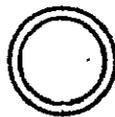


**A BRIEF HISTORY OF USOM SUPPORT TO  
PUBLIC HEALTH & POPULATION PROGRAMS IN THAILAND**



**An update of a paper written  
in October, 1969, by  
John E. Kennedy, M.D. and Staff.**

**Prepared by**

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**UNITED STATES OPERATIONS MISSION TO THAILAND  
AGENCY FOR INTERNATIONAL DEVELOPMENT**

**BANGKOK, THAILAND**

**December, 1972**

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PUBLIC HEALTH & POPULATION PROGRAMS IN THAILAND

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- One of a series of reports  
on U.S.A.I.D.'s participation in  
Thailand's development -

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## Introduction

By the end of 1972, the United States Government will have completed nearly twenty three years of assistance to Thailand's health activities. Under five U.S. foreign aid agencies, nine Mission Directors and nine Public Health Chiefs, \* there have been more than thirty projects of support to Thai health institutions.

To this effort, the U.S. has contributed about \$61 million over the period 1950-1972. This has been matched by about \$74 million baht equivalent input from the Royal Thai Government (RTG).

The health projects in which USOM has played a supporting role can be grouped into five categories as follows: disease control; environmental health; institutional development; local health services; food and nutrition; and population. Tables II through VI in the Appendix list the projects by categories, giving the time span of the projects and the magnitude of U.S. and Thai inputs.

In the early 50's U.S. assistance focused on control of communicable diseases, extension of hospital services to the provinces and creation of health training institutions. In the late 50's and early 60's more attention was given to village sanitation and the focus was on the poorer, politically sensitive areas, particularly in the Northeast; local health services have also been broadened to include medical care, family planning and nutrition programs. Since inception of U.S. support to the program, emphasis has been given to the development of Thai staff, and provision for out-of-country training as well as improved training in-country has been woven throughout the projects. This will be discussed later as a separate topic.

The Ministry of Public Health, late in 1972, is in the process of reorganization. Although the details of the reorganization are not final, it appears there will be the Office of the Under-Secretary, and Departments of Health Promotion, Health and Medical Services, and Medical Sciences. A provisional, abbreviated organization chart appears as Appendix H.

## Disease control programs

Of the \$21.3 million U.S. contribution to disease control programs, \$20.7 million has been for malaria control and eradication (see Table I). Other substantial assistance has been for control of intestinal parasites and venereal diseases. See Table II.

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\* Names of Public Health Chiefs are listed in the Appendix.

Except for malaria control, the U.S. aid program has given little recent support to the direct control of communicable diseases. The main sources of foreign assistance in this area have been the World Health Organization (WHO) and the United Nations Children's Emergency Fund (UNICEF), who have given substantial long-term assistance to the control of tuberculosis, yaws, trachoma, venereal diseases and leprosy. WHO has also made a contribution to the Thai malaria eradication program. Southeast Asia Treaty Organization (SEATO) has contributed considerably to the indirect control of intestinal and filth-borne diseases by various programs in village health and sanitation. These will be discussed later.

Malaria eradication as a concept in Thailand evolved about 1957, two years after WHO and UNICEF--and the U.S.--endorsed the principle of world-wide malaria eradication. Thailand had already conducted, with WHO/UNICEF assistance, a successful pilot project of malaria control with DDT in 1949-51 in the Saraphi District of Chiang Mai Province. U.S. assistance to a nation-wide program began in 1951. A full-scale malaria eradication program did not begin, however, until 1962, and nation-wide coverage, with acceptable standards, was attained in 1965. The evolution of the Malaria Eradication Program, and RTG, WHO and U.S. inputs, is summarized in Table I.

Accomplishments of the Malaria Eradication Program must be measured against the conditions that existed at its onset. Following World War II, malaria was widespread throughout Thailand. During the late 40's, 4,000,000 cases, including about 47,000 deaths, were attributed annually to malaria. The 1950 mortality statistics of the Ministry of Public Health showed malaria as the leading cause of death. A Food and Agriculture Organization (FAO) survey in 1949 estimated that over 15,000,000 working days were being lost each year due to malaria in Thai agricultural communities. Many areas of the country, including fertile territory, were virtually uninhabitable because of malaria.

By 1958, after seven years of control programs, 1,000,000 cases were occurring annually, with approximately 10,000 deaths. Twelve million people still lived in highly malarious areas. Malaria had dropped to fifth place as a cause of death. By 1970, when USOM assistance to the program was phased out, malaria cases per year had dropped much lower, to about 169,000. Deaths from malaria had decreased to about 3437. Malaria had become the eighth most common cause of death. In spite of these gains, however, the National Malaria Eradication Program is behind its schedule, and the outlook for eradication in the near future is doubtful. Basically, this is because transmission has not been interrupted in certain areas.

