also carry out a course of training for other forest rangers in charge of regeneration centers.
- (f) Mr. Chob Yasothon - Expedite the systematic preparation of slides and photomicrographic specimens of economic woods of Thailand.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

In 1952 the Government ordered that a long-term development program in forestry be submitted for sanction. The present 5-Year Development Program has been approved by the Ministry of Agriculture and is at present under consideration by the Government.

B. Related Activities of International Agencies

Since 1951 FAO has provided technical assistance to Thailand in forestry as follows:

1. Four specialists have been provided in Forest Management (1 year); one in Mechanization of Plantations (1 year); one in Forest Inventory (2 years); and one in Modernization of Sawmills (1 year). All specialists except the one on Forest Inventory have terminated their tenure since early 1952.
2. Four trainees have so far been sent abroad to India, Africa, and Europe.

C. Related MSA Activities (State Relationship Between Past and Projected Projects in Same Field as well as Relationship between Fields, if Any.

The following synopsis shows the MSA activities in forestry to date.

<u>NAME OF PROJECT</u>	<u>No. F.R.</u>	<u>F.R. Value</u>
1. Experimental Stations	FR 61 PR93-740-00-301-2003 FR 61 PR 93-832-00-301-2004 & PR93-770-00-301-2005 350-FR 359 (in part)	\$29,000 32,000 7,800
2. Regeneration Centers	Program allocation \$98,000 FR not yet executed for equipment prescribed by FAO specialist.	
3. Forest Patrol	350-FR 359	41,700
4. Forest Inventory	350-FR 372	10,245

<u>NAME OF PROJECT</u>	<u>No. FR</u>	<u>FR Value</u>
5. Training of Personnel	350-FR 372	\$15,195
6. Forest Products Research Trainees (1952)  Specialists	FR93-880-F002-6590(in part)	40,000
	TAA93-395-385-61-FR295	6,030
	FR 459	2,500
	FR 488	2,300
	NIL	-

IV. Remarks - None.

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA PROGRAM

July 1, 1952 - June 30, 1953

MAJOR PROJECT CATEGORY: AGRICULTURE, FORESTRY, FISHERIES

PROJECT TITLE: LIVESTOCK DEVELOPMENT

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ 174,300
Technical Assistance (Specialists) (1)	\$ 15,000
Trainees to US (5)	\$ 30,000
Total	\$ 219,300

B. Counterpart Funds Required

Ordinary Expenditures	฿ 500,000
Extraordinary Non-Capital Expenditures	฿ --
Extraordinary Capital Expenditures	฿ 500,000
Total	฿ 1,000,000

C. Governmental Budget

Ordinary Expenditures	฿ 6,567,815
Extraordinary Non-Capital Expenditures	฿ --
Extraordinary Capital Expenditures	฿ --
Total	฿ 6,567,815

II. What the Project Consists of

A. Description of Project

Dr. J.W. Williamson, Livestock Specialist (THA-99-T) arrived in Bangkok May 18, 1952. Since that time he has been working with the Director General and other officials of the Livestock Development Department in organizing a sound livestock development program and in familiarizing himself with conditions in the country. Until such time as a program is developed, the Mission and the Ministry of Agriculture have agreed to hold in suspense the sum of \$174,300 representing the amount of Livestock Development FRs submitted before the arrival of Dr. Williamson and Baht 1,000,000 from the Counterpart Fund. The Livestock Development program now in the making is expected to concentrate on cattle and water buffalo export and cattle and water buffalo improvement, particularly in the Northeast.

Firm requests for the five trainees (\$30,000) will not be prepared until the general program is developed.

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA PROGRAM

July 1, 1952 - June 30, 1953

MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Fisheries

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>104,800</u>
Technical Assistance (Specialists) (1)	\$	<u>10,000</u>
Trainees to US (7)	\$	<u>29,000</u>
Total	\$	<u>143,800</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>226,000</u>
Extraordinary Expenditures	฿	<u>194,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>--</u>
Extraordinary Capital Expenditures	฿	<u>580,000</u>
Total	฿	<u>1,000,000</u>

C. Governmental Budget

Ordinary Expenditures	฿	<u>479,860</u>
Extraordinary Expenditures	฿	<u>1,206,100</u>
Extraordinary Non-Capital Expenditures	฿	<u>--</u>
Extraordinary Capital Expenditures	฿	<u>--</u>
Total	฿	<u>1,685,960</u>

## II. What the Project Consists of:

### A. Description of Project

The Fisheries Project described herein covers the following items:

1. Conduct exploratory **and** experimental fishing in the Gulf of Thailand to locate new fishing grounds and test out new types of boats, nets and fishing gear at a cost of \$77,800 from the MSA dollar fund and Baht 1,000,000 from the Counterpart Fund.
2. Improve fresh water fishing areas by: (1) eradicating weeds and assisting farmers in fish pond culture and (2) distribution of fish fry and pumping equipment for ponds procured in the FY 52 program at a cost of \$27,000.
3. Provide the services of one Fisheries Specialist to assist in the exploratory and experimental salt water fisheries project. FAO has supplied another specialist to assist in the fresh water fisheries project.
4. Send seven officials of the Department of Fisheries, Ministry of Agriculture, to the U.S. for observation and study at a cost of \$29,000.

### B. Justification

The Thailand fishery industry has become stagnant, and conditions in this basic and important industry, employing several hundred thousand people directly and indirectly, are steadily deteriorating. An increasing population demands more fish and other marine products but fish is scarce and high priced.

Total fish production must be increased and individual productivity must be raised in order to satisfy the demand for more fish, to increase the income of the fishermen and to lower prices at the consumer level.

The reasons for the present condition of the fishing industry are as follows:

- (1) Lack of funds for research, development and expansion of the industry.
- (2) Lack of modern, mechanized equipment and boats.
- (3) Lack of knowledge of the resources in the deep waters of the Gulf of Thailand.
- (4) Lack of experienced personnel.
- (5) Waste and spoilage due to lack of equipment and knowledge.

- (6) Deterioration of the financial condition of the fishermen due to ignorance of sound business practice, high interest rates charged by money-lender agents, unsound marketing practices.
- (7) Lack of extension service in promoting fish production in inland ponds and paddies, due in turn to lack of equipment.

The Thai Government, in collaboration with MSA, has developed a long-range program covering all aspects of its fishery problems. The Thai fishery program is integrated with, and is dependent upon, the MSA program which in turn is designed to function in close cooperation with FAO which will supply technical assistance personnel. The program will involve the entire fresh water resources and the salt water resources of the Gulf of Thailand.

It is believed possible to more than double the annual fish catch without a proportionate increase in manpower through better methods, gear and boats, and through the extension service. By-products such as fish oil and meal will be made. All of this will lead to increased income for the fishermen, lower prices to the consumer and increased animal protein intake for the population.

In FY 53 the salt water fisheries of the Gulf of Thailand will be given priority in order to prevent further deterioration of the industry and loss by default of this rich natural resource to foreign fishermen (Japanese, Malayan, etc.) which will automatically follow without the exploration and experimental fishing program, mechanization of the fishing fleet, and other aspects of the program as a whole.

The entire program is under the direction of the Director-General of the Department of Fisheries, and chiefs of divisions (most of them with B.S. in Fisheries from the Tokyo Imperial Fisheries Institute) are in charge of various phases of the program.

The STEM Fisheries and Boat Specialist will assist the Thai Director-General of the Department of Fisheries in planning, coordinating and executing the various phases of the program and will have general supervision of the end use of the materials supplied by MSA.

The FAO Fisheries Representative will advise on the fresh water aspects, design the curriculum for the Fisheries School, and furnish staff for this as well as other phases needing technical assistance.

C. Results to be Obtained

An ultimate 50% increase in both salt and fresh water fish production with consequent raising of standards of living among relatively under-privileged fisherfolk.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
858 Fish nets and gear	19,500
Following FRs already submitted: 141, 187, 189, 242, 243, 308	<u>85,300</u> 104,800

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
7 boats for STEM supplied engines	350,000
Installation of equipment supplied by STEM	140,000
Preservative for nets and gear supplied by STEM	30,000
Operation of STEM furnished equipment	<u>480,000</u> 1/ 1,000,000

1/ Until Jan. 1, 1952. It is expected that this item will be included thereafter in the governmental budget.

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
(1) Distribution of fish fry, fish pond culture, stocking swamps and irrigation tanks, experimenting on milk fish culture in brackish water, oyster culture.	479,860
(2) Developing marine fisheries station and exploratory fishing in Gulf.	<u>1,206,100</u> 1,685,960

G. Technical Assistance (US Specialists)

1. Number: One

2. General Objective of Assignment

Advise on exploratory and experimental fishing in the Gulf of Thailand to locate new fishing grounds and increase fish production.

3. Description of Assignment

- (a) Department, ministry, or other body to which experts are to be assigned:

Department of Fisheries, Ministry of Agriculture

- (b) Location or headquarters and geographical field of operations:

Headquarters Bangkok.  
Operation in Gulf of Thailand.

- (c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See job description for Fisheries Specialist.  
MUSTO A-109.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Advises fisheries officers and crew in methods of exploratory fishing and in use of mechanized equipment.

- (e) Time Schedule:

Desired starting date: October 1, 1952

Desired duration of assignment: 18 months

4. Thai Counterpart

- (a) Nai Boon Indrambarya, Director-General, Department of Fisheries  
(b) Swarnng Charoenphol, Head of Marine Fisheries Station

H. Trainees

1. Number of trainees to be sent to USA: Six

2. Description of Training:

- (a) One to train in fresh water biology and fish culture in the U.S.  
(b) One to study fishery development and cooperatives in Nova Scotia and the U.S.  
(c) Two to study fresh water fish culture and biology (FR 503)  
(d) Two to study marketing and management (FR 504)

3. (a) General Objectives of Proposed Training in USA:

- (1) To increase the knowledge of fish biology and fish culture for increasing the fresh water fish population.
- (2) To establish fisheries cooperatives in Thailand so that the fishermen will get out of their present bondage to money-lenders.
- (3 and 4) See FR 503 and 504

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

- (1) Priority to be given to fish culture and feeding studies.
- (2) Administration and organization of fisheries cooperatives.
- (3 and 4) See FR 503 and 504

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

One year divided equally between biology and fish culture.

Six months in Nova Scotia. 4 months in U.S. Emphasis on fisheries cooperatives.

See FR 503 and 504

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

Trainee in fishery biology and fish culture has the following qualifications: B.Sc. in Zoology, more than 10 years of fishery service and conducting fish cultural practices.

Trainee in fishery development and cooperatives has the following qualifications: head of fishery administration, Bachelor of Law, experience as fisheries officer more than 10 years.

(b) Proposed utilization of trainees upon completion of training:

The trainees in fishery biology and fish culture will be assigned to investigations in fresh and brackish water fisheries for promoting increased production through fish stocking, fish culture and research.

The trainees in fishery development and cooperatives will be assigned to the promotion of fisheries cooperatives, welfare of fishermen and their families and general development of the fishing industry.

5. Specific Assignment upon Return:

Investigation of swamps for stocking and rearing fish in larger quantities.

Establishing fishermen's societies and cooperatives.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

This project supplements the program of the Department of Fisheries in their aim towards increasing fish production.

No work has been done in marine fisheries development previously due to lack of equipment which MSA now has supplied.

A limited program in fresh water fisheries has existed and will be expanded through MSA furnished equipment.

B. Related Activities of International Agencies

FAO has supplied Dr. S.W. Ling, Fisheries Expert, who works on the extension project for fresh water fisheries development. Objective is increased fish production through raising fish in rice paddies and fish ponds throughout Thailand.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

This is part of continuing assistance to the Thai Government which during FY 51 and 52 amounted to \$420,000.

IV. Remarks

None

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Education

1. Cost of Project

A. Dollar Cost MSA)

Commodities	\$	<u>31,400</u>
Technical Assistance (Specialists) (4)	\$	<u>40,000</u>
Trainees to U.S. (10)	\$	<u>54,000</u>
Total	\$	<u>125,400</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>500,000</u>
Extraordinary Expenditures	฿	<u>6,650,000</u>
Total	฿	<u>7,150,000</u>

C. Governmental Budget

Ordinary Expenditures	฿	<u>510,785</u>
Extraordinary Expenditures	฿	<u>955,400</u>
Salary Expenditures	฿	<u>182,460</u>
Estimated Income from Forest Grant	฿	<u>3,000,000</u>
Total	฿	<u>4,648,645</u>

## II. What the Project Consists of

- A. The Education Project for Kasetsart University described herein covers the following items:
1. Provide an additional amount of teaching aids and equipment including laboratory equipment for use by students at the university at a cost of \$31,400 from the MSA dollar fund.
  2. Assist in the construction of an adequate physical plant at Bangkok to provide suitable facilities for agricultural education at the University level at a cost of Baht 7,150,000 from the counterpart fund.
  3. Send 10 trainees from the resident staff to the U.S. for advanced study at a cost of \$54,000.
  4. Continue the technical services of Theodore H. Plaister and obtain the services of Oregon State College under contract at a cost of \$40,000.

### B. Justification

MSA has been giving assistance to Kasetsart University from the beginning of its program in Thailand in the sure belief that increasing agricultural productivity is directly dependent on the availability of professionally trained agriculturists. The need for trained agriculturists is acute and the university is the only place in the Kingdom where such instruction is offered.

1. Physical Plant at Bangkok. The university under existing circumstances is not able to meet the demand for its graduates. The main reason for this is lack of dormitory and classroom space. The university is also critically short of instructional personnel. The low salaries offered to teachers constitute one of the main obstacles to the procurement of teachers. Provision of housing for staff members on the campus is an added incentive for teachers to join the university staff. Utilization of counterpart funds for building construction will greatly facilitate the university's advancement.
2. Equipment and Supplies. MSA has supplied equipment to the university in an amount practically sufficient to meet its pressing needs. However, as the program develops, additional requirements are becoming necessary in certain fields. The FF 53 program should substantially complete the dollar requirements of the university.
3. Trainees. Training proposed is for 10 members of the staff to study in the fields of general chemistry, pomology, truck crops, agricultural engineering, agronomy, animal husbandry, home economics, agricultural economics, university administration.

With the exception of general chemistry, all trainees would study improved production methods on a practical basis so as to enable them to apply their newly acquired skills to teaching students of agriculture.

4. Technical Assistance. The proposed contract with Oregon State College will provide trained agriculturists to assist the resident staff in curriculum planning, teaching and agricultural production techniques.

C. Results to be Obtained

1. An improved and greatly expanded physical plant will be available for agricultural instruction at Bangkhen.
2. The crucial need for additional staff will be answered in part by the provision of adequate staff housing.
3. Existing staff members will be afforded the opportunity of advanced training.
4. An estimated additional 200 students can be added to the student body.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
1. FR 352, Code 880, Laboratory Equipment (Balance of FR charged to Extension & Research)	8,000
FR 355, PR 93-780-00-301-3003, 2 Air-conditioning Units for Poultry Plant	2,000
FR 481, Code 770, Poultry Plant Equipment - caponizing set, brooders, incubators	1,600
FR 506, Code 110, Hatching Eggs	3,200
FR 508, Code 770, Poultry Plant Equipment - feed chopper, grinding mill, egg grader, coops	1,600
2. Equipment needed to supplement existing laboratory and instructional materials, books, film strips, movies, teaching aids, etc.	15,000 <sup>1/</sup>
Total Cost	31,400

<sup>1/</sup> Code details available when FR is prepared.

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Baht Value</u>
Living quarters for staff	800,000
Construction of bus bodies	135,000
Dormitory construction	1,200,000
Dining hall construction	100,000
Improvement of existing classrooms and laboratories	500,000
Agricultural Engineering building	1,000,000
General Biology building	1,000,000
Animal Science building	1,000,000
Agronomy building	800,000
Swine barn construction	75,000
Dormitory (Tap Kwang for Upland Crops study)	100,000
Improvement of roads and bridges	200,000
Staff and student research and thesis work	105,000
Training in Cooperatives Extension	15,000
Medical care	60,000
Athletics	40,000
Extra-curricular activities	20,000
	<hr/>
	7,150,000

F. Summary Budgetary Expenses (Calendar Year 1952)

<u>Item</u>	<u>Baht Value</u>
Ordinary Expenditures	510,785
Extraordinary Expenditures	955,400
Salary Expenditures	182,460
Estimated Income from Forest Grant	3,000,000
	<hr/>
	4,647,645

G. Technical Assistance (U.S. Specialists)

1. Number: 1 plus Oregon State College personnel under contract.  
The Livestock Production Assistant (THA-43-T) is currently assigned on a temporary basis to Kasetsart University pending action on a contract with Oregon State College to provide agricultural education personnel.

2. General Objective of Assignment

To assist Kasetsart University in all matters pertaining to the development and expansion of its agricultural training facilities.

3. Description of Assignment

- (a) Department, ministry, or other body to which experts are to be assigned:

Kasetsart University, Ministry of Agriculture.

- (b) Location or Hdqtrs. and geographical field of operations:

Bangkhen, Bangkok, Thailand.

- (c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

Not available, pending approval of contract with Oregon State College.

- (c) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training.

No specific number of Thais involved. Resident staff members would receive "on-the-job" training in teaching methods, curriculum design, preparation of teaching aids from local materials, etc.

- (e) Time Schedule:

Desired starting date: Soonest

Desired duration of assignment: Indefinite

4. Thai Counterpart

Staff, Kasetsart University

H. Trainees

1. Number of Trainees to be Sent to U.S.: 10

2. Description of Training:

1. Chemistry - to study general chemistry, methods of teaching, use of teaching aids, text materials, laboratory procedures.
2. Pomclogy (2) to study fruit production.
3. Truck Crops - to study vegetable production.
4. Agricultural Engineering - to study basic principles of agricultural engineering with emphasis on farm shop work and pumps.

5. Agronomy - to study production of upland crops and rice.
6. Animal Husbandry - to study general livestock production.
7. University Administration - to study small college administration.
8. Home Economics - to study basic principles of home economics.
9. Agricultural Economics - to study principles of cooperatives, teaching methods, etc.

3. (a) General Objective of Proposed Training in USA:

To study improved agricultural techniques and to learn use of equipment on order, to be ordered, and on hand.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

See "2" and "3" above. When Firm Request is prepared, specific training requests will be entered thereon.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

Generally six months. This information will appear on the Firm Request when prepared, and is subject to MSA/W approval.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

No special qualifications, other than trainees must be staff members of Kasetsart University, be conversant in English, hold a degree from a recognized school in Thailand, or have the equivalent in practical experience. Trainees are selected by joint agreement of Thai officials and MSA representatives.

(b) Proposed Utilization of Trainees upon Completion of Training:

Return to staff positions, Kasetsart University.

5. Specific Assignment upon Return:

Staff, Kasetsart University.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

With funds allocated from extra-revenue sources, scholarships to study for advanced degrees abroad and some buildings will be included in the program.

B. Related Activities of International Agencies

Two trainees are going for advanced study under the auspices of FAO.

C. Related MSA Activities (State relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has supplied badly needed equipment to the university.

IV. Remarks: None.

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Agriculture, Forestry, Fisheries

PROJECT TITLE: Research

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>155,500</u>
Technical Assistance (Specialists) (13)	\$ <u>155,000</u>
Trainees to U.S. (12)	\$ <u>66,000</u>
Total	\$ <u>376,500</u>

B. Counterpart Funds Required

Ordinary Expenditures	B <u>5,130,000</u>
Extraordinary Non-Capital Expenditures	B _____
Extraordinary Capital Expenditures	B <u>6,565,000</u>
Total	B <u>11,695,000</u>

C. Governmental Budget

Ordinary Expenditures	B _____
Extraordinary Non-Capital Expenditures	B _____
Extraordinary Capital Expenditures	B _____
Total	B <u>8,685,986</u>

## II. What the Project Consists of

### A. Description of the Project

1. Through providing technical assistance (U.S. specialists and trainees) and supplies and equipment; and concurring in local currency expenditures from the Counterpart Fund, assist the Ministry of Agriculture in its overall program to expand the production of rice in carrying forward projects in rice breeding, soils fertility and the control of plant pests and diseases.
2. Assist the Ministry of Agriculture expanding the production of (a) other field and forage crops, (b) rubber, cacao and other horticultural crops.
3. This project will cost \$155,500 from the U.S. dollar fund for supplies and equipment; \$155,000 for 13 U.S. technical specialists, \$66,000 to send 12 Thai agriculturalists to the U.S. for advanced study, and \$11,695,000 from the Counterpart Fund for local currency support of these projects.

### B. Justification

A fundamental requisite for the strengthening of Thailand's agriculture is applied and practical research which will provide a fund of knowledge which can be effectively extended to the farmers. The Agricultural Experiment Centers are key elements in this effort. These Centers can become strong and remain so only so long as they have a sound research program to furnish new information on local soils, water and cultural practices; the supply of new and improved varieties of crops; and have an adequate and properly trained staff to meet the demands and needs of the farmer. Research in agriculture, though begun in a modest way some thirty years ago, has never met modern requirements which demand well planned programs properly conducted, and pursued until positive results are assured. Training of research technicians has also lagged and today there is a shortage of men trained in promulgating and carrying out effective research work. The Agricultural University has not been able to meet the needs of Thailand in supplying trained graduates because of lack of knowledge of local plants, soils, and cultural practices. The extension worker has largely become a regulatory officer and agricultural statistics gatherer because the few results of research have not been translated into terms understood and usable for presentation to the poorly educated farm population.

The research program is accordingly slanted to fill this gap and to provide essential support in a critical sector to the plans of the Thai Government for developing its agriculture. Ambitious governmental programs are underway for reclamation of abandoned land, developing heretofore uncultivated tracts with resettlement projects by the Ministries of Cooperatives and Interior. The major agricultural

## II. What the Project Consists of (Continued)

### B. Justification (Continued)

problem continues to be lack of adequate water control and ambitious action programs such as the Chao Phya project and Tank Irrigation in the Northeast necessitate the early development of new crop varieties, improved varieties, and determining which crops are suitable for second cropping in time for use when water control is effected.

