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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
ALLIANCE FOR PROGRESS
WASHINGTON, D. C. 20523

70p

CAPITAL ASSISTANCE PAPER

522-L-014

see also amend loan 522-L-014

HONDURAS - MALARIA ERADICATION

ID-LA/P-74

UNCLASSIFIED



DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

UNITED STATES COORDINATOR
ALLIANCE FOR PROGRESS

UNCLASSIFIED

AID-LA/P-74
November 1, 1965

MEMORANDUM FOR THE ADMINISTRATOR

SUBJECT: HONDURAS - Malaria Eradication

The attached Capital Assistance Paper sets forth the recommendations for authorization of a loan not to exceed \$1,170,000 to the Republic of Honduras to assist in financing the U.S. dollar and local currency costs of equipment, material and services necessary for the conduct of a regionally coordinated national plan to eradicate malaria from the territory of Honduras.

David Bronheim
Deputy U.S. Coordinator

Attachments

Summary and Recommendations
Project Analysis
Annexes I - III

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HONDURAS - MALARIA ERADICATION

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AID-LA/P-74

October 29, 1965

HONDURAS - MALARIA ERADICATION

SUMMARY AND RECOMMENDATION

1. BORROWER: The Government of Honduras. The execution of the project will be the responsibility of the Ministry of Health through its Servicio Nacional de Erradicacion de la Malaria (SNEM).
2. AMOUNT OF LOAN: Not to exceed \$1,170,000, all or substantially all for local-currency expenses.
3. LOAN TERMS: Repayment over a 40-year term from date of first disbursement of loan funds, with a 10-year grace period on amortization of principal. Interest will accrue at the rate of 1% annually during the grace period and 2 $\frac{1}{2}$ % annually thereafter on the balance outstanding.
4. TOTAL COST OF PROJECT: \$2,888,000

GON Budget:	\$1,170,000
A.I.D. Loan:	<u>1,170,000</u>
	\$2,340,000
PAHO/UNICEF:	500,000
A.I.D. Grant (TA):	<u>48,000</u>
	<u><u>\$2,888,000</u></u>
5. DESCRIPTION OF PROJECT: The loan will enable the GOH to conduct a three-year regionally coordinated malaria eradication program. The program will consist of an intensification of the spraying campaign which SNEM has carried on for the past nine years, and at the same time a mass medication campaign to reduce the number of human carriers of the disease. In this manner, by attacking the disease in both mosquitoes and people, it is expected that transmission will be interrupted and, with surveillance and control efforts by the GOH thereafter, eradication will have been achieved.

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6. **PURPOSE OF PROJECT:** To eradicate malaria from Honduras in conjunction with a CA regional effort, thereby improving the health level of the population and increasing the productivity of areas now at risk to malaria, and allowing most of the funds that GOH's future budget would otherwise allocate to malaria control to be diverted to other essential activities.
7. **BACKGROUND OF PROJECT:** The malaria eradication campaign that began in 1957 in Guatemala, El Salvador, Honduras, and Nicaragua has been successful up to the present, with the majority of the malarial areas (79,000 KM² out of 109,000 KM² in Honduras) now virtually free of the disease. During the past year, however, the incidence of malaria began to rise due to the increasing resistance of the mosquitoes to insecticides, and the need for an intensive campaign to eradicate malaria from the region was recognized by the host governments, PAHO, and A.I.D. Following an ARA/LA CAEC Meeting on May 10, 1965, the four host governments were advised that A.I.D. would finance 50% of the local cost component of a PAHO/A.I.D.-approved regional eradication campaign, supplementing the Grant assistance of past years with loan funds, and this Capital Assistance Paper reflects the application received from the GOH for assistance in its portion of the regional campaign. Similar applications received from the Government of Guatemala and the Government of Nicaragua are being processed simultaneously with this request from the GOH. The Government of El Salvador has pledged full cooperation in the regional program, and plans to finance the Salvadorean portion wholly from its own reserves.
8. **ALTERNATE SOURCES OF FINANCING:** As an all or substantially all local cost financing, this project is not suitable for the Export-Import Bank. The IDB and IBRD have also informally indicated they are not interested in financing this project.
9. **VIEWS OF COUNTRY TEAM:** The Country Team gives this project a high priority on both social and economic grounds, and recommends authorization of this loan.
10. **STATUTORY CRITERIA:** All statutory criteria have been or will be met.
11. **RECOMMENDATION:** Authorization of a loan to the Government of Honduras for an amount not to exceed \$1,170,000, subject to the following terms and conditions:

A. Interest and Repayment Terms

The Borrower shall repay the loan to A.I.D. in United States Dollars within forty (40) years from the date of first disbursement under the loan, including a grace period not to exceed ten (10) years. The Borrower shall pay to A.I.D. in United States Dollars on the disbursed balance of the loan interest of one (1) percent per annum during the grace period and two and one-half ($2\frac{1}{2}$) percent thereafter.

B. Other Terms and Conditions

1. Prior to the execution of the Loan Agreement PAHO/W and AID/W formally shall have approved the Honduran Technical Plan and the Regional Coordination Plan.
2. Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and content satisfactory to A.I.D., a schedule of its contributions to the project during the estimated disbursement period of three years from the date of execution of the Loan Agreement. The Borrower shall accompany that schedule with evidence satisfactory to A.I.D. that it will provide the contributions called for by the schedule.
3. Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and substance satisfactory to A.I.D., evidence that the contribution to the Project undertaken by UNICEF will be available on a timely basis.
4. Borrower shall covenant faithfully to carry out its national Technical Plan and the Regional Coordination Plan, and to obtain the approval of A.I.D. and of PAHO before modifying its national Technical Plan or agreeing to a modification of the Regional Coordination Plan.
5. Borrower shall covenant that, except as A.I.D. may otherwise agree, no funds made available to the Borrower by A.I.D. under the loan shall be used to pay the salary or related expenses pertaining to any position existing in the Borrower on the effective date of the Loan Agreement.
6. Borrower shall covenant to give full cooperation to such persons as A.I.D. may nominate to monitor Borrower's performance under the Loan Agreement.

7. The Borrower shall covenant that it will maintain the Servicio Nacional de Erradicacion de la Malaria (SNEM) as a separate administrative, logistic, and technical entity within the Ministry of Health for the purpose of implementing the Project.
8. Borrower shall covenant to provide the resources necessary to achieve the eradication of malaria within its territory and to prevent the reappearance of malaria in that territory; and in furtherance of that undertaking Borrower shall covenant to consult periodically with representatives of A.I.D., or such persons as A.I.D. may nominate, during at least the first five years after the last disbursement.
9. Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Member Countries of the Central American Common Market. Shipping financed under the loan shall be procured from the United States, and marine insurance financed under the loan shall be placed in the United States with a company authorized to do marine insurance business in any state of the United States.
10. United States Dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee through appropriate procedures and shall be used only for procurement in the United States.
11. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

PROJECT COMMITTEE:

Loan Officers	: CConnolly/NCohen
Public Health Advisor	: Dr. FVintinner
Desk	: EDuerst
Legal	: JOlson

Drafted: CConnolly/FVintinner/NCohen

SECTION I - DETAILED DESCRIPTION OF PROJECT

A. BORROWER

The Borrower will be the Government of Honduras, with responsibility for execution of the project residing in the Ministry of Public Health.

Day-to-day operations under the project will be carried out by the Servicio Nacional de Erradicacion de la Malaria (SNEM), an Agency of the Ministry of Health established in 1956, which has conducted a successful, although necessarily limited by budgetary restrictions, malaria control and eradication campaign in Honduras over the past 10 years.

This project will be an expansion and intensification of the work which SNEM has performed successfully in the past, with not only a high level of activity within Honduras called for but also a new factor: recognition of the importance of coordinated two-country and three-country action in malaria eradication along the frontiers. The SNEM of Honduras recognizes this need for regional coordination, and based on past performance and stated intention, appears capable of executing the project successfully.

B. BACKGROUND OF PROJECT--MALARIA ERADICATION IN CENTRAL AMERICA

1. Historical Background

Central America today is the beneficiary of a progressive fall in the malaria rate over the period of the last ten years. It is estimated that less than 20% of the original incidence of malaria remains. One is therefore tempted to conclude that malaria is no longer of prime importance. Recognizing that the disease cannot remain static but increases or decreases, depending upon the effort made to control it, it is pertinent to consider the original status of malaria.

In the total population of Latin America (230 million), 111 million people (48.5%) now live in areas which were originally malarious. In the isthmus of Central America, where the tropical conditions permit perennial mosquito breeding and malaria transmission, approximately 70% of the population live in areas which were originally at risk to malaria.

Sixty years ago during the construction of the Panama Canal, Gorgas observed that the malaria rate in the Canal Zone was equivalent to 1,263 hospital admissions per 1,000 population. The French failed to build the canal for lack of effective malaria control. The United States was able to achieve this result because of an intensive anti-larval campaign under the leadership of Gorgas.

The early records in the Central American countries indicate that hyperendemic malaria with infection rates of approximately 50% involved those populations distributed adjacent to the foothills and lowlands where the vector breeding is predominant.

It was not by chance that the major cities of Central America have been established at high elevations. Prior to the institution of anti-malaria measures, the coastal lowlands were largely uninhabitable. The marked postwar agricultural development of sugar and cotton along the Pacific coast bears a direct relationship to the reduction of human reservoir of malaria parasites.

2. Technical Strategy

Although anti-malaria programs have been operative in Central America for over sixty years, the over-all endemicity of the disease was not significantly reduced except in areas such as the Panama Canal Zone where intensive anti-mosquito measures could be taken. Control measures were limited primarily to larviciding and water control measures, which served as a direct attack upon the breeding habitat of the mosquito population. The impossibility of financing anti-mosquito measures of this kind throughout the entire isthmus limited its applicability.

The advent of the residual insecticide, like DDT, permitted the application of a new principle which was adopted for the first time by all member countries of the World Health Assembly at its 1955 meeting in Mexico City. This principle was based upon the reduction of the parasite reservoir in humans and not upon the elimination of the mosquito in its outdoor breeding locations. The strategy was to spray all houses in malarious areas with DDT for the purpose of preventing mosquitoes from transmitting infections from potentially infected to non-infected people. The residual insecticide was not intended to reduce the total population of mosquitoes. This method was to be supported by case finding which sought to locate and treat all malaria cases.

This strategy was first applied successfully on a large scale in the United States, where the elimination of the reservoir of parasites within the human population was achieved before 1950. In the absence of parasites, the abundance of mosquito vectors was no longer significant. However, it is essential to understand that the potential for an outbreak always exists if an undetected case of malaria is introduced in an area where the breeding of a vector mosquito is plentiful.

The normal duration of a malaria eradication program is approximately 10 years. The first two years are involved in definition of the malarious area and the development of an organization to carry out the campaign. The next four years are involved in a program of residual spraying which is referred to as the attack phase, and the final four years are applied to case finding and detection of residual cases with radical treatment. Since the official policy of eradication was not established prior to 1955, most did not actually begin to implement campaigns until 1956 or later. Guatemala, Nicaragua, El Salvador and Honduras began their programs approximately in 1958; even though much of the basic preparatory work had already been done by this time, one should allow at least eight years for the completion of an eradication campaign in these countries under optimal conditions. Therefore, one could not have expected completion of the CA campaigns prior to 1966.

