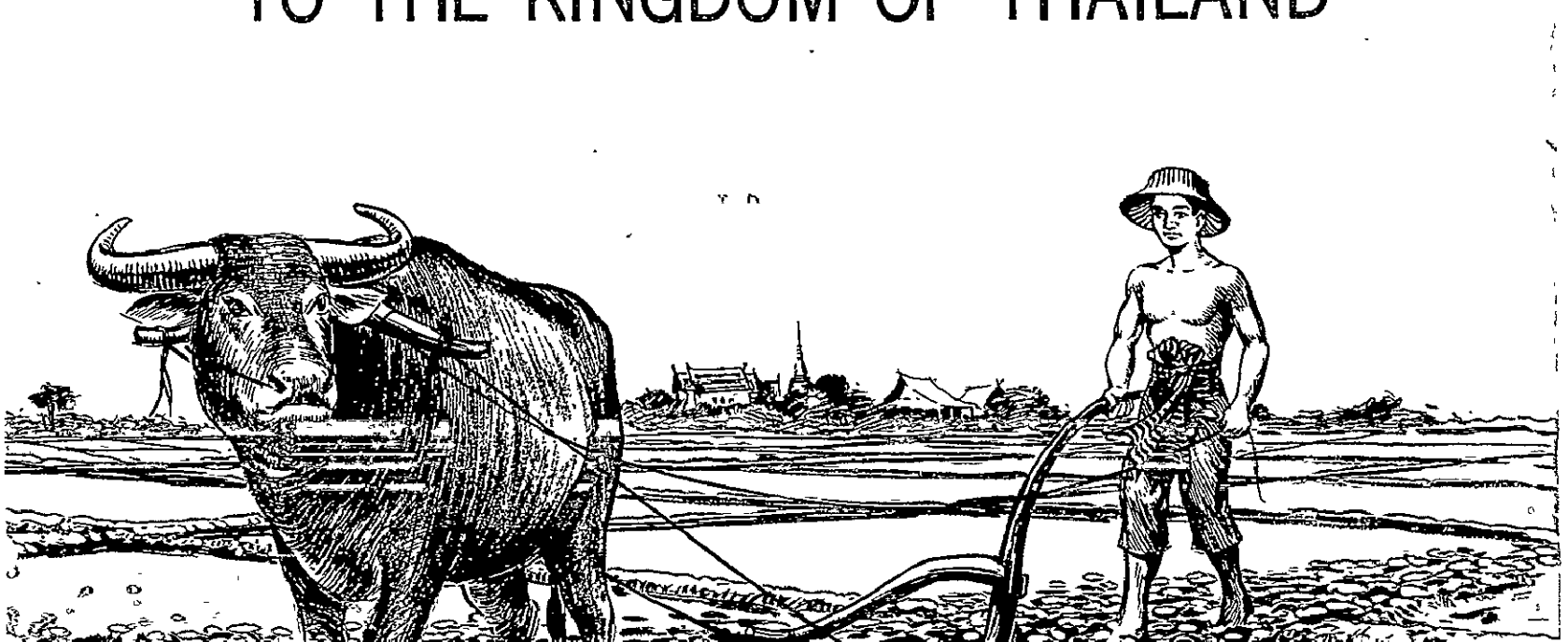
10 YEARS OF AGRICULTURAL ASSISTANCE

TO THE KINGDOM OF THAILAND



BY THE

UNITED STATES OPERATIONS MISSION

Date: March 6, 1961

To : Mr. Thomas E. Naughten, Director

From : Burlin B. Hamer, Agriculture Officer

Subject : Transmittal of Report "Ten Years of Agricultural Assistance to Thailand"

I take pleasure in presenting to you this report "Ten Years of Agricultural Assistance to Thailand", as prepared by Mr. Allen Commander, Program Assistant, Agriculture Division, which contains basic summary data which has been consolidated from many sources. It is intended that this report serve as a basic source of information relating to operational phases of the agriculture development program during the ten year period. It includes also a listing of all projects, both active and inactive, a list of all funds budgeted, and a complete listing of all staff who have participated in the division's efforts.

Burlin B. Hamer

Mr. Burlin B. Hamer, Agriculture Officer

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F O R E W O R D

Information contained in this publication has been derived from a number of sources.

The funding tables were compiled from statistics made available by the Office of the Assistant Director for Finance, the participant portion of the report was based on various materials from the USOM Training Office, while the list of technicians who have served in Thailand is a compilation from both the Agriculture Division files and those of the USOM Personnel Office.

INTRODUCTION

The United States has been providing agricultural assistance to Thailand since November of 1950. Some worthwhile achievements have been attained in this decade -- achievements that have been made through mutual efforts on the part of both Americans and Thais.

Numbering among the outstanding improvements are: (1) crop diversification, (2) progress in training university level agriculturists, (3) an expanded livestock industry, (4) seed improvement, (5) an increased knowledge of soil and water conservation methods, (6) better credit and market facilities, (7) an awareness of the need for an improved extension service, and (8) substantially increased fish production.

The correlation of cost, to precise project results, is at best an estimate, but for the decade under review (1950-1960) approximately 12 million dollars and the equivalent of 13.2 million dollars in counterpart funds have been budgeted for work in agriculture, forestry and fisheries. About 9.6% or $2,454,961 of the programmed dollar funds have been used to defray the cost of 79 American technicians and consultants who have been on duty in Thailand. Numerous Thai technicians and Agricultural Administrators have received training in the U.S. and 3rd countries. Participants costs have amounted to 4.95% or approximately 1.3 million dollars. Roughly 30% or $7,648,775 of the aid funds were expended for commodities in the period 1950-1960. Total dollar costs, including contract services, for the ten years has been $12,130,449.00, counterpart costs have amounted to $13,297,882 for a total of $25,428,381.

The reader should remember that where export or production figures are quoted there is no implication that USOM was solely responsible -- indeed credit is to be shared with our colleagues in the Thai Government as well as FAO, Colombo Plan and the several other organizations who have performed admirably in assisting the Kingdom of Thailand in its agricultural development program. One example of this multilateral assistance is to be found at the Department of Livestock Pakchong Vaccine & Serum Laboratory -- Thailand provided the land and buildings USOM the laboratory equipment and FAO the technical assistance -- numerous others could be cited.

USOM feels its agricultural projects are particularly important because Thailand, like so many of its Southeast Asian neighbors, finds its economy inextricably tied to food production, primarily rice. Eighty-five per cent of the Thai people derive their living directly or indirectly from farming, fishing and forestry work. Farmers supply exports that account for more than eighty per cent of the total foreign exchange derived from exports. The GOT realizes approximately one third of its revenue from rice.

Farm family income, including farm products consumed at home, less farm operating cash outlays, average approximately $250 per annum for the entire Kingdom. The average farm family nets an estimated ฿2,100 ($105) per year.

Numerous problems beset the Thai farmer as he strives for betterment including:

1. Lack of technical and managerial skills.
2. Dependence on merchant controlled credit and marketing.
3. Rapidly depleting natural resources.
4. Rice monocropping.
5. Low income.
6. Need for improved livestock.
7. Poor communications.

The Agriculture Division personnel of the United States Operations Mission to Thailand and our Thai counterparts have addressed our mutual efforts to various phases of these and other difficulties and it is felt that the ultimate solutions, while not easily attained, will have an enduring beneficial effect on the prosperity of this Kingdom and its people.

In the following pages an attempt has been made to briefly describe the 9 currently operating projects, in the Agriculture Division of USOM/Thailand. Each narrative is followed by a table which indicates the funding history of each activity.

No attempt has been made to do a descriptive treatment of those projects which have been phased out but rather they are presented in chart form in the section immediately following the active projects.

Several tables have been compiled to indicate cost by both field and category. These tables appear in Section IV of this publication.

Finally, a list of all personnel who have served in the Mission Ag. Division is presented in Section V. The concluding section is a compilation of participants, by project, both U.S. and third country. Following Section VI. the reader will find a map of Thailand pinpointing the various stations of the Departments within the Ministry which have, from time to time, received some type of assistance from the United States Operations Mission to Thailand.

AGRICULTURAL EXTENSION (493-11-029)

Because the Ministry of Agriculture had no system nor organization for giving advice and practical assistance directly to farmers, this project was begun in 1951 to help the Ministry establish a successful national agricultural extension service.

Six departments of the Ministry operate field programs of an extension nature, independently and with considerable duplication and overlapping. Comparatively few of the field personnel of these various agencies had sufficient training to render effective assistance to farmers or to furnish leadership in rural activities.

At the outset project technicians undertook to train personnel in the various phases of extension work. Rural Youth, Home Economics and General Extension have all received some attention during the past decade.

Eight regional extension centers have been established in the kingdom including buildings and equipment. These are at Korat, Lopburi, Chachoengsao, Udorn, Chiengmai, Pitsanuloke, Songkhla and Nakorn Pathom.

An in-service training program involving over 250 extension agents is underway.

A national extension service council and national extension service office have been created. A proposed extension plan for Thailand has been developed, and a large number of key personnel have been trained. An extension information section is in operation, supplying audiovisual and published materials for use by agriculturists in the field.

Despite encouraging progress in the provinces and with extension staffs of the several departments, the development of a unified organization -- especially at the national level has been disappointingly slow, due primarily to the necessity for major realignments of traditional functions. The extension concept however is proving itself to farmers and it is believed that a national organization will be implemented soon.

A branch office of the USOM Agriculture Division was set up in 1958 in Korat with several extension advisors on its staff. The program at Korat was designed to assist in carrying out an intensive and large-scale demonstration of extension service in the Northeast, in developing methods and practices which will increase productivity and conserve resources, in training provincial and district agricultural workers in extension work, and to pave the way for adoption of national program. In early 1959, a team of

three highly qualified senior agriculturists were brought from the U.S. to make a study and specific recommendations on the implementation of a sound extension and home demonstration program.

Kasetsart University has established a college-level extension training program and its Home Economics Department is training students for home demonstration work. A start has been made with the home economics phase of the extension program and as personnel are available and trained, the work will be expanded.

Improved varieties of rice seed have been distributed each year to some 26,000 farmers. More than 1,200 farm fish ponds have been stocked and the farmers instructed on their care and management.

Over 200 extension training workshops and conferences have been conducted, several hundred farmer education meetings held, and about 20,000 field crop demonstrations carried out. Training in the U.S. or other countries has been provided for 89 Thai specialists and officials in extension work, and 17 farm youths were sent to U.S. for one year on "young farmer" training programs.

Rural Youth Work (formerly project 93-16-036) is now combined with this project. Started in 1954, its aim is to assist the Department of Agriculture in developing a national youth farmer (Yuwa Kasikorn) organization similar to the American 4-H Club movement.

An American club advisor has helped organize clubs throughout the Kingdom. Assistance has been given in developing forms, reporting and other procedures; preparing books, manuals, project guides and other materials; selecting, training and supervising local club leaders and advisors; and demonstrating all types of club activities.

By October of 1960, 165 clubs had been organized with approximately 6,400 members. In 1957 this project helped organize and finance the first Far East Rural Youth Conference, which brought 125 delegates and 40 observers from ten countries to Bangkok.

AGRICULTURAL EXTENSION
93-11-029
(FY 51-60)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₤)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	26	46	17	376.7	113.8		383.5	12,035.7	4,648.4	8,800.9
1959	5			87.7	35.1		10.3	1,428.2	801.4	3,800
1960	8		34	70.7	39.5		37	2,480	840	6,000
Grand Total	39	46	51	535.1	188.4		430.8	15,953.9	6,289.8	18,600.9

1/ 3rd country training.

Mr. Pat Moriarty, USOM 4-H Club Advisor and Agriculture Officer Sorn Brahamadep inspect a garden project at Changwad Lamphoon.

Introduced American watermelon varieties are first tested on experiment stations and then released to farmers through the extension organization. Here Charleston Gray and Dixie Queen melons (foreground) are compared with the local variety.

USOM technician Gordon Young, one of the few living Americans capable of speaking the hill tribe dialects, and a tribal youngster.

Lac - seedling in plastic bags given by USOM to Mussuh tribesmen.

IMPROVEMENT OF KASETSART UNIVERSITY (493-11-130)

(FY 1952-60)

Kasetsart University is the Kingdom of Thailand's only degree granting agricultural institution of higher learning. If the University were to assume its proper place in a total program for agricultural development, it was in need of strengthening -- with this purpose in mind, USOM in 1952 undertook the project "Improvement of Kasetsart University".

The early phases of assistance were directed toward the improvement of Kasetsart's physical plant. The project was broadened in 1955 and a contractual arrangement with Oregon State College was entered into. Prior to the termination of the contract in September of 1960, OSC provided a number of professors to K.U. who assisted the Thai staff in the development of curricula, improvement of teaching methods, establishment of research projects and in the preparation of teaching materials.