The present situation is indicated by the map on page 5. Malaria eradication is hindered by the following factors: considerable population movement to and from malarious areas; difficulties in interrupting transmission in wooded areas; particularly where Anopheles balabacensis is the principle vector; suspected outdoor transmission in some areas, whereas transmission elsewhere is usually indoors; use of unsprayed field shelters during planting and harvest seasons; and resistance of malaria parasites, particularly P. Falciparum, to standard drug treatment. These technical deterrents to effective eradication are further complicated by difficulties in providing coverage to politically sensitive sectors, lack of control measures in adjacent countries and increasing refusal by householders to permit spraying. Similar problems are occurring in other Southeast Asia countries.

TABLE I

## EVOLUTION OF MALARIA ERADICATION PROGRAM

SOURCE OF FUNDS, 1949-1972

PERIOD	TYPE OF PROGRAM	SOURCE OF FUNDS	APPROX. EXPENDITURES IN MILLIONS U.S. \$
1949-51	Pilot Studies; Control in selected areas	RTG WHO/UNICEF	Unknown .045
1951-57	Control Program	RTG U.S. WHO	2.78 2.81 .038
1958-62	Eradication Program-- Preparatory Period	RTG U.S. WHO	5.56 2.49 .035
1963-65	Eradication Program. Extension to Nationwide Program	RTG U.S. WHO	8.21 4.77 .179
1966-69	Nationwide Eradication Program	RTG U.S. WHO	17.01 9.58 .657
1970-72	Nationwide Eradication Program	RTG U.S. WHO	15.28 1.07 .499
TOTALS 1949-72 IN MILLIONS U.S. DOLLARS:		RTG U.S. WHO	48.84 20.72 <u>1.453</u>
TOTAL ALL SOURCES:			71.01



### Environmental health programs

As the incidence of malaria declined in the late 50's, the gastro-enteric and diarrheal diseases emerged as the greatest health problem in rural Thailand. By 1960, they accounted for about 40% of the mortality and 80% of the morbidity. These diseases were, of course, caused by poor sanitation.

Although scattered efforts had been made towards sanitary improvement in the rural villages during the 50's, the first major U.S. assistance in this field began with the institution of the Village Health and Sanitation (VHS) Project in 1960. The objectives of this project were the following: to provide at least one source of safe water in each village; to provide a sanitary privy for each household; to improve premise sanitation; to promote health education; to provide training for a corps of environmental sanitation personnel; and to carry out research for activities related to sanitation programming.

This project, under the auspices of the Ministry of Public Health, was organized on three levels: national, regional and village. The national headquarters, originally operating under the Division of Rural Health Development, soon became a separate division, the Division of Community Health Development. Regional headquarters were located at Korat in the Northeast, Songkhla in the South, Lampang in the North, and Saraburi in the Central Plains. Fifty Thai sanitarian supervisors were assigned to the provinces on VHS activities.

The U.S. supplied technical advisors at various times at Korat, Songkhla and Lampang, and at the Ubon sub-headquarters, as well as about \$1,000,000 of commodities, including pumps, pipe, tools, projectors, generators, motorcycles, bicycles, and pick-up trucks.

By the end of FY 65, the VHS project had been operating for five years and had accomplished the following: 5,000 sanitary wells had been completed; 220,000 sanitary privies had been installed; 61 village water systems had been constructed in the Northeast and South; 6,000 villages had active village health committees and VHS self-help activities; 48 provincial workshops of two weeks each had been conducted for 1,187 rural sanitation personnel; orientation in village sanitation had been given to 542 other officials, including CD workers, education personnel and public works officers; and two training centers for sanitation workers had been established, one at Chon Buri, the other at Khon Kaen. Together, these centers are capable of training 50 additional junior sanitarians per year.

In spite of these successes, there were a number of problems. Health education activities lagged behind physical improvements; the fundamental outlook and understanding of the rural villager, therefore, remained unchanged. It became virtually impossible for the Government to repair the numerous well pumps, and the villager was neither instructed in pump repair, nor did he have tools to carry out the work. The VHS was not integrated with the provincial health organization, and administration, logistics and supervision were therefore autonomous, producing a schism within the rural health service system.

In September, 1963, responsibility within USOM for the support and monitoring of the VHS project was shifted from the Public Health Division to the newly created Office of Rural Affairs. The rationale for this internal readjustment was that USOM efforts in support of rural sanitation would thereby be better coordinated with support to other area development activities, particularly in the Northeast.

Shortly thereafter, emphasis in the VHS Project shifted from aided self-help towards direct government execution of projects, and the Mission began to focus more on public works engineering activities. The Mission's health technical staff was curtailed, in line with a general phase-down of U.S. technical assistance activities in Thailand. USOM support to the VHS Project ended in 1965.

In 1966, the Mission renewed its support in rural health as part of a generally increased concern for the well-being of villagers and the effectiveness of governmental presence in the Northeast, where insurgency was spreading in the more remote, neglected areas. Many elements of the village health and sanitation program were incorporated into the new Comprehensive Rural Health Project, which will be discussed later under the heading "Local health services." In 1966, however, the Ministry of Public Health lost most of its budget for village wells when the allocation was transferred to the Ministry of Interior. Subsequently, VHS retained responsibility and budget support only for school water supplies, and much of its capability was incompletely utilized.