Basically, the technical strategy is not complicated. Organizational requirements are uncompromising and rigid due to the necessity for implementing the concept of comprehensive national coverage. Campaigns have not been easy to implement because they have placed enormous demands upon the organizational ability of Public Health ministries where no prior experience existed in national campaign management. It is therefore not difficult to discover organizational and administrative difficulties in each of the Central American programs. In spite of these deficiencies, careful reviews of the Central American problem areas by the Pan American Health Organization, A.I.D. and most recently by a United States Public Health Service team indicate that the serious problems are technical and not administrative. The major cause for delay in the completion of the Central American programs has been the development of resistance by mosquitoes to insecticides in the agricultural communities of the Pacific Coast. The reason for this development will be explained in the next section.

3. Technical Progress

In the Latin American region, eradication of malaria is an accomplished fact among 14.4 million population, including Venezuela, Chile, Puerto Rico, Barbados, Grenada, Martinique and Santa Lucia.

An additional 42.5 million are in the final phase, including British Honduras, Jamaica, Trinidad, Tobago, Dominica and Guadeloupe.

The residual problem is small in Bolivia, Argentina, Costa Rica and Ecuador.

Currently, 96 million population are protected by anti-malaria campaigns in 20 Latin American countries. The total malarious population of the countries of Central America and Panama are 9.2 million, representing less than 10% of the total Latin American population at risk. The current program status in each of the four Central American countries where A.I.D. now assists programs is given in the following table.

CURRENT STATUS OF MALARIA ERADICATION IN GUATEMALA, NICARAGUA, HONDURAS AND EL SALVADOR, BY POPULATION, 1963*
(000)

	<u>Total Population</u>	<u>Original Malarious Population</u>	<u>Consolidation Phase</u>	<u>Attack Phase</u>	<u>Total in Program</u>
Guatemala	4,120	1,912	1,234	678	1,912
Honduras	2,008	1,892	941	951	1,892
Nicaragua	1,767	1,697	668	1,029	1,697
El Salvador	2,511	1,641	-	1,641	1,641
Totals	<u>10,406</u>	<u>7,142</u>	<u>2,843</u>	<u>4,299</u>	<u>7,142</u>

* Extracted from Report on the Status of Malaria Eradication in the Americas, Pan America Health Organization, Directing Council, XV Meeting, 10 July 1964.

This table indicates that approximately 70% of the total population lives in areas which were originally at risk to malaria. All of the areas at risk are now included within an active program. In 80% of the population of these four countries, there is either no malaria or malaria

is under satisfactory control by present methods. A total population of approximately two million within the four countries form the population group with special technical problems not amenable to the spraying of DDT alone.

It is important to bear in mind that the principal malaria carrying mosquito of this area is anopheles albimanus, a vector which breeds in the coastal lowlands below an altitude of 3,000 feet. Malaria transmission along these coastal lowlands forms the principal focus for reinfection of other potential malarious areas within Central America. At the onset of eradication campaigns between 1956 and 1958, total coverage of all malarious areas was thoroughly carried out. The malaria rates began to fall as indicated by the slide positivity rate. For example, in Guatemala in 1958, 20.6% of all slides taken were positive. By 1962, the positivity rate had fallen to 1.85%. In El Salvador in 1959, the positivity rate was 24.6%. In 1963, it had fallen to 7.5%. In Honduras, the positivity rate fell from 10.85% to 2.47% between 1959 and 1961.

This rapid reduction in positivity rate reflected the interruption of malaria transmission within the confines of the original malarious area. As the reservoir of parasites in humans fell, it became possible for the first time in the history of Central America to undertake the consistent progressive development of cotton and sugar along the Pacific Coast lands. The increasing demographic shift of population from the highlands to the Pacific lowlands introduced a large susceptible population into areas with a high potential for malaria transmission. For example, it is estimated that the coastal population in El Salvador is now double that of 1958.

While recent history has indicated, as it has in many other parts of the world, that the immediate impact of a malaria program is to produce a redistribution of population into lands formerly uninhabitable due to malaria, this migration alone has not been an insuperable problem. It has meant a readjustment in program management to cope with the large influx of population. Serious technical difficulties developed primarily when cotton growers began the regular use of crop spraying and dusting. The effect of extensive aerial spraying resulted in the elimination of susceptible mosquito species with the survival of resistant vector species.

With the development of insecticide resistance and a change in insect behavior towards residual insecticides, it became necessary for the campaign to utilize alternate anti-malaria methods. Drug treatment and anti-larval methods were field tested on an increasing scale. Their use has not yet been used widely enough to produce a major impact on the eradication campaigns due to increased costs of labor.

It is recognized that these alternate measures would be more expensive than the standard residual insecticide approach. Recognizing, in perspective, that these problem populations of Central America form only 2% of the total population covered by present malaria campaigns in Latin America, there remains no alternative but to intensify the attack by a variety of nonspraying methods in spite of possible cost increase.

4. Consequences of Program Withdrawal

The malaria campaign in Central America has inherited a problem of its own making. Its impact has been successful enough to permit the redistribution of the highland populations to the formerly malarious coasts. The reservoir of malaria parasites has remained at a very low level. However, the mosquitoes are breeding at the same level as previously, since the modern eradication strategy makes no attempt to eliminate the mosquito in its natural breeding habitat. If the campaign is terminated, the inevitable result must be that the widely prevalent anopheles albimanus will transmit infection from the remaining human reservoir of parasites so that infection will once again become widespread on the coasts. If this develops, the agricultural population will be obliged to retreat to the highlands.

The loss of the Pacific Coast agricultural economy and the overcrowding of the highland populations of Central America would be only a part of the results of program withdrawal. The parasite, which knows no political boundaries, would be disseminated through migratory laborers and travelers to adjacent territories in the Americas from which malaria has already been freed, as for example, British Honduras and large parts of Mexico.

5. United States Policy on Malaria Eradication

The United States has been actively interested in anti-malaria programs since the end of the last world war. While these programs experimented with the use of residual insecticides, endorsement by the United States of the worldwide malaria eradication program did not take place until a resolution to this effect was supported enthusiastically by the United States delegation, represented by the United States Public Health Service, at the Eighth Meeting of the World Health Assembly in Mexico in May of 1955.

United States Congressional Legislation to this effect was passed in Section 420 of the Mutual Security Act of 1957, which stated as follows:

"The Congress of the United States, recognizing that the disease of malaria, because of its widespread prevalence, debilitating effects, and heavy toll in human life, constitutes a major deterrent to the efforts of many people to develop their economic resources and productive capacities and to improve their living conditions, and further recognizing that it now appears technically feasible to eradicate this disease, declares it to be the policy of the United States and the purpose of this Section to assist other peoples in their efforts to eradicate malaria."

Congress has continued to support this program even though the Agency for International Development has removed the program as a specific line item in the A.I.D. Congressional Presentation. In the debate on Foreign Assistance Act of 1963, Mr. Passman stated the following:

"Mr. Chairman, I want to mention now the Malaria Eradication Program which is scattered throughout this entire Bill. We have never cut this program since its inception.

"The gentlemen from Massachusetts [Mr. Conte] had an interest in this particular program. I discussed it with the gentleman. We are today making legislative history here to the effect that the reduction we are recommending should not apply to the malaria eradication program."

Executive history has also been favorable to the program since 1957. On March 30, 1962, President Kennedy issued the following statement:

"I am proud of the part which the United States is playing in the worldwide malaria eradication campaign. We have conquered malaria in our own country. Now through the Agency for International Development, we are devoting our technical skills and financial resources to this greater effort. We are also vigorously supporting the worldwide leadership of the World Health Organization in the

elimination of malaria, which involves also essential participation by allied agencies, the United Nations' Children's Fund and the Pan American Health Organization.

"Indeed, I am heartened not only by the progress against an ancient scourge but also by the growing cooperation of many countries--over 100--working through these agencies against a common enemy. In a world still sadly torn, the malaria program eradication campaign once more shows that its people can work together for mutual benefit. Worldwide technical cooperation on this scale is very new in man's history. It holds great promise for the future."

Current Executive support was stated in President Johnson's Health Message to Congress on February 10, 1964:

"The United States participates in an ambitious international effort to eradicate malaria--a disease which strikes untold millions throughout the world.

"Both my predecessors committed the United States to this campaign, now going forward under the leadership of the World Health Organization. The Congress has endorsed this objective and has supported it financially. We will continue to encourage WHO in its work to eradicate malaria throughout the world.

"We will continue to commit substantial resources to aid friendly nations through bilateral programs of malaria eradication."

These statements on policy indicate the recognition by the United States that its role is only one of partial support to the total effort. It recognizes that the principal responsibility belongs to each national government where malaria poses a problem. The United States recognizes it has no direct control over the successful execution of a program. In providing support, the United States recognizes that, in such a massive international effort, there will be individual governments which will fail to exert the optimum effort. But it also recognizes that malaria is a program composed of three major biological variables: man, the parasite, and the mosquito. Biological variation and change within each of these factors will require occasional changes in strategy. In spite of technical problems, the multiplicity of anti-malaria methods now available have made it possible for the Secretariat of the 17th World Health Assembly to record in February 1964:

"It is the opinion of the Secretariat that there are no areas in the region of the Americas in which it will not be possible to eradicate malaria."

6. Financial Support by National and International Agencies

Between 1956 and 1964 program costs have been shared by national governments, UNICEF, PAHO and A.I.D. The following table provides the breakdown of government and A.I.D. participation for each of the four countries. The data for Honduras are for Fiscal Years 1958 to 1963.

	<u>Government Share</u>	<u>A.I.D. Share</u>	<u>Total Dollars</u>
El Salvador	62%	5%	\$ 7,224,031
Nicaragua	41%	31%	6,040,000
Guatemala	39%	28%	10,108,354
Honduras	31%	43%	5,021,500

The United States does have a policy commitment to support malaria eradication in the Americas. It is the primary interest of the United States that adequate support is forthcoming to meet the uncompromising requirements of a technical plan.

In view of the determination by the IA Region that United States grant funding of current Central American malaria programs would be terminated as of the end of Calendar Year 1964, the Region proposed that loan funds be made available from Calendar Year 1965 under the terms specified in AIDTO Circular XA-305. In supplementing grants with loans, the Latin American Bureau based its estimates of requirements on detailed plans jointly approved by the four national governments, the Pan American Health Organization, and the Office of Technical Cooperation and Research of A.I.D. These plans reflect the recognition by each of the four governments that special measures would have to be taken other than spraying if malaria eradication was to be accomplished. Because of increased local cost requirements, the respective national eradication agencies have appealed for assistance to the United States through their Directors and Ministers of Health. Resolutions to this effect were recorded in the May and July meetings in Managua of the Malaria Project Directors and Ministers of Health.

Because of the mosquito resistance problem in the Pacific coastal areas and because malaria transmission was not being interrupted by house spraying with residual insecticides in these areas, the Communicable Disease Center, USPHS, was requested to make an assessment of the malaria programs in four countries (El Salvador, Guatemala, Honduras, and Nicaragua) to which A.I.D. was providing assistance. This assessment led to the development

of technical plans for a program which would involve mass drug treatment for the people living in the coastal areas, continual use of insecticides in areas where they were effective, and protection of areas which had been freed of the disease. These revised and intensified programs require larger budgets than are now available.