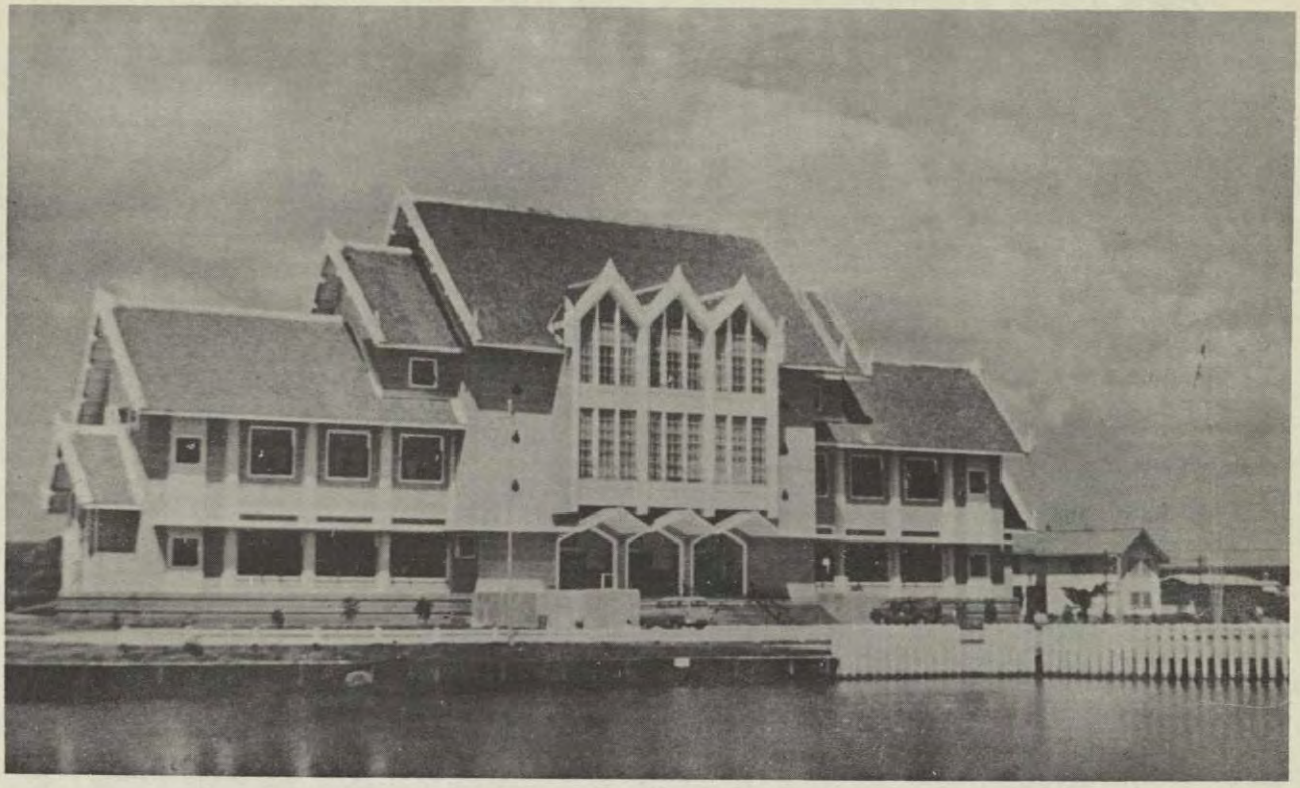
To date a number of buildings have been erected on campus, large quantities of laboratory and plant equipment have been purchased and installed and the University library has been improved considerably through the purchase of a number of books and reference materials.

Some 59 members of the Kasetsart University have received or are receiving graduate training in the United States. In 1952 K.U.'s enrollment was 317 students while the 1960 student body approximates 1,500. These enrollment figures are a partial indication of the increased reliance being placed upon Kasetsart as a source of trained personnel for Thailand's expanding agricultural development.

IMPROVEMENT KASETSART UNIVERSITY
93-11-130
(FY 52-60)

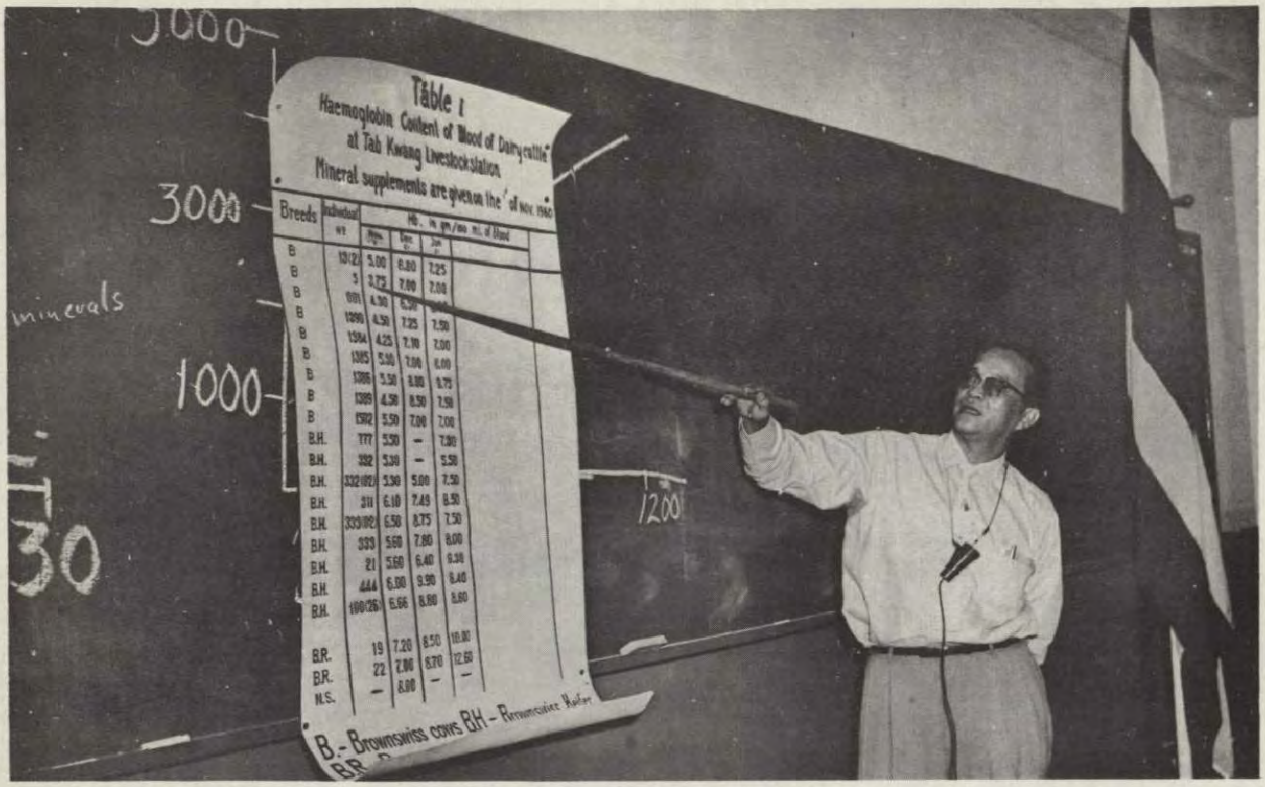
F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	34	46		14.2	65.4	718.1	198.7	19,328	399.9	3,840
1959	4	1						2,300.1	920.9	1,400
1960	3	5		9.7				600	3,739.9	
Grand Total	41	52		23.9	65.4	718.1	198.7	22,228.1	5,060.7	5,240

1/ 3rd country training.



Kasetsarts beautiful administration building, a classic example of Thai architecture, houses the University auditorium as well as the administrative offices.

Left to right: Dr. R.E. Fore, Farm Crop Advisor of OSC; Dr. Sala Dasamanda, Deputy Director General, Rice Department, Ministry of Agriculture; Rector Insee Chandrastitya; Dr. M.D. Dawson, OSC; Prince Chakrabandhu Pensiri Chakrabandhu, Director General, Rice Department, Ministry of Agriculture; Dr. Phanom Smitananda, Head, Department of Agronomy, Kasetsart University.



Dr. Yod Vadhanasindhu speaks at the First Livestock Development Seminar conducted by Kasetsart University.

Dr. M.D. Dawson of the OSC advisory staff and student assistant in corn trial plot on the Kasetsart campus.

AGRICULTURAL RESOURCE USE & CONSERVATION (493-12-191)

(FY 1959 - 60)

The philosophy of conservation is hardly known in Thailand except among a small body of dedicated men principally because of the seeming abundance of soil and forests and the dependability of food supplies. Virtually all of Thailand's better lands have been put to intensive rice culture and as a consequence its forests have receded. The need for land has driven farmers to clear marginal areas and cultivate unsuitable lands resulting in a vast loss of resources. Destructive slash-and-burn farming, once tolerated, can no longer be afforded as population increases are experienced and the persistence of low productivity is maintained per land unit.

Related to this are the problems of the "arid" Northeast. Actually 35 to 45 inches of rain falls on most of this area; it is arid only to the extent that there is not enough water for dependable wet-rice growing. With moisture conservation, soil improvement and better adapted crops, the region might become prosperous despite its poor soils.

The need for diversification, generally recognized by agriculturists, calls for information on land-use capabilities, soil characteristics, and plant food needs. Such information is fragmentary and facilities for gathering it hardly existed a few years ago.

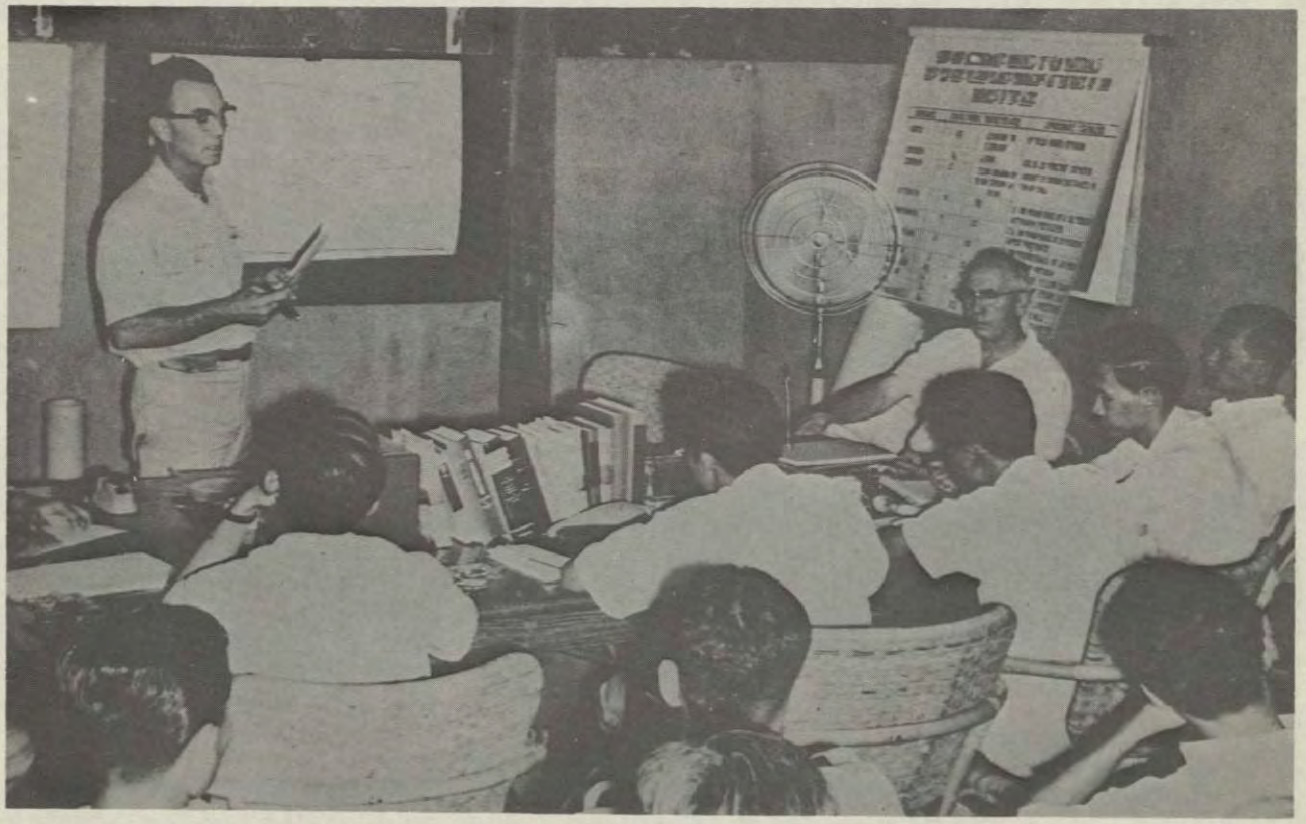
These were some of the considerations which prompted initiation of this project in 1952 to deal with soil fertility studies, soil testing facilities and related subjects. As these activities gained acceptance and proved their value, attention was turned to conservation of soil and water resources and improved use. The present project, Agricultural Resources Use and Conservation, was established in 1959. It emphasizes the proper use of land through land capability surveys and land classification and the application of conservation practices to land to conserve soil and water and to use water more efficiently through proper irrigation layouts.