MSA realizes that the urgency for increased agricultural production is of singular importance. Therefore its support to research is limited entirely to the fields where results will be reflected in increased and more efficient production of agricultural commodities. Field experiments in the hands of a properly trained technician have always been an indispensable tool in the development of a strong agriculture. It is recognized that Thailand must concurrently develop her research effort to complement development now underway in the fields of agricultural education and extension.

MSA is assisting in production research through selection, improvement, breeding and introduction of new varieties, as well as the betterment of production through improved cultural practices and the control of pests and diseases. Although there is also need for some so-called "pure research", the lack of Thai personnel, the urgency for production increases, plus relatively small Thai and MSA budgets have necessitated the complete exclusion of this type of research work from the joint program. The total research effort therefore is designed to make immediate contributions in improving the lot of Thailand's farmers through practical agricultural improvements that will be reflected in increased productive capacity.

### Rice

Rice occupies 90% of the arable land and accounts for the largest single source of national revenue. It is of the greatest importance to Thailand, as well as to the other countries of Southeast Asia. Accordingly, the core of MSA support is the rice breeding project. This project is a continuation and expansion of work begun by OFAR and assumed by MSA in FY 51. During FY 52 the project was expanded to such an extent that it represented the largest undertaking that has ever been attempted in plant improvement work. Over 120,000 head selections from farmers' fields in all rice producing areas of Thailand were gathered and planted in field plots for testing production ability, together with some 3,000 superior varieties which were introduced from various areas of the world. In addition to testing head selections and introduced varieties, the crossing of varieties possessing good characteristics has also been started in order to combine in new sorts the good qualities of two or more good varieties. The search goes on for a variety that will not

## II. What the Project Consists of (continued)

### B. Justification (continued)

only produce more grains to the stalk, but which also possesses stiffer straw, natural resistance to attack by insects and disease, the capability of responding to applications of fertilizer, and has better milling qualities. The rice breeding and soils fertility program which is going forward in all these regions is expected to result in exports of upwards of 2,000,000 tons of rice by 1956.

Rice cultivation is divided into three classes: (a) upland rice, (2) lowland rice (broadcast and/or transplanted, and (3) deep water or floating rice. Glutinous and non-glutinous varieties are also produced within these classes. The problem is further complicated as it is grown under extremely variable soil and water conditions.

Improvement of production in the northern region offers the most immediate promise of improvement because present production is higher than other areas. However, the relative small proportion of northern production to the national total and the difficulty and cost of transport to the central market makes the need for improvement less urgent than the central plains area. Development of the northeast, which is also of political significance, is largely dependent on MSA assisted work in irrigation as an adequate water supply is the key to further advances in this area.

The work in FY 53 will be characterized by a continuation of field tests of those sorts that have demonstrated superior characteristics in previous field testing. Of the 120,000 varietal trials of FY 52, 100,000 have now been eliminated and only 20,000 have been selected to justify continuation in further tests. Thus real progress in providing the best variety of rice for Thailand has been made and will continue.

#### Soils Fertility (Fertilizer)

Rice has been consistently grown on the same land, crop after crop, over the centuries without the addition of fertilizer, compost, or cover crop. Fertilizer trials, patterned after the program for improving rice, are now being conducted. Fertilizer in its various forms is being tested on most of the different soil types with varying rates of application. No basic information has been available as to crop response to fertilizer nor is information available on the response of known crop varieties to fertilizer treatment.

To augment field trials of commercial fertilizer, work has been started in the use of green manure crops by each MSA technician working in crop production. Many results have been outstanding and more trials will be forthcoming in FY 53.

II. What the Project Consists of (continued)

B. Justification (continued)

During FY 52 the fertility work was expanded to include field trials on minor elements. Immediate results were achieved in the citrus industry as it was conclusively determined that zinc deficiency was responsible for poor growth characteristics and minimum production of a large percentage of the total acreage. Continuation of this work on other crops gives promise of prompt and effective production increases.

The universal availability of waste plant material and the customary practice of burning prompted a beginning in composting trials and farmer demonstrations at the extension training center at Chiangmai. An expansion of effort in composting is planned for FY 53.

Other Crops

The opportunity for quick results in field and forage crops is most promising. Thailand is virtually a newcomer to the production of most such farm crops and already many varieties have indicated ready adaptability. In other cases new varieties show increases in production varying from 5 to 40 percent.

One-third of the arable farm land not devoted to rice farming is utilized for fruit growing. Many of Thailand's fruits and vegetables are being improved by training in modern methods of plant propagation. The training in plant propagation is continuing, in addition to selection and trial to find improved varieties.

Notable among the achievements in FY 52 was the successful introduction of a new crop to Thailand -- cacao. Some 40,000 seedlings of improved stock from Indonesia are now growing in eight centers ranging from Chiangmai in the north to Haadyai in the south. Land clearing, planting of seedlings in plantations and training in propagation and cultural practices will be largely completed in FY 53 and plantation production is expected to be underway by 1956.

Forage and field crops and horticulture work was not begun until FY 52 because of the lack of technical assistance leadership. The slow arrival of spraying and dusting equipment and pesticides also delayed the entomology and plant pathology work. The work in agronomy is largely limited to production field trials and farmer demonstration of grasses and legumes for livestock, peanuts, soybeans, sorghums, corn, and crops for soil improvement. Introduction of varieties and selection of native sorts for testing and multiplication will now be accelerated as the result of the arrival of additional equipment, more complete MSA staff, and the recent assignment of Thai technicians.

II. What the Project Consists of (continued)

B. Justification (continued)

The development of forage crops and encouraging the production of grains and agricultural by-products for supplemental animal feeding offers Thailand an opportunity of expanding its livestock industry to insure a large and continuing supply for export. Large tracts of land are suitable and available for development as range land for livestock.

Training

Concurrent with and as a primary mission of the overall research activity is the training of technical and semi-technical Thai personnel. Training has consisted of periodic short courses for Thai co-workers as well as on-the-job training of as many as were available through working closely with MSA specialists. During the period of late FY 51 and FY 52 upwards of 90 young Thai were trained in short courses and developed adequate proficiency to independently design and perform field tests with little to no supervision. The extreme success of this activity demands the expansion of these training programs during FY 53. Training will be conducted, in addition to courses at the central station, at extension training centers and will include short courses for farmers as well as the Agricultural Officers. Instruction and training in seed multiplication and distribution will be added in increasing amounts.

C. Results to be Obtained

1. Rice production will be increased by 15 to 30% within a relatively few years. This project is necessarily long range. It is difficult to predict quantitative results at this time.
2. Improved varieties of field and forage crops will be developed and seed distributed to farmers.
3. A new crop, cacao, will be established in plantations and begin production by 1956.
4. Improved varieties of fruit will be available to farmers and modern propagation methods practiced.
5. Information of responses to fertilizer will be more complete and many farmers will become regular users.
6. The experiment stations and laboratories will be adequately equipped to continue practical field research work.
7. A small staff of Thai technicians will have sufficient skill to insure a continuation of work begun.

II. What the Project Consists of (continued)

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>		<u>Dollar Value</u>
See FRs 230, 352, 494, 527, 529		\$ 71,800
Rice Improvement		
740 - Pumps and equipment	\$14,000	
820 - Vehicles	12,000	
890 - Bicycles	5,000	
880 - Laboratory equipment	34,700	
		65,700
Field Crops		
770 - Agricultural equipment	3,000	
830 - Scientific and professional instruments, apparatus and supplies	1,000	
120 - Seeds	1,000	
		5,000
Soils		
830 - General supplies and equipment such as balances, bags, etc.		5,000
Plant Propagation and Cacao		
770 - Sprayers and spray materials		
680 - Plant propagation tools		
		3,000
Pathology and Entomology		
236 - Pesticides, insecticides and fungicides		5,000
	TOTAL	<u>\$ 155,500</u>

II. What the Project Consists of: (continued)

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
<u>General Support</u>	
<u>Labor, Except Technical Personnel</u>	
Drivers and Mechanics, Experiment Stations	฿ 115,000
Rice	1,060,000
Fertilizer	150,000
Horticulture	25,000
Cacao	190,000
Field Crops	72,000
Plant Pathology and Entomology	35,000
Total	฿ 1,647,000
<u>Technical Personnel</u>	
Rice	฿ 611,000
Soil Fertility	106,600
Plant Pathology and Entomology	36,400
Field and Forage Crops	72,600
Horticulture and Plantation Crops	36,400
Total	฿ 863,000
<u>General Supplies</u>	
Rice	฿ 223,000
Soils Fertility	80,000
Horticulture	10,000
Cacao	30,000
Field Crops	60,000
Library	150,000
Plant Pathology and Entomology	10,000
Total	฿ 563,000
<u>Repair and Maintenance</u>	
Motor transportation, field equipment at Bangkhen and all experiment stations	฿ 375,000
<u>Local Purchase, Machinery, Tools and Equipment for all Experiment Stations</u>	
Miscellaneous tools and machinery	฿ 782,000
<u>Rent of Land where Needed near Regional Experiment Stations</u>	
Rice	฿ 40,000
Field Crops	10,000
Total	฿ 50,000
<u>Gas and Oil</u>	
At Central and Outlying Stations	฿ 190,000

II. What the Project Consists of: (continued)

E. Summary of Items to be Procured from Counterpart Funds - continued

<u>Item</u>	<u>Value (Baht)</u>
<u>General Support - continued</u>	
<u>Installation of Special Equipment</u>	
Walk-in Refrigerators and Cooling Equipment (Agronomy Seed Laboratory)	฿ 50,000
Air Conditioning Unit for Seed Laboratory	25,000
Total	฿ 75,000
<u>Erection of Quonset Huts</u>	฿ 325,000
<u>Travel Expenses - Thai Personnel</u>	฿ 660,000
TOTAL - General Support	฿ 5,530,000
<u>Central Experiment Station</u>	
<u>Buildings</u>	
Entomology, Plant Quarantine & Pest Control	฿ 600,000
Agricultural Chemistry and soils	600,000
Plant Breeding (Rice)	500,000
Staff and Labor Housing	400,000
Insectory	60,000
Horticulture - propagation sheds	60,000
Rice Mill	500,000
Standby Generator, Building & Installation	445,000
Concrete Drying Floor	120,000
Library Equipment and Supplies	500,000
Road Building and Surfacing	400,000
Wire Bird-Proof Cages	60,000
Telephone	80,000
TOTAL - Central Exp. Station	฿ 4,325,000
<u>Regional Experiment Stations</u>	
<u>San Patong</u>	
<u>Buildings</u>	
Administrative Office & Laboratory	฿ 125,000
Equipment and Storage Shop	50,000
Staff Housing	100,000
Storage Building	30,000
Purchase of Land	300,000
Concrete Drying Floor	90,000
Wire Cages for Breeding Experiments	25,000
Total	฿ 720,000

II. What the Project Consists of: (continued)

E. Summary of Items to be Procured from Counterpart Funds - continued

<u>Item</u>	<u>Value (Baht)</u>
<u>Regional Experiment Stations - continued</u>	
<u>Surin</u>	
Buildings	
Administrative Office & Laboratory	฿ 125,000
Equipment, Storage and Shop	50,000
Staff Housing	100,000
Storage Building	30,000
Concrete Drying Floor	60,000
Total	฿ 365,000
<u>Kok Samrong</u>	
Buildings	
Laboratory and Storage	฿ 100,000
Staff Housing	80,000
Concrete Drying Floor	50,000
Purchase of Land	50,000
Total	฿ 280,000
<u>Tha Phra</u>	
Building, Grain Storage	฿ 30,000
<u>Mae Jo</u>	
Concrete Drying Floor	฿ 60,000
<u>Rangsit</u>	
Buildings	
Staff Housing	฿ 70,000
Laboratory and Storage	170,000
Concrete Drying Floor	85,000
Total	฿ 325,000
<u>Chantaburi</u>	
Staff Housing	฿ 50,000
<u>Kohong</u>	
Classroom	฿ 10,000
TOTAL - Regional Exp. Stations	฿ 1,840,000
<u>SUMMARY</u>	
General Support	฿ 5,530,000
Central Experiment Station	4,325,000
Regional Experiment Stations	1,840,000
TOTAL - RESEARCH	฿ 11,695,000*

\* This figure includes ฿2,500,000 previously approved and obligated, leaving additional counterpart required - ฿ 9,195,000

II. What the Project Consists of: (continued)

F. Summary Budget Expenditures

Budget items are used in across-the-board support of joint MSA-Thai Government research activities. Payment of salaries, purchase of local supplies and equipment, and building construction and maintenance are provided for: ฿ 8,685,986

G. Technical Assistance (U.S. Specialists)

1. Number: 13

Munyon, Robert W. - Assistant Agricultural Officer.  
On duty - Job No. THA-91-T

Pendleton, Robert L. - Soils Science Advisor  
On duty - Job No. THA-114-T

Owens, James S. - Soils Fertility Specialist.  
On duty - Job No. THA-103-T

Love, Harry H. - Plant Breeding Advisor. On duty - Job. THA-114-T

Thyssel, Joseph R. - Assistant Plant Breeder.  
On duty - Unclassified

Brooks, Erwin R. - Assistant Plant Breeder.  
On duty - Unclassified

Vacant - Soils Research Assistant. Unclassified

Vacant - Horticulturist. Job.No. THA-102-T

Bembower, William E. - Assistant Horticulturist.  
On duty - Unclassified

Vacant - Agronomist. Job No. THA-101-T

Guillou, Rene - Agricultural Engineer. On duty - Unclassified

Kirkpatrick, William M., Jr. - Maintenance Engineer.  
On duty - Unclassified

Wright, Mabel B. - Librarian. On duty - Unclassified

II. What the Project Consists of: (continued)

G. Technical Assistance (U.S. Specialists) - Continued

2. General Objectives of Assignment:

To assist in the development of a sound agricultural program for Thailand, and to train Thai agriculturists in effective techniques of conducting field experiments, methods of crop improvement, seed multiplication and distribution, and soil management.

3. Description of Assignment:

a) Department, ministry, or other body to which experts are to be assigned:

Department of Agriculture of the Ministry of Agriculture.

b) Location or headquarters and geographical field operations:

The headquarters of the project are at the Bangkhen Research Center while experiments and demonstrations are to be conducted at the various experiment stations and on farmers' fields in all the regions of Thailand.

c) Detailed description of specific functions (job description):

See II-G-1 above.

d) If assignment involves specifically the training of Thai personnel, describe type and number of such personnel and type of training:

There are two types of special training for Thai personnel to acquaint them with the techniques to be used in agricultural research. The first type is presented through formal instruction given at special short courses. Here the men are trained to participate in conducting the different experiments at the experiment stations and on farmers' fields. The second type is best described as on-the-job training, where we are working with trainees (young men who have graduated or are about to graduate from the University of Agriculture, and Agricultural Agents located throughout Thailand). These men receive training as the technicians work along with them.

e) Time Schedule:

Desired starting date:

Personnel for vacant positions to be recruited at the earliest practicable date.

II. What the Project Consists of: (Continued)

G. Technical Assistance (U.S. Specialists) - Continued

3. e) Time Schedule: Continued

Desired duration of assignment: One specialist is to be terminated November 1, 1952. One will be terminated January 1, 1953. The others will continue through FY 53.

4. Thai Counterpart:

One or more Thai counterpart will be required for each technical assistant.

H. Trainees

1. Number of trainees to be sent to USA: 12

2. Description of Training:

Plant breeding. Four trainees. These men should have opportunity to attend some classes on plant breeding, genetics, and related topics in good institutions in the United States. In addition they should be permitted to spend some time at the important rice experiment stations where they may receive on-the-job training.

Field and forage crops. One trainee. Should have six months' training at several U.S. Agricultural Experiment Stations studying methods and techniques of conducting field and forage crop experiments, seed multiplication and keeping experiment records and analyzing data.

Horticulture (plant propagation). One trainee. Should have instruction and training for approximately one year in specialized tropical and semi-tropical plant propagation, plant genetics, with some emphasis on plant pests peculiar to Thailand.

Soils fertility. One trainee for about one year. To be trained in operation of soil management programs.

Rice milling. One trainee to receive training for four months. Training to be entirely in the operation of small experimental rice mills. This trainee will operate the rice mill now on FR.

Librarian. One trainee. To study librarianship for one year in the operation of a library operated for the joint service of the Agricultural University, extension, and research services.

II. What the Project Consists of: (Continued)

H. Trainees - Continued

2. Description of Training: Continued

Horticulture. One trainee. Six months. See FR 487.

Rice milling and rice production. One trainee. Four months. See FR 505.

Entomology. One trainee. One year. See FR 436.

3. a) General Objective of Proposed Training in USA:

To gain knowledge and skill which will enable them, upon their return to positions in Thailand, to exert leadership in the many fields of agricultural research with the objective in mind of dissemination of results through the Agricultural University and directly to the farmer by way of the Extension Service.

b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

For II. G, H, and I, see FR's 478, 505, and 436. Specific requests will be submitted on remaining trainees at time FR's are prepared.

c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

Trainees should remain in the U.S. for varying periods of time, depending on training program developed and the relative urgency for their services in Thailand. Individual schedules will be suggested as FR's are prepared and submitted.

4. Description of Trainees

a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

1) Trainees should have a good grasp of oral and written English.

2) Wherever practicable trainee should be (1) a graduate in agriculture, (2) have had at least six months working with his MSA technical assistant counterpart and/or (3) at least five years' experience in the field of agriculture.

II. What the Project Consists of: (continued)

H. Trainees - Continued

4. b) Proposed Utilization of trainees upon completion of Training:

The trainees after returning will be utilized in the phase of the agricultural research program for which trained. Just where they will be located and what they will be asked to do will depend upon the needs and their special qualifications to handle a particular job.

5. Specific Assignment upon Return:

Trainees will be placed in positions of leadership within their fields of work within the Department of Agriculture.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The Thai Government Department of Agriculture's role in improving agriculture is largely confined to a subsidized fertilizer program, purchase of the best available seeds for distribution to farmers, annual competition for grading and selection of the best rice produced by farmers, and the purchase of farm tractors and machinery for hire to farmers. Mobile pest control teams are equipped to combat serious outbreaks in any part of the country. The recently prepared four year plan includes increasing sums for expenditure in production research work.

B. Related Activities of International Agencies

FAO specialists working in agriculture and working closely with the MSA staff include:

One specialist in cooperatives, Dr. Gordon Ward, is attached to the Cooperatives Ministry and is working principally with rice cooperatives. Another, James Coddington, is working with the Ministry of Economic Affairs on the marketing and storage of rice. Loss in present systems of storage can run as high as 20%.

Drs. Campbell and Fronda are working on poultry diseases and poultry production respectively. If diseases can be controlled the poultry industry has a bright future in Thailand where extra protein is needed in the diet. If diseases can be controlled, better management and proper breeding can secure larger, hardier and more productive birds.

III. B. Related Activities of International Agencies (continued)

Dr. Ling is working with the Department of Fisheries on the development of pond fish culture. This is another avenue of attack on the lack of protein problem and also provides the farmer with another cash crop.

Dr. W. Lloyd, rubber production and marketing expert, is working in South Thailand to raise the standard of the rubber being produced there. Present types of rubber being produced for the most part are so poor that it could only be sold locally or possibly to China. Better grade rubber could compete in the world market. Much of the economy of South Thailand revolves around rubber. MSA is supplying a small rubber factory and a Technically Classified Rubber testing station and FAO will supply the technical assistance and trainees required.

Dr. K. Ramiah is working regionally on rice breeding problems. Thai rice has been sent to FAO sponsored experiment at Cuttack Institute in India for crossing with Japonica strain. MSA sent representatives to IRC meeting in Indonesia from Bangkok.

32 fellowships have been granted to Thailand by FAO in various fields of agriculture and related fields.

IV. C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

See II. B.

IV. Remarks: None

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Transportation, Power and Other Public Works

PROJECT TITLE: Railroad Rehabilitation

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>275,000</u>
Technical Assistance (Specialists) (1)	\$	<u>15,000</u> *
Trainees to U.S. (5)	\$	<u>30,000</u>
Total	\$	<u>320,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>                    </u>
Extraordinary Non-Capital Expenditures	฿	<u>                    </u>
Extraordinary Capital Expenditures	฿	<u>4,500,000</u>
Total	฿	<u>4,500,000</u>

C. Governmental Budget

Ordinary Expenditures	฿	<u>                    </u>
Extraordinary Non-Capital Expenditures	฿	<u>                    </u>
Extraordinary Capital Expenditures	฿	<u>104,219,475</u>
Total	฿	<u>104,219,475</u>

\* May have to be increased to provide for T.A. to make economic study for I.B.R.D. loan on Gengkhoi-Bua Yai line (Korat Cut-Off)

## II. What the Project Consists of

A. The Railroad Rehabilitation Project described herein covers the following items:

1. Equip, erect and install a small demonstration high pressure locomotive boiler wash-out plant and car repair shop at Korat in the NE as part of a Thai State Railways plan adopted at the suggestion of MSA to build three such plants during FY 52 - two (one in the North and one in the South) to be financed by the Railways and one by MSA. All necessary labor and supervisory personnel are already available to the Railways. This project will cost \$275,000 from MSA dollar funds for foreign equipment and Baht 2,500,000 from the counterpart fund for the local costs of materials, construction and installation.
2. Continue the services of Earl Ewin as technical advisor to the Thai State Railways at a cost of \$15,000 per annum.
3. Send five Railway trainees to the U.S. for advanced study at a cost of \$30,000.
4. Reimburse the Thai State Railways from the counterpart fund for Baht 2,000,000 for expenses incurred at the Makassan Work Shops for housing and installing electrical equipment supplied to the Railways by MSA during FY 51 and 52.