Following the U. S. Public Health Service (PHS) Team assessment in early CY1964 of the malaria eradication programs in Guatemala, Honduras, El Salvador, and Nicaragua, and a subsequent joint A.I.D./PHS/PAHO on-site study of country plans in July, 1964, an A.I.D./PAHO proposal for a three-year loan-financed malaria eradication program was developed and presented to the US AID's, Servicios Nacionales de Erradicacion de la Malaria (SNEM's), and the Ministers of Health during the A.I.D./PAHO group visit in July 1964. Reaction was generally favorable on the part of all concerned, and the Health Ministeries, US AID's, and ROCAP began developing technical and financial data adequate to support requests for A.I.D. loans.

A.I.D. had determined that for purposes of inter-agency technical coordination a comprehensive Plan of Operations should be completed by the local SNEM's specifying the program strategy and detailing the local cost budget requirements, and that this Plan, which came to consist of four national Technical Plans plus a four-country Coordination Plan, must be approved by PAHO and AID/W.

In early CY1965 the first Technical Plans had been completed and submitted to the US AID's and PAHO; however, PAHO found that three of the six Technical Plans required revision, and the four-country Coordination Plan had not yet been drawn up.

At the end of April, 1965, PAHO called a meeting in Washington of the CA/P Minister of Health, SNEM Directors, and UNICEF and A.I.D. representatives to discuss the regional technical aspects of malaria eradication. At this meeting a regional approach was agreed upon, the need for and availability of A.I.D. loan financing was recognized, and it was determined that a working group would be established to develop coordinated Technical Plans for each country and the region.

At a meeting in Panama on August 13-18, the Central America and Panama Health Ministers established a Coordinating Committee for malaria eradication throughout the region, and a meeting of this committee was scheduled for September 6-8 in Guatemala to review their completed--and revised--Technical Plans and to develop a comprehensive regional Coordination Plan. At this September meeting the four Technical Plans and the regional Coordination Plan were reviewed and concurred with by the SNEM Directors involved and representatives of PAHO, UNICEF, and A.I.D., and following final revisions, reproduction, etc., were to be forwarded to PAHO/W for approval.

A loan request had been received at the close of 1964 from the GOH for \$1,400,000, equivalent to 62% of the GOH/A.I.D.-financed portion of the proposed three-year eradication campaign. In October, 1965, this loan request was reduced to \$1,170,000 and the GOH contribution raised proportionally, in keeping with the 50% ceiling on local cost financing stated by AID/W a year earlier and reaffirmed in the ARA/LA CAMEC Meeting of May 10, 1965.

As the SNEM budget request for CY1966 had been submitted prior to October, 1965, and the additional funds required to make up the increased contribution would not be available until 1967, A.I.D. agreed to the proposal that the GOH contribution be paid in ascending amounts over the second and third year of the project.

C. Country Team Comment

The proposed three-year malaria eradication program will attack a disease which debilitates a portion of the population of Honduras and has in the past rendered areas of high agricultural potential, especially along the Pacific Coast, practically uninhabitable. The benefits of this eradication program in a social sense, through improved health and living conditions, and in the economic sphere, through the opening of new lands for agriculture and the greater level of protection for areas already reclaimed from malaria, will be enormous.

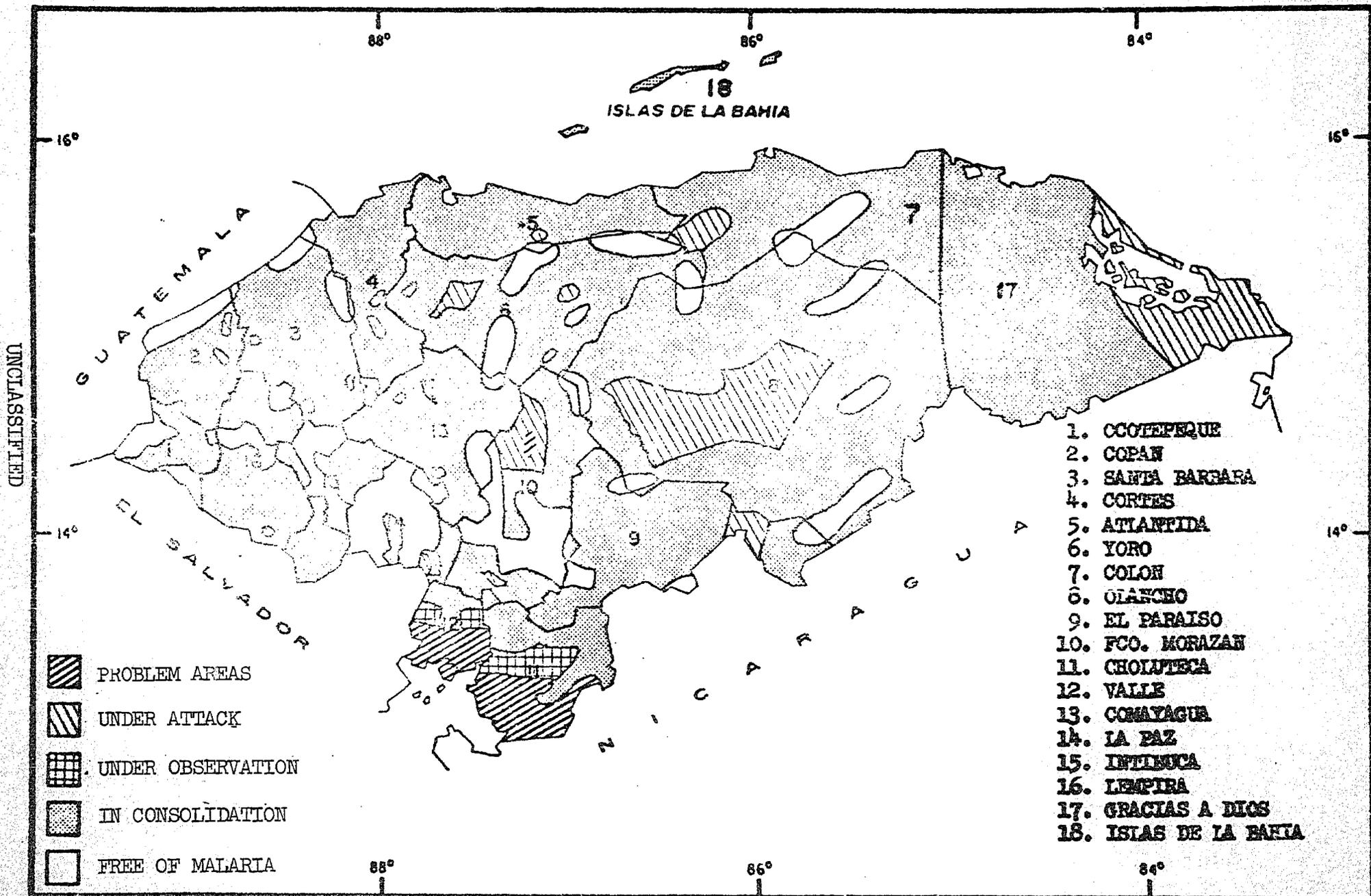
The Country Team considers this project to be of high importance for Honduras and the region, and gives full support to this loan request.

D. Alternative Sources of Financing

As this loan involves no, or insignificant, U. S. dollar procurement, the Export-Import Bank has not been contacted.

On October 11, and 12, 1965, IBRD and IDB, respectively, indicated informally that this financing would not be considered suitable for their institutions.

HONDURAS



STATUS OF HONDURAS MALARIA ERADICATION PROGRAM, February 1965

E. TECHNICAL ANALYSIS

1. Description of Program

This program began in 1957 and is now planned to terminate in 1968. The program consists of four phases, (1) the preparatory, (mapping and numbering of houses--reconnaissance and epidemiological studies to define malarious areas); (2) the attack (spraying of houses with insecticides, larviciding, and/or drug treatment of the people); (3) consolidation (epidemiological surveillance for detection of malaria cases); and (4) maintenance (prevention of reintroduction of malaria into areas free of malaria).

There are included in the program 108,889 square kilometers (90% of total land area of the country) where 1,851,000 people live (87% of the country's total population). The preparatory phase has been completed and the attack phase is in process in some areas while other areas are in consolidation. A total of 79,217 square kilometers are now in consolidation, with a population of 1,518,000 representing 82% of the country's population living in previous malarious areas. The present attack phase involves 22,150 square kilometers with a population of 333,000. It is expected that the attack phase will be completed in 1968 at which time all previous malarious areas will be in consolidation. Strict epidemiological vigilance will be maintained in these areas to prevent reintroduction of malaria. For this there will have been established 2,814 notification posts, staffed by volunteer workers and supervised by government malaria personnel. Blood smears are taken on all persons known to be with fever and sent to the SNEM laboratory for examination for malaria. Anti-malaria drugs are given (presumptive treatment) until laboratory results are known. In the Pacific coastal areas there is a major problem of mosquito resistance to DDT. Therefore the program for these areas involves mass drug treatment of the people together with appropriate supplementary methods such as larviciding and house spraying with other insecticides.

While the national attack phase (house spraying, mass drug treatment, and larviciding) will terminate in 1968, provision has been made to spray and to give mass and radical drug treatment in any specific area where malaria transmission is likely to become re-established.

A detailed technical plan of operations (to be formally approved by PAHO/W and AID/W) appears as a supplement to this loan paper. A brief summary of this plan follows:

	<u>1966</u>	<u>1967</u>	<u>1968</u>
House Sprayings	50,000	30,000	15,000
Persons to Receive Mass Drug Treatment	146,000	75,000	31,000
Persons to Receive Pre- sumptive Drug Treatment	244,000	100,000	30,000
Notification Posts	2,814	2,814	2,814
Blood Samples to be Taken for Laboratory Examination	275,000	275,000	200,000
Total Personnel Required (See Technical Plan for Categories of Personnel)	580	438	330

The Financial Section and Annex II of this loan paper present detailed information on the source and use of all funds for the program. The costs for personnel, materials and equipment together with that which is now on hand in the program will be adequate to meet the requirements of the technical plan of operations. It should be noted, however, that the plan must be flexible to permit readjustments of the program after the first year when it is anticipated that malaria transmission will be substantially reduced.

2. Plan for Regional Coordination

A regional plan of coordination has been established between the five Central American countries and Panama (CA/P) in order that individual country programs will be coordinated and carried out effectively in terms of time schedules, technical procedures, attack methods along borders, and epidemiological vigilance. There will be continual exchange of information on program progress and problems among countries. A Work Group for Coordination has been established by the Ministers of Public Health of CA/P, members of which are the Directors of the National Malaria Eradication Services, CA/P and representatives of

the Pan American Health Organization (PAHO), UNICEF, and A.I.D. This Work Group will meet at least twice each year to review progress made in each country, discuss any problems affecting national and regional aspects of the program which may arise, and prepare progress reports for the President of the Superior Council on Public Health, CA/P. These reports will be submitted to all Ministers of Public Health, CA/P. It is expected that country problems and those relating to transmission of malaria between countries may be resolved through coordination and evaluations of country programs by the Work Group.