RESOURCE USE & CONSERVATION
93-12-191
(FY 59-60)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part.		U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958	11									
1959	1	4	7	39.54	37.7		29.2	2,206.8	642.3	2,280
1960	4	3	8	31.48	20.7		45	1,780	420	1,300
Grand Total	16	7	15	71.02	58.4		74.2	3,986.8	1,062.3	3,580

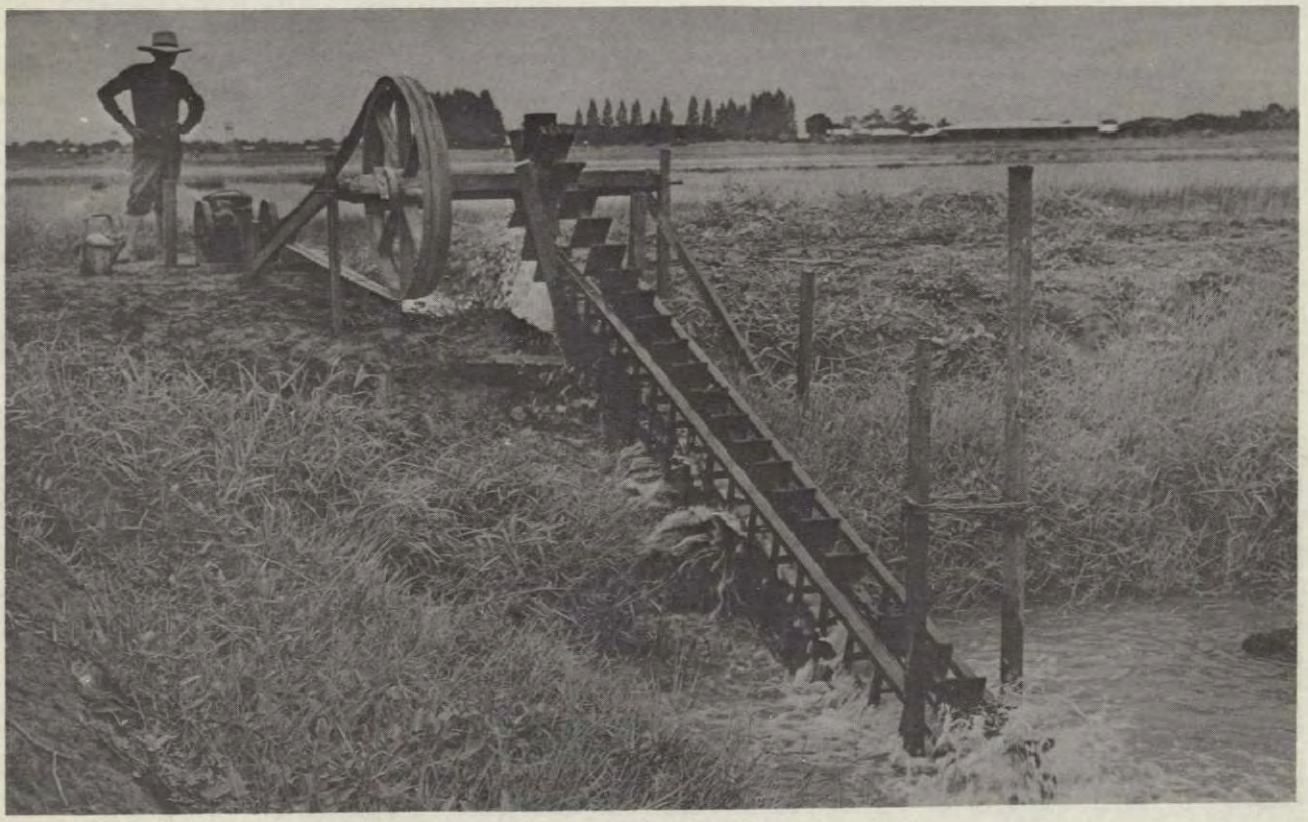
1/ 3rd country training.

Traditional cultivation of crops on hill slopes presents a serious resource depletion problem for Thailand.



USOM Soils Advisor Glenn Feather and Conservation Specialist Cliff Giradot conduct a training meeting on erosion problems.

Field demonstrations are conducted throughout the year to teach farmers improved conservation practices.



Proper water utilization is essential to Thai farmers. USOM has furnished a number of pumps to power Thailands "Rahads" (shown above).

AGRONOMIC DEVELOPMENT (493-13-032) 1/

(FY 1951-60)

Thailand's agricultural economy is primarily based on the growing of rice, the principal food of the people and the Kingdom's most valuable export commodity.

Constant improvement in rice production is necessary both to accommodate a growing population and to maintain Thailand's major source of foreign exchange. Under present practices, the expansion of rice acreage is producing diminishing returns. The best wet rice lands were long ago put into intensive rice cultivation. Unfortunately, as the best land has already been utilized, poorer land is now put into paddy with corresponding decline in yields per rai. It is clear that, from the standpoint of the national economy, and the conservation of resources, diversification of crops is essential for a stable and prosperous agriculture. The possibilities for crop diversification in the Kingdom are enormous.

These and other considerations led USOM in 1951 to the establishment of this project. The introduction of improved crop varieties, improvement of crop management practices, and the finding of profitable crop uses for lands of marginal value numbered among the problems tackled by the American TA's.

The project provided substantial assistance in the development of 13 agricultural experiment stations, including buildings, equipment, and on-the-spot training and supervision.

Some 60 Thai specialists have been sent to the U.S. for training, and hundreds of technicians have been trained on the job and in short courses throughout the Kingdom. The introduction and testing of new and improved crops resulted in widespread adoption of proved varieties.

The rice improvement work, begun in 1951, was completed in 1957 (Project 93-11-031). Under this phase of the program, 11 rice stations were assisted with equipment, facilities, technical advice and direction.

Over 200,000 selections and samples of rice were tested. Promising varieties were tested further in over 25,000 farm trials. Fourteen of the most promising varieties were selected for multiplication, a program in which over 40,000 farmers have participated. By 1958 about one-sixth of the farmers in Thailand were growing improved varieties with yield increases of 10 to 80 per

1/ Prior to FY 60 this project was entitled "Crop Improvement".

cent, and were receiving quality premiums of from 10 to 30 per cent. At this point, with the program in full operation and with the full support of the Ministry of Agriculture, U.S. assistance was withdrawn and concentration was directed toward other crops. Testing and propagation of other types of food and cash crops have since been pursued.

Examples may be found in the introduction of Guatemalan corn and Hawaiian sugar sweet corn. The 1958 corn crop was the largest on record -- 186,300 tons. Corn yields have increased 40 per cent, and production has almost tripled since 1951. Exports of corn in that time have increased in value from 29.1 million baht in 1951 to 193.8 million baht in 1958.

Project technicians are concentrating their efforts in the following areas during 1960.

Seed Multiplication Production of high quality seeds, with increase in overall production as the end objective.

Variety Improvement Experimental work on upland crops designed to identify suitable varieties for upland soils.

Cultural Practices Experimental work on upland crops designed to determine time of planting, rate of seeding, spacing, seed-bed preparation, etc.

In-service Training and Program Planning Travel of field technicians to attend coordinating meetings and to assist in planning research activities.

Soil Fertility Field Trials and Demonstrations Field trials with selected upland crops; demonstrations of benefits from proper application of fertilizers.

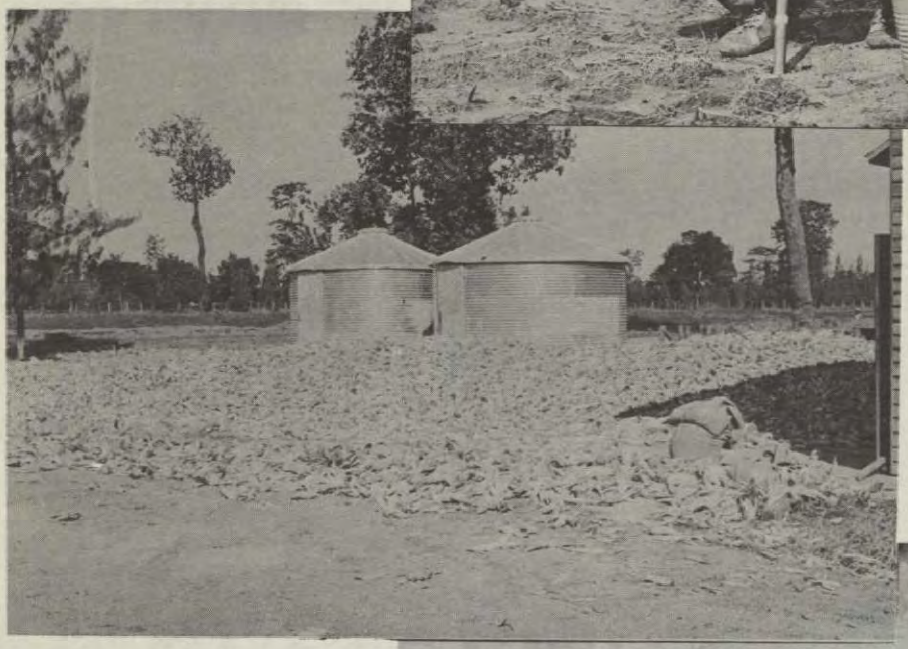
Soil Fertility Experiments, Upland Crops Experimental work to determine recommended fertilizer rates of application, time of application, placement, optimum analysis, etc. for various crops on various soil types.

Soil Fertility, Fruit Crops To develop fertilizer recommendations for the fruit crops in Thailand.

Observation and Yield Trials (Experiment Stations) To identify suitable crops for rotation on rice lands before and/or after the rice crop, and to identify adapted varieties of green manure crops, cash crops and food crops.

Seed Production Production of high quality rotation crop seeds for use before and/or after the rice crop, for distribution to farmers in cooperation with the USOM Extension Project (029).

Soil Sampling techniques are taught Thai field officers who in turn make their services available to farmers.



Improved corn yields have been demonstrated in Thailand by the use of better seed. USOM has imported several varieties including Guatemala field corn and Hawaiian sugar sweet corn for field trials in Thailand.

In the early history of this project extensive experiments involving over 25,000 farm trials were conducted on rice to determine the best varieties suitable for Thailand.

Proper spacing of seed is one of the many improved practices being taught Thai farmers by USOM technicians.

Plants must be continually watered during Thailand's dry season if economical production is to be attained.

USOM staff members check results of a multiplication farm for improved corn seed near Korat. Left to right: Soils Advisor Glenn Feather, Extension Specialist Bill Chapman, Program Officer Maurice Bean, Agronomists Chuck Breitenbach and Russ Brannon.

AGRONOMIC DEVELOPMENT
93-13-032
(FY 51-60)

FY	Number of Persons			U. S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part		U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958	29	28	8	395.3	140.1		452.2	24,390.4	5,595.4	11,759.1
1959	3	8	34	30.8	46.5		19.9	3,380	925.8	7,600
1960	4	5	11	60.8	44		24.5	2,010	600	3,120
Grand Total	36	41	53	486.9	230.6		496.6	29,780.4	7,121.2	22,479.1

1/ 3rd country training.

LIVESTOCK INDUSTRY DEVELOPMENT (493-13-033)

(FY 1952 - 60)

Thailand's cattle and buffalo herds suffered acute depletion during World War II -- so much so that the GOT placed an embargo on shipments in an attempt to recover the losses imposed during the war years.

USOM was a strong advocate for the removal of the livestock export embargo. This objective was accomplished in 1952 and the following table indicates the resultant outcome.

	Buffalo		Cattle		Swine		Poultry	
Year	Quantity	Value*	Quantity	Value	Quantity	Value	Quantity	Value
1951	-	-	-	-	-	-	-	-
1958	54,160	59,356	143	259	104	2	973	8,005

* Million of ฿

The year this project was initiated, livestock diseases were prevalent and the potential growth of the industry was hampered by the lack of adequate feed supplies to carry the animals through the dry season. Technicians addressed their efforts to several of these problems during the early stages of the project. Herd improvement and disease control were two phases of the industry that were given assistance by USOM. 279 purebred cattle were imported for cross breeding purposes, in addition 245 swine and a large number of chickens were also brought into Thailand.

Disease control, a vital necessity for any livestock development program was and is a serious problem in Thailand -- but notable progress is being made. The National Serum & Vaccine Laboratory at Pakchong has been considerably expanded and improved through USOM assistance. The Foot & Mount Disease Section of the Laboratory has been a striking example of a multilateral program. The GOT provided the buildings, USOM furnished the equipment and FAO provided the technical assistants who worked with the Thai staff in developing a suitable Foot & Mouth vaccine for both buffalo and cattle.

Five regional diagnostic clinics have been established and plans for five more are being developed by the Livestock Department. The Department has a livestock disease prevention and treatment service in operation in a number areas.

The Regional Rinderpest Eradication program was conducted as a singular activity and has been successful to the extent that no infected animals have been reported since 1958. A 50 kilometer belt is maintained along the borders of the Kingdom to prevent reinfestation.

Specialists have been trained in the U.S. and third countries in Animal Husbandry, Artificial Insemination, Animal Nutrition and numerous other fields.

The problems involving animal nutrition are under study. New forage and pasture grasses have been introduced and trial plots have been undertaken on several stations.