The cholera epidemic of 1958-59 underscored the critical need for safe piped water in Thailand's municipalities. The U.S. assisted an Emergency Water Supply Program in 1959 which increased the supply of piped water in Bangkok and Thonburi by one-third. In addition, in 1961, the Thai Government drew up a preliminary

15-year plan for the development of piped water supplies in 412 communities of rural Thailand, and requested the help of a U.S. consultant. The Potable Water Project, which started in 1962, is an outgrowth of this initial request. In this project, the original plan has been adjusted to focus more on the politically sensitive areas of the Northeast.

The locus of USOM assistance to this project was shifted to the Capital Projects Division in 1966, and in 1969 to the Office of Field Operations. There was considerable controversy in 1966 regarding the suitability of this project for the rural Northeast. The financial ability of smaller towns to support rather sophisticated water treatment plants with piped water systems was open to question. The majority of the northeast villages have less than 1,000 people, and the finding of suitable sites promised to be difficult. The alternative of broadening USOM support to project implementation to include municipalities and district towns outside politically dissident areas was rejected as not compatible with U.S. assistance policy to Thailand. The final decision was that USOM support would focus on sensitive areas, but that the scope of the project would be reduced, with only those sites included where there was a sufficiently concentrated population that financial self-sufficiency in operating the systems was a reasonable possibility. In general, this was taken to mean 2,000 or more people.

The Potable Water Project has been well executed, and has brought water to many smaller communities that would not have enjoyed it otherwise. The question of meeting costs of operation and maintenance has, however, continued to be the limiting factor in the extension of community water systems.

Furthermore, as throughout the lesser developed countries, the maintenance of hand pumps on village wells continues to be a nearly impossible problem. Experimentation with a new type of hand pump has been undertaken.

#### Institutional development

Early in the 50's the antecedent agencies of AID assisted the Bangkok-based medical schools and health training units under the Medical Education Project. This project was started in 1950, when the Washington University (WU) Medical School of St. Louis, responding to a Government of Thailand request to the Economic Cooperation Administration (ECA) for "Visiting Professors for Thai Medical Schools," expressed an interest in "adopting" the two medical schools and the nursing schools in Thailand.

A two-year contract between ECA and Washington University to "improve medical and nurse teaching programs and medical and nursing schools" in Thailand was signed on March 8, 1951. The first twelve visiting professors arrived in June, 1951, and until the program was discontinued on June 30, 1954, a total of twenty-three U.S. doctors, nurses and technicians served periods in Thailand ranging from two months to two years.

On June 22, 1954, Manson Meads, M.D., who served with the Washington University contract, gave his personal evaluation of the accomplishments and problems of the program.\* Although he felt that the USOM/WU Contract had produced tangible benefits, Dr. Meads said, "There is good evidence that the program did not achieve its maximum potential because of lack of clearly defined aims and objectives, difficulties in recruiting personnel, and as a result of important defects in the contract itself." As an example of the drawbacks to the project's administration, he pointed out that the Thai deans, directors of the schools and faculty had had practically no part in the planning of the project. Furthermore, although the principle of "adoption" had some merit, it became evident quickly that a single U.S. medical school could not supply the diversity of personnel required for the program. Also, the assignment of U.S. personnel to Bangkok for less than one year was costly and relatively unproductive.

In 1957, the Medical Education Project was redirected towards the specific objective of aiding in the establishment of a new medical and nursing school in Chiang Mai. Prior to this, in addition to the Washington University Contract, the U.S. Mission had also helped to establish departments of preventive medicine at Siriraj and Chulalongkorn Medical Schools, as well as two schools of medical technology at the same institutions. Through the Hospital Improvement Project, discussed later under "Local health services," USOM had also assisted in the creation of several schools of nursing, both in Bangkok and in the provinces.

The Faculty of Medicine at Chiang Mai Hospital was established in 1960, and the first class of 63 students, who had enrolled temporarily in Bangkok, were moved to Chiang Mai in January, 1961. As of September 1960, 62 staff members were appointed

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\* Appended to Robert L. Zobel's Completion of Assignment Report, "Assistance to Public Health in Thailand," July 1958.

to the Chiang Mai Hospital Faculty of Medicine. Fifty-seven of these had completed, or were then undergoing, two or more years of graduate study in the U.S.A. under USOM-RTG joint grants. The original Chiang Mai facilities included only the 170-bed provincial hospital, with classrooms and limited quarters for faculty and students.

On August 2, 1962, USOM signed a contract with the University of Illinois to provide technical and other assistance for three years to the newly created Chiang Mai Medical School. The objectives of the contract were threefold: to help the Faculty at Chiang Mai create a modern medical school capable of graduating fifty doctors per year, with a course of training suitable for the needs of Thailand; to help create a nursing school capable of graduating fifty well-trained nurses a year; and to develop sections within the Medical School for training medical technologists and other paramedical personnel needed to meet the health needs of provincial Thailand.