### B. Justification

1. Korat Shop. The U.S. and the Thai Govt. are vitally concerned with improving economic conditions in the relatively poverty-stricken and politically sensitive NE section of Thailand. One of the principal bottlenecks in this section is the lack of transport to bring the products of the NE to market. This is particularly so in respect to rice where in the past year the lack of railway transport to seaboard is reported to have resulted in the spoilage of substantial quantities. Lack of railway transport affects the NE not only in inability to export its rice surplus in good years, but also in the general incentives to produce more rice.

In order to assist this situation, as well as general transport conditions, the MSA and the Railways have jointly agreed that the most effective, immediate steps which can now be taken to compensate for the shortage of rolling stock are: (1) to reduce the turn-around time for locomotives and (2) to make small repairs to freight cars at three principal junctions in the Kingdom - one in the North, one in the South, and one in the Northeast. This would be done by erecting high-pressure wash-out plants to clean locomotive boilers properly, and small repair shops to make minor repairs to freight cars, which will result in getting increased use of existing facilities by cutting down on repair and turn-around time, and eliminating the long haul to Makasan, the only existing repair base. The MSA contribution to this program will be located at the NE junction at Korat and will serve as a model for the other shops to be set up by the Railroad. Thus, the MSA contribution will not only assist the general transport situation but should also result in material economic benefits to the NE as well as to Thailand's ability to export more rice from that area.

2. Expert - see Section "G" below.
3. Trainees. Training proposed is for five Thai State Railway employees, to give them a chance to study modern and up-to-date railway operation methods, and to learn operation of equipment to be secured from I.B.R.D. loan and to be installed in the Controller's Dept. in connection with the installation of the new accounting system. Since the end of World War II, the pressure of work in reconstruction has been so great that Thai State Railways have not been able to travel and see up-to-date railroad operating procedures. MSA plans to send these trainees in addition to those already sent to the U.S. under FY 52 program.
4. Power House and Installation Cost of Generators at Makasan.  
Counterpart request.

The reconstruction of the main repair shop at Makasan involves the installation of considerable amounts of new equipment, all electrically driven. Prior to the installation of the two 500 KW Diesel Electric Generators, power shut downs occurred as often as 12 times per day. Attachment No. 1 shows the total cost of the power plant building, and a request is hereby made for Baht 2,000,000 to repay the Thai State Railways for money advanced to cover the actual construction cost. At the time the generators were ordered it was mutually agreed between the Thai State Railways and the then ECA that counterpart funds would be requested for the construction cost of the power house. The Thai State Railways is now asking MSA to refund these costs.

C. Results to be obtained

- A. Reduce turn-around time of locomotives, shorten repair time, and by eliminating long haul of out-of-service wagons and locomotives to Bangkok, increase availability of rolling stock. Under present conditions all locomotive repairs are done at Makasan. A class 5 repair, consisting of heavy machinery and light boiler repairs, now consumes the following time:

a. Hauling to Makasan - average	2 months
b. Repair time	" 1 month
c. Return to service	" 1 month
	Total 4 months

When the proposed shop is completed, the out-of-service time can be reduced to approximately one month.

At the present time there is still a backlog of out-of-service freight cars, and hauling and repair time that takes up to 5 months. It is estimated that this can be cut to a maximum of 3 weeks when the repair shop is completed.

- B. Give Thai Railway personnel an opportunity to study modern methods of railroad operation.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>	<u>Dollar Value</u>
Equipment needed to equip above shop, including boilers, steam generators, air compressors, wheel drop tables, traverser, locomotive and car wheel lathe, slotting machines, planing machines, spindle drills, power hack saws, welding equipment, grinders and foundry equipment.	
Total Cost	\$280,000

(Code details available when F.R. is prepared)

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
1. Refund of cost of constructing Makasan Power Plant. (See Attachment I.)	2,000,000
2. Cost of buildings to be erected at Korat. (See Attachment 2.)	2,500,000
	<u>4,500,000</u>

F. Summary Budgetary Expenses (Calendar Year 1952)

<u>Item</u>	<u>Value (Baht)</u>
1. Buildings at Thung Song to house repair equipment, plus engine house	4,400,000
2. Equipment at Thung Song	5,600,000
3. Makasan Repair Shop expenses 1951-1952. Buildings. Budget	58,219,475
From I.B.R.D. loan (\$1,800,000)	<u>36,000,000</u>
	104,219,475

G. Technical Assistance (U.S. Specialists) (A)

1. Number: 1 - Earl Ewin, on duty.
2. General Objective of Assignment

To assist Thai State Railways in all matters pertaining to rehabilitation of system, improvement in operations and construction of layout of proposed repair shops at Korat and Thung Song, and reconstruction at Makasan. (See TAA-93-N102-5)

(A) Subject to increase for T.A. specialist to make economic study for I.B.R.D. loan for construction of Korat Cut-off.

3. Description of Assignment

- (a) Department, ministry, or other body to which experts are to be assigned:

Thai State Railways - Ministry of Communications

- (b) Location or Hdqtrs. and geographical field of operations:

1. Makasan - Bangkok
2. Korat - Northeast
3. Thong Song - South

- (c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See Job. No. THA-30-T Mr. Ewin now on duty.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

No specific number of Thais involved. Probably 500 Thais will receive "on the job" training in shop layout, design and construction of shops and in erection of equipment.

- (e) Time Schedule:

Desired starting date: Now on duty.

Desired duration of assignment: 2 years.

4. Thai Counterpart

Nai Achava Kunjara, Chief, Makasan Shops  
Nai Chamroon Disayananda, Construction Department.

H. Trainees:

1. Number of trainees to be sent to USA: 5.

2. Description of Training:

1. Mechanical Service - to study lignite burning in locomotives.
2. Traffic Control - to study traffic control methods.
3. Controllers Dept. - To study machine accounting.
4. Engineering Construction - to study construction methods and pre stressed concrete.
5. Engineering - to study pneumatic tool operation.

3. (a) General Objective of Proposed Training in USA:

To study modern Railroad methods and to learn use of equipment now on order or to be secured for Makasan Shops and for the Accounting Division.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

(See "2" and "3" above. When Firm Request is prepared, specific training requests will be entered thereon.

(c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

Generally, one year. This information will appear on the Firm Request when prepared, and is subject to Washington approval.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training experience, present position, age, others):

No special qualifications. Thai State Railways representatives and MSA employees determine suitability of candidates, who are usually engaged in the operations which they propose to study.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

With funds secured from the I.B.R.D. the T.S.R. is reconstructing the railroad shops at Makasan; the dollar cost is \$1,800,000 and local currency costs through 1952 total about 60,000,000 Baht. In addition, the T.S.R. are constructing a similar locomotive and car repair shop at Thung Song in the South and propose to build another at Utteradit in the North.

B. Related Activities of International Agencies

Planning to send 6 trainees abroad under I.L.O. fellowships. Plans now under consideration.

Planning to send 2 signal experts to assist ECAFE in proposed signal school.

C. Related MSA Activities (State relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has supplied the T.S.R. with a 1000 KW Diesel Electric Power Plant to operate Makasan, and much material to rehabilitate over 1000 freight cars. To date this expenditure totals about \$1,000,000. The improvement of transportation facilities in Thailand is one of the prime objectives of the MSA program. Movement of produce, rice, tin and wolfram are all hindered today by the inadequate railroad facilities which were severely harmed by bombing during World War II.

During FY 1951 MSA sent four trainees to the USA who are now studying under a contract arranged with Purdue University.

IV. Remarks None

APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

MAKASAN POWER PLANT

Construction Expense, to be reclaimed from the  
Counterpart Fund.

ITEM	PARTICULARS	BAHTS
1	Power Plant Building (Total cost 616,287)	535,000
2	Material for filling the site of Power Plant	6,200
3	Labor " " " " " " " "	7,400
4	Foundation for generating sets	60,000
5	Floor of Power Plant	26,000
6	Road	20,000
7	Toilet, Store and Transformer Rooms	30,000
8	Concrete well for raw water	60,000
9	Foundation for fuel oil storage tanks	35,000
10	Two fuel oil storage tanks	70,000
11	Repair of 5 ton overhead crane	13,000
12	Foundations for silencers, daily service tanks, compressors heat exchangers, pumps, etc.	50,000
13	Trenches in switch board rooms	9,000
14	Trenches in Power Plant except item 13	15,000
15	Transporting generating sets	6,000
16	Erection of generating sets	40,000
17	Four extra switchboards	200,000
18	Repair of switchboard for rotary converter	20,000
19	Repair of rotary converter	5,000
20	Distribution switchboard for Power Plant	20,000
21	Ventilating Fan for switchboard room	8,000
22	Interior lighting of Power Plant	25,000
23	Water pipes and fittings	20,000
24	Two raw water pumps	3,800
25	Motor for raw water pumps	7,000
26	Fuel pipe lines and fittings	10,000
27	Fuel oil pumps	2,000
28	Discharge pipes for raw water	10,000
29	Fuel oil filter	5,000
30	Cables	50,000
31	Copper wires for transmission line	70,000
32	Cable potheads, high tension insulators, isolating links and lightning arresters	30,000
33	Concrete posts	87,000
34	Seven 200 K.V.A. Distribution Transformers	300,000
35	Distribution switchboard and protective equipment	150,000
		<u>150,000</u>
		Total 2,005,400
	Counterpart request	Baht 2,000,000

NOTE: Balance of cost of power plant is for that portion housing air compressors and other equipment not part of MSA program.

BUILDINGS FOR SHOP AT KORAT

Plans for these buildings are not yet drawn. This repair shop is a part of a general plan for the improvement of the Korat Yards. The buildings will house an overhead crane and heavy equipment. Experience indicates the cost of such a building will be approximately 1,000 Baht per square meter.

BUILDINGS TO BE CONSTRUCTED:

No. 1. Power House, 25m x 15m =	375 sq. m.
No. 2. Machine Shop, 25m x 35m =	875 sq. m.
No. 3. Locomotive and Car Shop, 42m x 28m =	<u>1176</u> sq. m.
Total	2426 sq. m.
Estimated Cost -	Baht 2,400,000
No. 4. Traverser Pit, 18 m. span -	<u>100,000</u>
Total Baht	2,500,000

Availability

1953 - 1st Quarter	Baht 500,000
" - 2nd "	1,000,000
" - 3rd "	500,000
" - 4th "	<u>500,000</u>
	Baht 2,500,000

NOTE: The buildings at Thung Song will cost an additional 1,900,000 Baht, as engine house must be built there.

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Transportation, Power and Other Public Works

PROJECT TITLE: Highway Maintenance

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>200,000</u>
Technical Assistance (Specialists -5)	\$	<u>75,000</u>
Trainees to U.S. (5)	\$	<u>30,000</u>
Total	\$	<u>305,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿	<u>5,500,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>                    </u>
Extraordinary Capital Expenditures	฿	<u>2,860,000</u>
Total	฿	<u>8,360,000</u>

C. Governmental Budget

Ordinary Expenditures	฿	<u>10,708,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>70,000</u>
Extraordinary Capital Expenditures	฿	<u>117,759,140</u>
1952 Budget	฿	<u>128,537,140</u>
1952 Supplemental Budget	฿	<u>171,560,000</u>
Total	฿	<u>300,097,140</u>

## II. What the Project Consists Of:

### A. Description of Project:

The Highway Maintenance Project described herein covers the following items:

#### 1. Highway Equipment Repair and Maintenance Shops

Equip and construct 2 Base Repair Shops at Korat in the Northeast and Songkla in the South, 3 Field Repair Shops at Khon Kaen in the Northeast, Lampang in the North and Pitsnuloke in the North-central plane area - a total of 5 shops.

It is proposed that MSA supply the equipment and machinery for the base shop at Korat and the field shop at Pitsnuloke at a cost of  $\text{฿ } 200,000$  &  $\text{฿ } 8,360,000$  from the Counterpart Fund, to cover the local costs of materials, construction and installation of machinery in all 5 shops. The Highway Department will purchase equipment for the other shops.

#### 2. Spare Parts Program

a. Provide  $\text{฿ } 4,500,000$  from the Counterpart Fund to match an equal amount to be supplied by the Highway Department to institute a spare parts program for highway construction equipment.

b. The Spare Parts Program will be controlled from Bangkok, operated from a central supply warehouse at the Port, with supplementary spare parts stocks carried at the other repair shops.

#### 3. Training Program for Equipment Operators

a. Provide  $\text{฿ } 1,000,000$  from the Counterpart Fund to start a training school for equipment operators and mechanics, to be set up in the vicinity of Bangkok, with additional field training for operators.

b. Provide the services of the STEM Equipment Maintenance Engineer for supervisory and instructional purposes.

#### 4. Technical Assistance

Continue the services of Walter H. Daub as Highway Construction Engineer and H. G. Quedens as Highway Equipment Engineer and provide the services of 3 additional U.S. specialists to instruct and train highway equipment operators, mechanics, spare parts personnel, at a cost of  $\$75,000$ .

5. Trainees:

Send 5 Highway Department officials to the U.S. for practical training in construction, bridge engineering and soils mechanics at a cost of \$30,000.

All necessary labor and supervising personnel are already available to Highway Department for the construction, installation and maintenance work to be undertaken in the repair shop, spare parts and training programs described above.

B. Justification

The improvement and extension of Thailand's highway system is basic to its economic development and military defense plans. The relation of more and better roads to the goals of increased production and increased efforts, as well as to the defense effort through the ability to use mechanized military equipment effectively, is clear and direct. In recognition of these factors the Thai Government has approved a 5-year Highway Construction Program which aims at increasing the present highway mileage from about 5,000 kilometers to about 10,000 kilometers, and improving all existing roads by adopting modern specifications. MSA is participating in the highway program through the provision of technical assistance and demonstration equipment from dollar funds in the vital fields of road building, equipment repair and maintenance, and in the training of operators and mechanics. Counterpart support for local expenses is also being provided.

The MSA projects for Repair Shops, Spare Parts and Training fit into this pattern as follows:

1. Repair Shops

and repair for road building equipment by cooperating in a program. Provide necessary maintenance/to erect suitably equipped shops at strategic points throughout the Kingdom to the end that the considerable amount of equipment now idle for lack of repair facilities can be brought back into productive use.

2. Spare Parts

Assist the Highway Department to set up an inventory of necessary spare parts to replace the present hand-to-mouth system and thus eliminate or greatly reduce the loss of equipment operating time while equipment is deadlined waiting for parts to arrive from abroad. Delays due to non-availability of spare parts have already reached alarming proportions. As part of the Thai Govt. program, local equipment agents have agreed to carry in their own stocks spare parts which are most generally needed for replacement, instead of relying solely on spot orders from abroad as at present.

3. Training School for Equipment Operators and Mechanics

Assist in setting up a school and training program for Thai equipment operators and mechanics. The Thai Government will furnish quarters for the school, and will secure the personnel to be trained.

Equipment operators and mechanics are at present almost impossible to obtain in Thailand, and, of course, are a necessity for the operation and maintenance of equipment. The proposed school will be open to applicants from any branch of the government, and will, it is planned, run 60 day classes of 40 operators and mechanics in each class.

4. Technical Assistance Personnel

In addition to the two specialists already in Thailand, the services of three additional specialists, one each in the training of equipment operators, equipment mechanics and spare parts operatives, is needed. These specialists are required to organize and operate the Operators' and Mechanics' School and field training, and to set up and control the stocking and distribution of spare parts, and train personnel to carry on the work.

5. Trainees

There is a dearth of young engineers in the Highway Department. It is of prime importance that as many as possible of the engineers available be acquainted with modern construction standards and methods, especially in the utilization of mechanical equipment. This knowledge cannot be gained from text books or class rooms, nor can it, in Thailand, be acquired from observation of equipment in operation. Therefore, it is proposed to send these selected engineers to the U.S. to instruct them in present day methods of construction and equipment operations.

The increased program of highway work in Thailand calls for engineers with some know-how of modern methods. Engineers will soon be required to inspect and direct the work of highway constructors, as contracts are now being prepared for bids. These trainees will return here to fill responsible positions, and before long will advance to greater responsibility.

C. Results to be Obtained

1. Reduce present average repair time for highway construction equipment from an average of 4 months to under 2 weeks through the repairs, shop and spare part programs.
2. Train approximately 300 highway equipment operators and mechanics yearly.
3. Add to the experience training of presently employed highway engineers and thus improve the quality of general highway construction.
4. At a minimum, double the capacity to construct new highways and maintain and rebuild existing highways to conform to modern specifications.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u>		<u>Dollar Value</u>
680	Hand Tools	\$ 3,582
710	Generators	16,000
720	Electrical Equipment	12,800
740	Conveying Equipment	9,100
750	Power Tools	52,350
760	Metal Working Machinery	6,675
780	Compressors and Saws	4,750
840	Compression Gauges	600
890	Miscellaneous Equipment	<u>74,500</u>
		\$ 180,357
	Freight	<u>19,643</u>
	Total	\$ 200,000

E. Summary of Items to be Procured from Counterpart Funds

<u>Item (See Attachment No. 1.)</u>	<u>Baht Value</u>
1. Buildings for Repair Shop	2,860,000
2. Spare Parts	4,500,000
3. Equipment operation and maintenance Program	<u>1,000,000</u>
Total	฿ 8,360,000

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Approved</u>	<u>Supplemental Request</u>
Ordinary	฿ 10,708,000	
Extraordinary Non-Capital Expenditures	70,000	
Extraordinary Capital Expenditures	<u>117,759,140</u>	
	฿ 128,537,140	171,560,000
Total approved	128,537,140	
Supplemental	<u>171,560,000</u>	
Total	300,097,140	

G. Technical Assistance

1. Number: 5 - 2 now on duty (See G-3 below)

2. General Objective of Assignment

1. Highway Construction Engineer, W. H. Daub, REQ 93-480-2-52
2. Equipment Maintenance Engineer, H. G. Quedens, FR 114
3. Equipment Operator - Training Program
4. Equipment Maintenance Instructor - Training Program
5. Spare Parts Specialist - Spare Parts Program

3. Description of Assignment

(a) Experts to be assigned to: Ministry of Communications,  
State Highway Department

(b) Location: Headquarters, Bangkok. Engineers will operate in all of Thailand, as construction work is being carried on throughout the Kingdom.

(c) Description of Specific Functions

1. Highway Construction Engineer - W. H. Daub, THA-69T  
(See Req. 93-480-2-52)
2. Equipment Maintenance Engineer - H. G. Quedens, THA-67T  
(See FR 114)
3. Equipment Operator Instructor - To operate and direct a training program and school for operators for all highway equipment, and to spend such time as is necessary for field training of operators in the efficient handling and use of equipment. (Job Description to follow)
4. Equipment Maintenance Instructor: Under the Equipment Maintenance Engineer, to operate a training program and school to instruct Thai personnel in the maintenance and repair, shop and field, of highway equipment. (Job Description to follow)
5. Spare Parts Specialist: To cooperate with Thai engineers in the organization, preparation and putting into operation of an adequate spare parts program, and to instruct Thai personnel in all phases of its operation. (Job Description to follow)

(d) It is impossible to state specific numbers. The Highway Construction Engineer may train up to 150 engineers. The proposed equipment operating and maintenance program is estimated to train 300 Thais each year, as a minimum. Probably 30 will be trained in the spare parts program, in addition.

(e) Time Schedule:

Desired starting date: Soonest possible.

Desired duration of assignment: Indefinite - minimum of 1 year.

4. Thai Counterpart:

Nai Mongkol, Chief Engineer,  
Chao Kavila Tsa Chiangmai, Assistant to the Director General  
Nai Pon Limcharoen, Chief Mechanical Section  
Serm Singh Pramate, Equipment Superintendent  
Sommat Sukhayang, Shop Superintendent

H. Trainees

1. Number of trainees to be sent to USA: 5

2. Description of Training:

It is hoped that trainees may be attached to an outstanding highway contractor, State Highway Department or U.S. Army repair shop, as may be indicated by the F.R. When F.R. is prepared, details will be shown.

3. (a) General Objective of Proposed Training in USA:

To acquaint young Thai engineers with modern highway construction, specifically with the use of mechanical road building equipment; soil mechanics as applied to highway work; bridge and building design and construction, and shop training.

(b) Specific Training Desired:

2 Trainees - General highway construction, especially grading and embankment construction and compaction.  
2 " - Soil mechanics - 1 field work, 1 office and laboratory work.  
1 " - Bridge design and construction.

(c) Time Schedule:

Probably one year. Time depends on subjects chosen for study.

4. Description of Trainees

(a) Qualifications to be required:

No special qualifications are needed. The State Highway Dept. and MSA will jointly select the trainees from a proposed list of candidates. In general, they will be chosen from amongst employees who are presently engaged in work of a similar nature to that which they will study in the USA.

(b) Proposed utilization of trainees upon completion of training:

Trainees will return to service in the Highway Department.

5. Specific Assignment upon Return

Thai State Highway Department.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects:

A. Thai Government Activities in Same or Related Fields

The Thai Government have developed a 5-year construction program, under which it is proposed to construct approximately 5000 kilometers of highways at a cost of over 1,100,000,000 Baht. Highways are now being built with 10 meter subgrades and 6 meter surfacing. Bridges are designed for 20-ton loads, old roads are being widened to these specifications. These specifications are those requested by the Military.

B. Related Activities of International Agencies

The United Nations (Technical Assistance Administration) has offered four fellowships to State Highway Department Engineers for study of highway construction, with particular emphasis on modern methods and the use of mechanical roadbuilding equipment.

C. Related MSA Activities

MSA has already supplied Thailand with highway equipment worth more than \$1,000,000. It has also made available the services of 2 Technical Assistance personnel. One of the main objectives of MSA is to improve transportation facilities in Thailand. Development of a basic highway system of well constructed and well maintained roads is a major part of transportation improvement. All agricultural programs will be aided by an improved highway system, which will allow produce and goods to flow freely in both directions. The Health and Education programs will be aided as doctors and teachers will be more easily able to travel. This is of great importance in such a program as Malaria Control.

Movement of equipment supplied by the Military will be greatly facilitated and access to mines producing strategic materials, such as wolfram and tin, needed by the free peoples of the world, in their struggle against aggression will be much simpler.