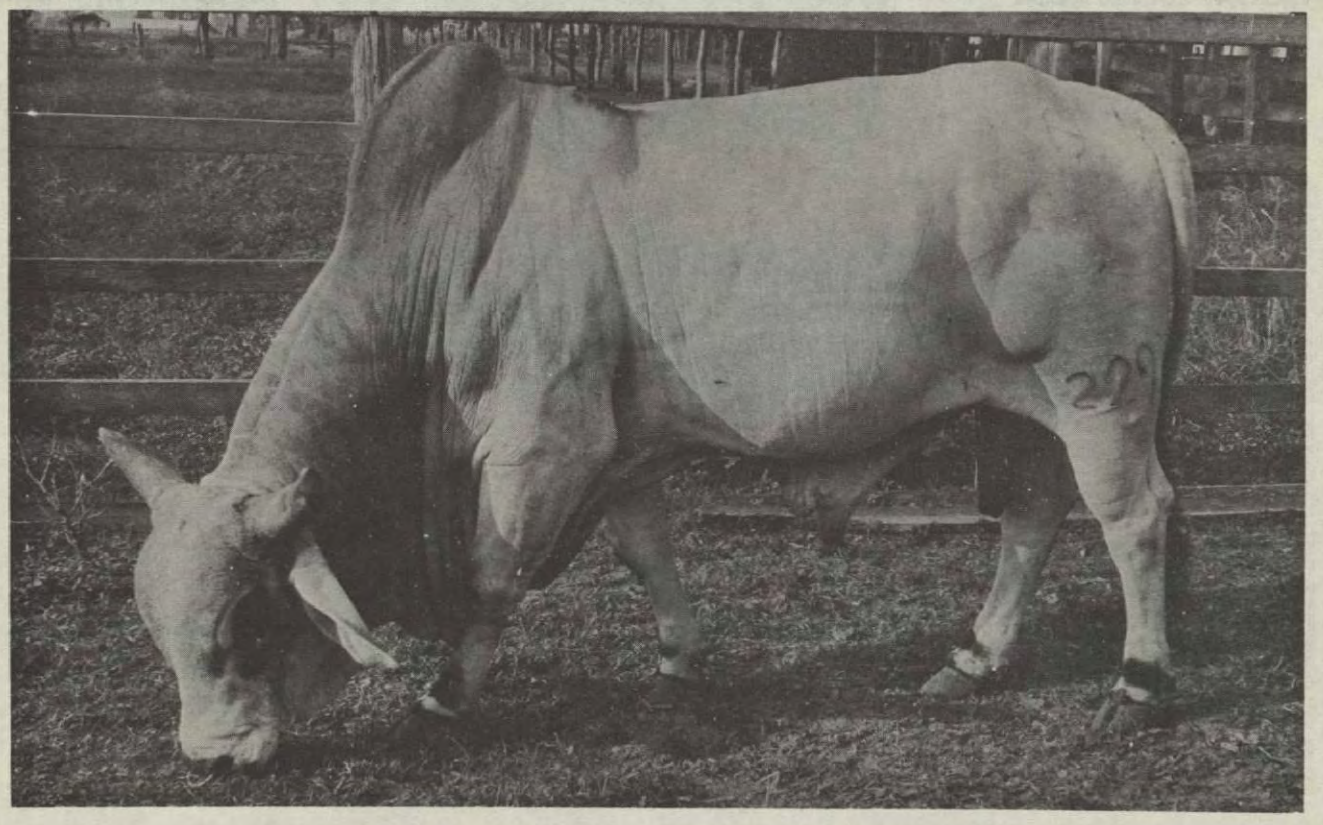
The need for facilities to expand Thailand's export markets was recognized early and USOM TA's began several years ago to develop a plan for assistance in this area -- the ultimate culmination of which was Thailand's first modern meat processing and cold storage plant. Financed through private capital and monies from the Development Loan Fund the cornerstone for the plant was laid in mid-1959. When completed the plant daily capacity will be 440 cattle and 3,200 swine.

LIVESTOCK INDUSTRY DEVELOPMENT
93-13-033
(FY 52-60)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U. S. Tech.	Part.		U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958	21	23	5	195	78.5		469.7	19,923.9	2,535	44,095.4
1959	3	4	17	48	23			4,011.9	516.1	10,011
1960	3	2	10	21.2	15.5		30	1,868	432	10,000
Grand Total	27	29	32	264.2	117		499.7	25,803.8	3,483.1	64,106.4

1/ 3rd country training.

USOM technician Malcom Thomas observes Dr. Chaovana Mekgamol running tests in the Bacteriology section of the Livestock Departments,, National Diagnostic Lab in Bangkok.



279 purebred cattle have been brought to Thailand for upgrading native stock. The above is one of several bulls imported by USOM for Thailand livestock improvement.

A Livestock Department technician examines a villager's fowl for bacterial disease at the Regional Diagnostic Lab, Ubol, one of the ten clinics in the kingdom aided by USOM.

USOM Vet. Advisor Dr. Marvin Goff (at right above) conducts an animal parasite demonstration at Ubol. Mr. Harry Sherrill USOM Audio-visual Specialist accompanied Dr. Goff to observe techniques demonstrated.

Dr. Yod Vadhanasindhu, USOM TA Floyd Arnold, Mr. Jack Cornett, Manager Foremost Dairy Plant, Bangkok, USOM TA Allen Commander, Dr. Ratana Oonyawongse examining silage at the Tap Quang Livestock Station.

PLANT PROTECTION (493-13-205)

(FY 1960)

The Plant Protection technicians have directed their efforts in the areas of control and regulatory problems presented by insect pests, plant diseases, and quarantines as they relate to Agriculture and Forestry. During the past several years the Government of Thailand has expressed increased interest in the area of Plant Protection as a whole rather than in the restricted disciplines of insect pest and disease control. Plant protection was given project status by USOM at the beginning of FY 1960 to advise and assist in this specialized area of agriculture.

One particular accomplishment should be noted here. Mr. Wendell F. Sellers, USOM Entomologist, along with his Thai colleagues, made a significant contribution to Thai agriculture through the drafting of legislation dealing with plant quarantine, pesticides and insecticides. At this writing the draft legislation is being studied by a special committee of the Ministry prior to submitting the material to the Council of Ministers. In 1960 modern insecticide mixing equipment was purchased with funds from this project. Installed in a building owned by the Rice Department and located on the campus of Kasetsart University, the equipment is available for Ministry-wide usage. Three participants have been sent to the U.S. for advanced training in entomology and another is studying biological control methods in India.

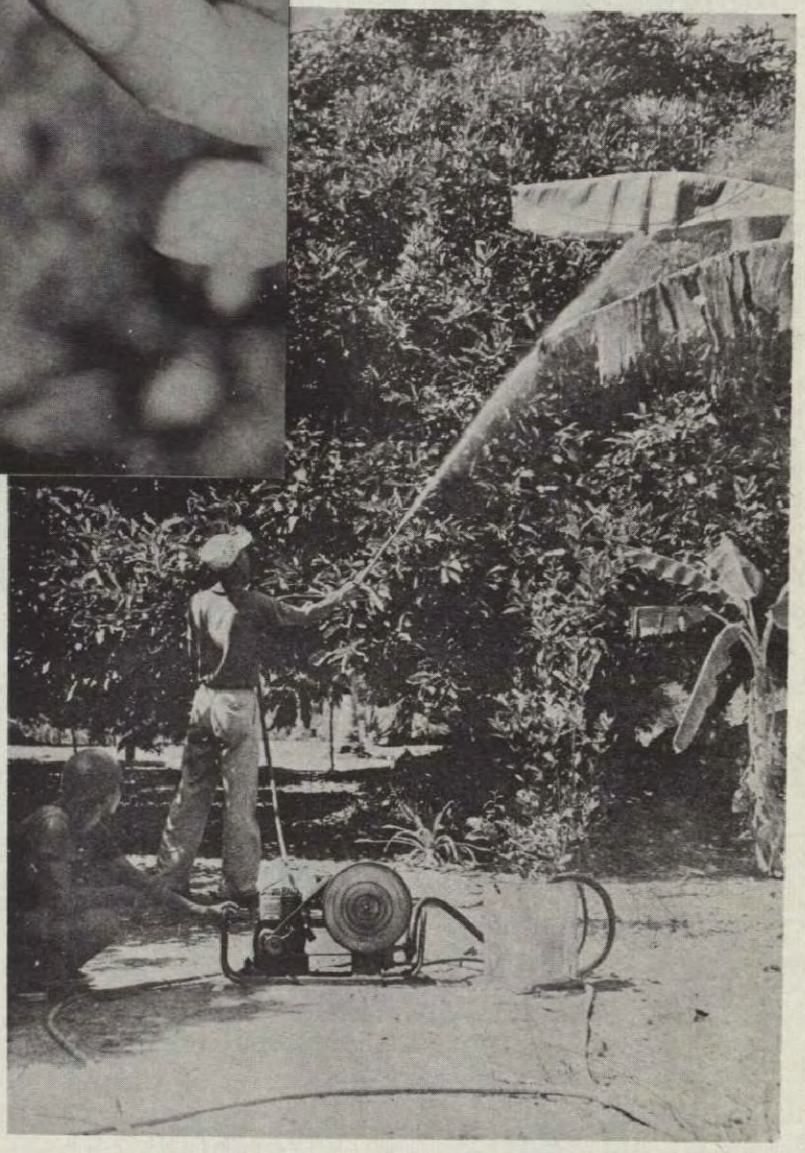
PLANT PROTECTION
493-13-205
(FY 60)

F Y	Number of Persons			U S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₤)		Government Contribution
	U.S Tech.	Part		U.S. Tech.	Part	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958										
1959										
1960	1	3	1	12.8	23		5	700	200	800
Grand Total	1	3	1	12.8	23		5	700	200	800

1/ 3rd country training.

One type of portable spray equipment, purchased with USOM funds, is demonstrated to teach the effectiveness of insecticides.

Stem borer and other insects infest crops and reduce the Thai farmers' production and income.



The use of simple spray equipment is being demonstrated to Thai farmers in USOM's effort to assist Thailand's in controlling insects and pests.

AGRICULTURAL CREDIT & MARKETING (493-14-034)
(FY 1952 - 60)

The objective of the project is to assist the Thai Government in the provision of needed agricultural credit to selected farmers on reasonable terms and to develop reliable agricultural marketing facilities.

This project was started in 1952. During the first five years emphasis was placed upon development of family farm production conducted by members of land development and land improvement cooperatives.

Large amounts of equipment -- deep-well pumps, trucks, jeeps, tractors, portable pumps, winches, Butler bins, etc. --were supplied to the Ministry of Cooperatives. Technical assistance in land colonization and development has since been phased out, however, and the project now concentrates on demonstrations in credit and marketing as well as farm management improvement.

In 1953 financial and technical assistance from this project helped make possible more than 10 demonstrations under local field conditions in improved credit and marketing services. In addition, funds totalling 5 million baht have been made available for the establishment of two provincial cooperative banks and 3.5 million for controlled credit and management improvement in selected paddy marketing cooperatives. Counterpart grants in the amount of 4 million baht have been provided the Ministry of Cooperatives for use as initial capital in connection with six field demonstrations of production credit lending to farmers based upon budget farm plans and improved production practices.

During 1958 alone, 850 farmer cooperative leaders and officials were trained in the direction and management of cooperative services through educational and training conferences, workshops and short courses. These training activities are a continuing part of the program.

In late 1958, three highly competent consultants were employed to make a full study and recommend a basic improvement program of credit, marketing and cooperative management. This report will serve as a basis for planning of further work in this field.

In 1960 USOM provided a consultant from the U.S. Department of Agriculture to assist the GOT in drafting credit and marketing legislation and in formulating materials for requesting a loan from sources outside Thailand.

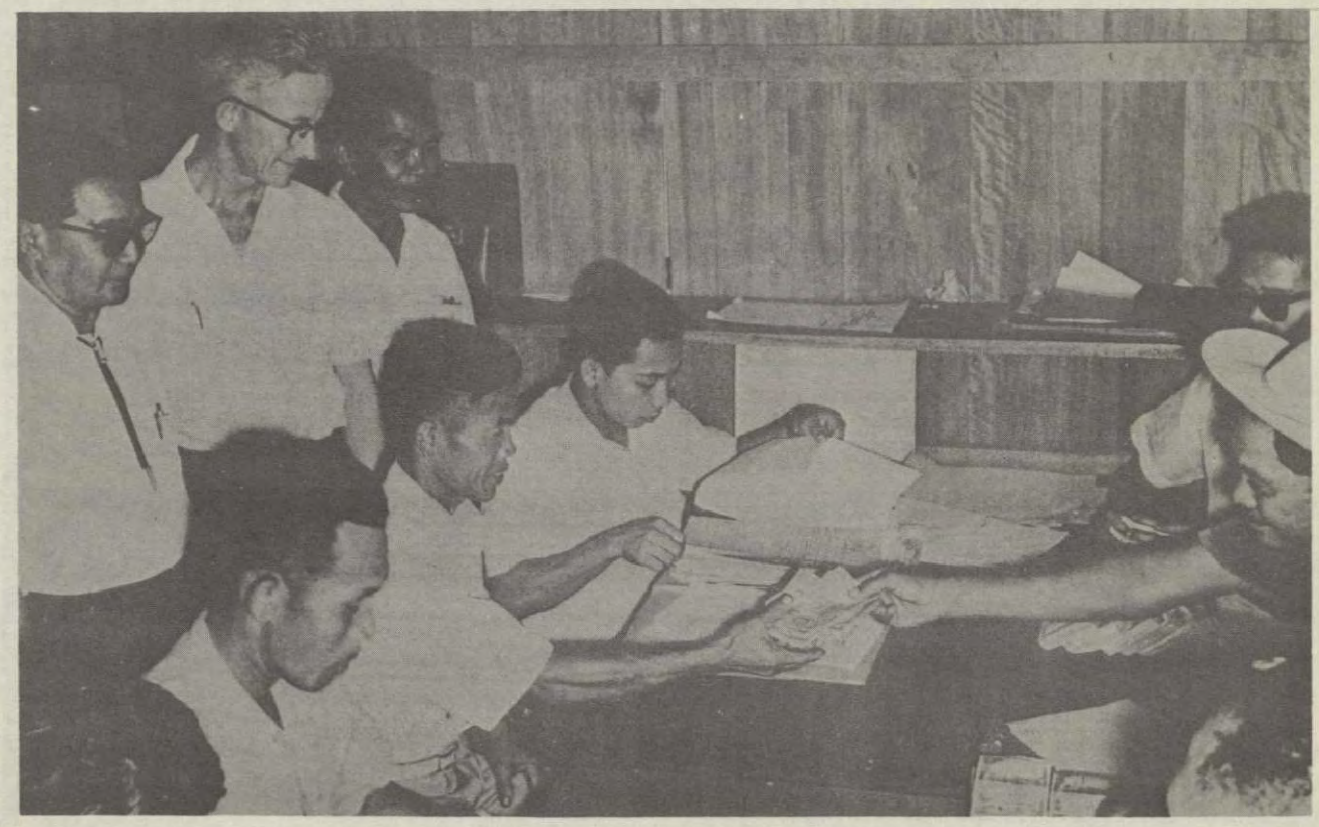
Current work plans include assistance in: the preparation and enactment of appropriate legislation; establishment and capitalization of a central credit institution; installation of credit & marketing operation procedures and regulations; inauguration of systems for supervision and control; training of personnel for management of local, provincial and central institutions; organization of additional credit societies; and establishing a comprehensive marketing information and regulatory service as an agency of the government.