The main goal, both explicit and implicit, was the creation of a modern medical school with an associated nursing school that, while meeting the most modern medical education standards, would turn out doctors and nurses suitably prepared to meet the health and medical needs of Thailand's rural areas. Considerable stress was placed on the need for a strong orientation in preventive medicine and community health.

In addition to the anticipated problems concerning site, buildings, housekeeping and administration associated with the birth of a new medical school of this scope, two general problems emerged early in the project's life.\* First, the University of Illinois found it difficult to procure a suitable long-term technical advisor in preventive medicine. This post for several years was therefore filled by short-term consultants. A closely related problem was that the Thai faculty had at first little interest in public health or community medicine. Without a strong Thai public health leader on the faculty, and without the continuity of a capable long-term preventive medicine consultant, the concepts of social medicine and public health were not built into the curriculum at an early stage. Second, because of the separation of the medical and nursing schools at the University of Illinois, and due to certain bureaucratic problems between the two institutions at the time that could not readily be resolved, the U.S. nurse education advisor at Chiang Mai was not a part of the contract with the University of Illinois, but was a direct-hire employee of USOM/Thailand.

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\* Robert L. Cherry, M.D., "End-of-Tour Report"

In spite of these problems, the project as a whole has been an outstanding success. The fifty doctors and fifty nurses graduating from Chiang Mai each year are said to be among the best in Thailand. Since late 1967, the University of Illinois has intensified its interest and support in social science, preventive medicine and community health.

A field area for teaching and research in community medicine was established in early 1968, in Saraphi District of Chiang Mai Province. Located near the school itself, the area is being used as a most useful adjunct to the on-campus teaching facilities. The new, modern teaching medical center at the school has been completed and the complex promises to be one of the outstanding medical centers in this part of the world.

#### Local health services

Early AID efforts contributing toward the development and expansion of local health services commenced in 1953. During the five year period 1953-57, \$1,803,000 was spent by the U.S., and \$9,036,000 by the Thai, in improving and expanding provincial hospitals. The results of the U.S. and Thai efforts were substantial. In 1950, there were only twenty provincial and district hospitals in Thailand. By 1958, there were 73, and at the present time, there are 84.

In 1957, during the tenure of Dr. Robert L. Zobel, Chief of the Public Health Division, four on-going programs of assistance to Thai health institutions were grouped into one, which became the Local Health Development Project. From 1957-1960, USOM assisted the Ministry of Public Health through this project to "demonstrate techniques for extending and improving health services throughout the Kingdom in years to come." Emphasis was on health education and village sanitation.

As malaria dropped out of first place and filth-borne diseases moved up to become the chief cause of death and illness in Thailand, MOPH and USOM emphasis shifted to village sanitation, and the Village Health and Sanitation Project was born in 1960. This emphasis was retained in the programming of USOM assistance until 1966, when a new look at health needs prompted a broadening of perspective. The VHS project became the Comprehensive Rural Health (CRH) Project. The new focus was on the broad scope of health services, including not only the building of water-seal privies and village well promotion,

but also maternal and child health, nutrition, public health and hospital administration. Extension of services through a system of provincial health offices, first and second class health centers and midwifery centers was given priority. Training of health personnel was rapidly expanded as new centers were established for the instruction of junior health workers and midwives.

While health needs have always been more acute in the poorer northeast region of Thailand, the middle 60's saw new emphasis focused on the northeast provinces by the RTG and USOM because of the growing insurgency. The CRH project followed the trend by adding the Mobile Medical Team sub-project. This was an impact program designed to extend health and medical services to remote areas not served by the regular health facilities, through the use of specially equipped mobile teams.

While the teams are ideally staffed by a doctor, two nurses and several paramedics, the shortages of doctors, and the difficulty of getting the doctors that are available in Thailand to work for extended periods in remote areas, have proved a problem.

By 1971, complete budgeting for the program was phased over to the Thai Office of Accelerated Rural Development.

#### Food and nutrition

Nutrition as a science and public health discipline has been recognized for the past twenty years, and is well established in Thailand. Numerous research studies have been conducted, and a moderate corps of professional people are well trained in the nutritional sciences. Local universities and the Mahidol School of Public Health in Bangkok offer degrees in nutrition.

In 1960, the first major inter-disciplinary nutrition study in Thailand was conducted by the Interdepartmental Committee on Nutrition for National Defense (ICNND) of the U.S. Department of Defense, as part of a world-wide survey. This work has served as a basis for the study of nutritional disorders in Thailand for the past nine years.

Several agencies are presently helping to improve nutrition in Thailand. The main efforts have been by UNICEF and FAO, with participation from the U.S. Peace Corps. Most of the assistance has been through education programs, field demonstrations and the provision of surplus U.S. foodstuffs.

USOM, too, has supported a variety of activities in the nutrition field. Among these have been nutrition workshops for health workers, participant training in the U.S. and third countries, and the training of education officials in the concept of nutrition. Considerable effort has been made to strengthen the health infrastructure in ARD areas, with particular emphasis on programs of maternal and child health. Furthermore, the U.S. Department of Defense and the U.S. National Institutes of Health have given substantial assistance in the development of field rations for Thai troops and a research institute at Chiang Mai.