3. Technical Personnel for the Program

Since the beginning of the program in 1957 the Government of Honduras has received technical assistance from the Pan American Health Organization (PAHO). Until November, 1963, A.I.D. provided the assistance of a malaria advisor.

	<u>1966</u>	<u>1967</u>	<u>1968</u>
a. <u>PAHO Personnel</u>			
Medical Officer	1	1	1
Sanitary Inspector	2	2	2

The personnel are stationed in Honduras.

b. PAHO Zone Office Personnel

Medical Officer	2	2	2
Sanitary Engineer	1	1	1
Health Educator	1	1	1

As regionalization of malaria eradication activities in the CA/P region is intensified PAHO plans to strengthen the malaria staff in the zone office located in Guatemala.

c. US AID Personnel

The US AID Mission has no personnel specifically assigned to the malaria program. The ROCAP Chief Public Health Advisor provides some advisory services, particularly on regional aspects of the program, and the Mission's administrative staff will provide backstopping and auditing.

It is planned that through a grant-financed PASA with the U. S. Public Health Service, two malariologists will be assigned to ROCAP to serve under the general supervision of ROCAP's Chief Public Health Officer. One of these malariologists will provide advisory and monitoring services for Honduras and Nicaragua while the other will provide services for El Salvador and Guatemala. The basic work of the USPHS malaria advisor will be to monitor project performance. The complexity of this task arises from the inclusion of 22 minimum technical, legal, and administrative requirements which must be included in an AID/WHO approved national plan of operations.

The advisor will assist the SNEM in the preparation of annual detailed work plans in order to assure that the plans are satisfactory. During the course of an operational year, he will travel throughout the operational area to verify that targets are achieved in terms of houses sprayed or other techniques.

The advisor will provide technical and fiscal certifications as required for disbursements under the loan. The functions of the PAHO and A.I.D. malaria technicians will not overlap but rather will complement each other, with the latter serving to monitor use of funds and continually reporting on program progress and problems.

The technical advisory and evaluation services described above are adequate for the program.

d. National Malaria Eradication Service (SNEM) Personnel

About 340 Honduran government workers are now employed in the program. With the initiation of the new technical plan which includes mass drug treatment an additional 240 employees will be required, making a total of 580 for the first year CY1966. This number will be decreased to 438 in CY1967 and to 330 in CY1968. In addition there are 2,814 volunteers who man malaria notification posts. Detailed personnel costs are shown in Annex II, Exhibits 1, 2, and 3.

Key staff members of the SNEM organization are the physicians, engineers and administrators who function as chiefs of the major technical sections of the national headquarters and as sector program chiefs in the field. A list of key SNEM personnel appears as Annex II, Exhibit 4. The competence of both the professional and nonprofessional personnel of the organization is high. Of equal importance is the strong dedication of the employees at all levels. Experience since the beginning of the program has shown that in spite of many and serious obstacles the employees have pushed the program ahead with the funds and materials available so that it is considered one of the best and most effectively administered programs in Latin America. In fact it has served as the field training facility for the Regional Jamaica Training School for Malaria Personnel. With the increase of 240 employees during CY1966 to meet the personnel requirements of the new technical plan involving mass drug treatment, a vigorous training program has been planned. The SNEM has the capability to handle such personnel training and administration.

4. Cost of Program

A.I.D. has been asked to lend the GOH 50% of the estimated local costs of this project. This loan of \$1,170,000 will be used for personal services (doctors, medicators, sprayers, etc. - \$766,180); operating costs (transportation, gasoline, oil, public utilities, rents, etc. - \$172,190); equipment and materials (medical supplies, office supplies, special clothing, tires, spare parts - \$129,500); and miscellaneous expenses (emergency treatment of malaria outbreaks, contingency reserve - \$102,130). These cost estimates are derived from detailed GOH analyses. The personal services costs are in line with wage scales now current in Honduras, and the operating, equipment, and materials costs are based on previous experience and are reasonable.

While the procurement of equipment and materials is a minor part of this project, and it cannot be determined at this time what portion--if any--may be procured from the United States, the GOH has stated it will take every reasonable opportunity to procure loan-financed commodities directly from the United States.

In addition to the GOH/A.I.D. contributions to the project, the USPHS will provide two Grant-funded technicians to work primarily in the three countries requesting A.I.D. loans, with the one-third of their cost attributable to this Honduras project equalling \$16,000 annually or \$48,000 over the three years of the project; PAHO will continue to provide technical

assistance, valued at \$250,128 over the three years of the project; and UNICEF will provide the insecticides required with supporting equipment, valued at \$250,000 over three years.

Insofar as these two USPHS technicians will have some involvement in the malaria campaign in El Salvador, which has not requested A.I.D. loan assistance, and as they will be reporting to A.I.D. rather than to the host government, Grant-funding rather than loan-funding of their services appears to be justified.

5. Other Considerations

a. Importance of Early Implementation and Commodity Procurement

Since a malaria program has been in process since 1957, the SNEM has the basic facilities and technical and administrative experience and capability to expand the program to include mass drug therapy for those areas where mosquitoes are resistant to residual insecticides. Early employment of new personnel and their training is important for rapid implementation of the program to prevent reintroduction of malaria into areas now in consolidation.

UNICEF has provided commodities in the past in the form of insecticides, vehicles, sprayers, etc. and will continue to do so for the next three-year period and also will provide anti-malaria drugs. The timing of arrival in Honduras and the other Central American countries of these commodities is important to maintain program schedules. Therefore UNICEF is most anxious to know as soon as possible that the new technical plans have been approved for implementation so they can proceed with their programing for commodities in each of the countries.

b. Funding

The project budgets for CYL 1966, 1967, and 1968 together with proposed loan figures and contributions from PAHO and UNICEF are shown in the Financial Analysis. The loan agreement will provide for a schedule of contributions to the project from the GOH.

6. Technical Soundness

a. Program Planning

A Technical Operations Plan for a three-year period, 1966-1968, has been prepared by SNEM with the assistance of PAHO/W and AID/W. The plan indicates clearly that the program has been adequately planned and the cost estimates are reasonable and sound. It is expected, however, that the program costs during the last year will depend upon the extent of reduction of malaria transmission achieved during the first two years of the program. In any case they are not expected to exceed the present estimated level.

The Work Group for Coordination established by the Ministers of Public Health, CA/P, for malaria eradication in the region has held two meetings and documents have been prepared which set forth procedures and responsibilities of the Work Group to achieve regional coordination. In addition, the Work Group reviewed in detail each country's technical plans of operations and stipulated specific actions to be taken by each country, including the prevention of malaria transmission between countries. These documents clearly indicate the depth of the planning and the serious intent of the countries involved to eradicate malaria from the region.

b. Project Evaluation Study

In view of the amounts of money and personnel involved, and because of the importance to Honduras and the other CA/P countries of eradicating malaria, which is now at a critical stage due to the increasing resistance of mosquitoes to insecticides and the increasing incidence of malaria in the face of present levels of program activities, the Ministers of Public Health, CA/P, have agreed that frequent periodic evaluations of the program are absolutely essential. These evaluations will be made by the Work Group for Coordination and experts of PAHO and A.I.D., jointly and/or independently.

c. Technical Evaluation

The SNEM has prepared a detailed plan of operations for each of the three years for house spraying, drug treatment, epidemiological vigilance and other activities to carry out the malaria eradication program. This Plan, Supplement 1 of this Loan Paper, is sound and realistic and will be officially approved by PAHO/W and AID/W malaria experts. As described above, it is considered that the applicable provisions in Section 611 of the FAA have been fully satisfied.

7. Technical Implementation Plan

The present ongoing program includes house spraying in areas in the attack phases, mass drug treatment in a small area (funds are not available to extend drug treatment to all areas where there is mosquito resistance to DDT) and epidemiological surveillance and radical treatment of malaria cases found in areas in consolidation.

When funds become available for the program, the new technical plan for operation will be put into effect in the following manner:

- a. Additional personnel will be employed and given intensive training. These will consist largely of medicators, the persons who give anti-malarial drugs directly to the people--one tablet every two weeks for a period of at least one year. More

than 80% of the population in the mass drug treatment must be reached on the time scheduled. Area supervisors also will be trained who will be responsible for program activities in specific sectors of the country.

- b. Sectors of problem areas (vector resistance to DDT) will be specified and medicators and supervisors will be assigned to each sector.
- c. Transportation equipment and required supplies for medicators and supervisors (bicycles and jeeps, drugs, etc.) will be obtained.
- d. UNICEF will provide anti-malaria drugs and most transportation equipment.
- e. House spraying where residual insecticides are effective will be carried out in specific cycles in attack areas together with larviciding where indicated.
- f. Epidemiological surveillance in all potential malarious areas will be intensified, with rapid appropriate attack initiated in all localities where and when malaria breaks out, utilizing house spraying, mass drug treatment and radical drug treatment of all known cases.
- g. Blood specimens will be taken on all known fever cases for laboratory examination and presumptive treatment given until laboratory results are known. Radical treatment will be given to all positive cases.
- h. Malaria notification posts will be managed by volunteers. Supervision of these posts by government malaria personnel will be intensified.
- i. Public education will be intensified at all levels utilizing the phrase "War Against Malaria" ("Guerra Contra Malaria").

- j. Reporting systems will be intensified in both quality and volume, so that there will be a continual evaluation of the program including progress made in terms of established targets (house sprayings, larviciding, mass drug treatment) reduction of malaria cases, and elimination of foci of infection and spread of the disease.
- k. Program administration will be augmented and improved to assure flexibility in program activities and adequate logistic and administrative support in all field activities.
- l. The Pan American Health Organization (PAHO) will provide technical advisory services at both the country and the regional level as described under the Technical Analysis of the program. It is expected that PAHO will increase its regional technical staff when the new program is implemented.
- m. A.I.D. will provide a technical advisor who will work with the Honduran and Nicaraguan programs under the general supervision of ROCAP's Chief Public Health Advisor. His responsibilities will be to monitor the program to assure proper utilization of funds, assess program progress in terms of established targets, identify technical problems that may arise, and report periodically to ROCAP.
- n. ROCAP's Chief Public Health Advisor will assist in monitoring the program, requesting TDY services of expert malarialogists when he deems it necessary. He will collaborate with PAHO and the CA;P "Work Group for Coordination" in evaluation of the country's program, with assessment in terms of regional implications and the regional plan of coordination for eradication of the disease from the Isthmus. Also he will work with UNICEF to assure that equipment and supplies are available for program time schedules, and will report program status periodically to US AID/H and AID/W.
- o. US AID/H will make periodic audits and provide appropriate administrative backstopping to the program.

F. ECONOMIC ANALYSIS

1. General Economic Situation in Honduras

Honduras is the least developed of the Central American countries both in terms of natural and human resources. Its basic infrastructure--roads, port facilities, power sources, telecommunications--is particularly inadequate. A small railroad network services only the banana growing areas of the North Coast. The sparsely populated eastern half of the country is almost inaccessible except by air, and even in the more densely populated western area lack of efficient surface communication restricts markets and normal commercial interchange between the two major urban centers, San Pedro Sula and Tegucigalpa. Approximately 75 percent of the population derives its livelihood from agriculture, which accounts for about 44 percent of the GNP. Antiquated techniques, lack of rural credit facilities, the absence of adequate storage and marketing facilities, and above all the physical isolation of the rural population has contributed to low farm productivity.