COOPERATIVES AND CREDIT
93-14-034
(FY 52-60)

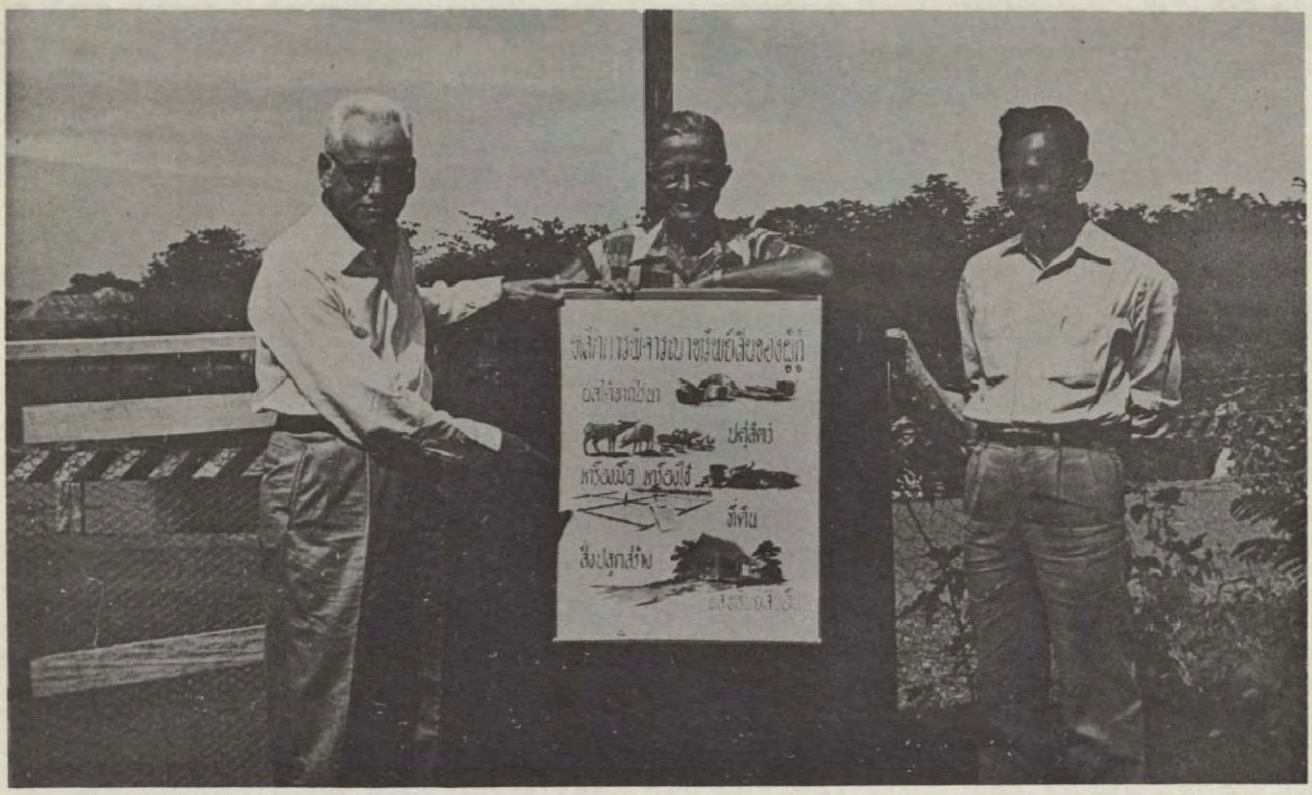
F Y	Number of Persons			U S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₺)		Government Contribution
	U.S Tech	Part		U.S Tech	Part	Contract Services	Commo	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958	9	50	9	112 2	17		748 2	18,670.2	2,890 4	59,931 9
1959	3	3	4	66 9	23		40	2,330.1	437 7	1,620
1960	5	2	10	42 5	151 6		13	2,230	520	660
Grand Total	17	55	23	221.6	191 6		801 2	23 230 3	3,848 1	62 211 9

1/ 3rd country training

Mr. Clem Orrben of ICA/W presents a check to the treasurer of the Pakchong Cooperative.



USOM Credit Advisor Wally Maddock observes Coop members receiving their first loans.



USOM TA's use visual aids extensively in teaching farmer service methods. Left to right: Marketing Advisor John Wann; Wally Maddock, Credit Advisor, and Project Assistant Chane Kalaya-namitr.

USOM and the GOT frequently host visiting officials from other countries, here Deputy Ag. Officer W. Allan Goodbary and Minister of Cooperatives Phra Prakas Sahakorn chat with Korean National Assemblyman Lee Yung Hee and Mr. Kim Myung Soo, Chief of the Planning Section, Ministry of Agriculture and Forestry, Republic of Korea.

AGRICULTURE LEADER TRAINING (493-19-209)

(FY 1959 - 60)

Beginning in FY 59 ten selected bona fide farmers plus one Thai government official from each of the Ministries of Cooperatives and Agriculture were sent to the United States for approximately three months' observation and training.

Each Ministry provided one staff member to act as group leader. These farmer leaders, upon return to Thailand, become focal points for joint USOM/Thai demonstration and training activities.

In addition to the farmer leaders, in FY 60, three top level Ministry of Agriculture officers were sent to the U. S. under this project - - their tour coincided with that of the Minister of Agriculture. Thus Thailand's farmer leaders and top agricultural administrators are being afforded an opportunity to make a comparative study of the two countries' approach to food production problems.

AGRICULTURE LEADER TRAINING
493-19-209
(FY 60)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U. S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958										
1959										
1960		16			28.9				580	
Grand Total		16			28.9				580	

1/ 3rd country training.

MARINE RESEARCH 51 (493-18-028)

(FY 1959)

This project was initiated in FY 59 to conduct on a regional basis, oceanographic and marine biological investigations in the South China Sea and the Gulf of Thailand. Research information is being provided in the several areas of marine resource development to the two participating countries of Viet-Nam and Thailand.

The contractual arrangement for the two-year life of the project (scheduled for phase out in FY 61) is with the Scripps Institution of Oceanography (University of California).

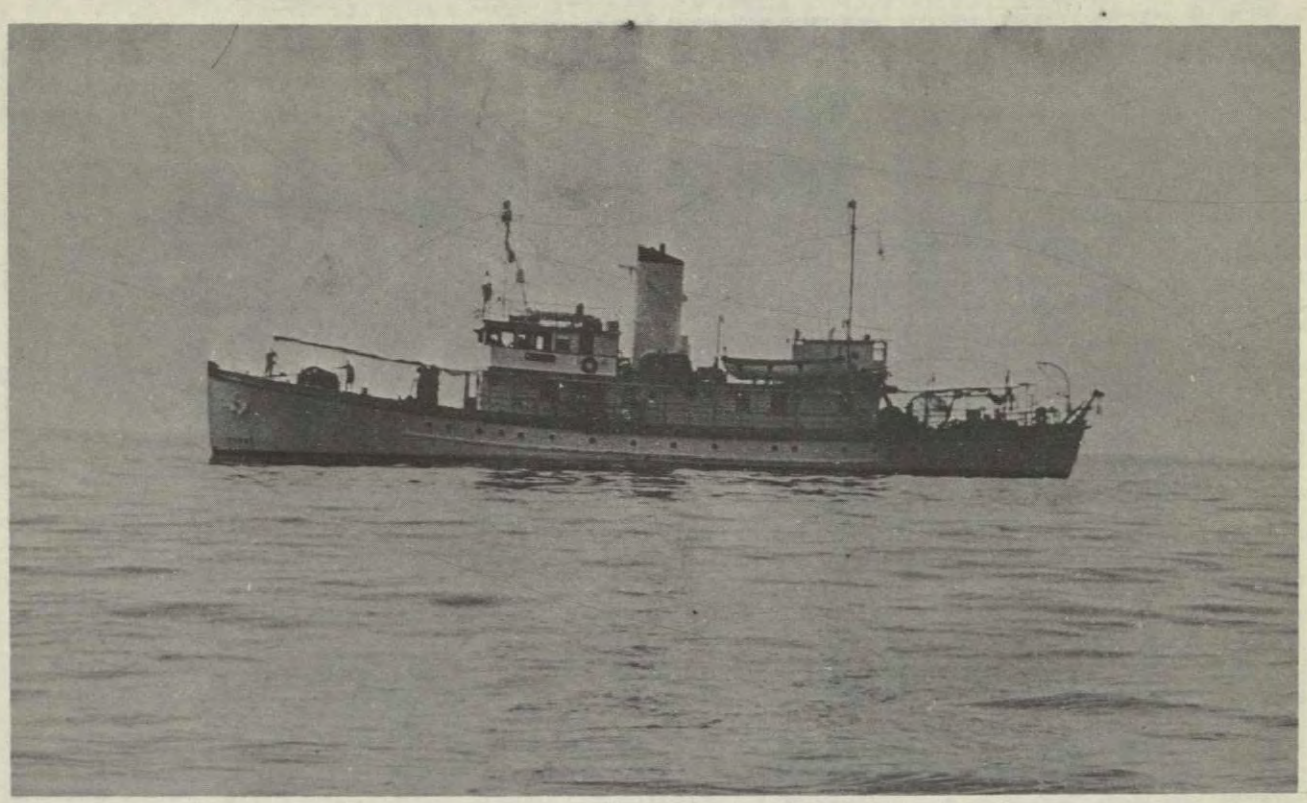
Scripps is providing a team of scientific personnel which is conducting studies on marine life, ocean currents and temperatures, submarine geology, etc. - - the team is operating from a specially fitted marine research vessel, the "Stranger". The project is financed from regional funds with only a small counterpart contribution from each of the participating countries.

MARINE RESEARCH
51 (493-18-028)
(FY 60)

F Y	Number of Persons			U. S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958										
1959						560 2/				
1960								120		
Grand Total						560 2/		120		

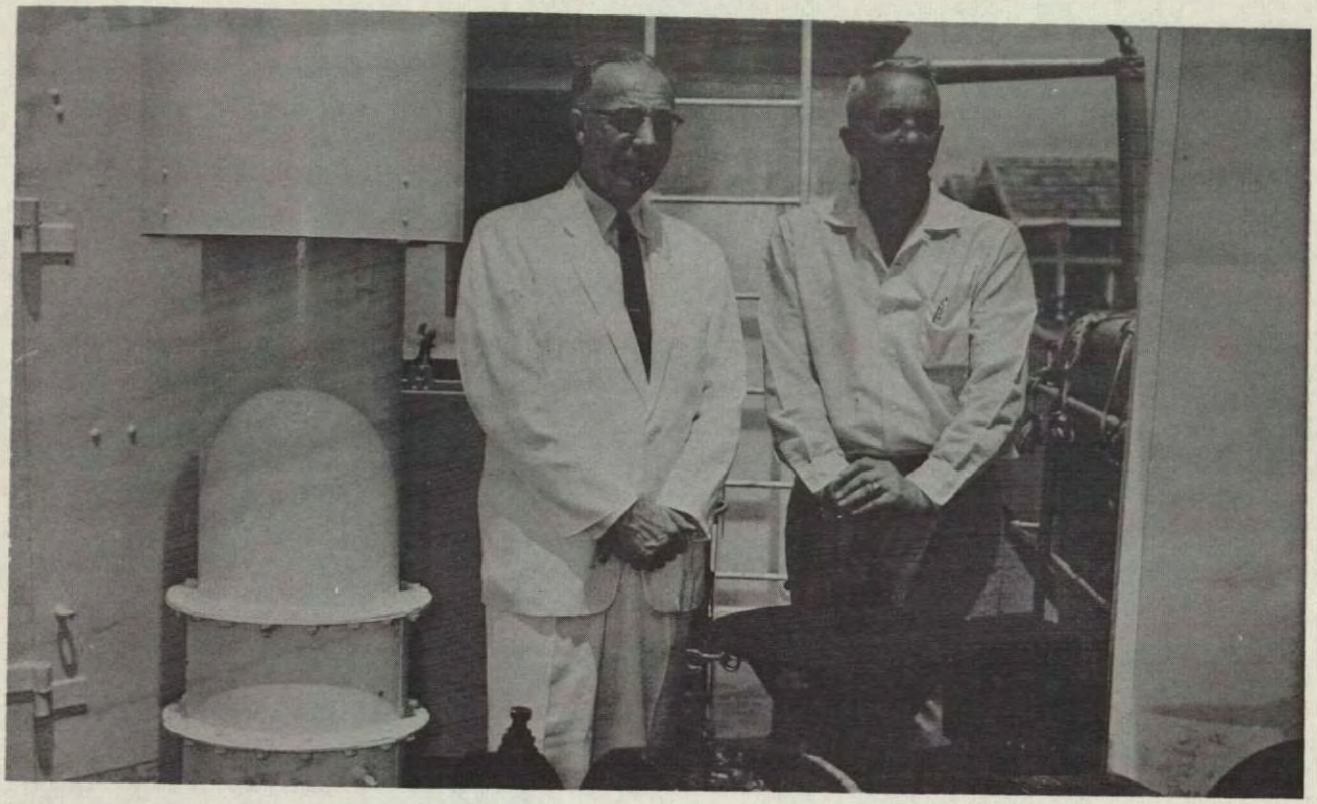
1/ 3rd country training.