V. Remarks

None

.....

APPROVED IN PRINCIPLE

FOR STEM:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

FOR THE GOVERNMENT OF THIALAND:

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
For the TTEC

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Transportation, Power and Other Public Works

PROJECT TITLE: Harbor Improvement

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	_____
Technical Assistance (Specialists)	\$	_____
Trainees to U.S. (6)	\$	36,000
Total	\$	36,000

B. Counterpart Funds Required

Ordinary Expenditures	฿	2,078,380
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	_____
Total	฿	2,078,380

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	68,612,783
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	_____
Total	฿	68,612,783

II. What the Project Consists of

A. The Harbor Improvement Project described herein covers the following items:

1. Reimburse the Thai Government from the counterpart fund in the amount of  $\text{฿ } 2,078,380$  for voyage repairs to the dredge Sandon II, previously the "Manhattan".
2. Send six trainees to the U.S. for advance study in Cartographic activities and various phases of port operation, at a cost of  $\text{\$}36,000$ .

B. Justification

1. Trainees

Firm Request No. 456 covering four Port Trainees has already been prepared and approved by the Thai Government and MSA/W. Firm Request No. 457 covering two Trainees at the U.S. Coast & Geodetic Survey has also been approved by the Thai Government and MSA/W.

The two Trainees for the U.S. Coast & Geodetic Survey course outlined herein were included in Firm Request 457 and approved by the Thai Government. MSA/W has requested that the Mission submit another Firm Request when the trainees are ready to leave, which will be on their return from Korean duty.

2. Counterpart request for Baht 2,078,380

The Dredge Manhattan was presented to the Thai Government by the U.S.A. in June, 1951. The dredge was towed 14,000 miles from Philadelphia and during the tow the engines were operated at a speed of two knots. After the dredge was put into operation, considerable trouble developed in the engines; the condenser head cracked, and the tail shaft bearings were found to have worn down and allowed the shaft to drop almost three inches.

The cost of the voyage repairs to the vessel were as follows:

Engines	$\text{฿ } 919,280$
Shaft and internal repair	$\text{฿ } \underline{1,072,300}$
Total	$\text{฿ } 1,991,580$

Other expenses were for replacing damaged equipment and the purchase of hose locally to be used with the oil and water barges, also supplied under the MSA program. These other costs total  $\text{฿ } 86,800$ .  
The total amount requested is  $\text{฿ } 2,078,380$

C. Results to be Attained

As a result of the dredging of the bar at the mouth of the Chow Phya River by the Manhattan and a Dutch dredging company, ships of 8,000 to 10,000 tons will be able to enter the Port of Bangkok and to dock at the Klong Toi wharves of the Port of Bangkok, thus eliminating cargo transfers at Koh-Si-Chang and lighterage charges therefrom to Bangkok.

D. Summary of Commodities to be Imported with MSA Funds

None

E. Summary of Items to be Procured from Counterpart Funds

1. Refund to Harbor Department for expenses incurred in repairing the Manhattan:

<u>Item</u>	<u>Value (Baht)</u>
1. Lamps	10,000
2. Tools and Equipment	10,000
3. Canteen Utensils	6,000
4. Hose Equipment pumping water and oil	20,800
5. Repairs to vessel	1,075,300
6. Equipment repairs	5,000
7. Repairs to engines	919,280
8. Miscellaneous expenses	<u>35,000</u>
Total	฿ 2,078,380

F. Summary Budgetary Expenditures

1. Operating costs, Sandon I	฿ 8,707,833
2. Operating costs, Sandon II (Manhattan)	10,698,650
3. Operating costs, tug and barges	137,700
4. Dredging contract: Charles & Lake Titlearn	<u>49,068,600</u>
Total	฿ 68,612,783

There is presently available from the budget and the IBRD loan, the amount of ฿ 64,419,013, leaving ฿ 4,193,770 extra budget funds required.

G. Technical Assistance (U.S. Specialists)

1. Number: Present plans do not include technical assistance.
2. General Objective of Assignment: None

H. Trainees

1. Number of Trainees to be sent to USA: 6

See FR 456 - 2 Coast & Geodetic Survey; FR 457 - 4 Port Authority

2. Description of Training:

1. General management of Port.
2. Stevedoring
3. Warehousing
4. Finance
5. Geodetic surveying
6. Hydrographic surveying

3. (a) General Objective of Proposed Training in WSA:

1. To study Port Authority operation
2. To study at U.S. Geodetic Survey marine surveying and harbor development.

See FR's 456 and 457 already approved.

(b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

1. General Port Authority Management.
2. Loading and unloading methods. Equipment handling.
3. Warehouse Management and operation.
4. Bookkeeping, accounts, rates and fees.
5. Geodetic Survey course at U.S. Geodetic Survey.
6. Hydrographic survey course at U.S. Geodetic Survey.

(c) Time Schedule. Duration of training, if training in more than one activity or locality, state desired length of training in each:

Estimated duration of courses for all trainees is 12 months each.

4. Description of Trainees

(a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

1. Four personnel to be selected from the Port's employees as agreed with the Directors. No special knowledge needed.
2. Two personnel to be selected from Thai Naval officers who are now engaged in this work.

(b) Proposed utilization of trainees upon completion of training:

To return to the Port Authority.

(c) Specific Assignment upon Return:

To departments which are handling matters the trainees have been studying.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The Thai Government has secured a loan of \$4,500,000 from the IBRD to be spent in development of the Port of Bangkok. The Thai Government also operates another dredge, the Sandon I.

B. Related Activities of International Agencies

See (A) above.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA has provided the Port with one suction dredge, Sandon II, one tugboat, and two barges.

MSA has also secured the services of an accountant to set up a new classification of accounts.

IV. Remarks

The 1953 program bears no relation to the counterpart request. The Baht 2,078,380 is to refund the Port Authority for money spent on repairing the Manhattan, now the Sandon II. In the future the Port will include in their Budget, requests for funds to operate the Manhattan.

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Transportation, Power and Other Public Works

PROJECT TITLE: Telephone & Telegraph Training

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	_____
Technical Assistance (Specialist)	\$	_____
Trainees to U.S. (4)	\$	24,000
Total	\$	24,000

B. Counterpart Funds Required None

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	_____
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	34,284,929
Total	฿	34,284,929

II. What the Project Consists of

A. Description of Project

This project is concerned with sending four Telephone and Telegraph Trainees to the United States for advanced study, at a cost of \$24,000.

B. Justification

In F.Y. 1951 the then ECA financed a survey of telecommunications in Thailand by Sloan, Cook and Lowe. The recommendations contained in that survey are gradually being implemented by the Telephone and Telegraph Department of the Ministry of Communications. One of the principal bottlenecks is lack of information on recent developments in the communications field.

Telecommunication trainees have accordingly been sent to the U.S. so that the Telephone & Telegraph Department may acquire a nucleus of people able to train others and to participate in projects recommended by the Sloan, Cook and Lowe survey.

C. Results to be Attained

Advanced knowledge of communication methods, equipment operation and actual practice in use of equipment in the field.

D. Summary of Commodities to be Imported with MSA Funds

None

E. Summary of Items to be Procured from Counterpart Funds

None

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
<u>Thai Government Budget</u>	
Telegraph	฿ 7,211,778
Telephone	11,370,694
Radio	15,702,457
Total	฿ 34,284,929

Of the above amount, ฿ 18,582,472 will be spent as recommended by Sloan, Cook and Lowe.

G. Technical Assistance (U.S. Specialists)

None

H. Trainees

1. Number of trainees to be sent to USA - 4
2. Description of Training: Not yet decided.
3. (a) General Objective of Proposed Training in USA.  
To study modern telephone operating methods and use of special equipment.  
(b) Specific Training Desired: (See above)  
(c) Time Schedule. 1 year

4. Description of Trainees

- (a) Qualifications to be required of trainees

Trainees will be selected from the Telephone and Telegraph Department, who are best fitted for this assignment. Examinations will be held to determine those to be sent.

- (b) Proposed utilization of trainees upon completion of training

Return to Telephone & Telegraph Department

IV. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields

Five-year construction plan to complete telephone-telegraph recommendations of Sloan, Cook & Lowe report.

A. Telegraph	฿ 45,973,344
B. Telephone	32,313,200
Total	฿ 78,286,544

B. Related Activities of International Agencies - None

C. Related MSA Activities

Four trainees are now in the U.S.A.

MSA arranged for report to be made on Communications. This report prepared by Sloan, Cook and Lowe and finished in F.Y. 1951.

V. Remarks



APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

.....

MAJOR PROJECT CATEGORY: Transportation, Power and Other Public Works.

PROJECT TITLE: National Integrated Power System Survey

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	_____
Technical Assistance (Specialists)	\$	145,000
Trainees to U.S.	\$	_____
Total	\$	145,000

B. Counterpart Funds Required

Ordinary Expenditures	฿	_____
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	1,990,876
Total Grant	฿	1,990,876

C. Governmental Budget (Calendar Year 1952)

Ordinary Expenditures	฿	_____
Extraordinary Non-Capital Expenditures	฿	_____
Extraordinary Capital Expenditures	฿	5,662,500
Total	฿	5,662,500

II. What the Project Consists of:

A. Description of the Project :

The National Integrated Power System Survey covers the following items:

1. Contract for Technical Assistance at a cost of \$150,000 to assist the Thai Government in making surveys and preparing IBRD loan applications in connection with the Government's recently adopted plan to install an integrated hydro and thermal power system in Northern Thailand in conjunction with large scale irrigation projects.
2. Reimburse the Counterpart Fund in the amount of Baht 1,990,876 for local expenditures made in the erection, installation and testing of the five 1000 Kw. Diesel electric generators supplied by MSA to the city of Bangkok during FY '51 and '52.
3. In addition to the above request, a separate submission will be made covering a proposed counterpart loan of  $\text{฿}$  8,500,000 to cover the local currency costs of installing the Diesel electric generators secured for the rural power program from FY 1952 funds. Full details will be given in this presentation.

B. Justification

1. Power - Technical Assistance Contract

The Thai Government is planning to construct an integrated Power System in Northern Thailand, that being the area north latitude  $12\frac{1}{2}^{\circ}$  north. The system involves the construction of hydroelectric plants, thermal plants, revision of existing distribution systems and construction of a transmission network. To finance this plan it is proposed to apply to the IBRD for a loan for the necessary foreign exchange. Therefore, it is essential that the report presented to the World Bank contain sufficient detailed information to allow the IBRD engineers properly to evaluate the problem. Thailand has excellent engineers, but it is believed that a team of U.S. Technical Assistance experts will better be able to prepare the necessary data along the lines required by the IBRD. Thailand's industrial development, particularly of small industries and in the handicraft field, has been retarded by lack of adequate power. A large field exists for vegetable oil processing plants, weaving establishments, ceramic plants and other similar, small-scale industries. Development of power will enable such activities to be undertaken. For details on the kinds of technical assistance envisaged, see "G" below.

2. Counterpart Request - Generators, City of Bangkok

When MSA programmed five 1000 Kw. Diesel electric alternators for the City of Bangkok in FY 1951, it was mutually agreed upon between the then ECA and the Thai Government that funds for the erection, installation and testing of these units would be requested from the Counterpart Fund. The Thai Government now is asking MSA to approve the expenditures as shown on Attachment No. 1.

3. Loan - 8,500,000 Baht - Rural Power

As shown in Attachment No. 2, the cost of suppliers, buildings and equipment necessary to put into operation the 12 Diesel electric alternators secured by MSA under the rural power project, is Baht 8,500,000. The Ministry of Interior requests a loan of this amount from the counterpart fund to install these units. The Department of Public Works will guarantee the loan, which will be made on a self-liquidating basis. All payments will be made to the Counterpart Fund.

C. Results to be Attained

1. Complete application for IBRD loan for an integrated power system in Northern Thailand.
2. Complete the installation of 12 Diesel electric generators purchased from FY 1952 funds.
3. Thailand, a country of 18,000,000 inhabitants, has a total installed electrical capacity of approximately 65,000 Kw. Generators on order will increase this to about 100,000 Kw.

Present per capita consumption of electric power in Thailand is estimated at 10 K.W.H. per year, compared to an annual use in the USA of about 2,000 K.W.H., in France of about 700 K.W.H., in Korea, prior to the present trouble, of about 250 K.W.H., and to Bolivia of about 40 K.W.H.

Any increase in power available will help Thailand's industries and assist in the gradual growth of the country.

D. Summary of Commodities to be Imported with MSA Funds

None.

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value (Baht)</u>
Cost of Buildings, installation and testing of 5 - 1000 Kw. Diesel electric units. To refund money already spent. See Attachment No. 1.	1,990,876
<u>Loan</u> - To purchase conductors, transformers and other supplies, and erect buildings to house 12 generators secured for rural power program. See Attachment No. 2.	8,500,000

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Capital Expenditures	5,662,500

G. Technical Assistance (U.S. Specialists)

1. Number: Not yet determined, probably 10.

2. General Objective of Assignment

To prepare report on Integrated Power System for submission to IERD for proposed loan, design and advice on system and best method of developing Thailand's power resources.

3. Description of Assignment

(a) Department, ministry or other body to which experts are to be assigned:

Ministry of Interior - National Power Commission

(b) Location or headquarters and geographical field of operations:

Bangkok and all of Thailand.

(c) Detailed description of specific functions (job descriptions). If specific individuals or specific background or experience are desired, so state and explain reasons:

Possible crew (subject to revision).

1. Chief of Party, in charge of work.
2. Assistant to Chief.
3. Hydroelectric Engineer.
4. Assistant to Hydroelectric Engineer.
5. High Dam Engineer.
6. Assistant to High Dam Engineer.
7. Thermal Power Plant Engineer.
8. Boiler Expert (Lignite paddy husk may be used).
9. Load Study Engineer.
10. Distribution System Engineer.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

No specific numbers to be trained. All Thai engineers who will work with above group, estimated at 20, will join experience in dealing with and preparing power system reports.

(e) Time Schedule:

Desired starting date: Approximately 4 months.

Desired duration of assignment: Completion of report.

4. Thai Counterpart

This will be decided when Power Commission is formally approved and legislation set up delegating its powers.

H. Trainees

No provision for trainees in FY 1953.

17. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Same or Related Fields

Studies on hydroelectric projects are being made by the Irrigation Department. Preliminary studies on the proposed 60,000 Kw. thermal plant in Bangkok have been prepared by engineers of the Bangkok Electric Works and Thai Technical and Economic Committee. Thailand has a long range power program, but needs assistance in developing it.

B. Related Activities of International Agencies

ECAFE is planning to use U.N. Technical Assistance personnel to make a similar study in South Thailand, that is South of latitude 9° N. Discussions are now being held between ECAFE and MSA as to how best to develop the plans.

C. Related MSA Activities

Development of electric power will affect the whole industry program of Thailand. MSA has installed five 1000 Kw. units in Bangkok and is installing 12 smaller units in rural areas, to a total of 2700 Kw. This was done with FY 1951 and 1952 funds.

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

THE MINISTRY OF THE INTERIORDepartment of Public Works

When the Special Technical and Economic Mission arrived in Thailand in 1950, the survey of the country's needs for electric power was immediately undertaken. The result was that a plan for the installation of electric generators in Bangkok and Dhonburi was adopted so as to meet the power shortage until additional generating equipment then on order from Japan and the United Kingdom arrived. Another plan was evolved concerning the installation of small power plants in rural communities which are to be developed. At the beginning of 1951, seven electric generators, with a total capacity of 6,000 kilowatts, were ordered by MSA and the installation of the last two generators was completed in March 1952. The five electric generators were placed in the hands of the Department of Public Works. A counterpart fund request for installing the generators at three locations was made by the Department with the following details:

1) The installation of two diesel generators at Phra Khanong		
a) for the Diesel generating sets:		
1) Freight, landing and transport charges	11,253.54	Baht
2) Cost of preparing foundation, reinforcement piles and concrete foundation	54,000.00	"
3) Cost of leveling ground, erecting walls, laying of pipe lines and accessories	41,561.08	"
4) Wages and sundries	2,453.73	"
5) Cost of installation	223,268.26	"
6) a. Wages and sundries	72,750.50	"
b. Cost of diesel oil for testing engines	5,175.00	"
c. Cost of lubricating oil for testing engines	<u>19,614.60</u>	"
	435,076.71	"
b) Switch Gear		
1) Laying of cables	104,767.23	"
2) Wages and sundries	<u>2,343.84</u>	"
	107,111.07	"
c) Building		
1) Construction of Engineers' Quarters	102,300.00	"
2) Wages and sundries	2,208.06	"
3) Construction of storage rooms	30,107.29	"
4) Wages and sundries	115.00	"
5) Construction of roads, fences, etc.	110,180.38	"
6) Construction of power house	<u>137,550.00</u>	"
	<u>382,460.73</u>	"
Total amount for the installation at Phra Khanong	924,648.51	"

2) The installation of a diesel generator at Bangkolem.

a) For Diesel generating sets:

1) Freight, landing and transport charges	9,477.35	Baht
2) Cost of preparing foundation, reinforcement piles and concrete foundation	33,301.93	"
3) Cost of leveling ground, erecting walls, laying of pipe lines and accessories	5,000.00	"
4) Wages and sundries	7,563.38	"
5) Cost of installation	132,707.57	"
6) a. Wages and sundries	17,043.33	"
b. Cost of Diesel oil for testing engines	1,932.00	"
c. Cost of lubricating oil for testing engines	<u>9,807.30</u>	"
	216,832.86	

b) Switch Gear

1) Laying of cables	29,550.43	"
2) Wages and sundries	<u>2,078.22</u>	"
	31,628.65	"

c) Building

1) Construction of engineers' Quarters	91,450.00	"
2) Wages and sundries	1,888.06	"
3) <del>Wages and sundries</del>	4,443.72	"
4) Construction of roads, fences, etc.	28,208.32	"
5) Construction of power house	<u>32,240.00</u>	"
	<u>158,230.10</u>	"

Total amount for the installation at Bangkolem 406,691.61 "

3) The installation of two Diesel generators at Dhonburk

a) For the Diesel generating sets:

1) Freight, landing and transport charges	12,760.44	Baht
2) Preparation of foundation, reinforcement piles and concrete foundation	59,067.80	"
3) Leveling of ground, erecting walls, laying of pipe lines and accessories	5,100.00	"
4) Wages and sundries	6,696.78	"
5) Cost of installation	196,325.69	"
6) a. Wages and sundries	16,208.47	"
b. Diesel oil for testing engines	828.00	"
c. Lubricating oil for testing engines	<u>19,614.60</u>	"
	316,601.78	"

b) Switch Gear

1) Laying of cables	57,989.52	"
2) Wages and sundries	<u>1,221.49</u>	"
	59,221.01	"

c) Building

1) Construction of Engineers' Quarters	108,400.00	"
2) Wages and sundries	3,785.63	"
3) Construction of storage rooms	30,100.00	"
4) Construction of Roads, fences, etc.	80,233.31	"
5) Construction of power house	<u>61,200.00</u>	"
	<u>283,718.94</u>	"

Total amount for the installation at Dhonburi 659,531.73 Baht

Summary of expenses for the installation of Diesel Generators

From July to December, 1951

1. Diesel Power Station at Phra Khanong	924,653.51	Baht
2. Diesel Power Station at Bangkolem	406,691.61	"
3. Diesel Power Station at Dhonburi	<u>659,531.73</u>	"

Total 1,990,876.85 Baht

## ATTACHMENT NO. 2.

REQUEST FOR LOAN FROM COUNTERPART FUND

Baht 8,500,000

Cost of Buildings and Materials needed to complete installation  
of 12 Diesel Electric Generators ordered by FRs 174 and 175, FY 1952

<u>Name of Town</u>	<u>Local Expenses Buildings, Water Supply, Poles, etc.</u>	<u>Cost of Imported Goods, Conductors, Transformers.</u>	<u>Total</u>
Puket	฿ 325,500	฿ 2,213,000	฿ 2,538,500
Lampang	-	900,000	900,000
Ubol	180,000	634,000	814,000
Phrae	160,000	118,800	278,800
Yala	180,000	-	180,000
Chachoengsai	270,000	555,400	825,400
Chandaburi	150,000	494,600	644,600
Photaram	160,000	76,000	236,000
Prachuab	274,000	76,000	350,000
Snutsongkram	<u>730,000</u>	<u>1,060,500</u>	<u>1,790,500</u>
Total	฿ 2,429,500	฿ 6,128,300	฿ 8,557,800

Counterpart Request for Loan -

฿ 8,500,000

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

MAJOR PROJECT CATEGORY: Handicraft & Mfg., Mining and Other Industries

PROJECT TITLE: Mining

1. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$	<u>477,500</u>
Technical Assistance (Specialists) (4 U.S.G.S. Geologists, 4 Mos.) (1 Oil Geologist) (1 Minerals Advisor)	\$	<u>46,500</u>
Trainees to U.S. (6)	\$	<u>36,000</u>
Total	\$	<u>560,000</u>

B. Counterpart Funds Required

Ordinary Expenditures (Lignite Development)	฿	<u>8,400,000</u> /1
Extraordinary Non-Capital Expenditures, (Experimental Center)	฿	<u>3,170,744</u> /2
Extraordinary Capital Expenditures (Geological Survey)	฿	<u>2,500,000</u>
Total	฿	<u>14,070,744</u> /3

C. Governmental Budget

Ordinary Expenditures (Salaries & Wages)	฿	<u>750,000</u>
Extraordinary Non-Capital Expenditures	฿	<u>          </u>
Extraordinary Capital Expenditures (Aerial Survey & Reports)	฿	<u>3,115,000</u>
Total	฿	<u>3,865,000</u>

/1 Approved by STEM-TTEC-MSA/WASH, Dec. 1951

/2 Original request for ฿ 6,000,000 reduced to ฿ 3,170,744 by TTEC-MSA  
Committee on use of Counterpart

/3 Does not include request for loan of ฿ 6,000,000 for metal mining to be  
repaid to Counterpart General Fund.