Limited by these structural deficiencies, the Honduran economy was especially vulnerable to the drop in activity of the key banana industry, which began about in 1955 and resulted in a period of general economic stagnation characterized by a low level of investment in the private sector and falling per capita income. In late 1961, however, a decided upswing in economic activity was set in motion by an improvement in the export sector, increases in public sector investment, and the establishment of a number of new manufacturing industries. This upswing has continued, with GNP growth rates running at about five percent annually as against annual population increases of about three percent.

At present per capita GNP is estimated at about \$220. However, it is apparent that except for plantation agriculture, the rural sector remains relatively stagnant. This is a matter of particular concern, since at this stage it is the rural sector that must absorb the greater part of the large annual increases in the population and the labor force.

The relative upswing in economic activity which began in 1962 has continued into 1965. Gross national product (at constant 1962 market prices) increased from \$418.4 million in 1962 to \$443.8 million in 1964. Gain in per capita GNP has been limited, however, as population has been increasing at a rate of about 3% per year. Manufacturing registered the biggest gain, of 10%, and agriculture production rose 7% in 1964.

The export sector has provided a major stimulus to the economy in 1964, as exports other than cotton jumped over 90% from 1961 levels. In 1964, for the first time in five years, Honduras achieved an over-all balance of payment surplus. An improvement was shown in holdings of foreign exchange reserves, of \$3.5 million. However, increased reserves are needed to support the recent expansion of domestic credit (and of money in circulation); and at the seasonal low, reserves were sufficient to cover only about two months' payments for imports and goods and services. The relative decline in the growth of imports has been attributed largely to a drop in the net inflow of capital goods for development projects. Honduras' external trading position still depends much on the vagaries of world market prices of primary goods. Foreign direct investment enterprise is responsible for about 40% of the country's total export trade.

Public investment decreased sharply in 1964 when several large projects were completed and the initiation of new projects lagged behind schedules. Private domestic investment was increased in 1964 by 1%, compared with increases of 20% in each of the two preceding years. Total investment thus declined slightly despite the steady input of a major investment of \$20 million in banana production by the United Fruit Company. The over-all decline in investment may be expected to continue until late 1965 since the several new public investment projects like the North Road and Farm-to-Market Road programs will not be started before late in this calendar year or early next year and the major privately sponsored banana replanting program has been completed. However, there have been some recent important investments in industry, cattle raising and tourism sponsored both by new bank loans (using domestic and foreign capital) and by foreign investors. A substantial increase in agricultural credits is also reported by the banking system.

With respect to central government finances in 1964, preliminary data reported L91.6 million in revenues and L95.6 million in expenditures. Government revenues increased only 1.0% from 1957 to 1963, but there was a 15% gain in 1964, or more than twice the increase in GNP during that same year. This sharp rise in revenues was due mainly to the tax charges enacted in 1963, which included: a new 3% sales tax; an income tax modification tending to increase rates; an increased gift and inheritance tax; and the introduction of a 5% silver export tax. 1964 expenditures rose by 12%, a large part of which was used to meet a commitment for increased teachers' salaries. The 1965 budget anticipates heavy internal and external borrowing (L15.6 million) accompanying a 23% increase in spending and only a 9% rise in revenues.

Despite some gains, the country still lags far behind the other Central American countries, and Honduras faces massive problems in each sector of the economy. Agricultural production can and should be substantially increased and exports diversified to enable the country to compete favorably with other nations of the Central American Common Market in well-selected lines. The tax base must be significantly enlarged to permit the government to contribute to a more dynamic rate of economic growth. Honduras should also make a realistic assessment of its trained manpower and should be encouraged to embark on a determined program in this critical area.

2. Debt Repayment Capacity of Honduras

Honduras' external public debt repayable in convertible currencies is approximately \$40 million, as compared to \$24 million in 1960 and \$5 million in 1955.

Service requirements on this debt is evenly distributed (as shown in the following table) and does not exceed \$2.8 million in any year through 1970:

	<u>Millions of US \$</u>	<u>As a Percent of Gross Current Exchange Earnings</u>
1965	2.8	3.1
1966	2.7	3.0
1967	2.8	3.1
1968	2.8	3.1
1969	2.7	3.0
1970	2.7	3.0

As shown above, service on the external debt represents a small burden on gross current account exchange earnings, and Honduras would seem to have adequate capacity to contract additional external indebtedness repayable in foreign exchange.

However, while foreign indebtedness is not a burden on exchange earnings, it has created a certain pressure on the public sector's fiscal revenues. In the past two or three years, Honduras has incurred foreign indebtedness payable in local currencies which, in September 1964, amounted to the equivalent of US\$19.3 million. With a generally

rising level of income likely to create pressure for salary increases within the public sector, even a more rapid rise in fiscal revenue than was experienced last year might not offset expenditures.

In order to increase investment in infrastructure, maintain current administrative services and expand social benefits, the government will probably have to increase its receipts faster than the rate of growth of national income and, at the same time, increase its external indebtedness. For this reason, lending should be extended on long-term repayment schedules so as to avoid undue pressure in any few years.

3. Partial Local Cost Financing

The project committee is of the opinion that A.I.D.'s financing of 50% of the local costs is reasonable. This is based on the following:

- a. This project represents a transition from A.I.D. grant-financing to loan financing. A.I.D. local cost assistance in this project helps bridge the transition.
- b. For a period of almost a decade, A.I.D. has assisted Honduras in its malaria control program. The eradication effort will require increased budgetary support by the GOH together with substantial A.I.D. loan assistance in order to complete the program in three years. The GOH will not only continue its present efforts, but over the next three years, increase budget allocations by \$270,000 which is equivalent to an average annual contribution approximately 30% above the recent SNEM budget level (See Annex II, Exhibit 8).
- c. Honduras' foreign exchange earnings, which are dependent of several agricultural commodities, have left the GOH with reserves sufficient to cover only about two months' payments for imports of goods and services.
- d. It can be expected that increases in income associated with this project will have a substantial indirect effect on Honduras' imports since 27% of national income is spent on imports, 55% of which comes from the United States.

4. Place of Project in Program

Honduras' Malaria Eradication Program has been assisted by A.I.D. Grant contributions since FY1957, and as a public health "non-goal activity" this loan project fits into the Program primarily under GOAL AC - Development of Human Resources. The CAP lists eleven specific projects which will contribute to the over-all objective of this Goal, and indicates that the San Pedro Sula and Choluteca areas, both malarial, have been selected as areas of concentration.

Ramifications of this "social infrastructure" project extend into other Goal areas, with the economic benefits of malaria eradication supporting the Rural Development Program (GOAL AA) and to some degree the Industrial Development Program (GOAL AD) through increased agricultural production.

In addition, the four-country cooperation required for the implementation of this regional program will, if successful, increase the GOH's sense of regionalism and confidence in regional planning and action.

5. Economics of Project

(a) Regional Significance of Malaria Eradication

Since 1942 the U. S. Government has been assisting other countries in their anti-malaria programs. During 1956 and 1957, such support reached a \$11.5 million annual level in Latin America. Under Section 420 of the Mutual Assistance Act, 1957-60, the U. S. Congress recognized that malaria "constitutes a major deterrent to the efforts of many people to develop their economic resources" and stated the U. S. policy of assistance to efforts to eradicate malaria. U. S. contributions to UNICEF, WHO, and PAHO assist these international agencies in malaria eradication in most of the 84 countries where anti-malaria activities are underway.

A statistical survey by WHO in mid-1963 estimated that 154 million persons on the American continents live in what once were malaria infested areas. This figure includes about 45 million in the United States where malaria has been eradicated.

In four countries of Central America (Guatemala, El Salvador, Honduras and Nicaragua) approximately 7 million people, or 65% of the total population, now live in areas that were originally at risk to malaria. Today in 83% of the population of these four countries there is either no malaria or it is under satisfactory control. The economic and social consequence in the way of increased agricultural and industrial production and reduced mortality rates is evidently substantial; however, as in the case of other public health activities, the direct economic benefits from malaria control and eradication are difficult to quantify.

Comparisons of agricultural production in West Pakistan between protected and unprotected malarial districts suggest that increased agricultural yields are directly correlated with anti-malarial activities. A WHO experiment in East Pakistan and other worldwide data suggest that agricultural yields may increase from 15-40% due to eradication of malaria. Such details suggest the importance to Central America's heavily agricultural economy of the anti-malaria program.

Considering the strong social and economic benefits of the project, it appears there is no alternative expenditure which would achieve the same results as malaria eradication.

Between 1956 and 1964 the United States provided assistance to Central America in Grants and Technical Assistance. PAHO and UNICEF gave further assistance during this period. Costs shared by the four governments (excluding Costa Rica) and A.I.D. have totaled about \$28.4 million, with A.I.D. contributing \$7.2 million (25%) over the past eight years.

The proposed three-year eradication program, intended to cope with the residual problem areas ¹ will cost an estimated \$14.3 million, of which the U. S. support, on a loan rather than a grant basis, would approximate \$4.8 million.

Added to the expenditures of the preceding period, the total eleven-year program would cost, by the end of 1967, \$42.7 million, an average annual cost of about \$3.9 million, of which the U.S. share would be, in grants and loans, about \$12 million, or 28%.

¹ - Because of insecticide resistance the remaining 1.8 million population of the Pacific coastal areas present a special problem. The problem area population is estimated as follows:

	<u>Problem Area Pop.</u>	<u>Total 1964 Population</u>	<u>% of Total</u>
Salvador	374,000	2,750,000	13.2%
Guatemala	491,000	4,300,000	11.4
Honduras	141,000	2,200,000	6.4
Nicaragua	809,000	1,600,000	50.5
	<u>1,815,000</u>	<u>10,850,000</u>	<u>17.0%</u>

The following table shows the approximate cost per person of the proposed three-year program based on the population of the problem areas and the total estimated expenditures from government contributions and United States loans:

	Population Problem Area	Three-Year Cost (Millions)	Approximate Cost per Person	
			Three-Year Period	Per Annum
Guatemala	374,000	\$ 4.4	\$11.76	\$3.92
El Salvador	491,000	3.4	6.92	2.31
Honduras	141,000	2.3	16.30	5.43
Nicaragua	809,000	4.2	5.19	1.73
	<u>1,815,000</u>	<u>\$14.3</u>	<u>\$ 7.88</u>	<u>\$2.63</u>

The principal affected areas are the Pacific coastal lowlands. This strip along the Pacific, some 600 miles long and rarely as much as 100 miles wide, is the most densely populated area in Central America--about 20% of the total area of the region containing 60% of the population. This area of population concentration includes about one-third of Guatemala, all of El Salvador, the two Pacific Coast provinces of Honduras, and the urban areas of Nicaragua.

Postwar agricultural development of sugar and cotton bears a direct relationship to the reduction of human reservoir of malaria parasites. The Pacific Coast lowlands and plains were economically revitalized because of the war on malaria. In El Salvador alone the coastal population has doubled since 1958.