2/ Regional funds.

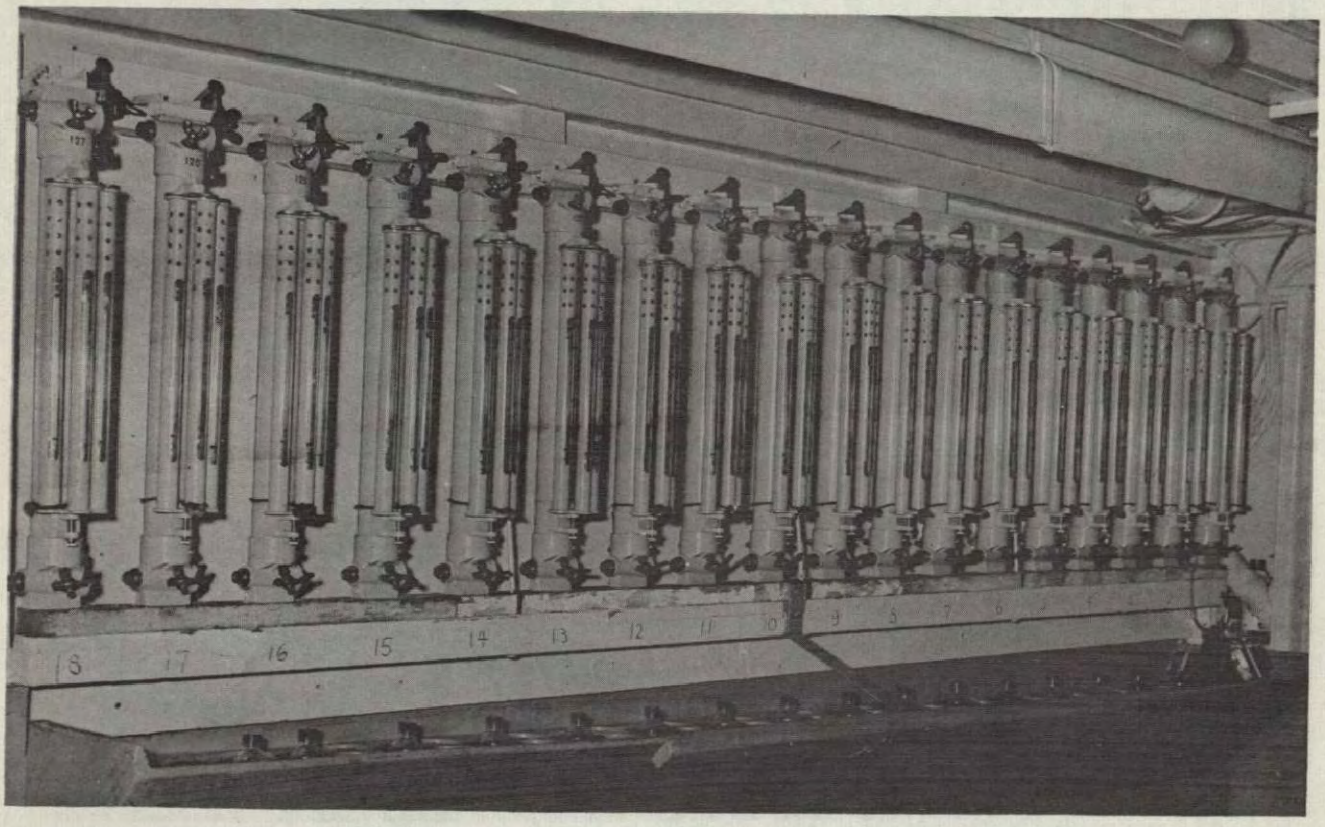


The Scripps Institute Oceanographic vessel "The Stranger" at sea.

Mr. Richard Greenbaum of the Scripps staff at the wheel of "The Stranger".



Mr. Burlin Hamer, USOM Ag. Officer and First Officer Smith of the Stranger crew.



Special equipment, including these thermometers for measuring temperature at varying ocean depths, were aboard the Stranger.

COMPLETED PROJECTS

Soil Laboratory	FY 54-58	493-11-027
Bangkhen Experiment Station	FY 51-53	493-11-F002
Soil Fertility Management	FY 52 & 56	493-12-131
Agriculture Development N. E. Thailand	FY 57-58	493-12-137
Irrigation & Water Conservation	FY 51-57	493-12-158
Rinderpest Eradication	FY 56	487-13-005
Rice Improvement	FY 51-54 FY 55	493-13-031
Marketing & Statistics	FY 52 FY 55-58	493-14-035
Rural Youth Workshop	FY 57	487-16-007
Rural Youth	FY 55-56	493-16-036
Forestry	FY 52-54 FY 55	493-17-077
Fisheries	FY 51-54 FY 54-57	493-18-023
Natural Resource Administration	FY 51-52	493-19-037
Rubber Pilot Plant	FY 54	493-11-116

SOILS LABORATORY
93-11-027
(FY 54-58)

FY	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part: US	Part: 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	8	2	1	22.5	9.2		7.9	1,062.7	292.5	380.4
1959		4								
1960		4								
Grand Total	8	10	1	22.5	9.2		7.9	1,062.7	292.5	380.4

1/ 3rd country training.

SBANGKHEN EXPERIMENT STATION
(493-11-F002)
FY 51-53

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958							650 2/			
1959										
1960										
Grand Total							650 2/			

1/ 3rd country training.

2/ Defense support (DS)

SOILS FERTILITY MANAGEMENT
493-12-131
(FY 52-56)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	1	1		22.7	13.3		29.7	917.5	309.6	724
1959										
1960										
Grand Total	1	1		22.7	13.3		29.7	917.5	309.6	724

1/ 3rd country training.

AGRICULTURE DEVELOPMENT N. E. THAILAND
93-12-137
(FY 57-58)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	5	9		45.2	30.4		31	4,481.4	693	2,240
1959										
1960										
Grand Total	5	9		45.2	30.4		31	4,481.4	693	2,240

1/ 3rd country training.

IRRIGATION & WATER CONSERVATION
93-12-158
(FY 51-59)

F	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
Y	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	10	48		192.3	189.5		3,406.7	75,375.7	3,223.8	12,670
1959	1									
1960										
Grand Total	11	48		192.3	189.5		3,406.7	75,375.7	3,223.8	12,670

1/ 3rd country training.

RINDERPEST ERADICATION
87-13-005
(FY 56-58)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958							2/ 94.3	4,523.1		
1959										
1960										
Grand Total							94.3	4,523.1		

1/ 3rd country training.

2/ Regional funding.

RICE IMPROVEMENT
93-13-031
(FY 51-55)

FY	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	15	10		22.7	19.7		216.1	11,811	388.9	1,469.4
1959										
1960										
Grand Total	15	10		22.7	19.7		216.1	11,811	388.9	1,469.4

1/ 3rd country training.

MARKETING AND STATISTICS
93-14-035
(FY 52-58)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	6	7		31.4	20		8.4	953.9	285.4	880
1959										
1960										
Grand Total	6	7		31.4	20		8.4	953.9	285.4	880

1/ 3rd country training.

RURAL YOUTH WORKSHOP
487-16-007
(FY 57)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Others	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	1			2/ 9.3			4.2			
1959										
1960										
Grand Total	1			9.3			4.2			

1/ 3rd country training.

2/ Regional funding.

RURAL YOUTH
93-16-036
(FY 53-56)

F Y	Number of Persons			U. S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	7	3		23.2	10.6		4.3	715.2	375.6	558.4
1959	2									
1960										
Grand Total	9	3		23.2	10.6		4.3	715.2	375.6	558.4

1/ 3rd country training.

FORESTRY
93-17-077
(FY 52-55)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ฿)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958		2			5		155.5	980.8	27	
1959										
1960										
Grand Total		2			5		155.5	980.8	27	

1/ 3rd country training.

FISHERIES
93-18-023
(FY 51-57)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958	6	14		54.7	56.3	46.3	537.9	7,322.4	1,057.6	18,268.5
1959										
1960										
Grand Total	6	14		54.7	56.3	46.3	537.9	7,322.4	1,057.6	18,268.5

1/ 3rd country training.

NATURAL RESOURCES ADMINISTRATION
93-19-037
(FY 51-57)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part. US	Part. 1/ 3rd	U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
Total as of 1958				414.9					1,089	
1959										
1960										
Grand Total				414.9					1,089	

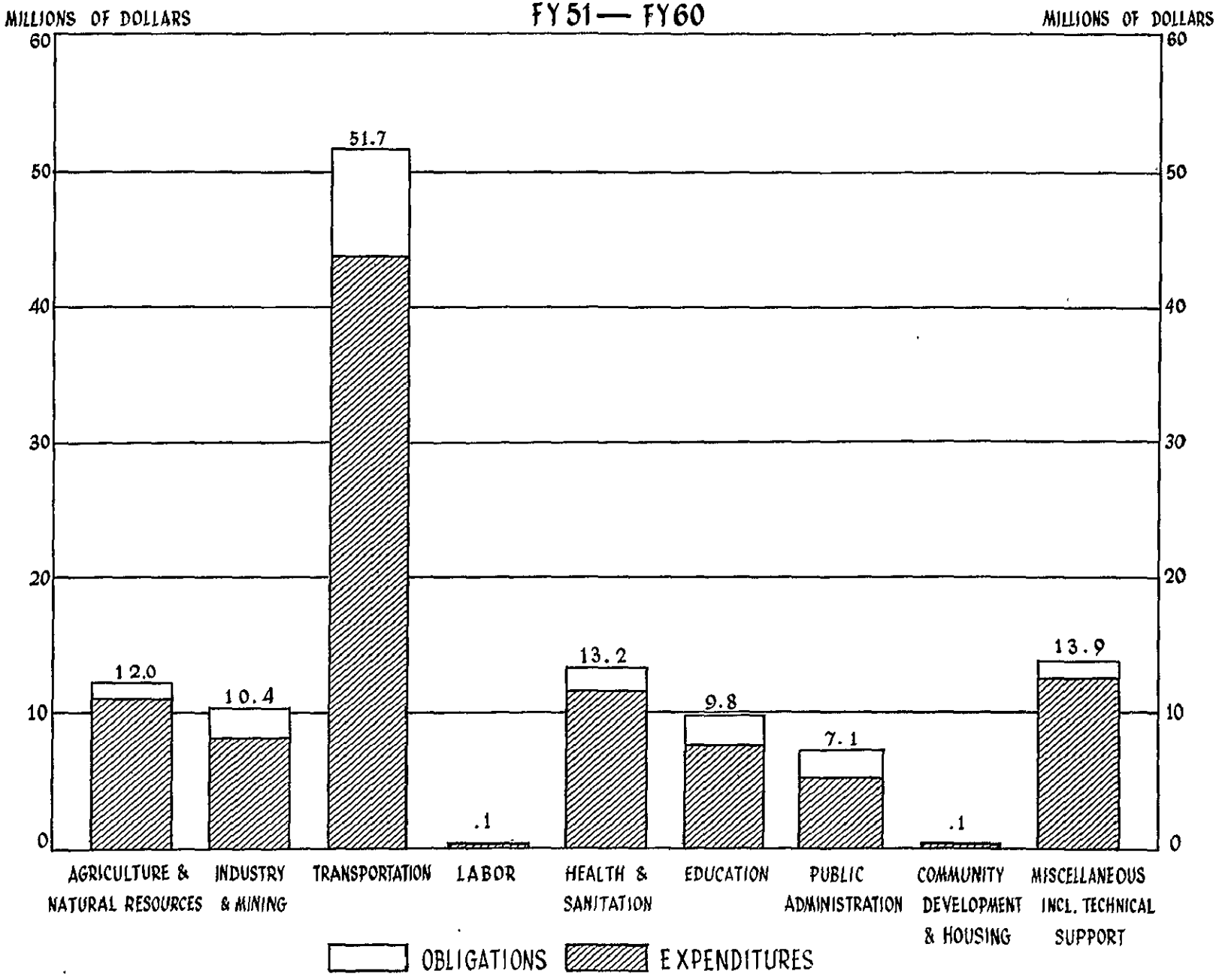
1/ 3rd country training.