## II. What the Project Consists of

A. The Projects described herein cover the following items related to Lignite Exploration, Geological Reconnaissance Survey, and Metal Mining:

1. Continuation of exploration and development of the Mae Moh Lignite area near Lampang in northern Thailand and the Krabi area in southern Thailand, both recommended as important sources of indigenous fuel to replace firewood and imported fuel-oil. The Royal Department of Mines requested assistance from ECA/MSA on these projects early in F.Y. 1951, an excellent start has been made with materials and tools supplied with dollar funds from the FY '51 and '52 programs. Additional earth-moving equipment is urgently needed to assist with preliminary removal of overburden so that a continuous supply of lignite can be made available (even on a small scale of 100-200 tons daily) at the earliest possible date. It is estimated that this equipment will cost \$361,000 from MSA dollar funds. Application for ~~18,400,000~~ from the counterpart fund was approved by TTEC, STEM and MSA/WASH. late in 1951 for the local costs of materials, construction and installation.
2. Provide local currency from the counterpart fund of ~~13,170,744~~ for the construction of buildings, installation of plant and purchase of reagents, supplies and accessories necessary to establish a minerals experimental center in connection with the Royal Department of Mines in Bangkok. Approximately \$160,000 worth of MSA equipment has already been requested under the FY '52 program, some of which is presently arriving in Bangkok. The cost of this project was estimated at ~~16,000,000~~, but the amount available after an equitable distribution of counterpart was ~~13,170,744~~ for local costs of materials, construction and installation.
3. Essential equipment has been requested under MSA FY '52 program at an approximate cost of \$60,000 to equip and place in the field four separate Thai Geological field parties of 6 men each. It is estimated that ~~2,500,000~~ will be required for purchase of certain local equipment and supplies, necessary traveling expenses and to maintain the field work for a period of at least one year. ~~1,000,000~~ of the above sum may be required for preliminary exploration (pitting and trenching) of newly discovered mineralized areas.
4. A request for ~~6,000,000~~ on a loan basis for underground mineral mining (tin, wolfram, antimony, lead and zinc) has already been approved by TTEC. and STEM and forwarded to Washington for approval. The project is planned as an instructional measure to encourage underground mining of strategic minerals. The Baht cost of the project is not included in the above counterpart total since it is planned to return the entire amount of the loan to the counterpart fund within a period of three (3) years.
5. Continue the services of O. Perry Riker as Minerals Advisor to the Royal Department of Mines at a cost of \$15,000 per annum under Technical Assistance.

6. (a) Bring to Thailand four (4) field geologists from the U.S.G.S. to train four Thai field parties for a period of four months at a cost of \$24,000 under Technical Assistance.
  - (b) Employ one consulting oil-geologist (specialist in selecting drill-hole locations in unproven areas) as advisor to the Royal Department of Mines for a period of six (6) months at an estimated cost of \$7,500 under Technical Assistance.
7. Send six (6) Royal Department of Mines trainees to the U.S.A. for a period of one year for advanced study and field training at a cost of \$36,000.

## B. Justification

### 1. Lignite Exploration & Development

Firewood, charcoal and rice-husks are used extensively as fuel in Thailand today. The Royal State Railways operate almost exclusively with firewood as fuel for steam locomotives. Many of the large tin dredging companies continue to generate power with thermal-electric and producer-gas units fired with wood. Thermal-electric power units supply a large part of the electricity used in Bangkok. Householders consume thousands of tons of charcoal annually for domestic purposes. Although Thailand was blessed with extensive forests in the past, the trend in recent years to extend and expand the railways and industry generally has quickened the annual rate of fuel consumption to an alarming degree. Due to increased wages and ever increasing distances to sources of supply, the present cost of firewood is approaching near to the cost of imported coal. But most important of all is the fact that the forests of Thailand are being rapidly depleted and this condition, if allowed to continue, may seriously reduce the present high level production of rice due to insufficient rainfall and soil erosion. The Government of Thailand is fully aware of the urgency of an indigenous fuel supply to replace the ever increasing demand for firewood, and it appears that with MSA assistance the production and use of lignite may soon result in this replacement which will tend to stimulate industry and thereby raise the standard of living of the Thai people.

### 2. Minerals Experimental Center

Mining plays an important role in the national economy of Thailand. Her tin deposits have been worked from time immemorial, while those of tungsten, lead, zinc, iron and antimony are becoming of considerable importance since the second World War. Besides, attention is being drawn to the exploitation of gold, copper, manganese and molybdenum deposits which are scattered throughout the country. Except in the case of tin mining, the Thai mining industry as a whole still is in an undeveloped stage, being undertaken in a crude and often primitive manner.

The lack of technical knowledge concerning modern minine and ore-dressing methods has always been an important factor in causing considerable loss and waste of valuable minerals. Even in the case of tin, alluvial deposits in the South are being gradually depleted, and lode tin often associated with other metallic minerals and greater quantities of gangues would have to be worked if the present rate of production were to be maintained. The problems of mining and ore-dressing would, therefore, become more difficult in the future. In order to attain greater efficiency and economic exploration of the Thai mineral resources, it is the aim of the Experimental Center to make extensive investigations, both on a laboratory and semi-industrial scale, into the problems of ore-dressing methods suitable for the various minerals available in the country. Further, to help lay the foundation of the metallurgical industry, the Center is to make preliminary experiments on the smelting, refining and fabrication of the minerals and metals in Thailand.

### 3. Geological Reconnaissance Survey

This project involves the use of counterpart funds of Thailand to finance the initial field operations of a geological and minerals survey over unexplored areas of the country which are believed to be geologically favorable for mineralization. The survey as presently planned will consist of four teams, each composed of six Thai engineers and geologists, operating with field instruments and equipment to be supplied by MSA. Each team will be trained for an initial period of four months by an experienced geologist from the U.S. Geological Survey. The four U. S. Geologists will be supplied by MSA under Technical Assistance.

The Royal Department of Mines & Geological Survey request the sum of Baht 2,500,000 from the Counterpart Fund of Thailand for generally carrying on organized geological mapping and minerals reconnaissance surveys over unexplored areas of Thailand.

From the viewpoint of Thailand, the project is important in that it is expected to give valuable information regarding unexplored mineral bearing areas of the country, while at the same time recording accurate geologic data necessary for the preparation of suitable geological maps. The initial survey as planned is expected to cover a period of approximately one year. The Royal Department of Mines and Geological Survey anticipate enlarging the scope of the work each succeeding year as conditions will permit until there are some ten well trained working parties in the field.

4. Minerals, Mining Program

This project involves the use of counterpart funds of Thailand to finance a minerals mining (underground) instructional program aimed at increasing the production of minerals by instructing mine operators in various districts regarding modern methods of exploration, development, calculation of reserves, extraction and concentration of recovered ore. Four areas have been selected for starting this important work, as follows:

- (1) Na San (Surat Province) Tin, Wolfram and Copper
- (2) Phuket (Phuket Province) Wolfram and Tin
- (3) Ranong (Ranong Province) Tin
- (4) Pha-Kan (Phrae Province) Antimony

Promising mineral outcrops occur in many other parts of Thailand, and it is expected that much of the plant and machinery obtained through ECA/MSA for this purpose can be moved to some of these locations after accomplishing the desired objective at the first four areas. The instructional period at each area is estimated at approximately one year.

The Royal Department of Mines of the Ministry of Industry requests the advance of the sum of  $\text{฿} 6,000,000$  from the counterpart fund of Thailand for carrying out a general instructional program of underground mining and ore treatment on the basis which provides for the possible return of part or all of the advance to the counterpart General Account. From the viewpoint of Thailand, the project is important in that it is expected to give important information regarding underground resources of tin, wolfram, copper, antimony, lead, zinc and manganese. It is anticipated that new and important reserves of the various ores will be proven by this method of mining, and that the life of the mining industry in Thailand will be prolonged for many years.

5. Experts - see "G" below.

6. Technical Assistance.

- (a) The department of geology in Thailand is a comparatively recent (established about 1945) branch of the Royal Department of Mines, therefore, its field work is not yet well organized. It is proposed to request the services of four (4) competent geologists from the U.S.G.S. to assist with the training of four field parties for a period of four (4) months. The U.S.G.S. has already been appraised of this request and has indicated that the ideal time of year to spare personnel for Thailand would be from November to March when field work is impossible in western U.S.A. due to extreme cold and heavy snow.

- (b) Seepage of asphalt base oil in northern Thailand (near Fhang) has been known for many years. During 1951 the Royal Department of Mines purchased a modern portable well-drilling rig (capacity 1,500 meters) which has so far put down three dry holes. In order to avoid as much unnecessary drilling as possible, the Royal Department of Mines requests the service, for a period of six (6) months of a highly trained and well experienced oil geologist to advise them on the location of future drill-holes and possibility of finding a producing oil field in the Fhang area.

C. Results to be Obtained

1. Thailand is believed to have a reasonable share of the mineral resources of S.E.Asia. With the exception of placer tin, these resources remain practically unexplored to date. It is anticipated that with MSA assistance many new mining areas may be opened up, and that by utilization of modern methods and machines mining, smelting, refining and fabrication of metals, the economic structure of the country will be greatly improved and the standard of living of the people will be substantially raised.
2. Assist Royal Department of Mines personnel to study and observe modern mining practices in an outside country.

D. Summary of Commodities to be Imported with MSA Funds

1. Earth moving equipment for lignite mining.
2. Locomotive stokers for testing lignite utilization in locomotives.
3. Experimental ore smelting unit.
4. Pilot ore concentrating plants (2)

Estimated Total Cost - \$ 477,500

(Code details available when Firm Request is prepared)

E. Summary of Items to be procured from Counterpart Funds

The principal items to be procured from counterpart funds pertain to building construction, erection of plant and equipment and necessary accessories for establishment and operation of the projects on a smooth running basis.

Total Counterpart Required - ₪ 14,070,744 /1

/1 Of which ₪ 8,400,000 for lignite development has already been approved)

F. Summary Budgetary Expenses (1953)

1. Aerial surveys of Mae Moh and Krabi Lignite Areas.
2. Salaries and wages 35 new employees for above projects.

฿ 3,865,000

G. Technical Assistance (U.S. Specialists)

1. Number

- (a) 1 - O. Perry Riker, now on duty
- (b) 1 - Consulting Oil Geologist - to be recruited
- (c) 4 - Senior Field Geologists - to be furnished under 4 months contract by U.S.G.S.

2. General Objective of Assignment

- (a) To assist and advise the Royal Department of Mines on all matters pertaining to mining in Thailand.
- (b) To advise the Royal Department of Mines on best selection of well-boring sites to either prove or disprove the existence of a producing oil field in the vicinity of Fhang in northern Thailand.
- (c) To train four Thai field parties (each party to be composed of one geologist, one engineer and four skilled workmen) to begin a systematic geological survey and minerals reconnaissance of known unexplored areas of Thailand. The length of the training period is estimated at four months of intensive field work.

3. Description of Assignment

- (a) Department, Ministry, etc: Royal Department of Mines, Ministry of Industry
- (b) Location of Headquarters: Bangkok and various other parts of Thailand.
- (c) Detailed description of duties, etc: (See Item II-G)
  - (a) See Job No. THA-20T - Riker, now on duty.
  - (b) See Item II-G. 2-(b) - above
  - (c) See Item II-G. 2-(c) - above.

(d) If assignment involves training of Personnel, etc.

1. In the case of item II-G. 2-(c) above, some twenty-four people, including at least 4 geologists and four engineers will receive specialized training by the four U.S.G.S. field geologists. These 24 Thais, in turn, will train another 36 (or more) Thais in order to have at least ten working parties in the field as soon as possible.
2. It is the present intention of the Royal Department of Mines to allow senior students from Chulalongkorn University to use the Experimental Center for laboratory work (when such classes do not interfere with important tests being carried out by the Royal Department of Mines.) Over a period of years this will enable many students to have special training in ore-dressing and metallurgy.
3. The primary purpose of the Metal Mining program is to invite mine operators, engineers and others who may be interested to visit and observe modern underground mining methods, ore production and ore-dressing.

(e) Time Schedule:

1. Desired Starting Date

- (a) O. Perry Riker - now on duty
- (b) Consulting Oil Geologist - Dec. 1, 1952
- (c) 4 Geologists from U.S.G.S. - December 1, 1952

2. Desired Duration of Assignment.

- (a) Through Year 1954
- (b) Six Months
- (c) Four Months

4. Thai Counterpart - Royal Department of Mines

Nai Pathom	Director General
Nai Vija	Chief Geologist

H. Trainees

1. Number of Trainees to be sent to U.S.A. - Six (6)

2. Description of Training: (Mining Engineers)

2 - Modern Underground Metal Mining Methods and ore-dressing.

2 - Modern open-pit mining methods.

1 - Mining of non-metallic minerals - kaolin, etc.

1 - Manufacture of electric high-tension insulators.

3. (a) General Objective of Proposed Training in USA:

To study modern mining methods and learn to operate and teach actual operation of modern mining equipment.

(b) Specific Training Desired, etc.

(See "2" above.) When Firm Request is prepared, specific training requests will be entered thereon.

(c) Time Schedule, etc.

Generally, one year. This information will appear on Firm Request when prepared, and is subject to approval of MSA/WASH.

4. Description of Trainees

(a) Qualifications to be required, etc:

Degree from Chulalongkorn University with prescribed mining courses. Ability to understand and speak English language. Candidates to be approved by MSA.

III. Relationship of STEM Participation to Thai Government Projects, Etc.

A. Thai Government Activities in Same or Related Fields, etc:

In the field of lignite production, the "Mines Organization" (branch of the Royal Department of Mines) has taken over temporarily the handling of production contracts. Up to the present time STEM has not assisted the Royal Department of Mines with its projects on gold and oil development. Supplying of an oil geologist, when approved, will be the only participation of STEM in oil development.

B. Related Activities of International Activities

None

C. Related MSA Activities, etc.

Under the 1951-52 programs, MSA has supplied the Royal Department of Mines with various mining machinery and equipment valued at some \$ 550,000 for lignite and minerals exploration and development. When this equipment is put to work it is anticipated that production of these commodities will be increased to a satisfactory degree. During FY '51 MSA sent six (6) trainees to the U.S.A. who are now on assignments with the U.S. Bureau of Mines and U.S.G.S.

IV. Remarks

None

.....  
APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DAGE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA PROGRAM

JULY 1, 1952-JUNE 30, 1953

Major Project Category: EDUCATION

Project Title: VOCATIONAL EDUCATION

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>265,000</u>
Technical Assistance (Specialists) (10)	\$ <u>150,000</u>
Trainees to U. S. (10)	\$ <u>60,000</u>
Total	\$ <u>475,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>875,000</u>
Extraordinary Non-Capital Expenditures	฿ <u>10,400,000</u>
Extraordinary Capital Expenditures	฿ <u>375,000</u>
Total	฿ <u>11,650,000</u>

C. Government Budget

Ordinary Expenditures	฿ <u>2,201,400</u>
Extraordinary Non-Capital Expenditures	฿ <u>6,040,778</u>
Extraordinary Capital Expenditures	฿ <u>11,154,800</u>
Total	฿ <u>19,396,978</u>

## II. What the Project Consists of

### A. Description of Project:

#### 1. Technical Institute

Continue assistance started in FY '52 in the construction, equipment, and establishment of a Technical Institute in Bangkok - the only such Institute in Thailand - at a cost of \$360,000 (\$165,000 for equipment, \$135,000 for 9 U. S. Technical Specialists, and \$60,000 to send 10 staff members to the U. S. for study) from the MSA dollar fund and Baht 10,650,000 from the counterpart fund.

#### 2. Trade Schools

Assist 12 key trade school in Bangkok and in the provinces, which feed into the Technical Institute and furnish trainee apprentices to industry at a cost of \$95,000. (The part-time services of U. S. specialist assigned to the Technical Institute will be used.)

#### 3. Agricultural Vocational Schools

Assist one pilot intermediate (Mae Jo in the North) and one pilot elementary (Surindr in the Northeast) vocational agriculture school on an experimental basis in order to pave the way for the improvement of 13 other such schools at a cost of \$20,000 (\$5,000 for equipment and \$15,000 for a U. S. technical specialist) and Baht 1,000,000 from the counterpart fund.

### B. Justification

#### 1. Technical Institute

The Ministry of Education has been planning ways and means for improving the national program of vocational education in accordance with the Government policy. While schemes for further developments in other directions were being outlined, it was felt that a Technical Institute should be provided in Bangkok. The main objective of the Institute was to give more facilities for vocational training to boys and girls as well as adults; and in some of the courses to be offered, the standard of education should be higher than what is now available. The matter was submitted to the Cabinet Council and was subsequently approved.

According to an agreement between Thailand and the United States (TCA) help was to be given to Thailand for improving education. In so far as the vocational aspect was concerned, aid was to consist of sending to Thailand specialists in various areas of vocational education and certain equipment for the proposed Technical Institute.

In the calendar year 1952, Parliament has appropriated 3,961,450 Bahts for the establishment of a Technical Institute in Bangkok. Of this amount

1. Technical Institute (cont'd):

3,744,300 Bahts have been earmarked for buildings, the rest being allocated for other expenses. Under the consent of the Ministry of Finance, approximately 108 rai of land, a Crown property at Tung Mahamek, has been set aside as the permanent site of the Institute.

In connection with the establishment of the Technical Institute, the Ministry of Education has received valuable support and cooperation from the Mutual Security Agency in procuring equipment for the Institute, following the terms of the agreement mentioned above. Some of the equipment including those used in the building and metal trades, and in business training, have already arrived in Bangkok.

While the building program is being carried out, four classes for students taking diploma courses are temporarily conducted in some of the vocational schools. These classes began on June 5, 1952 and the enrollments are as follows:

- i) Radio - 27
- ii) Vocational Teacher Training - 13
- iii) Building Construction - 30
- iv) Commerce - 21

Class in i) is conducted in the Padumawan Engineering School, (ii) and (iii) in the Uthentawai School of Building Construction, and (iv) in the City Commercial School.

Under the Five-Year Plan, it is proposed to establish, in addition to the courses already in operation, the following programs of study:

1. Carpentry
2. Photography
3. Auto-Mechanics
4. Metal Trades
5. Electrical Trades
6. Vocational Education for Adults
7. Tailoring
8. Printing
9. Book-Binding
10. Boat-Building
11. Home Economics

The following are the objectives of the Technical Institute:

1. Build up a greater number of skilled workers for the development of trades and industries.

2. Provide advanced technical training along with professional education to prospective teachers preparing to teach vocational subjects. •
3. Give an opportunity to graduates of the higher vocational schools and the senior vocational schools to pursue further technical training.
4. Provide vocational training to graduates of the Senior Secondary Schools (Matayom 6) and the University Preparatory Schools who desire to become trained in a trade.
5. Encourage and promote a broadened programme of vocational training for adults.
6. Introduce the use of modern machines in keeping with the technological developments for the various trades and industries.
7. Provide technical training in some occupations for which no training provisions exist and for which there is no great need.

2. Trade Schools

Twelve key trade schools have been selected as demonstration schools with a view toward using the experience gained to improve the training program and equipment problem of some 70 other similar schools. These schools are intermediate and advanced trade schools which form the principal source of trained apprentices for industry in the Kingdom. The demand for their graduates always greatly exceeds the supply. The following schools will be assisted.

- (a) The Commercial School (Bangkok), has a 3 year curriculum of commercial subjects: accountancy, bookkeeping, typing, shorthand, English and some secretarial works. The present enrollment is 1275 boys and girls, and the teachers are 57 in number. The graduates do some bookkeeping and accountancy or become secretaries or clerks in private firms or government offices. This School needs added equipment for its accounting and secretarial activities. The only equipment it has is an inadequate supply of typewriters. Help here is also needed for basic program improvement.

- (b) The Uthenthawai School of Building Construction (Bangkok), trains students in all the basic building trades such as carpentry, bricklaying, painting, building construction, plumbing, and furniture making. It is a trades school with a present enrollment of 1517 boys and 52 teachers. The graduates turn out to be carpenters, house painters and furniture makers. This school has only a small supply of hand tools, all of low grade quality save the cross-cut hand saws and wooden planes. The latitude of tools they possess is very narrow. There are no power tools. These students want to enter the Technical Institute for advanced training. Here is an opportunity to upgrade workers who are to be the leaders in this field. Assistance is needed for more and better equipment. By American standards this school has essentially nothing by way of equipment.
- (c) The Wat Sutat School of Tailoring for Men prepares tailors to go into industry. It does a good job with limited equipment. Added equipment is needed to balance its needs. Each course requires 3 years of training. The graduates turn out to be skilled tailors; some of them will continue to Teacher Training School or the Technical Institute. The curriculum includes fundamental tailoring, anatomy, and practical shop work. Present enrollment is 57 boys and 35 adults, with 26 teachers.
- (d) The Borpit Pimuk Language School places emphasis on modern language. The curriculum also includes typing, Thai shorthand, secretarial work, English shorthand, and typing. The graduates always are welcomed at the Government offices or foreign and Thai firms. Some continue their studies in Arts, or Public Administration Course at Chulalongkorn University, or in Political Sciences and Law at the University of Moral and Political Sciences. Some go abroad as junior clerks for the Embassies at London and Paris. Present enrollment is 498 boys and girls, with 39 teachers. This School could train twice as many students as at present if it had adequate equipment. It needs particularly typewriters and books.
- (e) The School of Arts and Crafts has a 3 year curriculum including drawing, painting and designing, clay

(e) The School of Arts and Crafts (cont'd)

modeling, wood carving, silversmithing, and carpentry. The graduates either enter the Teacher Training School or produce their own works for the market. Present enrollment is 394 boys and girls with 52 teachers. The School of Arts and Crafts is the only one of its kind in Thailand. It has no power tools. There is an earnest attempt to develop Industrial Arts. Students from here will be attending the Technical Institute. These people become craftsmen in many trades such as jewelry, precious stones workers, artists, fancy cabinet and furniture makers, and the like. Assistance is needed to improve the equipment, which is inadequate in kind and quantity and in many cases of mediocre quality.