The economic importance of the Pacific Coast areas of Guatemala, El Salvador, Honduras, and Nicaragua is shown in the series of Tables (following) which give the production of major crops in the Pacific Coast Departments of these countries and the percentage of this production to the country crop totals.

Guatemala: Seven Pacific Coast Departments comprise 17% of the land area and in 1962 contained 34% of the population. This area in 1962 produced 100% of Guatemala's cotton crop, 77% of its coffee, 74% of its sugar, 55% of its rice, 46% of its corn and 49% of its cattle.

Nicaragua: Four Pacific Coast Departments make up 12% of the total land area of Nicaragua and contain about 43% of the country's 1963 population. The area produces 94% of the country's cotton, 83% of its sugar, 35% of its rice and 31% of its cattle.

Nicaragua constitutes the principal problem area. When the program began in 1958 approximately 96% of the population was considered to live in a malaria area which consisted of 95% of the land. Eradication of malaria, principally in the most fertile regions where the sugar industries are located and where cotton and cereals are being cultivated, is considered imperative.

El Salvador: 67% of the total population of San Salvador live in eight Pacific Coast Departments. This land area produces 93% of its cotton, 71% of its corn, 68% of its sugar, 64% of its coffee and rice and 58% of its cattle.

Honduras: The problem area is in the tip on the Pacific Coast lying between El Salvador and Nicaragua. In this area there are only two Departments containing 1% of the population. Consequently the economic importance of the area as compared with the other three countries is relatively small, as may be seen from the Tables. Only cotton is of real importance, with all of the country's production grown in these two departments.

Summary:

The foregoing country and Pacific Coast summaries give a clear picture of the economic importance of malarial areas to the agricultural sector in these four countries. Needless to say, industry and commerce play an increasingly dominant role in the ports and adjacent towns where refineries, fertilizer plants, fisheries and coastal shipping are located. These too would be adversely affected in the event of a resurgence of malarial infection along the Pacific Coast area.

Success in eradication depends upon continuous and systematic operations over a minimum of seven years (starting from scratch) if the disease is to be completely eliminated. Therefore the costs of such programs appear superficially great in comparison to the derived economic benefits. There can be no question, however, of the tangible and immediate social and welfare benefits from malaria eradication. These will mean increased individual longevity and productivity.

Anti-malaria campaigns have contributed significantly to the economic and social development of the countries; these activities should be continued. Cessation or a sharp curtailment of the program in any country will result in a resurgence of malaria and the campaigns in contiguous countries could be affected adversely. If malarial infection is not effectively eradicated it could spread and oblige the agricultural population to retreat to the highlands. Ironically enough, the progress of Central American economic integration, with its enhancement of migratory movements by land and air, reduces the protection normally afforded by "island" isolation and makes the need for malaria eradication and control even greater.

Guatemala - 1963 (1000 metric tons)

<u>Departamento</u>	<u>Coffee</u>	<u>Raw Cotton</u>	<u>Sugar</u>	<u>Rice</u>	<u>Corn</u>	<u>Cattle (000)</u>
Escuintla	6.7	92.6	55.4	2.2	59.0	169
Santa Rosa	8.7	0.6	11.0	2.8	28.6	107
Solola	1.3	-	0.	-	11.3	7
Quetzaltenango	16.2	3.3	3.9	0.7	43.6	61
Suchitepequez	15.6	11.5	14.4	1.7	46.3	83
Retalhuleu	5.8	47.6	7.1	0.9	27.0	60
San Marcos	27.8	8.2	2.4	0.5	52.3	52
Pacific Coast	<u>82.1</u>	<u>163.8</u>	<u>94.7</u>	<u>8.8</u>	<u>268.1</u>	<u>539</u>
Total	106.5	164.3	128.3	15.9	580.7	1,115
% Pacific Coast	77%	100%	74%	55%	46%	49%
Pacific Coast Population:	34% of total (1963)					
Pacific Coast Land Area:	17% of total					

Nicaragua - 1963 (1000 metric tons)

<u>Departamento</u>	<u>Coffee</u>	<u>Raw Cotton</u>	<u>Sugar</u>	<u>Rice</u>	<u>Corn</u>	<u>Cattle (000)</u>
Chinandega	0.2	105.5	45.5	1.0	9.3	97
Leon	-	76.6	0.1	0.4	12.0	144
Managua	3.6	23.4	16.4	3.4	9.5	74
Rivas	0.2	1.0	4.6	3.2	3.7	63
Pacific Coast	<u>4.0</u>	<u>206.5</u>	<u>66.6</u>	<u>8.0</u>	<u>34.5</u>	<u>378</u>
Total	27.5	218.7	80.4	22.9	147.9	1212
% Pacific Coast	15%	94%	83%	35%	10%	31%
Pacific Coast Population:	43% of total (1963)					
Pacific Coast land area:	12% of total.					

El Salvador - 1963 (1000 metric tons)

<u>Departamento</u>	<u>Raw</u>					<u>Cattle (000)</u>
	<u>Coffee</u>	<u>Cotton</u>	<u>Sugar</u>	<u>Rice</u>	<u>Corn</u>	
Ahuachapan	11.8	3.3	0.4	0.6	20.4	39
La Libertad	23.4	3.4	12.0	1.9	20.2	59
La Paz	2.2	39.9	6.3	3.9	15.4	61
La Union	0.3	31.4	7.7	0.7	14.1	104
San Miguel	5.1	48.0	7.2	1.0	24.2	111
San Salvador	5.7	3.0	22.4	0.3	6.6	42
Sonsonate	10.7	6.4	20.5	0.3	11.6	52
Usulután	12.4	66.7	2.4	1.9	36.5	69
Pacific Coast	<u>71.6</u>	<u>202.1</u>	<u>78.9</u>	<u>10.6</u>	<u>149.0</u>	<u>537</u>
Total	112.0	217.5	115.2	16.5	210.4	924
% Pacific Coast	64%	93%	68%	64%	71%	58%

Pacific Coast Population: 61%

Honduras - 1963 (1000 metric tons)

<u>Departamento</u>	<u>Raw</u>					<u>Cattle (000)</u>
	<u>Coffee</u>	<u>Cotton</u>	<u>Sugar</u>	<u>Rice</u>	<u>Corn</u>	
Choluteca	9.1	8.0	1.5	0.4	23.9	186
Valle	<u>0.3</u>	<u>5.4</u>	<u>1.0</u>	<u>2.3</u>	<u>14.9</u>	<u>62</u>
Pacific Coast	9.4	13.4	2.5	2.7	38.8	248
Total	151.8	13.4	51.0	23.4	299.3	1,550
% Pacific Coast	6%	100%	5%	11%	13%	16%

Pacific Coast Population: 12% of total.

(b) Significance of Malaria Eradication to Honduras

In addition to the factors cited in the section covering the Regional Significance of Malaria Eradication, items of specific relevance to Honduras are as follows:

(i) In an agricultural economy in which primitive farming methods predominate, increases in agricultural production are directly related to expansions of the land in use. Most of the good farm land in Honduras lies in malarial areas which are now under attack (Pacific Coast) or in consolidation, and malaria eradication efforts since 1957 have been essential to the opening of farm land and the increases in agricultural production recorded since then. The malaria campaign is now at the point, due to the mosquitoes' increasing resistance to insecticides and the diminishing effectiveness of present methods, that if eradication is not carried out as proposed in this three-year project it is certain that malaria incidence will rise, reducing the work capability of farmers and possibly leading to a withdrawal from recently opened lands. An obvious consequence of this would be reduced agricultural output.

(ii) The two Pacific Coast Departments of Valle and Choluteca are Honduras' major problem area at present. These Departments along with the Sula and Aguan Valleys, which are also malarial, make up the "bread basket" of Honduras, and Valle and Choluteca produce all of Honduras' cotton crop, which accounted for \$7 million in export earnings in 1964 and is expected to double over the next three years. In addition, the GOH plans to conduct a survey (which CABEI recently was asked to finance) of this area to guide future development efforts around the Gulf of Fonseca. Malaria eradication here consequently is of high importance both for present land use and future agricultural and industrial development.

(iii) Financial consequences of increased malaria incidence, the alternative to malaria eradication, will include the increasing costs of more expensive medical care and hospitalization for more malaria patients; steadily increasing GOH expenditures for years to come to attempt to hold the present control line; and, probably, increasing A.I.D. expenditures to assist the GOH, which in a few years could total more than the proposed loan.

G. FINANCIAL ANALYSIS

1. Total Requirements

The over-all cost of the three-year program is estimated at \$2,840,169, with the bulk of the expense, local-cost goods and services, to be underwritten by the GOH and A.I.D. Contributions of approximately \$250,000 each will be received from PAHO (in technical advisors and special investigatory equipment and materials) and UNICEF (in insecticides and related equipment). A summary cost analysis follows in tabular form.

COST SUMMARY: HONDURAS 3-YEAR MALARIA ERADICATION PROJECT
(U.S. \$)

	1966			1967			1968		
	GOH	A.I.D. Loan	Total	GOH	A.I.D. Loan	Total	GOH	A.I.D. Loan	TOTAL
GOH & A.I.D. Loan Contributions:									
Personal Services	300,000	83,720	783,720	380,000	254,450	634,450	-90,000	28,010	518,010
Operating Costs	-	71,230	71,230	-	65,330	65,330	-	35,630	35,630
Equipment and Materials	-	60,000	60,000	-	39,000	39,000	-	30,500	30,500
Miscellaneous	-	60,050	60,050	-	18,720	18,720	-	23,360	23,360
	300,000	675,000	975,000	380,000	377,500	757,500	-90,000	117,500	607,500
Other Contributions:									
OPS/OMS (incl. 1/6 Regional office costs)			81,458			81,459			84,072
UNICEF			100,000			100,000			50,000
A.I.D. Tech. Asst. Grant (1/3 of USPHS cost)			16,000			16,000			16,000
TOTAL			2,172,458			958,029			757,572

RECAPITULATION:

	TOTALS: 1966 - 67 - 68		
	GOH	AID	Total
GOH & A.I.D. Contributions:			
Personal Services	1,170,000	766,180	1,936,180
Operating Costs	-	172,190	172,190
Equipment and Materials	-	129,500	129,500
Miscellaneous	-	102,130	102,130
	1,170,000	1,170,000	2,340,000
Other Contributions:			
OPS/OMS (incl. 1/6 Regional Office Costs)			250,169
UNICEF			250,000
A.I.D. Tech. Asst. Grant (1/3 of USPHS Costs)			48,000
Total			2,888,169

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2. Financial Plan

The procurement of goods and services to be financed under this loan, from the GOH contribution, and from UNICEF will be administered by the SNEM, an agency of the Ministry of Health. As has been the procedure in administering A.I.D. Grant funds for malaria control in the past, the SNEM will request an advance of funds from the US AID and will return suitable documentation to the US AID as the advance is drawn down. All advances will be subject to refund by the GOH, and the entire procedure will be subject to periodic spot checks by the US AID Controller.