RUBBER PILOT PLANT
493-11-116
(FY 54)

F Y	Number of Persons			U.S. $ Portion (in thousand of $)				Local Currency Portion (in thousand of ₱)		Government Contribution
	U.S. Tech.	Part.		U.S. Tech.	Part.	Contract Services	Commo.	Project Account	Trust Fund	In Cash or In Kind
		US	1/ 3rd							
Total as of 1958								631.4		
1959										
1960										
Grand Total								631.4		

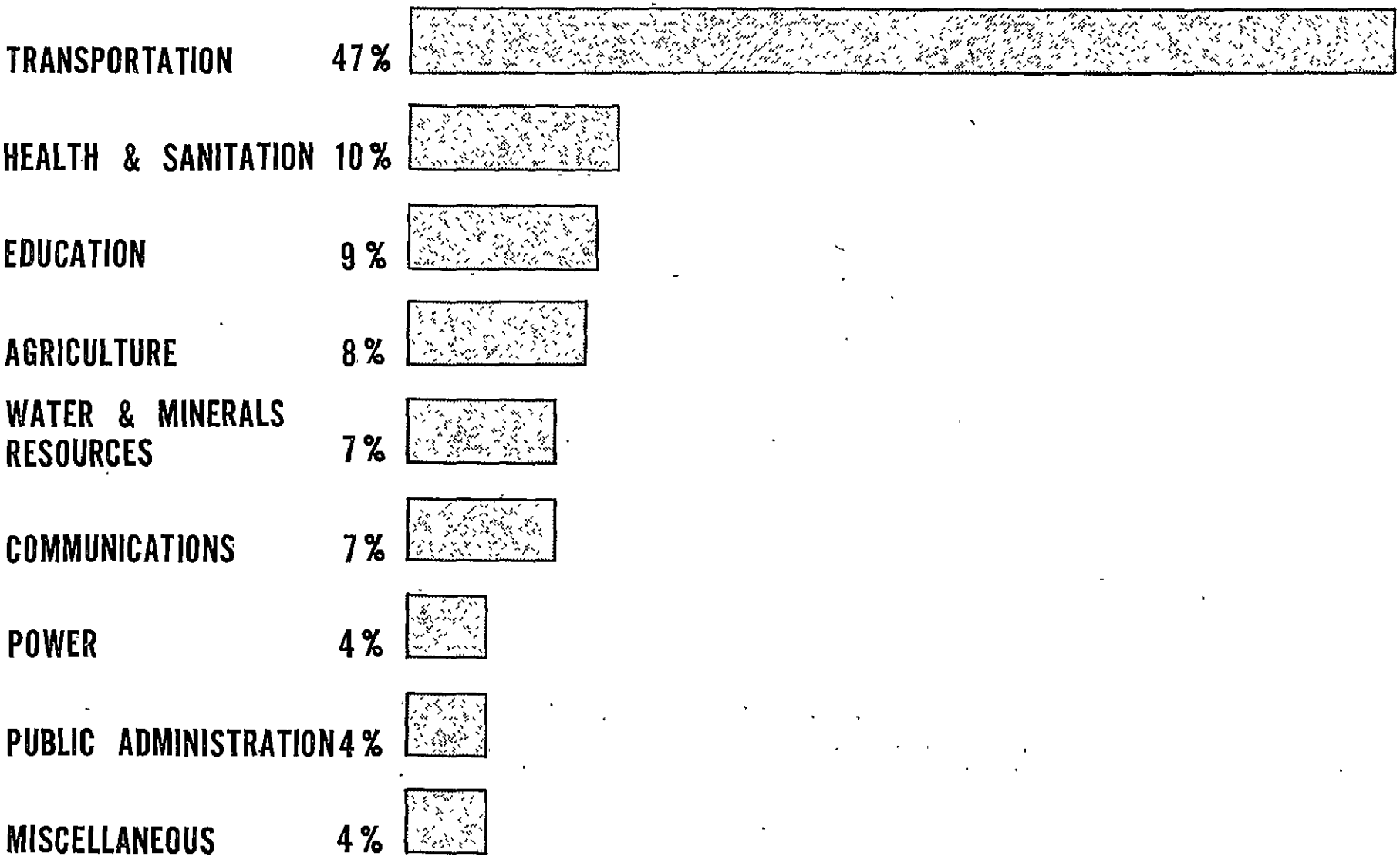
1/ 3rd country training.

TOTAL USOM PROJECT ASSISTANCE BY FIELDS OF ACTIVITY (Dollars)



TOTAL USOM PROJECT ASSISTANCE BY FIELDS OF ACTIVITY (Baht)

FY51—FY60



TOTAL PROJECT COSTS

U.S. DOLLARS & COUNTERPART*

FY 51-60

Project		U.S.$ & ฿ = $
493-11-027	Soils Lab. (FY 54-58)	$ 107,407
493-11-029	Agri. Extension (FY 51-60)	2,266,273
493-11-116	Rubber Pilot Plant (FY 54) 1/	31,574
493-11-130	Kasetsart University (FY 52-60)	2,370,700
493-12-131	Soil Fertility Mgt. (FY 52-58)	127,209
493-12-137	Agri. Dev. N.E. Thailand (FY 56-58)	365,510
493-12-158	Irri. & Water Conserv. (FY 51-58)	7,718,617
493-12-191	Agri. Res. Use & Conserv. (FY 59-60)	456,200
487-13-005	Rinderpest Eradication (FY 56-58)**	320,527
493-13-031	Rice Improvement (FY 51-56)	868,610
493-13-032	Crop Improvement (FY 51-60)	3,059,286
493-13-033	Livestock Industry Dev. (FY 52-60)	2,345,314
493-13-205	Plant Protection (FY 60)	85,845
493-14-034	Agr. Credit & Marketing (FY 52-60)	2,568,390
493-14-035	Marketing & Statistics (FY 52-58)	121,934
493-11-F002	Bangkhen Exper. Sta. (FY 51-53)	649,952
487-16-007	Rural Youth Workshop (FY 57)	13,525
493-16-036	Rural Youth (FY 53-56)	92,799
493-17-077	Forestry (FY 52-55)	210,939
493-18-023	Fisheries (FY 51-57)	1,114,435
51(493)-18-028	Marine Research (FY 59) 1/ **	6,000
493-19-037	Nat. Res. Adm. (FY 51-57)	469,385
493-19-209	Agri. Leader Training (FY 60)	57,950
	TOTAL	$ 25,428,381

* ฿ is expressed in dollar equivalent.

** Regional Projects

1/ Supported by counterpart funds only.

U.S. DOLLAR COST BY CATEGORY
FY 51-60

Project		Participant	Technician	Commodities	Contract Service	Others	Total (US $)
493-11-027	Soils Lab.	9,225	22,500	7,916	-	-	$ 39,641
493-11-029	Agriculture Extension	188,466	535,114	430,829	-	170	1,154,579
493-11-130	Kasetsart University	65,477	23,911	198,729	718,138	-	1,006,255
493-12-131	Soil Fertility Management	13,345	22,713	29,791	-	-	65,849
493-12-137	Agri. Dev. N. E. Thailand	30,425	45,288	31,075	-	-	106,788
493-12-158	Irri. & Water Conservation	189,540	192,343	3,406,790	-	-	3,788,637
493-12-191	Agri. Res. Use & Conservation	58,443	71,025	74,276	-	-	203,744
487-13-005	Rinderpest Eradication	-	-	94,370	-	-	94,370
493-13-031	Rice Improvement	19,721	22,709	216,181	-	-	258,611
493-13-032	Crop Improvement	230,608	486,939	496,650	-	-	1,214,197
493-13-033	Livestock Industry Dev.	117,045	264,216	499,702	-	-	880,963
493-13-205	Plant Protection	23,000	12,845	5,000	-	-	40,845
493-14-034	Agr. Credit & Marketing	191,633	221,621	801,208	-	-	1,214,462
493-14-035	Marketing & Statistics	20,088	31,425	8,452	-	-	59,965
493-11-F002	Bangkhen Experiment Station	-	-	649,952	-	-	649,952
487-16-007	Rural Youth Workshop	-	9,306	-	-	4,219	13,525
493-16-036	Rural Youth	10,606	23,295	4,354	-	-	38,255
493-17-077	Forestry	5,018	-	155,529	-	-	160,547
493-18-023	Fisheries	56,372	54,778	537,971	46,310	-	695,431
493-19-037	Natural Resources Adm.	-	414,933	-	-	-	414,933
493-19-209	Agri. Leader Training	28,950	-	-	-	-	28,950
	TOTAL	$ 1,257,926	2,454,961	7,648,775	764,448	4,389	12,130,499

COUNTERPART FUNDING
FY 51-60

Project		Project Funds	Trust Funds	Total Baht	U.S.$ Equivalent
493-11-027	Soils Lab.	฿ 1,062,774	฿ 292,553	฿ 1,355,327	$ 67,766
493-11-029	Agri. Ext.	15,943,989	6,289,889	22,233,878	1,111,694
493-11-116	Rubber Pilot Plant	631,488	-	631,488	31,574
493-11-130	Kasetsart Univ.	22,228,176	5,060,731	27,288,907	1,364,445
493-12-131	Soil Fert. Mgt.	917,501	309,697	1,227,198	61,360
493-12-137	Agri. Dev. N. E. Thailand	4,481,426	693,020	5,174,446	258,722
493-12-158	Irri. & Water Conserv.	75,375,711	3,223,885	78,599,596	3,929,980
493-12-191	Res. Use & Conservation	3,986,801	1,062,313	5,049,114	252,456
487-13-005	Rinderpest Eradication	4,523,132	-	4,523,132	226,157
493-13-031	Rice Improvement	11,811,057	388,918	12,199,975	609,999
493-13-032	Crop Improvement	29,780,490	7,121,297	36,901,787	1,845,089
493-13-033	Livestock Industry Dev.	25,803,884	3,483,144	29,287,028	1,464,351
493-13-205	Plant Protection	700,000	200,000	900,000	45,000
493-14-034	Agr. Credit & Marketing	23,230,398	3,848,159	27,078,557	1,353,928
493-14-035	Marketing & Statistics	953,931	285,455	1,239,386	61,969
493-16-036	Rural Youth	715,220	375,663	1,090,883	54,544
493-17-077	Forestry	980,831	27,001	1,007,832	50,392
493-18-023	Fisheries	7,322,459	1,057,631	8,380,090	419,004
51(493)-18-028	Marine Research	120,000	-	120,000	6,000
493-19-037	Nat. Res. Adm.	-	1,089,033	1,089,033	54,452
493-19-209	Ag. Leader Training	-	580,000	580,000	29,000
	TOTAL	฿ 230,569,268	฿ 35,388,389	฿ 265,957,657	$ 13,297,882

% OF TOTAL BUDGET BY FIELDS

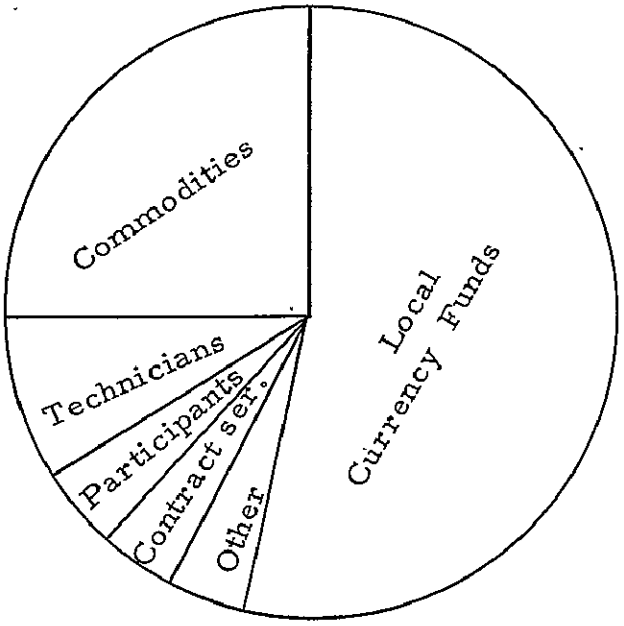
FY 51-60

		%
493-11-027	Soils Laboratory	0.42
493-11-029	Agriculture Extension	8.91
493-11-116	Rubber Pilot Plant 1/	0.13
493-11-130	Kasetsart University	9.32
493-12-131	Soil Fertility Management	0.50
493-12-137	Agri. Development N.E. Thailand	1.44
493-12-158	Irrigation & Water Conservation	30.36
493-12-191	Agriculture Resource Use & Conservation	1.80
487-13-005	Rinderpest Eradication	1.26
493-13-031	Rice Improvement	3.42
493-13-032	Crop Improvement	12.03
493-13-033	Livestock Development	9.23
493-13-205	Plant Protection	0.34
493-14-034	Coops. & Credit	10.10
493-14-035	Marketing & Statistics	0.44
493-11-F002	Bangkhen Experiment Station	2.56
487-16-007	Rural Youth Workshop	0.05
493-16-036	Rural Youth	0.37
493-17-077	Forestry	0.83
493-18-023	Fisheries	4.38
51(493)-18-028	Marine Research 1/	0.03
493-19-037	Natural Resources Administration	1.85
493-19-209	Agriculture Leader Training	0.23
	TOTAL	100.00%

1/ Projects supported by counterpart funds only.