Overall progress in improving nutrition has been slow, and coordination has been insufficient between the various interested agencies and departments of the Thai Government. The RTG has recently placed high priority on developing inexpensive high protein foods from available food sources for infants and weanlings.

In FY 69, specific USOM project assistance began to help the Thais develop a family of marketable protein foods from local raw materials. The Institute of Food Research and Product Development (IFRPD) at Kasetsart University in collaboration with the Nutrition Division, MOPH has developed and field tested a variety of high protein products. The mung bean and soybean extract products were field tested among pre-schoolers thru a network of Child Nutrition Centers in rural areas and school children in the Bangkok area.

The Protein Food Development Project proved to be so successful that USOM has entered into another 3 year project agreement which is aimed at bringing about the commercialization of these nutritious foods. Several local food processors have shown a keen interest in the products and are presently conducting market research and market testing.

From the interest created by the Protein Food Development Project, the Ministry of Education is exploring ways to launch school feeding programs and NEDB has requested a World Bank loan to develop institution feeding programs utilizing low cost nutritious foods.

### Population

Thailand's population ranks sixteenth in size of countries in the world. At present, the population is doubling in 22-24 years, reflecting a growth rate of approximately 3.0 per cent a year.

The most recent census was taken in 1970. Official data on population has not been published but preliminary data adjusted for underenumeration indicated a population of approximately 37 million.

### Fertility Control

Primary research carried out by the RTG prompted action resulting in the providing of Family Planning through the Ministry of Public Health network beginning in 1968. The 1968-71 progress has been most encouraging. From an initial start of making Family Planning services available in 20 Provinces in 1968 the program has expanded to all 72 provinces by 1971. During 1968-1970 the RTG had no official population policy and there was a governmental ruling against public information on contraception. It was necessary to conduct the program through the existing public health infrastructure. The RTG adopted a policy of voluntary family planning in March 1970. The Ministry of Public Health then established a National Family Planning Project (NFPP) which the Mission is supporting. The NFPP has submitted a Five Year Plan which has been incorporated in the National Five Year Plan (1972).

In terms of program development the program, although not supported by a national public information program, and incorporated within the health infrastructure without the use of full time family planning field workers, has grown at an astonishing rate. From a base of 130,220 new acceptors in CY 1969 to 404, 187 in CY 1971 was, indeed, a major accomplishment. The CY 1971 total was more than 100,000 over the original planned target.

The project has been hard put to meet the service demand in terms of budget, training of personnel, establishing a supply system and service statistics component. Good progress has been made in establishing a base for these activities and as the program gains impetus and experience they will undergo refinement.

USOM commodity assistance has, from the beginning, been mainly channeled to directly support family planning services. The largest input has been for oral contraceptives which were used by about 75% of all new acceptors in CY 1971. Other assistance supports training, supervision, health education, and research and evaluation activities. The level of funding of assistance totalled \$649,000 in FY 1968, \$1.3 million in FY 1969, \$1.3 million in FY 1970, \$1.3 million in FY 1971, and \$1.6 million in FY 1972.

#### Future Trends and Roles

The Family Planning Project is in its first stage of organizing clinical, distributive and follow-up services to ready acceptors. It is operating from a small base within the Ministry of Public Health. From this "first response" stage it must widen its base to encompass a national population program. This means pin-pointing and motivating populations at risk into the program activities, preparing policy makers for the long range view on restricting population growth and developing and implementing public information and population education activities.

#### Participant training\*

During the past twenty two years, approximately 1,400 Thai health personnel have been trained abroad under the various health projects. Except for retirements, deaths and a few resignations, practically all are still employed in the public health and medical services of the RTG.

Between 1950 and 1960, priority for participant training was given to medical educators, nurse educators and disease control specialists, mostly malaria workers. Beginning in 1966, priorities shifted toward the training of MOPH personnel in planning, directing and evaluating rural health service activities from the national to the village level. Priority was also given to training the faculty of the School of Public Health who have the primary task of training the middle level professional health personnel still urgently required by the health services.

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\* See table in Appendix

The objectives of participant training as outlined by AID/W are to help developing nations in their efforts to promote economic and social progress (1) by improving their human resources through training in the United States and other countries; (2) by providing leadership training as a major tool in preparing foreign nationals to perform key roles in their country's development programs; (3) by encouraging the development of institutions by foreign nationals who, once trained, establish training centers in their home countries, and (4) by providing foreign nationals an opportunity to observe the democratic process in the political, social and economic life of the United States. All of the above mentioned functions are evident in the participant program administered by the Office of Health and Population Planning. Obviously, we have been more successful in some areas than others.