(f) The Southern Bangkok School of Dressmaking and Women's Handicrafts (Home Economics) has a 3 year curriculum including cooking, needle work, flower-arrangement, household management, and dressmaking and tailoring. It cannot be called a Home Economics School; it puts more emphasis on handicraft training in its workshops. The graduates are mostly skilled dressmakers or skilled in needlework. They open shops or enter the Teacher Training School. The school does not produce skilled cooks or home or home economics persons. Present enrollment is 388 girls with 37 teachers.

(g) The Chotivej School of Dressmaking, Weaving, and Women's Handicrafts is operated somewhat like the Southern Bangkok School of Dressmaking and Women's Handicrafts. Present enrollment is 375 girls and 34 teachers. It will feed students into the Technical Institute for advanced training in a craft or into teacher-training. Instruction can be enormously improved if equipment can be added. Libraries need to be built up with highly functional basic books that have critical information translated into Thai. The foods work needs strengthening; foot powered sewing machines are needed; much of the equipment is old.

(h) The City Trades School offers various short time courses, from 4 to 6 months according to needs, in accountancy, shorthand, typing, dressmaking, commercial art, hair dressing (men's), and photography. There are also afternoon adult classes

(h) The City Trades School (cont'd)

offering the same daytime courses. The graduates can earn their living by the short-time training they have had. The present enrollment is 337 boys and girls, 263 adults with 16 teachers. This school is a fairly new institution. It has a good adult education program projected. The equipment is meager and old. In case of typewriters they are old (Many of them 15 to 20 years in service), and in very short supply. Many more workers could be trained if assistance could be given.

(i) The Patumwan Engineering School offers courses in radio engineering, auto mechanics, mechanical engineering, electricity, and car driving. There are also adult classes in the afternoon. Graduates work in private industry or government offices. Some become teachers and some open shops. Present enrollment is 845 including adult classes and the teachers 42. This school is the advanced school for the metal trades. Its graduates will seek admission to the Technical Institute for two additional years of training. This school has better equipment by comparison than other schools. There are, however, areas that need more equipment to balance the program. Power tools are in such short supply that only advanced students have access to them. Hand tools are also in short supply.

(j) Three carpentry schools have been selected for help: the Intrachai Carpentry School in Bangkok; the Korat Carpentry School in the Northeast of Thailand; the Songkla Carpentry School in South Thailand. These schools take students who have completed grade four or grade seven and they attend six and three years respectively. There are no power tools; the hand tools are inadequate and generally of inferior quality. Students who finish these schools become carpenters, wood workers, and builders. The instruction needs improving. Assistance is asked for these schools. These three projects will demonstrate what can be done by way of greater achievement through improved instruction and better and more adequate tools.

3. Vocational Agriculture Schools

Two agricultural schools are to be given special help: Mao Jo at Chiangmai in the North, and Surindr in the Northeast. Mao Jo trains the agricultural teachers for the agricultural schools in the Kingdom. Students who graduate from here may enter Kasatesart University (The Agricultural College). Mae Jo is weak in its science work, its farm shop program and its library. It has few tools other than a tractor. It has an enrollment of 192 students with 28 teachers. Surindr is a typical agricultural school in which students enter at either the completion of grade four or at the completion of grade 7 for a six or three year course. The enrollment is 400 with 24 teachers. These two schools will become demonstration centers to help in the improvements of other vocational agriculture schools in those areas.

C. Results to be attained

1. The Technical Institute which is new this year has four areas now operating as follows: Radio, Commerce, Teacher Training, and Building Trades. The total enrollment of these groups is ninety. Next year in addition to the above the following departments are to be added: Metal Trades, Industrial Arts, Printing, Photography, Quantity Cookery, Nutrition and Dietetics, Auto Mechanics, Boat-building, Tailoring and Dressmaking, Carpentry and Woodwork, and Electricity. It is expected that the enrollment will be about 450 to 500 students when the Institute opens in June 1953. This of course will depend upon the amount of housing that can be completed by that time, but seems now a reasonable estimate. In the following year, the enrollment of regular students will probably double this amount or exceed one thousand.
2. Rehabilitate and strengthen the following existing Trade Schools: Commerce, Building Trades School, Arts and Crafts School, two Home Economics Schools, City Trade School, the Wat Sutak School of Tailoring, Engineering Trades School, the Borpit Pimuk Language School, and three rural Trade Schools. These schools will become a pattern for the Ministry of Education to emulate in their other trade schools.
3. Two Agricultural Schools are included in this project for assistance. These will become pilot schools to try out plans for upgrading the 13 other Agricultural Schools of the Kingdom. These schools are under the Ministry of Education and different to the work being done by the Ministry of Agriculture which has programs dealing with adults. School age boys who are trying to get an education to prepare them for rural living and farm leadership are involved in this program.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> (MSA Code Book Classification)	Code No.	<u>Dollar Value</u>
1. Hand Tools	680	
2. Power Machinery	750	
3. Books, etc.	890	
4. Scientific Instruments	880	
5. Testing Machines	780	
6. Electrical Apparatus	720	
7. Chemicals	370	
	Total	\$ 265,000

E. Summary of Items to be Procured from Counterpart Funds

A. <u>Bangkok Technical Institute</u>	Baht
1. Construction of one dormitory	1,200,000
2. Construction of class rooms and laboratory building	1,600,000
3. Fencing and Roads	549,000
4. Construction of Auto-repair workshop	900,000
5. Construction of Metal Trades workshop	900,000
6. Construction of Printing workshop	1,500,000
7. (a) Construction of Home Economics building	1,200,000
(b) Construction of Nutrition Laboratory	800,000
8. Construction of Electrical Laboratory	900,000

	Baht
9. Construction of two ferro-concrete bridges within the compound of the Institute	126,000
10. Installation of machines	425,000
11. Supplies and materials for office and class room use	300,000
12. One pickup truck and one large truck	150,000
13. One power house	100,000

B. Agricultural Schools

Construction of additional buildings, tools, and equipment for the Mae-Jo and Surindr Schools. 300,000 to be for buildings	<u>1,000,000</u>
Total	<u><u>11,650,000</u></u>

F. Summary Budgetary Expenditures

Department of Vocational Education  
January 1952 to December 31, 1953

<u>Item</u>	<u>Value</u> (Baht)
Salaries	2,201,400
Recurrent Expenses	6,040,778
Non-Recurrent Expenses	<u>11,154,800</u>
Total	<u><u>19,396,978</u></u>

Of which the following is a part.

Technical Institute

Salaries	14,160
Recurrent Expenses	25,650
Non-Recurrent Expenses	<u>3,961,450</u>
Total	<u><u>4,001,260</u></u>

G. Technical Assistance (U.S. Specialists)

1. Number: 10

Of this number only Dr. Ralph Lee Eyman is on duty as vocation administrator. Nine others have been requested as follows:

Industrial Arts  
Vocational Agriculture  
Auto Mechanics  
Electrical Trade  
Building Trades  
Commercial Education  
Metal Trades  
Printing Trades  
Boat Design and Construction

FR's carry job description for the above:

Educationists: Vocational Education Administrator, THA- 74-T; Building Trades, THA- 82-T; Metal Trades, THA- 83-T; Industrial Arts, THA- 85-T; Printing Trades, THA- 86-T; Auto Mechanics, THA- 87-T; Commercial Education, THA- 88-T; Electrical Trades, THA- 85-T; Agricultural Education, THA- no. not assigned; Boat Building, THA- no. not assigned.

2. General Objectives of Assignment

The persons indicated under 1. above will teach in the areas to which they are assigned. In all cases there will be from one to six or seven Thai working in each of these departments with the specialist concerned. The specialists will help the Thai set up the department, organize it, understand what the department's work is to be and good ways of doing this work in a modern up-to-date manner. These specialists are to help build their departments in the Technical Institute into the best educational agency that is possible here. Program planning for the department concerned, materials of instruction needed and how best to use these materials are a critical part of each specialist's job for his area. When MSA must withdraw its

aid, the Thai leaders should be able to carry on with a Technical Institute of front rank by themselves.

3. Description of Assignment

- (a) Department, Ministry, or other body to which experts are to be assigned:

Department of Vocational Education in the Ministry of Education.

- (b) Location or headquarters and geographical field of operations:

The specialists for the Technical Institute will be in Bangkok. The specialist for Agriculture will be assigned by the Ministry of Education to Surindr.

- (c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

These job descriptions are recited in the FR's referred to in G-1 above.

- (d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Under G-2 above was indicated the work of these specialists. In the Technical Institute where 8 of these specialists are needed there are now 90 students as indicated. Next year the new first year students will become second year students. New departments will open in June 1953 and the enrollment will jump to around 500 students for all departments. There will be some 80 Thai Staff involved. This new staff and these new departments will need help.

- (e) Time Schedule:

Desired starting date:

Immediately - FR's have been submitted for all.

Desired duration of assignment:

Two years.

4. Thai Counterpart: 1953

In each department of the Technical Institute one person will be assigned to assist the specialist from America who is working with them. These Thai (Counterpart) need to speak English well and be familiar with the work of the area involving the American Specialist.

H. Trainees

1. Number of trainees to be sent to U.S.A.: 10

2. Description of Training:

Trainees are requested in the following areas:

(i) Commerce, (ii) Electrician, (iii) Printing, (iv) Auto mechanics, (v) Building Trades, (vi) Metal (Machinist), (vii) Radio, (viii) Home Economics, Dietetics and Nutrition, (ix) Home Economics Quantity Cookery, Chef, (x) Boat building.

In commerce a person is needed to be trained in accounting.

An electrician is needed to be trained in power distribution, motor repair and rebuilding, maintenance of electrical equipment such as switch boards, generators, etc., household appliances and the theory necessary for power installations.

The printing person must learn how to operate a modern printing plant and know all the processes involved. He must be able to install equipment and teach in the printing field.

In auto mechanics, emphasis should be given to maintenance of modern automobile engines, diesel engines, and auto body repair.

The building trades trainee must learn modern building design, construction practices, and cost estimating.

In the metal field, a machinist training is essential. Pattern making and foundry practice should be included.

Radio repair, theory, construction and how to teach the same covers the needs in this case.

The dietetics and nutrition person must learn to plan diets for all kinds of needs such as hospitals, schools, and other institutions. Practical experience should be given.

The quantity cookery chef must learn how to set up and operate large kitchens, plan menus, do catering practices, and know the basic facts concerning costs and management. Training should also be given in nutrition.

The boat building trainee needs to learn about boat building designs for various purposes, shop practices and organization, machine and tool operation and processes.

3. (a) General Objectives of Proposed Training in USA:

These persons should return to teach in the Technical Institute in their respective areas. Immediately or in a short time they should be able to head the departments concerned. The purpose is to train five teachers for these departments and to develop departmental heads.

(b) Specific Training Desired. Describe in detail, assigning Priorities to various fields of training desired:

In all cases the training taken should be for twelve months save for the two people in Home Economics. In Home Economics it will require 24 months of training. The reason for this rests in the fact that good people with Bachelors and in some cases Masters degrees can be obtained with experience in all fields save Home Economics. The opportunities for Home Economics training are not provided in Thailand on any scale comparable to the other areas involved. It therefore will require a minimum of two years of training for the best talent we can find here in this field. If MSA can not extend help for 24 months for these cases, an appeal will be made to the Thai Government for special assistance. The Home Economics work is a major need here. No priority can be assigned to any of these fields. All are set up in the Institute and all must have teachers and Department Heads with better training. It is part of the plan for upgrading vocational training.

- (c) Time Schedule Duration of training and if training in more than one activity or locality, state desired length of training of each:

Twelve months for all concerned save Home Economics. Twenty-four months for each of the Home Economics people. These people should be placed where it would not be necessary for them to leave the area. The facilities of the surrounding community should be used. An example of this in case of the two people in Home Economics would be to place them at the Florida State University, at Tallahassee, Florida where there is a fine school of Home Economics and an excellent school of Hotel and Restaurant Management. Also there are fine physical facilities in the University. The community also has in it important institutions for practical work. Careful selection will take good care of the other cases in a single community. The time for sending these people out should be as soon as possible but not later than the opening of the second semester of the 1952-53 academic year. For universities on the quarter system they should enter the 2nd quarter at the Christmas time if possible.

4. Description of Trainees:

- (a) Qualifications to be required of trainees (education, training, experience, present position, age, others):

These people are to be teachers or heads of departments. Each should have had previous training in the area to be studied and experience in teaching or in industry. In every case these people are to return to the Technical Institute and teach in the department to which their training is related. These people must be capable, eager to do the job, and highly dependable.

- (b) Proposed utilization of trainees upon completion of training:

Each trainee will have agreed before being recommended that he will return to Thailand and work in the Technical Institute and in the area for which he is trained.

5. Specific Assignment upon Return:

The Technical Institute in Bangkok and the area of work for which the training was designed.

III. Relationship of STEM Participation to Thai Government Projects, to Project of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

The following is quoted from "UNESCO Report of the Mission to Thailand 1949." Page 37.(d)

"In view of the schemes now in hand or under consideration for increased industrialization, the need for a large increase in the provision for vocational education requires no emphasis. The importance of giving much greater weight to practical instruction in the ordinary schools has already been stressed, for educational as well as for vocational reasons. Over and above this, however, special facilities should be provided on a liberal scale for training various types of workers which a modern industrialized community requires, viz, skilled artisans, foremen and chargehands, senior executives and research workers. The existing vocational schools which are doing good work should be recognized and extended to include Trade and Junior Technical Schools, Polytechnics, and higher technical and research institutions in addition to any further developments of the university.

"(e) Adult education for all citizens who missed the chance for education as required by law or desired to continue their studies by attendance at full-time or part-time courses. The courses should be practical in character designed to increase the ability and competence of the adults for better living." (See attached 'Five-year Program of Vocational Education.')

B. Related Activities of International Agencies

An example of cooperation was in the determination of plans for improving the agricultural schools. UNESCO, FAO and MSA personnel assisted the Thai Ministry of Education. The plans were discussed with the Agricultural attache of the American Embassy who gave valuable aid. An MSA irrigation department specialist gave technical assistance with problems involving irrigation. Industrial engineers gave aid needed in ordering equipment involving several departments. USIS assists in the area of public relations and publicity.

C. Related MSA activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

1. Agricultural Extension work is a responsibility of the Ministry of Agriculture. The Kasetsart University works with the Ministry of Agriculture to promote extension work. The 15 agricultural schools of the Kingdom under the Ministry of Education correlate their programs with the Agriculture Division of MSA, the Agricultural University, and the Ministry of Agriculture.
2. In setting up the Technical Institute, the Industrial Engineers of MSA have aided in indicating the character of workers needed in industry. This information has helped to determine the nature and extent of training to be provided in certain areas of work.

IV. Remarks

One handicap to the program for trainees in Vocational Education rests in the fact that MSA Washington has a disposition to change requests for specific technical training programs for more general programs. The Thai need technical training such as would come from work in schools or industry. If labor objects to the industrial opportunity for these people, then the training should be in university laboratories.

Seminars on general fields are not likely to be of specific aid and the Thai fear this. Some have returned and felt the diversified time was not profitable. Seminars on labor are so different to labor here that education people may gain little from the time spent, and this applies to teachers who teach industrial subjects. Students in Thailand face no such conditions regarding labor as students going into industry in America.

The schools of Thailand need technically trained people. To build up this training we should be very careful to hold to this kind of program when sending students abroad. Administrators, overseers and foremen come in a different category, but these cases are clearly documented. Any departure from a program that sticks to technical training and departs any great quantity of dispersions to general samplings and the like is very questionable.

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA PROGRAM

July 1, 1952-June 30, 1953

MAJOR PROJECT CATEGORY: EDUCATION

PROJECT TITLE: ELEMENTARY EDUCATION

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$61,000
Technical Assistance (Specialists)(5)	\$75,000
Trainees to U. S. (4)	\$24,000
Total	\$160,000

B. Counterpart Funds Required

Ordinary Expenditures	฿ --
Extraordinary Non-Capital Expenditures	฿ 4,200,000
Extraordinary Capital Expenditures	฿ --
Total	฿ 4,200,000

C. Government Budget

Ordinary Expenditures	฿ 15,700,000
Extraordinary Non-Capital Expenditures	_____
Extraordinary Capital Expenditures	_____
Total	฿ 15,700,000

II. What the Project Consists of:

- A. The Elementary Education Project described herein consists of three subjects, namely: a) Chachoengsao Pilot Project, b) Bangkok-Thonburi Education Project, and c) Instructional Materials Production Project.

1. Chachoengsao Pilot Project: A joint project of the Ministry of Education, UNESCO and MSA

The Chachoengsao Pilot Project is a joint undertaking of the Ministry of Education, UNESCO and MSA, the purposes of which are: 1) curriculum modification and development; 2) improvement of methods of teaching; and 3) development and production of instructional materials.

Personnel involved in this project include approximately twenty officials from the Ministry of Education and the Province of Chachoengsao, seven members of the UNESCO staff, nine members of the Education Division of MSA, and approximately 250 headmasters and teachers. Sixteen schools are included in the project, distributed by grade levels as follows: ten Pratom schools (grades 1-4); two Elementary Extension schools (grades 1-7); two Matayom schools (grades 5-10); one Home Economics school; and one carpentry school. All of these schools are located in the Province of Chachoengsao, 107 kilometers East of Bangkok. This province was chosen for the project because it contains a fair cross-section of the economic, social, and cultural life of Thailand.

The Chachoengsao Sub-Committee of the Central Coordinating Board gives direction to the work of this project. This sub-committee is composed of four Thai, two UNESCO staff members, and two MSA staff members. Matters of policy and over-all program planning are determined by this group. The education specialists from MSA and UNESCO work directly with the Ministry of Education and provincial education officials in implementing these policies and programs in the schools.

Expenditures budgeted for this project are as follows: MSA dollar funds: \$19,000; counterpart funds: ฿800,000; and Ministry of Education budget: ฿10,900,000.

2. Bangkok-Thonburi Education Project:

The Bangkok-Thonburi Education Project is the urban companion to the rural Chachoengsao project. It is a joint undertaking of the Ministry of Education and the Education Division of MSA, designed to: 1) improve school buildings and grounds; 2) improve health and physical education; and 3) improve methods of teaching. Eight Pratom schools (grades 1-4) and one Elementary Extension school (grades 1-7) are included in the project.

2. Bangkok-Thonburi Education Project (cont'd):

One MSA specialist is providing general consultative services to this project. Two MSA specialists are providing help on specific phases of the work in one or more schools, namely health education and science instruction. One Ministry of Education official is devoting a major part of his time to supervisory activities in these nine schools. Special technical assistance is being provided when needed by various Ministry of Education officials and MSA staff members. Special emphasis is being placed on the development of local leadership among the nine headmasters and approximately 125 teachers involved in the project.

The Bangkok-Thonburi Education Project is one of several projects sponsored by the Elementary Sub-Committee of the Central Coordinating Board. This committee is composed of representatives of all of the departments of the Ministry of Education (Vocational, General Education, Elementary and Adult Education), UNESCO, MSA and USIS.

A special committee made up of the mayors of Bangkok and Thonburi, a representative of the Ministry of Health, members of the Ministry of Education, and a representative from MSA, serve as an advisory board to the project. There is a steering committee composed of representatives of the several schools, representatives of the Ministry of Education and of MSA, which develops plans of action within the framework of policy set up by the Elementary Sub-Committee.

Expenditures budgeted for this project are as follows: MSA dollar funds: \$14,000; counterpart funds: \$900,000; and Ministry of Education Budget: \$1,000,000.

3. Instructional Materials Production Project:

The Ministry of Education assumes responsibility for producing and distributing textbooks and other teaching materials to the schools of the Kingdom. In order to more effectively meet this responsibility, the Ministry of Education has created recently a Department of Educational Techniques. This department will have a permanent staff of some twenty persons. A major responsibility of this department will be the preparation and publication of textbooks and other teaching materials for the various departments of the Ministry. Three MSA Educationists worked with the Ministry of Education in setting up this new department, and will continue to assist the department in its work of producing textbooks and other teaching materials.

3. Instructional Materials Production Project (cont'd):

Other groups working in collaboration with the Department of Educational Techniques and the three MSA specialists in the production of instructional materials are the UNESCO staff, MSA staff, Thai supervisors in the Chachoengsao Pilot Project, and others who have been selected from the various departments of the Ministry of Education for a particular job and are on loan to this department on a temporary basis.

With the help of MSA advisers, certain materials are being prepared in the Thai language by Thai personnel. Other materials are being adapted and translated from American-produced sources, written in English. These materials of instruction are being tried out in the Chachoengsao Pilot Project and the Bangkok-Thonburi Education Project. Those books and other materials which prove to be of value will be approved by the Ministry of Education for use in the other schools of the Kingdom.

4. To carry out this project, the continuation of the services of 5 technical assistants is required, at a value of \$75,000.
5. To train Thai leaders for work in this project, 4 trainees are requested, at an estimated value of \$24,000.

B. Justification

In 1949, at the request of the Thai Government, UNESCO sent a mission to Thailand to help develop a program for the basic reorganization and improvement of Thailand's educational system. This program, which calls for an extended effort over a period of years, has provided the Thai Government with a blueprint for the reform of its educational system. UNESCO has already provided technical and financial aid for the implementation of this program.

In 1951, as the need for more aid than UNESCO could give became apparent, the United States through the Technical Cooperation Administration (TCA) agreed to provide additional technicians and equipment for the educational program. To this end, a Point Four Educational Mission was sent to Thailand. Consequently, an integrated Thai-UNESCO-U. S. educational program was developed. In January 1952, the Point Four Educational Mission became amalgamated with the Mutual Security Agency (MSA). Previous commitments under TCA constitute the basis for the program of the Educational Division of STEM/Bangkok.