% OF TOTAL FUNDING BY CATEGORY

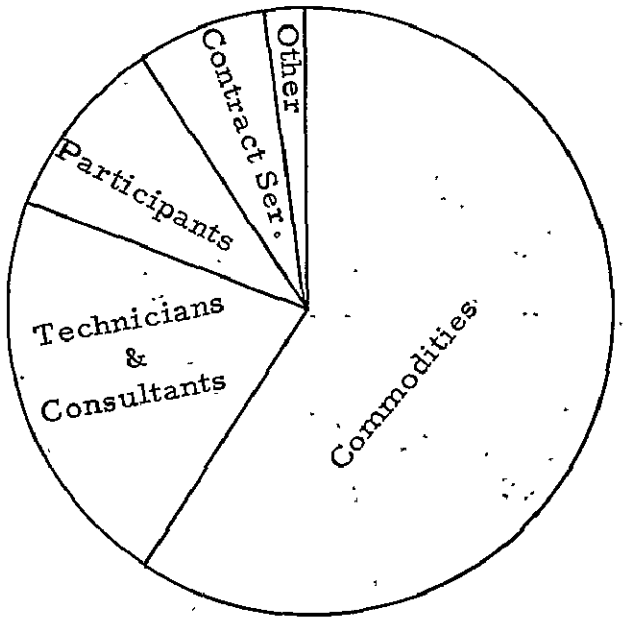
FY 51-60



Local currency funds	$	13,297,882	52.30%
Participants		1,257,926	4.95
Technicians		2,454,961	9.65
Commodities		7,648,775	30.08
Contract Services		764,448	3.00
Other		4,389	0.02
TOTAL	$	25,428,381	100.00%

% OF TOTAL DOLLAR FUNDING BY CATEGORY

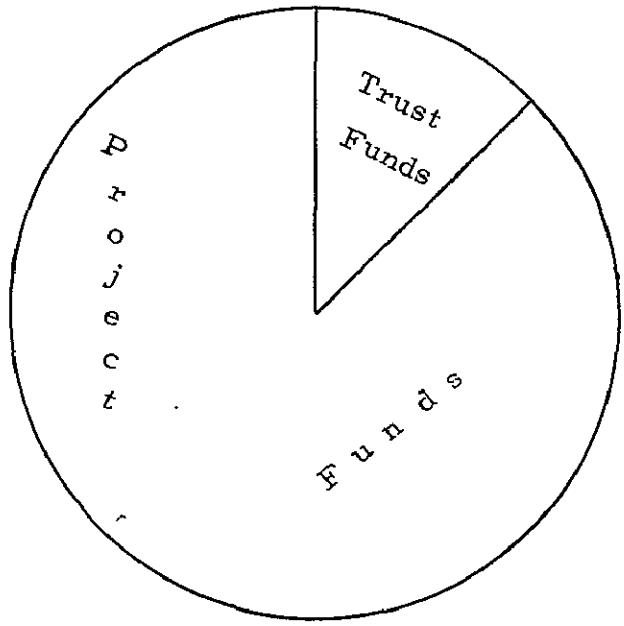
FY 51-60



Participants	$	1,257,926	10.37 %
Technicians & Consultants		2,454,961	20.24
Commodities		7,648,725	63.05
Contract Services		764,448	6.30
Other		4,389	0.04
TOTAL	$	12,130,499	100.00 %

% OF TOTAL COUNTERPARTS BY CATEGORY

FY 51-60



Project Funds	฿ 230,569,268	=	$ 11,528,463	86.69 %
Trust Funds	฿ 35,388,389	=	$ 1,769,419	13.31 %
TOTAL	฿ 265,957,657	=	$ 13,297,882	100.00 %

LIST OF PERSONNEL WHO HAVE SERVED IN THAILAND (1950-60)

Name	Title	From	To
Ahlf, August L.	Irrigation Engineer	7-20-51	5-16-53
Arnold, Floyd J.	AG Advisor	4-16-60	
Bell, F. Jameson	Agronomy Advisor (Seed Improvement)	3-10-55	12-14-59
Bembower, Wm. E.	Horticulture Advisor	9-23-51	6-7-53
Bohl, Jay S.	Secretary	5-16-56	2-57
Brannon, Russel H.	Program Assistant	10-27-58	
	Agronomy Advisor(Ext.)	11--59	
Breitenbach, Charles A.	Agronomy Advisor	2-4-60	
Brink, Wellington	Extension Advisor(Info.)	1-13-56	6-29-58
Brooks, Erwin R.	Rice Breeding Advisor	9-13-51	10-4-53
	Agronomy Adv. (Pasture)	5-20-60	
Cameron, Ray E.	Extension Advisor	12-29-56	12-30-58
Capps, M. Sue	Secretary	10-9-58	11-25-60
Carter, Donald P.	Rural Youth Advisor	11-15-52	8-21-59
Chapman, William L.	Extension Advisor(Korat)	8-12-59	
Charapich, Norma E.	Secretary	8-19-57	8-19-58
Chee, Marjorie	Secretary	6-27-60	
Coffman, Ernest B.	Agronomy Advisor	10-29-52	1-2-54
Commander, Allen	Program Assistant	3-16-59	
Courteau, Jean L.	Secretary	11-2-56	11-28-57
Crews, Zack F.	AG Equipment Advisor	2-23-53	3-5-55
Dampf, Reece J.	Farm Production Specialist (Upland Crops)	8-1-55	10-17-56
Elliot, Ralph C.	AG Economist (Mktg. & Prices)	5-23-55	5-25-57
Engle, Eldon B.	Soils Management Spec.	2-28-56	3-11-58
Feather, Glenn A.	Soils Adv. (Extension)	2-27-60	
Fritzche, Carl R.	Agron. Adv. (Field Crops)	3-11-54	9-20-56
Gardner, Jean K.	AG Engineer	2-14-55	7-14-57
Girardot, Clifford C.	Soils Adv. (Korat)	4-5-58	4-15-59
		7-18-59	
Goff, Marvin T.	Veterinary Advisor	3-23-56	6-21-60
Goodbary, W. Allen	Deputy agriculture Officer	4-30-58	5-17-60
Grayson, Greta	Secretary	10-25-59	
Guillon, Rene	AG Engineer	7-6-51	11-11-52
Hailey, Louis M.	Soils Adv. (Land Class.)	2-22-57	6-15-59
Hamer, Burlin B.	Agriculture Officer	2-12-58	
Hamilton, Helen E.	Program Assistant	2-10-59	12-22-60
Hartline, Jack R.	Extension Adv. (Info.)	1-25-53	4-30-55

Name	Title	From	To
Hemenway, Margaret M.	Secretary	8-25-55	10-29-56
Johnson, Alex R.	Livestock Advisor(Ext.)	3-8-55	7-16-59
Kirkpatrick, Wm. M.	Farm Equip. Shop Foreman	8-16-51	12-29-53
Kohler, Ellis J.	AG Advisor (Area-Korat)	5-12-58	5-14-60
Kramer, Vida H.	Clerk-Stenographer	11-4-54	3-27-56
Leveau, Carl W.	Agriculture Advisor	1-11-51	7-10-54
Lewis, Ralph O.	Deputy Agriculture Officer	11-2-60	
Lobell, Milton	Fisheries Advisor Deputy AG Officer	12-3-52	8-9-57
Love, Harry H.	Rice Breeding Advisor	3-17-50	6-27-56
Lunetta, Erlene	Secretary (Korat Branch)	3-2-60	
Mace, Jr. Brice M.	Agriculture Officer	3-3-56	3-22-58
Maddock, Betty N.	Secretary (Korat)	10-14-58	1-9-60
Maddock, Wallace J.	Credit Advisor (Korat)	5-28-58	5-23-60
Madsen, David E.	Animal Disease Pathologist	9-14-54	9-14-55
Meagher, John	Irrigation Farming Adv.(Korat)	12-11-58	
Middleton, Gordon K.	Rice Advisor	11-16-54	11-16-56
Moriarty, J. Patrick	Rural Youth Advisor	6-12-59	
Nichols, Diane M.	Secretary	6-9-58	7-8-60
O'Rourke, F. L. Steve	Horticulture Advisor	1-10-56	3-22-58
Owen, James S.	Soils Advisor (Fertility)	7-10-52	1-29-55
Pendleton, Robert L.	Soils Advisor	1-7-52	2-2-53
Phillippi, Stanley I.	Irrigation Specialist	1-11-51	7-10-54
Plaisten, Theodore	Livestock Advisor	6-4-51	6-6-53
Popenoe, Hugh	Soils Advisor	6-24-51	6-2-52
Pringle, Richard	AG Economist	4-11-51	5-9-53
Proffitt, Virgil M.	Extension Advisor (Korat)	9-22-59	
Ream, Howard C.	Crops Advisor	7-12-51	11-28-52
Rife, David C.	Livestock Adv. (Beef)	8-7-57	8-7-59
Robinson, Howard C.	Extension Advisor	4-7-54	8-30-55
Ryerson, Knowles A.	Agriculture Advisor (1st)	11-8-50	11-11-51
Sellers, Wendell F.	Entomology Advisor	4-17-51	10-18-60
Shank, Charity B.	Home Econ. Adv. (Korat)	11-7-58	11-7-60
Snyder, Carl D.	Extension Advisor	10-31-52	7-1-56
Solomon, Darwin D.	Extension Advisor	6-4-51	7-24-53
Speers, W. Hal.	Extension Advisor (Area)	9-7-55	1958
Staker, Ernest V.	Soils Advisor	10-27-53	4-28-58
Stepczyk, Leokadya A.	Secretary	6-27-60	
Thysell, Joseph R.	Rice Breeding Advisor	9-20-51	9-30-53
Vestal, Edgar F.	Entomology Advisor	1-20-55	4-21-58
Wahlberg, Harold E.	Horticulture Advisor	9-20-55	2-19-56
Wann, John L.	Marketing Adv. (Korat)	8-24-59	

Name	Title	From	To
Warrens, Robert H.	Agriculture Officer	7-15-53	7-16-55
White, John H.	Agronomy Advisor (Crops)	10-12-57	11-5-59
Wilkey, John J.	Credit & Coop. Adv.	9-6-57	9-5-59
Williamson, John W.	Livestock Advisor	5-18-52	12-17-58
Young, Ernest J.	Coop. Org. Advisor	1-15-55	11-15-56
Young, Gordon	Consultant & Direct Hire (Chiengmai)	7-25-60	

U.S. Participants 1/

PROJECTS	1951	'52	'53	'54	'55	'56	'57	'58	'59	'60	Total
493-11-027 Soils Lab.					2				4	4	10
493-11-029 Agric. Ext.				6	12	3	18	7			46
493-11-130 Kasetsart Univ.		3	1	6	7	5	7	17	1	5	52
493-12-131 Soils Fert. Mgt.			1			3					4
493-12-137 Agric. Dev. NE Thailand							5	4			9
493-12-158 Irrig. & Water Cons.	10	13	6	12		3	3	1			48
493-12-191 Agri. Res. Use & Cons.									4	3	7
487-13-005 Rinderpest Eradication	None										
493-13-031 Rice Improvement		2	8	5	4	1					20
493-13-032 Crop Improvement		2	3	4	6	6		7	8	5	41
493-13-033 Livestock Indus. Dev.		5		5	5		3	5	4	2	29
493-13-205 Plant Protection										3	3
493-14-034 Agric. Credit & Mkgt.	2	3	12	10	5	6	8	4	3	2	55
493-14-035 Mkgt. & Statistics				1	4		2				7
493-11-F002 Bangkhen Exp. St.	None										
987-16-007 Rural Youth Workshop	None										
493-16-036 Rural Youth					1	2					3
493-17-077 Forestry		1	1								2
493-18-023 Fisheries		5	3	4			2				14
51(493)-18-028 Marine Research	None										
493-19-037 Nat. Res. Adm.	None										
493-19-209 Agri. Leader Train.										16	16
Grand Total	12	34	35	53	46	29	48	45	24	40	366

1/ Participants sent to both U.S. & Third Countries are shown as U.S. participants only.

Third Country Participants [1/]

PROJECTS		1951	'52	'53	'54	'55	'56	'57	'58	'59	'60	Total
493-11-027	Soils Lab.								1			1
493-11-029	Agric. Ext.							5	12		34	51
493-11-130	Kasetsart University											
493-12-131	Soils Fert. Mgt.											
493-12-137	Agri. Dev. N.E. Thailand											
493-12-158	Irrigation & Water Conservation											
493-12-191	Agri. Res. Use & Conservation									7	8	15
487-13-005	Rinderpest Eradication											
493-13-031	Rice Improvement											
493-13-032	Crop Improvement						6		2	34	11	53
493-13-033	Livestock Industry Development								5	17	10	32
493-13-205	Plant Protection									1	1	2
493-14-034	Agri. Credit & Marketing						5		4	4	10	23
493-14-035	Marketing & Statistics											
493-11-F002	Bangkhen Exp. St.											
487-16-077	Rural Youth Workshop											
493-16-036	Rural Youth											
493-17-077	Forestry											
493-18-023	Fisheries											
51(493)-18-028	Marine Research											
493-19-037	Nat. Res. Adm.											
493-19-209	Agri. Leader Training											
	GRAND TOTAL						11	5	24	63	74	177

1/ Participants sent to both third countries & U.S. are shown as U.S. participants only.

สถานีทดลอง กระทรวงเกษตร

เครื่องหมายแทน

- สถานีเกษตร (AGRICULTURE STATION) ▲
- สถานีทดลองพันธุ์ข้าว (RICE EXPERIMENT STATION) ●
- สถานีปศุสัตว์ (LIVESTOCK STATION) ■
- สถานีตรวจโรคสัตว์ (QUARANTINE STATION) ◆
- สถานีวิทยาศาสตร์ ผลิตชีวะผลิตภัณฑ์ (BIOLOGICAL PRODUCT CENTRE) ■
- สถานีอาหารสัตว์ (ANIMAL NUTRITION & FORAGE STATION) ◆
- สถานีการประมง (FISHERIES STATION) ●
- สถานีป่าไม้ทดลอง (FORESTRY EXPERIMENT STATION) ▲

THAILAND

ENGLISH MILES 0 10 20 50 100
KILOMETERS 0 20 50 100 150

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