From the viewpoint of the USOM technical office, participant training is usually seen in terms of how many technically qualified employees are needed to complete the project. The emphasis is on the job and not people. We seem to be in a hurry to get a job done and long-term human resources development is subordinated to immediate project needs. From the programing standpoint, this is about the only way to justify funds, but the real impact and benefits from the participant program are in the development of a leadership potential which may or may not have anything to do with the training of technicians for implementation of a specific project. For example in the Ministry of Public Health, Department of Health, 17 out of the 22 senior positions were held by former RTG/USOM participants. Employees who were trained in the rural health and malaria projects in the '50s or '60s are the leaders in family planning, protein food development and national health planning. It is interesting to note that the dynamic new Director-General of the Department of Health Promotion was a 1952 participant to Columbia University in Medical Education. The present Director of the MCH Division, the focal point for the Family Planning Project, was a participant in 1961 for his MPH degree in Public Health Administration under the rationalization that professionally trained administrators were a priority need in the Rural Health Project. A similar set of examples can also be given for the Faculty of Public Health and Chiang Mai Medical School.

#### Conclusions and outlook

During the last twenty years, with substantial assistance from

the United States, as well as the United Nations and its specialized agencies, the Rockefeller Foundation, and other nations and agencies, Thailand has established a sound base for health services. Most of the acute epidemic diseases have been brought under reasonable control, and an infrastructure has been created for both curative and preventive health programs throughout the country. Four modern medical schools are in existence, producing between them 350 well qualified doctors per year. Each province has at least one hospital, modern by Asian standards, and a network of health centers is gradually extending outward to the village people. A large corps of health workers have had foreign training. Nearly 1,000 of them were sent under U.S.--MOPH sponsorship.

U.S. assistance over the years has, on the whole, been in phase with Thai priorities and progress in health development. The early concentration on control of infectious diseases and the creation of health training units in Thailand was wise and fruitful. The extension of services to the provinces with U.S. support, first through the major hospital expansion program of the 50's, and later through the network of health centers, was orderly and schematic. On the whole, U.S. assistance seems to have been well-utilized.

Most of the health programs and the development of Thai health staff have been carried out without much overall planning. Each project or group of activities was justified, planned and executed separately. Priorities for the use of staff and other resources were based mainly on acute and rather obvious needs: mass disease control, epidemic control, development of special category workers, \* schools to produce well-trained doctors and nurses, expansion of hospitals to save lives and relieve suffering, and so on. The health projections of the Five-Year Plans have, in general, been little more than a compilation of individual projects, each planned at the level of a technical division. The development of health staff below the level of doctors and fully trained nurses has been largely in response to project needs. Special category workers have been trained and employed with little relationship to overall health needs. Hospital services and preventive services have evolved separately, and are administered by separate departments.

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\* Trained in malaria eradication, TB, leprosy control of yaws, and so on.

This is all understandable and quite normal in a developing country during the early period of modernization.

However, Thailand has reached a point now where considerable thought must be given to its future plans for health development. The overall doctor-population ratio is about 1 per 7,000. The ratio in Bangkok is in the area of 1:800, while for the provinces it is about one doctor for 20,000 people. This skewed distribution will not be corrected by simply increasing the production of doctors. It is doubtful in fact that rural Thailand can expect adequate doctor-level health care at all in the foreseeable future. Thailand will need to re-examine its whole system for the training and utilization of health manpower. It appears inevitable that more responsibility will need to be assigned to paramedical and auxiliary personnel. The organization of the Ministry, and the provincial health structure, is in the process of being restructured in order to provide a more coordinated approach to health problems. Workers from specialized disease control programs, and the programs themselves, will have to be integrated. More and more, the emphasis will be on creating general health services at the local level.

Thailand's population is expanding at over 3 percent per year, and at the present rate will double in the next 22-24 years. Unless this excessive population growth is checked, the country will be unable to respond to the health needs of its people. Little gain can be expected in rural education and in the general welfare of the people if this trend keeps up. If Thailand faces up to this problem realistically in the near future, as it must for its own welfare and security, the health services must be capable of responding effectively to this challenge.

In dealing effectively with these problems and opportunities, Thailand will need to utilize more effectively its large numbers of well trained professional health manpower. Deployment of larger number of such personnel to programs and geographic areas of highest priority will help greatly. It is likely, however, that in its efforts to handle its problems, many of which will become more urgent as the population gains access to modern modes of communication--and therefore becomes increasingly aware of its opportunities--Thailand may require continued help from abroad, perhaps through short-term advisors with high competence and wide experience.

APPENDICES

TABLE II

RTG HEALTH PROJECTS RECEIVING USOM SUPPORT,  
BY FIELD OF ASSISTANCE, 1950-1972

A. DISEASE CONTROL PROGRAMS

Project No.	Title	U.S. Input (In \$000)	RTG \$ Input (In U.S. \$000 Equiv.)	Period of Project
511-107	Malaria Eradication	\$ 21,154.3	\$ 47,313.3	FY 51-69
510-043	Intestinal Disease Control	92.9	205.1	FY 52-58
510-045	Communicable Disease Control	7.3	1.3	FY 52-60
510-044	Cholera Control	109.6	none	FY 58-60
511-503	Thailand Malaria Operational Research	-	82.8	FY 70-72
TOTALS:		\$ 21,364.1	\$ 47,602.5	

Obligations and Budgets from Program Agreement. On average, actual expenditures are 15 to 20% less than these amounts. U.S. Input figures include Mission and AID/W.