In light of the pace of Honduras' present malaria control program, which has been accelerated in anticipation of receipt of A.I.D. loan assistance for the proposed eradication program, and the importance of beginning the eradication program promptly, the first disbursement of loan funds may be expected immediately following satisfaction of the Conditions Precedent. The summary table and Annex II, Exhibit 7, indicate the anticipated annual disbursement rate of A.I.D. and GOH funds over the three years of the project.

3. Justification of Loan Terms

The project committee is of the opinion that the terms recommended (10-year repayment, including a 10-year grace period, at interest of 1% during grace and 2½% thereafter) is reasonable. This conclusion is based on the following:

- (a) While Honduras' foreign indebtedness is not now a burden on exchange earnings, it is expected to become more burdensome as the government increases its investment in infrastructure, maintains current administrative services, and expands social benefits, in large part with the assistance of external loans. It appears unrealistic for Honduras to assume the expanded debt burden unless loan terms are highly favorable.

- (b) Much of Honduras' external assistance has been in the form of medium to long-term loans and grants. In January of this year, IDA made a loan to Honduras in consortium with IDB and IBRD.
- (c) This is a social impact type project and has no direct revenue-producing capacity.
- (d) Per capita annual GNP in Honduras is \$220.00.
- (e) Foreign exchange reserves are sufficient for only two months' needs.

4. Prospects of Repayment

The GOH in the past has demonstrated its creditworthiness. Although present development efforts will increase the debt burden of the GOH, care is being taken to assure that the burden does not reach unmanageable proportions. The present low percentage of external public debt service requirements to gross foreign exchange earnings attests to this. The fact that Honduras values its standing as a responsible member of the Central American Common Market is sufficient to conclude that there are reasonable prospects of repayment considering the liberal terms.

SECTION II - IMPACT ON U. S. ECONOMY

A. COMPETITION WITH U. S. ENTERPRISE

No competition with U. S. enterprise will arise from this project.

B. SOURCE OF PROCUREMENT OF GOODS AND SERVICES

The loan provisions will limit loan-financed procurement to the United States and the Central American Common Market. Substantially all of the loan will be used for costs of personal services procured in Honduras.

SECTION III - COVENANTS AND CONDITIONS

In addition to the usual covenants and conditions, the following will be included in this loan:

- (a) Prior to the execution of the Loan Agreement PAHO/W and AID/W formally shall have approved the Honduran Technical Plan and the Regional Coordination Plan.
- (b) Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and content satisfactory to A.I.D., a schedule of its contributions to the project during the estimated disbursement period of three years from the date of execution of the Loan Agreement. The Borrower shall accompany that schedule with evidence satisfactory to A.I.D. that it will provide the contributions called for by the schedule.
- (c) Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and substance satisfactory to A.I.D., evidence that the contribution to the Project undertaken by UNICEF will be available on a timely basis.
- (d) Borrower shall covenant faithfully to carry out its national Technical Plan and the Regional Coordination Plan, and to obtain the approval of A.I.D. and of PAHO before modifying its national Technical Plan or agreeing to a modification of the Regional Coordination Plan.
- (e) Borrower shall covenant that, except as A.I.D. may otherwise agree, no funds made available to the Borrower by A.I.D. under the loan shall be used to pay the salary or related expenses pertaining to any position existing in the Borrower on the effective date of the Loan Agreement.
- (f) Borrower shall covenant to give full cooperation to such persons as A.I.D. shall nominate to monitor Borrower's performance under the Loan Agreement.
- (g) The Borrower shall covenant that it will maintain the Servicio Nacional de Erradicacion de la Malaria (SNEM) as a separate administrative, logistic, and technical entity within the Ministry of Health for the purpose of implementing the Project.

- (h) Borrower shall covenant to provide the resources necessary to achieve the eradication of malaria within its territory and to prevent the reappearance of malaria in that territory; and in furtherance of that undertaking Borrower shall covenant to consult periodically with representatives of A.I.D., or such persons as A.I.D. may nominate, during at least the first five years after the last disbursement.

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SECTION IV - IMPLEMENTATION PLAN

A. ACTION PRIOR TO EXECUTION OF LOAN AGREEMENT

1. PAHO/W and AID/W approval of the Honduran Technical Plan and the Regional Coordination Plan.
2. Drafting of the Loan Agreement and basic Implementation Letter by AID/W and ROCAP.
3. Negotiation and signature, which could be completed in November.

B. MEETING CONDITIONS PRECEDENT

It is estimated that the Conditions Precedent can be met within thirty (30) days of execution of the Loan Agreement. Assuming GOH ratification within the same period, the first advance of funds may be effected by the end of CY1965.

C. TECHNICAL ASSISTANCE

Arrangements for providing a U. S. Public Health Service Advisor (through a Grant-financed PASA) will be concluded immediately following execution of the Loan Agreement, with the Advisor expected to be in the field about one month later.

D. DISBURSEMENT OF THE LOAN

The loan will be disbursed by US AID/H in a series of advances, within appropriate documentation of expenditures returned to the US AID/H Controller for review and acceptance. It is estimated that the loan will be completely disbursed, as needed, within three (3) years. An estimated AID/GOH cumulative disbursement schedule follows as Annex II, Exhibit 7.

E. CONTROL, MONITORING AND REPORTING

Fiscal control of loan funds will be the responsibility of the US AID/H Controller, who will supplement his review of documents with occasional spot checks of the Ministry of Health and SNEM procedures, as appropriate. Certification of commodity procurement and personal services vouchers will be provided by the U. S. Public Health Service Advisor. The Controller will also be able to call on the ROCAP auditing staff for assistance, if needed.

Technical monitoring of the project will be the responsibility of the Chief Public Health Advisor (at ROCAP) assisted by the U. S. Public Health Service Advisor, who will be reporting on actual progress vs. the detailed program.

Periodic progress reports will be submitted to US AID/H by the Ministry of Health, and will be forwarded to AID/W by the US AID/H Capital Development Officer. Evaluation of Borrower reports and compilation of supplementary reports on the project will be the responsibility of the US AID/H Capital Development Officer, assisted by the US AID/H Controller and ROCAP's Chief Public Health Advisor.

HONDURAS
MALARIA ERADICATION

CHECK LIST OF STATUTORY CRITERIA (ALLIANCE FOR PROGRESS)

1. Foreign Assistance Act of 1961, as amended (hereinafter FAA), Section 102. Precautions that have been or are being taken to assure that loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development.

Adequate control will be exercised to assure that loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development.

(Sections I-E-3 and I-G-2)

2. FAA Section 201(d). Information and conclusion on legality (under laws of country and U.S.) and reasonableness of lending and relending terms of the loan.

Loan funds are to be loaned at rates of interest which are not unreasonable or illegal for the Borrower and are within the limits established by this Section.

3. FAA Section 251(a). Manner in which loan will promote country's economic development and contribute to the welfare of its people.

This loan-financed project will promote the country's economic development and contribute to the welfare of its people through increased protection against malaria, primarily in the highly productive Pacific Coast agricultural area.

(Section I-B and I-F)

4. FAA Section 251(b)(1). Extent to which country is adhering to the principles of the Act of Bogota and Charter of Punta del Este and is showing a responsiveness to the vital economic, political, and social concerns of its people, and extent to which country has demonstrated a clear determination to take effective self-help measures.

Account has been taken of the Borrower's adherence to the principles of the Act of Bogota and the Charter of Punta del Este, and the Borrower's responsiveness to the vital economic, political, and social concerns of its people. Past contributions by the Borrower to increasing SNEM budgets have been demonstrations of effective self-help measures in this field, and A.I.D. considers the proposed ^{host-}Government-contribution to this project to be sufficient.

5. FAA Section 251(b)(2). Information and conclusion on activity's economic and technical soundness.

This activity has been found economically and technically sound.
(Sections I-B, I-E, and I-F)

6. FAA Section 251(b)(3). Information and conclusion on activity's relationship to other development activities, and its contribution to realizable long-range objectives.

This activity has a basic significance for all Borrower's development activities, and will play an essential part in the realization of long-range objectives.

(Section I-F)

7. FAA Section 251(b)(4). Information and conclusion on possible effects on U. S. economy, with special reference to areas of substantial labor surplus.

This activity will have no significant direct effect on the U. S. economy, and no competition with U. S. enterprise will result directly from it.

(Section II)

8. FAA Section 251(b). Information and conclusion on availability of financing from other free world sources, including private sources within the United States.

Financing for this activity is not available from other free world sources, including private sources within the United States, on feasible terms.

(Section I-B-6)

9. FAA Section 251(b). Information and conclusion on capacity of the country to repay the loan.

It appears reasonably certain that the Borrower will be capable of repaying the loan.

(Sections I-F and I-G)

10. FAA Section 251(b). Information and conclusion on country's efforts to repatriate capital invested in other countries by its own citizens.

It appears that the Borrower is attempting to repatriate capital invested in other countries by its own citizens.

11. FAA Section 251(b). Information and conclusion on reasonable prospects of repayment.

It appears reasonably certain that the Borrower will be willing and able to repay the loan.

(Section I-G-4)

12. FAA Section 251(e). Information and conclusion on availability of an application together with sufficient information and assurances to indicate reasonably that funds will be used in an economically and technically sound manner.

The Borrower has made a formal application for loan-funded assistance in this activity, and A.I.D. has received sufficient information and assurance to indicate reasonably that funds will be used in an economically and technically sound manner.

(Section I-B-6 - Sections I-E and I-F)

13. FAA Section 251(g). Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.

This project is not directly related to the promotion of the cooperative movement in Latin America.

14. FAA Section 252 (a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.

All loan funds are being made available to the Host Government; a small portion of the loan will be used for commodity procurement from private enterprise.

(Section I-G)

15. FAA Section 601. Information and conclusion on whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; (f) strengthen free labor unions.

The benefits of this project will encourage efforts of the Borrower through increased agricultural production, to increase the flow of international trade, foster private initiative and competition, and improve the technical efficiency of agriculture.

(Section I-F)

16. FAA Section 601(b); 621. Information and conclusion on how the loan will encourage and facilitate participation by private enterprise to the maximum extent practicable. If the facilities of other Federal agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.

Private sector participation in this project will be limited to provision of commodities.

17. FAA Section 601(d). Conclusion and supporting information on compliance with the Congressional policy that engineering and professional services of U. S. firms and their affiliates are to be used in connection with capital projects to the maximum extent consistent with the national interest.

Procurement of engineering or professional services financed under this loan will be limited to the United States or the Central American Common Market.

18. FAA Section 601, 602. Information and conclusions whether loan will (a) encourage U. S. private trade and investment abroad; (b) encourage private U. S. participation in foreign assistance programs (including use of private trade channels and the services of U. S. private enterprise), and (c) permit American small business to participate equitably in the furnishing of goods and services financed by it.

The increased agricultural production resulting from this project will encourage U. S. private trade and investment in Central America, and American small business will be able to participate in the furnishing of loan-financed goods whenever practical.

19. FAA Section 604(a). Compliance with restriction of commodity procurement to U. S. except as otherwise determined by the President and subject to statutory reporting requirements.

Equipment, materials, and services (except marine insurance) financed under the loan shall have their origin in and be procured from the United States or Member Countries of the Central American Common Market. U. S. dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee through appropriate procedures, and shall be used only for procurement in the United States.