Elementary education in Thailand represents the major share of its educational effort. Approximately 75,000 of the Kingdom's 80,000 teachers are employed in the Pratom schools, grades 1-4. If we add

B. Justification (cont'd):

to this number those teachers who are employed in the first four years of the matayom school (making an eight-year school comparable to the typical elementary school in the United States), it means that at least ninety-six or ninety-seven percent of the teachers in Thailand are working with children of elementary school age, by U. S. standards. It is a paradox then that in this most vital part of the Kingdom's educational system we find: 1) the highest percentage of untrained or poorly trained teachers; 2) the greatest percentage of unhused schools; 3) a disproportionate percentage of failure and withdrawal of elementary school children.

In the face of this situation, the Ministry of Education is intensely interested in discovering ways of obtaining maximum benefits from the limited funds available for elementary education. There is little money available for experimental purposes. Consequently, in 1950, the Ministry of Education asked UNESCO and MSA (then Point Four) to assist in the development of a pilot school project at Chachoengsao in order that innovations in elementary education which had proved their efficiency in other situations might be tried out in Thailand. This project was designed to develop on an experimental basis a full program of elementary education. Emphases in this project are on practical subject-matter content; improved teaching methods; the use of a variety of instructional materials; modification of the organizational pattern of education, thus extending the period of basic education for compulsory school-age children; and the professional growth of the leadership in these schools.

Approximately fifteen months after the inauguration of the Chachoengsao Pilot Project, the Ministry of Education requested that MSA assist in the development of another project in selected schools in the Bangkok-Thonburi area. The Ministry of Education felt the need of trying out in an urban situation some of the practices which had proved beneficial at Chachoengsao. Also, the Ministry felt that it was desirable to develop experimental centers in a location which was more accessible to educational leaders than is the Chachoengsao area, thus facilitating the spread of good ideas to other parts of the Kingdom.

In connection with these two projects, the Ministry of Education is asking MSA and UNESCO to provide technical assistance in the form of foreign advisers; to provide experience in foreign situations for selected trainees; to assist in obtaining equipment which is essential to a functional program of education; and to assist in the development of improved instructional materials. MSA is being asked to support these two projects to the extent of \$31,000, exclusive of costs of technical experts and trainees. Requests of the counterpart fund amount to Baht 1,700,000, while the Thai Government is being asked for Baht 11,900,000 in the regular budget of the Ministry of Education.

B. Justification (cont'd):

Until recently each department of the Ministry of Education had its own Educational Techniques Division, charged with the responsibility of supervising the development of instructional materials for its department. In an effort to reduce duplication and to better coordinate the activities of the several departments, the Ministry of Education has within the past two months set up a separate Department of Educational Techniques on a par with the other departments of the Ministry. The Ministry of Education has requested help from MSA in equipping and operating this department. The MSA dollar fund is being asked for \$28,000. This amount does not include the costs of U. S. specialists or trainees; it does include the cost of Thai Government-MSA Information Production Program, and plans to utilize the technical services of the STEM Information Office. The counterpart fund is being asked for Baht 2,500,000. The Ministry of Education has allocated Baht 3,800,000 to the Department.

C. Results to be Attained

1. Chachoengsao Pilot Project:

Development of improved school organization and curricula, designed to meet better the needs of the children in these sixteen schools; improvement of teaching techniques; development of a higher quality of leadership on the part of the fifteen Thai supervisors who are assigned to this project by the Ministry of Education; and assistance in providing vocational equipment for three of the sixteen schools. This project brings MSA personnel into direct contact with approximately 250 headmasters and teachers, fifteen Thai supervisors, the Chachoengsao provincial education officials, and the officials of the Ministry of Education. In addition, approximately 500 teachers from other parts of the Kingdom visit the project annually to obtain new ideas about teaching. 4000 children are directly affected.

2. Bangkok-Thonburi Education Project:

Development of improved school sites, both buildings and grounds; improved programs of health and physical education; improved methods of teaching. Many of the lessons learned at Chachoengsao are already being spread to these nine schools. Approximately 125 headmasters and teachers are being contacted directly by MSA personnel. It is hoped that headmasters will assume more responsibility and exert more dynamic leadership in their individual schools. These schools are constantly being visited by teachers from the other schools in the Bangkok area.

3. Instructional Materials Production Project:

The development of improved textbooks for school children; preparation of a manual on techniques of teaching; development of a variety of teaching aids, such as charts, maps, filmstrips, etc.; development of technical skills necessary for the production of instructional materials. All of these materials are to be distributed Kingdom-wide.

D. Summary of Commodities to be Imported with MSA Funds

Commodity Group

a) <u>Chachoengsao Pilot Project:</u>	<u>Dollar Value</u>
Boys Omnibus School - equipment for instruction in agriculture . . . . .	\$2,000
Girls Omnibus School - equipment for instruction in home economics and commercial studies . . . . .	\$6,000
Home Economics School -- equipment for instruction in home economics . . . . .	\$2,500
Bangpakorn School - equipment for shop . . . . .	\$4,500
Chachoengsao Elementary Schools - ditto machine and supplies, art materials, visual aids collection, health and physical education equipment, charts and maps, filing cabinets, typewriters . . . . .	\$4,000
Total	<u>\$19,000</u>
b) <u>Bangkok-Thonburi</u>	
Instructional Materials . . . . .	\$ 4,600
Health and Physical Education . . . . .	2,000
Science Equipment . . . . .	800
Automobile . . . . .	2,000
Tools for Vocational Shop. . . . .	4,600
Total	<u>\$14,000</u>

c) <u>Instructional Materials Production</u>		Dollar Value
Books, maps, charts . . . . .		600
Films, filmstrips . . . . .		1,500
Opaque projector, screen . . . . .		400
Educational construction models . . . . .		500
Book paper, cover sheets, inks . . . . .		700
Multilith machine . . . . .		4,300
Joint Thai Government-MSA Information Production Program (see Information Project write-up) . . . . .		20,000
	Total	\$28,000
	Grand Total:	\$61,000

E. Summary of Items to be Procured from Counterpart Funds

a) <u>Chichoengsao Pilot Project:</u>		Baht Value
Boys Omnibus School - add four classrooms to existing building; erect a workshop . . . . .		400,000
Girls Omnibus School - provide building and facilities for instruction in home economics . . . . .		200,000
Girls Home Economics School - renovation of buildings and equipment . . . . .		162,000
Health Equipment - cloth for handkerchiefs, first aid kits, soap, toothbrushes, barber scissors, hair clippers, etc. . . . .		38,000
	Total	฿800,000

	<u>Baht Value</u>
b) <u>Bangkok-Thonburi Education Project:</u>	
Instructional Materials . . . . .	130,000
Books . . . . .	75,000
Health and Physical Education Equipment . . . . .	50,000
Building . . . . .	350,000
Tools . . . . .	225,000
Conferences . . . . .	50,000
Record files . . . . .	20,000
	<hr/>
	Total <u>฿900,000</u>

c) <u>Instructional Materials Production Project:</u>	
Office equipment, supplies, travel . . . . .	450,000
Temporary personnel for six months to get project started . . . . .	180,000
Conferences to be held in relation to materials production and curricula development . . . . .	80,000
Printing of textbooks and other materials . . . . .	1,690,000
Renovation of library center . . . . .	100,000
	<hr/>
	Total <u>2,500,000</u>

Grand Total 4,200,000

F. <u>Summary Budgetary Expenditures</u>	<u>Baht Value</u>
a) Chachoengsao Pilot Project	10,900,000
b) Bangkok-Thonburi Education Project	1,000,000
c) Instructional Materials Production Project	3,800,000
	<hr/>
	<u>฿15,700,000</u>

G. Technical Assistance (U. S. Specialists)

1. Number: 5

Brock, Hoyt M. - Educationist: Curricula and Instructional Materials.  
On duty - Job No. THA-78-T

Saunders, William P. - Educationist: Curricula and Instructional  
materials. On duty - job No. THA-77-T

Matthew, Eunice S. - Educationist: Curricula and Instructional  
Materials. On duty - job no. THA-79-T

Merrill, Charles D. - Educationist: School Health Education.  
On duty - job no. THA-80-T

Howard, Gertrude D. - Educationist: Elementary Science Education.  
On duty - job no. THA-81-T.

2. General Objectives of Assignment:

To give expert assistance to the Thai Ministry of Education in its efforts to improve the content of instruction, the methods of teaching, the standards of health education, the organization of public elementary education, the preparation and utilization of instructional materials, and the general competence of school personnel.

3. Description of Assignment:

a) Department, Ministry, or other body to which experts are to be assigned:

Ministry of Education

b) Location or headquarters and geographical field operations:

Bangkok, Chachoengsao, and other places as requested by the Ministry of Education.

c) Detailed description of specific functions (job description).  
If specific individuals or specific background or experience are desired, so state and explain reasons:

See II-G-1 above.

- d) If assignment involves specifically the training of Thai personnel, describe type and number of such personnel and type of training:

The major emphasis in the operation of the project is the development of Thai personnel who hold significant leadership roles at various levels of the school system. Through cooperatively planned programs of in-service education, school visitations, and individual conferences with Ministry of Education officials, MSA educationists work with approximately 350 teachers, 25 headmasters, 16 Thai supervisors, and 35 Ministry of Education officials.

7 Thai supervisors serve as counterparts for the U. S. specialists in dealing with school personnel. The close collaboration with these school leaders offers numerous opportunities for the training of supervisors who can assist school personnel over fairly wide areas of the Kingdom.

- e) Time Schedule:

Desired starting date: Now on duty

Desired duration of assignment: The duration for 4 of the U. S. specialists is two years. One specialist terminates service in August 1952. A replacement has been approved (see Postion No. THA-75-T).

4. Thai Counterpart

- a) Educationist: Curricula and Instructional Materials - Three MSA specialists need six high-ranking, English-speaking Thai counterparts, three at Chachoengsao and three at Bangkok.
- b) Educationist: School Health Education - One MSA specialist needs one English-speaking Thai nurse as a counterpart at Chachoengsao, and one English-speaking Thai physician or nurse as a counterpart at Bangkok.
- c) Educationist: Elementary Education - one MSA specialist needs one or more high-ranking, English-speaking Thai educators (teachers, headmasters, or supervisors, in elementary schools) as counterparts.

## H. Trainees

1. Number of Trainees to be sent to USA: 4
2. Description of training in the following fields of elementary education:

- a) Supervision and Methods of Teaching - 2 trainees

Trainees should study the problems involved in setting up a program of elementary school supervision at the highest administrative level (the Kingdom), and in organizing programs of supervision for the 71 provinces. Training should include also some emphasis on modern methods of teaching and rural school organization.

- b) Administration of Elementary Education - 1 trainee

Trainee should receive training in top-level administration of elementary schools. This should include a study of the organization and administration of Kingdom-wide elementary schools, school finance, and programs of instruction at the elementary school level.

- c) Production of Instructional Materials - 1 trainee

Trainee should develop criteria for the selection of suitable materials of instruction in the elementary schools of Thailand; training in the preparation of materials of instruction; training in the techniques normally used in the publication of materials of instruction, such as mimeographing, multilithing, printing; and experience in group dynamics.

3. a) General Objective of Proposed Training in USA:

To gain knowledge and skills which will enable them, upon their return to Thailand, to help in the development of an improved program of elementary education, particularly in the fields of school supervision, methods of teaching, administration of elementary education, and the production of instructional materials.

- b) Specific Training Desired. Describe in detail, assigning priorities to various fields of training desired:

See H-2 and 3 above. When Firm Request is prepared, specific training requests will be entered thereon.

- c) Time Schedule. Duration of training and if training in more than one activity or locality, state desired length of training in each:

Each trainee should remain in the USA for a period of one year.

4. Description of Trainees

- a) Qualifications to be required of trainees (education, training, experience, present position, age, others):
- 1) Trainees should have a reasonably good grasp of the English language, both oral and written.
  - 2) Trainees should occupy positions at a sufficiently high level that they can influence the future trends of education in education.

5. Specific Assignment upon Return:

Trainees in Supervision and Methods of Teaching and Administration of Elementary Education will be placed in positions of leadership in the Department of Elementary and Adult Education of the Ministry of Education. The trainee in Production of Instructional Materials will be placed in a position of leadership in the Department of Educational Techniques.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Same or Related Fields (Include Relation to Long-Range Plans.

As a part of the over-all program planning of the Ministry of Education, the Department of Elementary and Adult Education developed a plan of action for the next four years. This plan includes educational projects in the following areas: 1) the establishment of at least one kindergarten and one infant class in each of the 71 provinces; 2) the establishment of at least one Pratom school (grades 1-4) in each of the 500 Amphurs in the Kingdom; 3) the establishment of at least one Elementary Extension school (grades 1-7) in each of the 71 provinces; 4) the establishment of an education project in the Bangkok-Thonburi area; 5) continuation of the Chachoengsao Pilot Project; 6) the establishment of area educational projects in each of the five geographical areas of Thailand; 7) the development of improved instructional materials for use in the elementary schools of the Kingdom; and modification of the organizational pattern of the department in order that more efficient service can be rendered to elementary schools.

At present MSA is providing technical and financial assistance in three of the above-mentioned projects -- Chachoengsao, Bangkok-Thonburi, and Production of textbooks and other instructional materials. Requests for additional technical and financial assistance are included in the four-year plan of the department.

B. Related Activities of International Agencies

MSA works directly and indirectly with several different international agencies in the area of elementary education. The closest cooperation occurs in the administration and operation of the Chachoengsao Pilot Project. UNESCO has the following personnel currently on the job and working full-time or part-time in the area of elementary education: one fundamental education expert, one specialist in audio-visual aids, one specialist in science education, and one specialist in adult education. FAO has supplied one specialist in agricultural extension work who work part-time on a school gardening project in elementary schools. ILO has supplied one specialist in vocational education and is recruiting one specialist in industrial arts for work in elementary schools. WHO is recruiting a school physician and public health nurse to work in the schools at Chachoengsao.

UNESCO has contributed the equivalent of approximately \$25,000 per annum in grants and subsidies and the equivalent of some \$20,000 in equipment and supplies.

USIS has aided the cause of elementary education indirectly by translating and publishing several different series of books at an approximate cost of some \$4,000.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any):

The Education Division attempts wherever possible to relate specific activities in the area of elementary education to other STEM projects, and also to make use of all the Mission's facilities and resources.

Important is the selective use of valuable information in the elementary schools of Thailand which has accrued from many different fields. This project has made wise use of data, facts and concrete plans that have been tried and proved successful by other STEM divisions. Notable are the contributions by the divisions of Health, Agriculture, and Industry. Science, Health, and Vocational information accumulated by other divisions is currently being filtered into elementary schools, interpreted by the education division at correct age levels and with use of appropriate teaching aids and materials. The inflammatory eye disease program, developed with the aid of the STEM Health Division, infiltrated into the Chachoengsao Pilot Project via regular Thai channels and was integrated into the health education program. Representatives of different STEM divisions frequently are members of Thai-foreign committees and groups, and share related information and work out projects (Health Coordinating Committee, Central Coordinating Board, etc.).

A very good example of cooperative and related effort is the Bangpakorn Land Settlement Project which not only ties in the STEM Divisions of Agriculture and Education, but also the three Thai Ministries of Agriculture, Interior, and Education plus several different international agencies (UNESCO, FAO, ILO).

Important in the development and operation of the project in elementary education is the related services and activities of STEM's Information Office. This office has cooperated fully in the development of instructional aids and materials for the schools of Thailand which is a very important part of the elementary education project.

IV. Remarks: None.

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APPROVED IN PRINCIPLE

FOR STEM:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
Chief of Mission

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
For the TTEC

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

Major Project Category: EDUCATION

Project (or Sub-Project) Title: TEACHER  
(MSA Project Title) TRAINING

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ <u>37,000</u>
Technical Assistance (Specialists)	\$ <u>30,000</u>
Trainees to US	\$ <u>18,000</u>
Total	\$ <u>85,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ <u>900,000</u>
Extraordinary Non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>          </u>
Total	฿ <u>900,000</u>

C. Government Budget

Ordinary Expenditures	฿ <u>42,550,000</u>
Extraordinary non-Capital Expenditures	฿ <u>          </u>
Extraordinary Capital Expenditures	฿ <u>          </u>
Total	฿ <u>42,550,000</u>

## II. What the Project Consists of

### A. The Teacher Training Project described herein covers the following Teacher Training programs:

1. Bansaomdej Teacher Training College (boys), Bangkok.
2. Suan Sunantha Teacher Training College (girls), Bangkok.
3. Chachoengsao Teacher Training College (girls), a joint MSA-UNESCO-Thai Government project.
4. Various other selected Provincial Teacher Training Colleges and Teacher Training Centers.
5. Health Education at the Physical Education Teacher Training College, Bangkok.

Education supplies and equipment from MSA dollar funds will be provided at a cost of \$37,000 together with the services of two U. S. teacher training specialists at a cost of \$30,000. \$900,000 from the counterpart fund will be used to buy equipment locally for the assisted schools.

Engaged in this work are personnel from the Ministry of Education, the faculties of the various Teacher Training Colleges, MSA Educational personnel, and UNESCO personnel. Improvements are to be effected through the combined efforts of these agencies. Some colleges have been selected in which concentrated efforts will be made; some aid will be given to others.

### B. Justification

The Thai Ministry of Education is attempting to improve the calibre, extent, and effectiveness of their total educational program. One important phase of this program is Teacher Training, for upon the teacher training colleges depend the effectiveness of present and future teachers. This project:

1. Assists the Ministry of Education in formulating over-all policy as it pertains to teachers and teacher education.
2. Establishes "pilot centers" in which intensive effort and equipment are used as demonstration centers for establishing newer and better methods of training prospective teachers.
3. Aids individual faculties and individual teachers with their many problems in classroom and administrative work.
4. Helps revise curricula, providing up-to-date teaching aids and techniques.

5. Trains educational leaders for assuming influential roles at all levels.
6. Up grades the educational opportunities for all Thai youth, thereby strengthening the earning capacity of the individual and the total economy of the Kingdom.
7. Assists the Department of Physical Education put into operation a professional program of School Health Education and equips the Physical Training College with essential instructional aids and materials, demonstration and laboratory supplies, books and manuals, and to provide a fund for in-service training.

C. Results to be Attained

The aim is to develop an improved curriculum for the professional training of teachers, particularly for elementary schools; to train leaders and supervisors for the 32 Teacher Training Colleges and their associated demonstration schools; and to provide adequate instructional materials for use in training future teachers. Graduates from these schools, once they become teachers, will be influential in raising the educational standards of all elementary schools. From time to time, in-service training of outstanding teachers will be held, which will provide a stimulus and know-how of modern teaching methods to affect many elementary schools immediately. The schools being concentrated on contain 138 teachers and 1972 future teachers. The provincial schools to be, during this fiscal year, less intensively developed programs are expected to reach 400 teachers now serving in the elementary schools of Thailand.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> <u>(MSA Code Book Classification)</u>	<u>Dollar Value</u>
540 - Film Strips	500
680 - Typewriters	4,500
710 - Electrical Generators	10,000
720 - Electrical Apparatus	2,000
740 - Water Systems	4,000
880 - Science Equipment	11,000
890 - Professional Books	3,500
640 - Models, specimens	1,500
Total	\$37,000

E. Summary of Items to be Procured from Counterpart Funds

1. Equipment for the Bangkok Home Economics School, such as cooking utensils, cutlery, crockery, musical instruments, etc., and remodeling rooms	฿200,000
2. Tools, equipment, and cost of furnishing special rooms for Practical Arts Education at:	
a) Ban Somdej Teacher Training College	฿80,000
b) Suan Sunantha Teacher Training College	฿80,000
3. In-service training course in connection with new curricula of teacher training for instructors in the provinces	฿40,000
4. Instructional materials, such as maps, charts, and globes, for selected teacher training colleges' demonstration and practice teaching schools.	฿60,000
5. Science equipment for twenty elementary schools used as associated demonstration and practice teaching schools	฿40,000
6. Health Education Program in the Physical Education Teacher Training College	฿400,000
Construction and equipment of a Health laboratory and service room	฿200,000
Instructional aids and equipment	75,000
In-service training program	75,000
Improvement of library facilities	50,000

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value (Baht)</u>
Lower Matayom Demonstration Schools	950,000
Bansomdej T.T.C. (boys)	4,640,000
Suan Sunantha T.T.C. (girls)	2,750,000
Chachoengsao T.T.C. (girls)	200,000
Physical Education T.T.C.	3,300,000
Provincial T.T.C.	13,360,000
Home Economics School	5,350,000
Salaries and Administrative Expenses	<u>12,000,000</u>
	Total 42,550,000

G. Technical Assistance (US Specialists)

1. Number: Two Teacher Training Specialists - one, Daniel J. Sorrells, (THA-76-T) now on duty and one to be requested. Part-time services of Dr. Charles D. Merrill (THA-80-T), Health Educator, now on duty.

2. General Objective of Assignment

- a) Train and develop educational leaders in the field of teacher education.
- b) Establish improved programs of teacher education.
- c) Improved health education in teacher training colleges and demonstration schools of Thailand.

3. Description of Assignment

a) Department, ministry, or other body to which experts are to be assigned: Ministry of Education - Department of Teacher Training and Department of Physical Education.

b) Location or headquarters and geographical field of operations:

Bangkok  
Chachoengsao  
Provincial Teacher Training Centers

c) Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

- i) Daniel J. Sorrells, THA-76-T, Educationist-Teacher Training, now on duty.
- ii) One additional specialist in teacher education who has had training and experience in organization, administration, and classroom work at all levels, including college. He must be able to work with Thai educators at the various levels including the Ministry; must be able to adapt educational theory and practice, programs and plans to local situations, and must also be able to coordinate all effort into a unified, progressive operation. One of these specialists will be assigned to duty in provincial teacher training colleges.
- iii) One specialist in Health Education, part-time. Charles D. Merrill, THA-80-T, now on duty.

d) Time Schedule

Desired Starting Date: One Teacher Training Specialist and one Health Educator now on duty. Need one more Teacher training Specialist by January 1, 1953.