TABLE III

RTG HEALTH PROJECTS RECEIVING USOM SUPPORT,  
BY FIELD OF ASSISTANCE, 1950-1972

B. ENVIRONMENTAL HEALTH PROGRAMS

Project No.	Title	U.S. Input* (In \$000)	RTG \$ Input* (In U.S. \$000 Equiv.)	Period of Project
520-047	Environmental Health Sanitation	\$ 918.9	\$ 214.7	FY 51-58
530-048	Rural Health	1,153.4	1,712.7	FY 52-62
520-046	Health & Sanitation	5.7	None	FY 55-58
520-109	Village Health & Sanitation	1,772.1	1,563.8	FY 60-68
521-186	Potable Water Project	3,142.9	2,145.8	FY 66-69
TOTALS:		\$ 6,993.0	\$ 5,637.0	

\* See note Appendix A

TABLE IV

RTG HEALTH PROJECTS RECEIVING USOM SUPPORT,  
BY FIELD OF ASSISTANCE, 1950-1972

C. INSTITUTIONAL DEVELOPMENT

(Medical Education and Health Training)

Project No.	Title	U.S. Input* (In \$000)	RTG \$ Input* (In U.S. \$000 Equiv.)	Period of Project
540-050	Health Education	\$ 207.7	\$ 218.0	FY 51-59
540-108	Medical Education	1,480.4	2,847.0	FY 51-65
590-110	Water Management Seminar - Hua Hin	19.1	None	
540-051	In & Pre-Service Training	145.6	420.1	FY 52-59
540-174	Chiang Mai Medical School	5,850.8	9,169.8	FY 62-69
	TOTALS:	\$ 7,703.6	\$ 12,654.9	

\*See note Appendix A

TABLE V

RTG HEALTH PROJECTS RECEIVING USOM SUPPORT,  
BY FIELD OF ASSISTANCE, 1950-1972

D. LOCAL HEALTH SERVICES

(Includes Both Curative and Preventive Services)

Project No.	Title	U.S. Input* (In \$000)	RTG \$ Input* (In U.S. \$000 Equiv.)	Period of Project
055-052	Hospital Improvement	\$ 1,604.2	\$ 1,221.6	FY 51-62
590-055	Health & Sanitation Admin.	866.2	41.0	FY 51-59
550-053	Police Hospital Improvement	138.4	None	FY 55-61
550-054	Siriraj Hospital Equipment	62.3	None	FY 55-61
540-179	Rural Health	5,042.1	4,833.4	FY 61-
590-170	Drug & Pharmaceutical Control	112.4	11.8	FY 64-69
540-179.1	Mobile Medical Teams	641.5	6.0	FY 68-71
	TOTALS:	\$ 8,467.1	\$ 6,113.8	

\* See note Appendix A

TABLE VI

RTG HEALTH PROJECTS RECEIVING USOM SUPPORT,  
BY FIELD OF ASSISTANCE, 1950-1972

E. FOOD, NUTRITION AND POPULATION

Project No.	Title	U.S. Input* (In \$000)	RTG ₪ Input* (In U.S. \$000 Equiv.)	Period of Project
540-179.2	Protein Food Development	\$ 638.2	\$ 758.2	FY 69-72*
580-209	Family Health	6,273.1	1,548.3	FY 68-72*
TOTALS:		\$ 6,911.3	\$ 2,306.5	

\* Cumulative data until FY 72

APPENDIX F

PARTICIPANT TRAINING IN HEALTH AND MEDICAL EDUCATION

FOR USOM SUPPORTED RTG HEALTH PROJECTS

1950 - 1972

PROJECT TITLE	PERIOD OF PROJECT	NUMBER OF PARTICIPANTS
Medical Education	1950-1962	233
	1963-1964	8
	1965-1968	28
Control of Specific Diseases	1952-1961	33
Sanitary Engineering	1953-1954	10
Public Health	1952-1959	50
Health Education	1954-1956	11
Hospitals	1953-1957	53
Chonburi Training Center	1952-1955	9
Malaria Eradication	1962-1970	211
Drug & Pharmaceuticals	1966	6
Village Health and Sanitation	1960-1965	74
Comprehensive Rural Health	1966-1968	179
Family Planning	1968-1972	142
Military Doctors	1960-1962	13
Potable Water	1962-1968	31
Rural Health	1969-1972	105
Protein Food	1969-1971	32
Mobile Medical Teams	1970-1971	<u>29</u>
TOTAL FELLOWSHIPS		1,257

Figures do not include Special Participants.

## PARTICIPANTS TRAINED\*

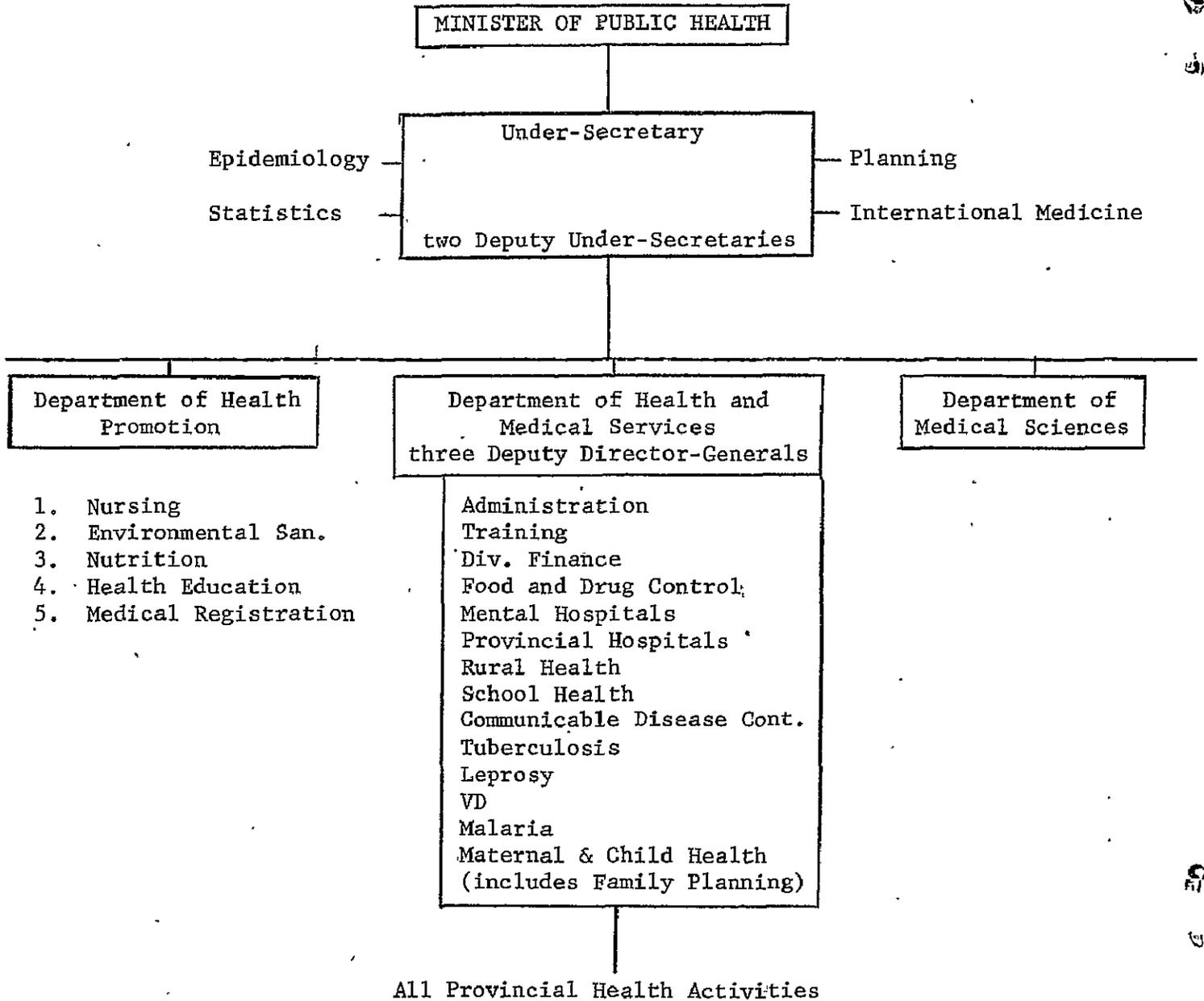
## PUBLIC HEALTH

Fiscal Year	Total	U.S.		3rd. Country	
		**Long-Term	Short-Term	Long-Term	Short-Term
1951	61	53	8	-	-
1952	8	5	3	-	-
1953	41	38	3	-	-
1954	79	71	8	-	-
1955	59	54	5	-	-
1956	33	23	8	-	2
1957	38	31	4	-	3
1958	25	21	3	-	1
1959	24	18	1	-	5
1960	25	15	-	-	10
1961	32	18	6	-	8
1962	26	12	1	-	13
1963	29	8	2	-	19
1964	54	4	4	-	46
1965	93	5	1	-	87
1966	129	35	23	-	71
1967	88	22	13	-	53
1968	120	26	10	-	84
1969	102	19	12	-	71
1970	133	25	11	-	97
1971	128	32	13	-	83
1972	89	24	15	-	50
TOTAL	1,416	559	154	-	703

\* Figures include participants sent under regional funding.

\*\* Long-term is defined as six months or more.

TENTATIVE ORGANIZATION CHART



PUBLIC HEALTH DIVISION CHIEFS -- USOM/THAILAND

1951-53	Dr. Erval C. Coffey
1953-55	Dr. Alonzo F. Brand
1955-58	Dr. Robert L. Zobel
1958-61	Dr. Andrew P. Haynal
1961-63	Dr. Ross E. Jenny
1963-64	Dr. Robert L. Cherry
1964-66	Dr. Edward O'Rourke
1966-72	Dr. John E. Kennedy
1972-	Dr. Merrill M. Shutt

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