Desired Duration of Assignment: Two years.

4. Thai Counterpart

1 "overall" counterpart from Ministry of Education.

1 "local" counterpart from each college of Teacher Training in which work is to be carried out - one who can speak English fairly well.

1 health educator (nurse or physician)

These are currently available.

H. Trainees

1. Number of Trainees to be sent to USA: 3

2. Description of Training:

- a) One high-level Ministry official to make a 4-6 months tour of observation of U. S. Teacher Training institutions.
- b) One Section Chief in the Ministry to spend one year in study and visiting Teacher Training Institutions.
- c) One Teacher Training College staff member who will study in a specialized field of teacher training for a year.

3. a) General Objective of Proposed Training in USA:

To provide those types of study and experiences which will be of maximum value to the individual grantee in helping him improve the performance of his duties to improve teacher training in Thailand. (See G-2 above)

b) Specific Training Desired:

See H-2 and 3 above. When Firm Request is prepared, specific training requests will be entered thereupon.

c) One year except in the case of the high official who will be going for observation purposes. This information will appear on the Firm Request when prepared, and is subject to Washington approval and modification.

#### 4. Description of Trainees

##### a) Qualifications to be Required:

H-2 (a) and (b) above must be high officials in General Education and Teacher Training, for it is from these levels that the greatest immediate influence can be effected on the whole area of Teacher Training. H-2 (c) must be a person who is currently employed in a Teacher Training College and who shows promise of giving leadership toward improved Teacher Training programs after completion of the year's study in the United States. Must hold a baccalaureate degree.

##### b) Proposed Utilization of Trainees upon Completion of Training

All trainees will have as their general objective, on completion of training, the continued improvement of Thai education, with emphasis on Teacher Training. The two officials of the Ministry of Education will return to their present posts of leadership. The person from a Teacher Training College will be used in a specific Teacher Training College, to put into practice improved methods of teaching. Upon successful demonstration, will be used to help other Teacher Training Colleges do likewise.

### III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

#### A. Thai Government Activities in Same or Related Fields (include relation to long-range plans).

In its five year plan, the Ministry of Education has embarked on a definite program of improvement of its Teacher Training Institutions. Specifically, it plans to add each year building improvements to 18 or 20 institutions. The remaining 12 will one by one be discontinued as a consolidation plan develops. Building construction will include classrooms, science laboratories, libraries, dormitories, and teacher quarters. The building program envisages training an increasing number of teachers to meet the demand for education for an ever increasing number of children.

The curriculum and methods of teaching will constantly be reexamined toward the view of making improvements. A third year specialized course for teachers of a functional rural program for grades 5, 6 and 7, is under way. An existing emergency one year training program for primary school teachers will be replaced as soon as possible by a required three-year program. Likewise, universal requirements will be held to 10 years of school before entering Teacher Training Colleges.

B. Related Activities of International Agencies

The Ministry of Education works with MSA and international agencies primarily through a Central Coordinating Committee, in which is represented all agencies concerned with educational programs under the Ministry of Education. Specific activities in Teacher Training are:

UNESCO: Science, English and Psychology.

WHO: Some medical clinical assistance to the Chachoengsao Teacher Training School.

American University Assoc.: Teaching of English

Fulbright Teachers: Teaching of English

UNICEF: Contribution of powdered milk

C. Related MSA Activities (state relationship as between Past and Projected projects in same field as well as relationship between fields, if any).

Certain activities of the MSA Division of Health are tied into the instructional program of the schools. The Technical Institute will provide courses, such as in the maintenance of heavy equipment, that directly complements the activities of other STEM divisions. This procedure will be accelerated as the Vocational Education Program, particularly, gets further under way. Close correlation is carried out between the program of the agriculture schools under the Ministry of Education and the work of STEM Agriculture Division.

IV. Remarks

It is conceived that by the end of Fiscal Year 1953, this program will be sufficiently far along so that in Fiscal Year 1954, increased emphasis can be given to the more intensive development of the provincial teacher training colleges.

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

GOVERNMENT OF THAILAND-MSA PROGRAM

JULY 1, 1952-JUNE 30, 1953

Major Project Category: EDUCATION

Project Title: UNIVERSITY EDUCATION (Technical)

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ 17,000
Technical Assistance (Specialists) (3)	\$ 45,000
Trainees to U. S. (3)	\$ 18,000
Total	\$ 80,000

B. Counterpart Funds Required

Ordinary Expenditures	฿ _____
Extraordinary Non-Capital Expenditures	฿ 900,000
Extraordinary Capital Expenditures	฿ _____
Total	฿ 900,000

C. Government Budget (Calendar Year 1952)

Ordinary Expenditures	฿ 2,900,215
Extraordinary Non-Capital Expenditures	฿ _____
Extraordinary Capital Expenditures	฿ 7,315,000
Total	฿ 10,215,215

SPECIAL NOTE: This project was originally agreed upon before the MSA takeover of the TCA Educational Mission to Thailand. It is included in the MSA FY '53 Program for that reason.

II. What the Project Consists of

A. The University Education (Technical) Project described herein covers the following items:

1. Assist the Engineering Faculty of Chulalongkorn University in improving its program of training Engineers by providing engineering equipment at a cost of \$10,000 from the MSA dollar fund and Baht 900,000 from the counterpart fund.
2. Assist the University of Thammasat (Moral and Political Sciences) in its Faculty of Economics establish a course in Business Administration at a cost of \$7,000.
3. Provide the services of 3 U.S. specialists (Engineering, Mathematics, and Business Administration) at a cost of \$45,000.
4. Send 3 staff members to the U.S. for advanced training at a cost of \$18,000.

B. Justification

Chulalongkorn University

This University serves 4000 students. In the past it has enjoyed considerable renown in the field of literature and letters. In recent years, as technical and scientific developments in Thailand have been accelerated, the University has been attempting to build up and strengthen its Engineering and Science programs. Now Engineering and Science laboratories have been constructed, but insufficient funds are available to equip them adequately. It is most important in this age of technology to develop engineers and science leaders who will have an influence in the development of the country. It is also essential to the prosperity of a country to tap and exploit its brain power resources. The importance of engineering and science education in this chief University of Thailand constitutes one key to the development of the country.

MSA is therefore requested to assist the University's efforts by providing equipment which either cannot be afforded under their financial limitations or which cannot be purchased locally. This aid will enable the University to:

- (1) Improve the instruction in existing engineering and science courses;
- (2) Serve a larger number of students; and
- (3) Extend its research capabilities.

The equipment requested this year will be placed in the engineering laboratory.

University of Thammasat (Moral and Political Sciences)

This University serves 20,000 students living in all parts of Thailand through extension courses. It has a campus enrollment of 6,000 students. It is embarking upon a program of extensive development, particularly in the field of Business Administration. Lack of funds is still the main drawback. The improvement in this situation will help produce more business administrators to play their sorely needed roles in the business development of the country.

The provision of Technical Assistance and equipment by MSA will enable the University to develop a course in Business Administration. Graduates of the course will fill positions in private concerns and in the Government, where more efficient business practices are desired.

C. Results to be Attained

In general, an increased number of students will be served; and the University instructors in three Faculties will gain increased knowledge of University education in their fields.

In specific, the following results are expected:

1. An improved course of study in Mathematics, with special emphasis on Statistics.
2. Improved courses of study in Engineering.
3. More adequate Engineering laboratory facilities.
4. The development of a course of study in Business Administration.
5. Adequate equipment for the teaching of Business Administration.

D. Summary of Commodities to be Imported with MSA Funds

<u>Commodity Group</u> <u>(MSA Code Book Classification)</u>	<u>Dollar Value</u>
<u>Chulalongkorn University</u>	
Engineering Equipment	10,000
<u>University of Moral and Political Sciences</u>	
Business Machines (Calculating Machines, Cash Registers, Book-keeping Machine, Addressograph, Dictaphone, and Mimeograph)	7,000

E. Summary of Items to be Procured from Counterpart Funds

<u>Item</u>	<u>Value</u> (Baht)
<u>For Faculty of Engineering (Chulalongkorn University)</u>	
1. Sanitary Engineering Laboratory Building and Equipment	500,000
2. High-Voltage Laboratory Equipment	100,000
3. Measurement Laboratory Equipment	100,000
4. Electronics Laboratory Equipment	100,000
5. Illumination Laboratory Equipment	<u>100,000</u>
Total	900,000

F. Summary Budgetary Expenditures

<u>Item</u>	<u>Value</u> (Baht)
<u>Chulalongkorn University</u>	
Faculty of Engineering:	
Salaries	687,600
Running Expenses	308,015
Extraordinary Expenses	<u>2,769,000</u>
	3,764,615
Faculty of Arts and Science:	
Salaries	984,600
Running Expenses	540,000
Extraordinary Expenses	<u>4,546,000</u>
	6,070,600
<u>University of Moral and Political Sciences</u>	
Faculty of Commerce:	
Salaries	360,000
Running Expenses	20,000
Extraordinary Expenses	<u>          -</u>
	380,000
Total	<u>10,215,215</u>

G. Technical Assistance (US Specialists)

1. Number: 3
2. General Objective of Assignment

To assist the two Universities improve their Engineering, Mathematics and Business Administration courses, working with staff members. To teach students no more than one class each for demonstration purposes only.

3. Description of Assignment

(a) Department, ministry, or other body to which experts are to be assigned:

- 2- Chulalongkorn University - Faculties of Engineering; Arts and Science. --
- 1- University of Thammasat (Moral and Political Sciences) - Faculty of Economics.

(b) Location or headquarters and geographical field of operations:

At the Universities - both in Bangkok.

(c) Training of their personnel:

Technical Assistance specialists are needed in Engineering, Mathematics, and Business Administration in these two Universities to assist their staffs in improving courses of study and in the application of new techniques and research. They should possess Doctors' Degrees in their fields and have had teaching experience at the University level.

FR's and job descriptions have been sent to MSA/W; no Job Number yet assigned.

(d) If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

Engineering - 22 staff members of the Engineering Department - 518 students.

Mathematics - 6 staff members of the Mathematics Department - 650 students.

Business Administration - 3 staff members and 23 part time lecturers of the Business Administration Department - 300 students.

(e) Time Schedule:

Desired starting date:

Immediately

Desired duration of assignment:

2 years

4. Thai Counterpart

Engineering - Mr. Aroon Soratheśn - Lecturer in Engineering,  
Faculty of Engineering, Chulalongkorn University

Mathematics - Mr. Snoh Tanbunyuen - Lecturer in Mathematics,  
Faculty of Science, Chulalongkorn University

Business Administration - Mr. Pawal Silpakit - Faculty of  
Commerce, University of Moral and Political  
Science

H. Trainees

1. Number of trainees to be sent to USA: 3

2. Description of Training:

1 in Engineering

1 in Statistics

1 in Business Administration

3. (a) General Objective of Proposed Training in USA:

Study for a year at an American University in the  
above fields.

(b) Specific Training Desired. Describe in detail,  
assigning priorities to various fields of training  
desired:

As per II - H - 2 above

(c) Time Schedule. Duration of training and if training  
in more than one activity or locality, state desired  
length of training in each:

Generally, one year. This information will appear  
on the Firm Request when prepared, and is subject  
to approval and modification by MSA/W.

4. (a) Qualifications to be Required of Trainees:

Must be able to speak English reasonably well.  
Have a baccalaureate degree.  
Have teaching experience at University level in  
the area to be studied in U.S.A.

(b) Proposed utilization of trainees upon completion  
of training:

On the staff of their respective Universities, teaching University students in those subjects they have studied in U.S.A.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects.

A. Thai Government Activities in Some or Related Fields (Include Relation to Long Range Plans).

This project aims at providing personnel for Thai Government agencies and private businesses needing better trained engineers, statisticians, and Business Administrators.

Long range plans to accomplish these aims include:

In Engineering, to increase the number of staff members and students by 25% in the next five years.

In Mathematics, to increase the number of staff members from 6 to 21, and the number of students by 25% within the next five years.

In Business Administration, to expand Business Administration courses to meet the demand for responsible University graduates, and to add a fifth year leading toward a Master's degree.

B. Related Activities of U.S. and International Agencies

Two lecturers have been received from the Fulbright Foundation at Chulalongkorn University.

At the University of Thammasat (Moral and Political Sciences), four Fulbright Foundation lecturers have been assigned. Dean Praesert (Economics) has just returned from 8 months in the U.S. under State's Leadership program.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

MSA is supporting the medical school of Chulalongkorn University and the Faculty of Political Science in Public Administration.

IV. Remarks

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA  
PROGRAM JULY 1, 1952-JUNE 30, 1953

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MAJOR PROJECT CATEGORY: Public Administration

I. Cost of Project

A. Dollar Cost (MSA)

Commodities	\$ _____
Technical Assistance (Specialists)	\$ <u>45,000</u>
Trainees to US (10)	\$ <u>60,000</u>
Total	\$ <u>105,000</u>

B. Counterpart Funds Required

Ordinary Expenditures	฿ _____
Extraordinary Non-Capital Expenditures	฿ _____
• Extraordinary Capital Expenditures	฿ _____
Total	฿ _____

C. Governmental Budget

Ordinary Expenditures	฿ _____
Extraordinary Non-Capital Expenditures	฿ _____
Extraordinary Capital Expenditures	฿ _____
Total	฿ _____

II. What the Project Consists of

A. The Public Administration Project described herein covers the following items:

1. Technical assistance, as requested by the Thai Government, to implement recommendations made in the FY 1952 MSA financed Public Administration Reconnaissance Survey at a cost of \$45,000.
2. Send ten important Thai officials to the U. S. to observe and study various phases of Public Administration at a cost of \$60,000.

B. Justification

Effective governmental administration services are the essential base to economic development programs and to the attainment of joint Thai-US MSA program objectives.

C. Results to be Attained

1. Assist, when requested, in planning and installing the various proposals outlined in the Public Administration Reconnaissance Survey.
2. Provide training abroad for Thai officials to stimulate interest in improved Public Administration and to add to the number of such officials who will administer such administrative reforms as may be desired.

D. Summary of Commodities to be Imported with MSA Funds

None

E. Summary of Items to be Procured from Counterpart Funds

None

F. Summary Budgetary Expenditures

Not possible to estimate.

G. Technical Assistance (US Specialists)

1. Number: Unknown
2. General Objective of Assignment:

To assist in planning and installing such new administrative systems as the Thai Government may desire based on the recommendations of the Public Administration Reconnaissance Survey.

H. Trainees .

1. Number of trainees to be sent to USA: 10
2. Description of training: To be determined later.

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

None at present

B. Related Activities of International Agencies

UN Technical Assistance Administration is expected to offer fellowships and books to the Faculty of Political Science of Chulalongkorn University to assist the program of Public Administration Training. These activities will be coordinated with the MSA program.

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

In FY 1952, MSA financed a Public Administration Reconnaissance Survey of the Government of Thailand. This survey made eleven specific recommendations which are now under consideration in the Cabinet and in the National Economic Council. This survey identified the most important administrative problems and is the basis on which further MSA activities in the field will be based.

IV. Remarks

This is a new program. The survey referred to above was only completed in May 1952 and is still under Ministerial study. It is yet too early to determine, therefore, the details of a FY 1953 program except in the general terms described herein.

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

\_\_\_\_\_  
For the TTEC

\_\_\_\_\_  
Chief of Mission

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

GOVERNMENT OF THAILAND-MSA

PROGRAM JULY 1, 1952-JUNE 30, 1953

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<u>Major Project Category</u>	<u>Information</u>	<u>Project Title</u>	<u>Joint TG-MSA Information</u>
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Training and Production Program

I. Cost of Project

A. Dollar Cost (MSA)

Commodities and services	\$	40,000
Technical Assistance (Specialists) 4	\$	60,000
Trainees to US	\$	-
Total	\$	100,000*

\* of which \$40,000 is included in the budget of the Public Health Program; \$40,000 in the Agriculture Program; and \$20,000 in the Education Program.

B. Counterpart Funds Required

Ordinary Expenditures	฿	2,000,000
Extraordinary Non-Capital Expenditures	฿	-
Extraordinary Capital Expenditures	฿	-
Total	฿	2,000,000

C. Government Budget

Ordinary Expenditures	฿	-
Extraordinary Non-Capital Expenditures	฿	-
Extraordinary Capital Expenditures	฿	-
Total	฿	-

II. What the Project Consists of

A. Description of Project

The joint Thai Government-MSA Information Training and Production Program would provide:

1. Information-education Technical Assistance by securing at the cost of \$60,000 the services of (a) a writer-editor and radio producer, (b) an audio-visual specialist, (c) a documentary motion picture producer-director and (d) a documentary motion picture script-writer and cameraman;
2. equipment and commodities in the amount of \$40,000 from MSA dollar funds and \$2,000,000 from the Counterpart Fund, for the production and distribution with and by TG Ministries and Departments of information and educational materials.

The four TA specialists and the equipment and commodities would enable:

1. Production and distribution of information-education materials needed to support and make more effective the joint TG-MSA operating program;
2. the training of TG personnel in the methods and techniques of production and distribution of those information-education materials which relate to the work of the Ministries and Departments of the TG;
3. the Thai people to be informed of the facts of USA assistance through STEM, as is stipulated in the Bi-lateral Agreement.

B. Justification

This program for production and distribution, and instruction in production and distribution methods and techniques, would increase both the quantity and quality of information-education materials needed by the TG Ministries to secure the fullest support and ablest cooperation of the Thai people, in order that the joint Economic Development and Social Welfare Program in Thailand may achieve maximum and continuing success, and in order that the Thai people may become fully aware of USA assistance, through STEM, to this program for their nation's and their own well-being.

C. Products (created collaboratively)

1. Seven illustrated pamphlets
2. Twenty demountable exhibits, for fairs, etc.
3. Monthly publication, for rural audience
4. Materials to service 50 photo exhibit boards
5. Four documentary-training films
6. Twenty posters
7. Still photographs
8. Leaflets

II. What the Project Consists of (Cont'd)D. Summary of Commodities to be Imported with MSA funds

<u>Commodity Group</u> <u>(MSA Code Book Classification)</u>	<u>Dollar Value</u>
1. See FR 270 A1, which contains details of commodities @ \$24,700 and ocean transportation @ \$2,500, totaling	\$ 27,200
2. In addition, an FR has been prepared to cover commodities and services needed to complete the making of a film on Transportation and Communications, to the sum of approximately	\$ 9,000
3. Additional commodities and services needed for audio-visual, support information program	\$ 3,800
TOTAL	<u>\$ 40,000</u>

E. Summary of Items and services to be Procured from Counterpart Funds

<u>Item</u>	<u>Baht Value</u>
1. Typist file clerk, for Graphics and Audio	฿ 19,000
2. Graphics and audio materials and equipment	40,000
3. Production of 7 pamphlets	250,000
4. Production of approximately 20 fair exhibits	475,000
5. Monthly publication for rural use and distribution	784,000
6. Travel in connection with rural publication and fair exhibits	60,000
7. Photo exhibit boards featuring joint program, and servicing of photo exhibit boards	20,000
8. Photographer and materials	42,000
9. Transportation of materials	67,580
10. Salary, and on-the-job expenses, for three cameramen-trainees	223,420
11. Typist file clerk for documentary film making unit	<u>19,000</u>
	<u>฿ 2,000,000</u>

F. Summary of Budget Expenditures

Not known

G. Technical Assistance (US Specialists)

1. Number: Four

II. What the Project Consists of (Cont'd)

2. General Objective of Assignment: Instruction and collaborative production by:

FR 270 M1 a. Motion Picture Producer-director (documentary)  
FR 270 M1 b. Motion Picture Script-writer and Cameraman  
FR 270 M1 c. Audio-visual Specialist  
FR 535 d. Writer-editor in field of publications; radio producer

3. Description of Assignment

- a. Department, Ministry, or other body to which experts are to be assigned: They will work with the Ministries of Public Health, Agriculture, Industry, Education, Communications, and Departments within those Ministries.

- b. Location or headquarters and geographical field of operations:

Bangkok and various areas throughout Thailand; which will be determined upon agreement with the various Ministries as to need and suitability.

- c. Detailed description of specific functions (job description). If specific individuals or specific background or experience are desired, so state and explain reasons:

See job descriptions submitted in FR 270 M1 and FR 535.

- d. If assignment involves specifically the training of Thai personnel, describe type and numbers of such personnel and type of training:

See, on page 2, item II. Exact type and number of personnel in Thai Ministries and Departments who would receive training and type of training will be resolved later, during discussions with Thai Ministries and Departments.

- e. Time Schedule:

Desired starting date: August 1, 1952

Desired duration of assignment: Two years

4. Thai Counterpart

To be arranged during discussions with Thai Ministries and Departments

III. Relationship of STEM Participation to Thai Government Projects, to Projects of International Agencies, and to other MSA Projects

A. Thai Government Activities in Same or Related Fields (Include Relation to Long Range Plans)

- 1. Department of Health Education, Ministry of Public Health
- 2. Agricultural Extension Division, Department of Agriculture, Ministry of Agriculture
- 3. Department of Educational Techniques, Ministry of Education
- 4. Department of Public Relations

B. Related Activities of US and International Agencies

- 1. USIS
- 2. WHO
- 3. UNICEF
- 4. UNESCO
- 5. FAO

C. Related MSA Activities (State Relationship as between Past and Projected Projects in Same Field as well as Relationship between Fields, if any)

Service to operational units (Health, Agriculture, Education, and Industry Divisions) in instruction and production, as provided in the Bi-lateral Agreement.

IV. Remarks

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APPROVED IN PRINCIPLE

FOR STEM:

FOR THE GOVERNMENT OF THAILAND:

\_\_\_\_\_  
Division Officer

\_\_\_\_\_  
For the Minister

\_\_\_\_\_  
Program Planning Officer

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For the TTEC

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Chief of Mission

DATE: \_\_\_\_\_

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