(Section II-B)

20. FAA Section 604(b). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the United States at time of purchase.

Any commodities financed by the loan and purchased in bulk will be purchased at prices no higher than prevailing U. S. market prices.

21. FAA Section 604(d). Compliance with requirement that marine insurance be purchased on commodities if the host country discriminates, and that such insurance be placed in the United States.

If the Host Country discriminates against any U. S. marine insurance company, any commodities purchased with loan funds shall be insured against marine risk with a U. S. company.

(Section III)

22. FAA Section 611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost of the assistance to the United States.

Necessary technical and financial plans have been completed, and a reasonably firm estimate of the cost to the United States of the activity to be financed has been obtained.

(Sections I-E and I-G)

23. FAA Section 611(a)(2). Necessary legislative action required within host country and basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan.

Host Government ratification of the loan is expected promptly following execution of Loan Agreement.

(Section IV)

24. FAA Section 611(b); App. Section 101. If water or water-related land resource construction project or program, information and conclusion on benefit-cost computation.

NOT APPLICABLE.

25. FAA Section 611(c). Compliance with requirement that contracts for construction be let on competitive basis to maximum extent practicable.

The loan agreement will provide for the observation of this requirement.

26. FAA Section 619. Compliance with requirement that assistance to newly independent countries be furnished through multilateral organizations as plans to maximum extent appropriate.

NOT APPLICABLE.

27. FAA Section 620(a); Foreign Aid and Related Agencies Appropriations Act of 1965 (Hereinafter "App.") Section 107. Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or failed to take appropriate steps by February 14, 1964, to prevent ships or aircraft under its registry from carrying equipment, materials, or supplies from or to Cuba; or (b) which sells, furnishes or permits any ships under its registry from carrying items of primary strategic significance, or items of economic assistance to Cuba.

No assistance will be furnished under this loan to the present government of Cuba, nor does the Borrower furnish assistance to the present government of Cuba. The Borrower has taken appropriate steps to prevent ships or aircraft under its registry from engaging in any Cuba trade.

28. FAA Section 620(b). If assistance to the government of a country, existence of determination it is not controlled by the international Communist movement.

The Secretary of State has determined that the Borrower is not controlled by the international communist movement.

29. FAA Section 620(c). If assistance to the government of a country, existence of indebtedness to a U.S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies or where the debt is not denied or contested by such government or the indebtedness arises under an unconditional guaranty of payment given by such government.

The Borrower is not known to be indebted to any U. S. citizen for goods or services furnished or ordered where such a citizen has exhausted available legal remedies or where the debt is not denied or contested by the Borrower or the indebtedness arises under an unconditional guaranty of payment by the Borrower.

30. FAA Section 620(d). If assistance for any productive enterprise which will compete in the United States with U. S. enterprise, existence of agreement by the recipient country to prevent export to the United States of more than 20 % of the enterprise's annual production during the life of the loan.

NOT APPLICABLE.

31. FAA Section 620(e). If assistance to the government of a country, extent to which it (including government agencies or subdivisions) has, after January 1, 1962, taken steps to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U. S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations.

The Borrower (including Government Agencies or subdivisions) has not taken steps since January 1, 1962 to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U. S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations as specified in this Section.

32. FAA Section 620(f); APP. Section 109. Compliance with prohibitions against assistance to any Communist country.

Assistance provided under this loan will not be furnished to any Communist country.

33. FAA Section 620(g). Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property.

Assistance provided by this loan will not be used to compensate for expropriated or nationalized property.

34. FAA Section 620(h). Compliance with regulations and procedures adopted to insure against use of assistance in a manner which, contrary to the best interests of the U.S., promotes or assists the foreign aid projects or activities of the Communist-bloc countries.

Assistance provided by this loan will not be used in a manner which promotes or assists foreign aid projects or activities of the Communist bloc countries.

(Sections I-E-3 and I-G-2)

35. FAA Section 620(i). Existence of determination that the country is engaging in or preparing for aggressive military efforts.

The President has not determined that the Borrower is engaging in or preparing for aggressive military efforts.

36. FAA Section 620(k). If construction of productive enterprise where aggregate value of assistance to be furnished by United States will exceed \$100 million, identification of statutory authority.

NOT APPLICABLE.

37. FAA Section 620(l). Compliance with prohibition against assistance after 31 December 1965 for the government of a country which fails to institute investment guaranty program.

The Borrower has instituted the investment guaranty program.

38. FAA Sections 636(h); 612(c). Appropriate steps that have been taken to assure that, to maximum extent possible, country is contributing local currencies to meet the cost of contractual and other services and foreign currencies owned by the United States are utilized to meet the cost of contractual and other services.

To the maximum extent possible the Borrower is contributing local currencies to meet the cost of contractual and other services, and the United States owns no local currency that could be used for this project.

(Section I-G-3)

39. App. (Section Unnumbered). Use of funds to carry out FAA Section 205, which pertains to IDA.

NOT APPLICABLE.

40. App. Section 102. Compliance with requirement that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to Congress.

Obligations of funds in excess of \$25,000 for architectural and engineering services on this project will be reported to Congress.

41. App. Section 104. Compliance with bar against funds to pay pensions, etc. for military personnel.

Funds obligated by the loan and local currency generated thereby will not be used to pay pensions, annuities, etc. as prohibited in this Section.

42. App. Section 111. Compliance with requirement for security clearance of personnel under contracts for services.

This requirement will be enforced.

43. App. Section 112. Compliance with requirement for approval of contractors and contract terms for capital projects.

A.I.D. will approve any firms providing services for the project and financed under the loan and the terms of any contracts under which such services are provided.

44. App. Section 114. Compliance with bar against use of funds to pay assessments, etc., of U.N. member.

Loan funds will not be used to make any payment to the U.N.

45. App. Section 117. Compliance with regulations on employment of U.S. and local personnel for funds obligated after April 30, 1964 (Regulation 7).

Construction work financed by the loan for the project shall be performed by qualified persons, in accordance with the A.I.D. regulations promulgated pursuant to this Section.

46. App. Section 401. Compliance with bar against use of funds for publicity or propaganda purposes within United States not heretofore authorized by Congress.

Loan funds will not be used for publicity or propaganda purposes within the United States.

TECHNICAL DATA

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PERSONNEL REQUIREMENTS FOR 1965 and PROPOSED 3-YEAR PROGRAM

	General Program				Drug Therapy				PROGRAM TOTAL			
	1965	1966	1967	1968	1965	1966	1967	1968	1965	1966	1967	1968
Director - SNEM	1	1	1	1	-	-	-	-	1	1	1	1
Physicians	2	2	2	2	-	1	1	1	2	3	3	3
Administrators	1	1	1	1	-	-	-	-	1	1	1	1
Asst. Administrators	5	7	7	5	-	2	2	1	5	9	9	6
Auditors	3	4	4	3	-	-	-	-	3	4	4	3
Warehousemen	1	1	1	1	-	1	1	1	1	2	2	2
Asst. Warehousemen	1	1	1	1	-	-	-	-	1	1	1	1
Entomologist	-	1	-	-	-	-	-	-	-	1	-	-
Asst. Entomologist	2	2	2	2	-	-	-	-	2	2	2	2
Asst. Statisticians	2	3	3	2	-	2	2	1	2	5	5	3
Secretaries	6	6	6	6	-	-	-	-	6	6	6	6
Chief Microscopist	1	1	1	1	-	-	-	-	1	1	1	1
Microscopists	18	23	23	23	-	3	3	2	18	26	26	25
Lab. Helpers	12	12	12	12	-	3	3	2	12	15	15	14
Supervisors of Zones	4	5	4	4	-	2	2	1	4	7	6	5
Chiefs of Sectors	2	3	2	0	-	-	-	-	2	3	2	0
Chiefs of Brigades	12	8	4	2	-	-	-	-	12	8	4	2
Sprayers	48	35	18	6	-	-	-	-	48	35	18	6
Mixers of Insecticides	3	3	3	2	-	-	-	-	3	3	3	2
Inspectors/Evaluation	12	14	14	14	-	-	-	-	12	14	14	14
Evaluators	80	87	90	92	-	-	-	-	80	87	90	92
Evaluator Helpers	23	20	10	10	-	-	-	-	23	20	10	10
Chauffeurs-Auto	31	41	33	29	-	9	7	6	31	50	40	35
Chauffeurs-Boats	-	-	-	-	-	1	1	1	-	1	1	1
Mechanics	5	5	5	5	-	2	2	1	5	7	7	6
Mechanic Assistants	2	3	3	3	-	-	-	-	2	3	3	3
Porters & Messengers	3	2	2	2	-	-	-	-	3	2	2	2
Laborers	2	2	2	2	-	-	-	-	2	2	2	2
Chief-Departmental Sprayers	1	1	1	1	-	-	-	-	1	1	1	1
Office Workers	11	15	14	14	-	-	-	-	11	15	14	14
Health Educator	1	1	1	1	-	-	-	-	1	1	1	0
Guards	7	9	8	8	-	-	-	-	7	9	8	8
Chief, Transportation	1	1	1	1	-	-	-	-	1	1	1	1
Chief, Districts	-	-	-	-	1	6	6	2	1	6	6	2
Chief, Groups	-	-	-	-	3	28	17	7	3	28	17	7
Medicators	-	-	-	-	21	190	104	43	21	190	104	43
Asst. Health Educator	-	-	-	-	1	6	4	2	1	6	4	2
Investigators	-	-	-	-	-	2	2	2	-	2	2	2
Draftsman	1	-	-	-	-	-	-	-	1	-	-	-
Others	2	2	2	2	1	-	-	-	3	2	2	2
TOTALS	306	322	281	257	27	258	157	73	333	580	438	330

HONDURAS MALARIA CAMPAIGN BUDGET
EXCLUDING COLLECTIVE TREATMENT
(US \$)

	<u>1966</u>	<u>1967</u>	<u>1968</u>
<u>Salaries and Travel</u>			
Program Supervision	\$ 28,110	\$ 28,110	\$ 28,110
Spraying	130,460	72,060	36,090
Eradication	281,980	283,020	275,880
HealthEducation	4,680	4,680	4,680
Administrative	56,460	56,460	56,460
Transportation	26,280	26,280	26,280
General Services	13,500	13,500	13,500
	<u>\$541,470</u>	<u>\$484,110</u>	<u>\$441,000</u>
<u>Operating Costs</u>	\$ 49,500	\$ 40,000	\$ 34,000
<u>Contingencies</u>	\$ 9,030	\$ 8,390	\$ 7,500
Total	<u>\$600,000</u>	<u>\$532,500</u>	<u>\$482,500</u>

Three-Year Total: \$1,615,000

COLLECTIVE TREATMENT BUDGET
(US \$)

	<u>1966</u>	<u>1967</u>	<u>1968</u>
<u>Salaries and Travel</u>			
Chief Doctor	\$ 5,700	\$ 5,700	\$ 5,700
Supervisors	5,220	5,220	2,610
Administrative Assistants	4,560	4,560	2,280
Statistical Assistants	3,360	3,360	1,680
District Chiefs	12,240	12,240	4,080
Warehouseman	1,560	1,560	1,560
Group Chiefs	44,520	25,440	11,130
Medicators	193,800	96,900	40,800
Health Educators	9,540	6,360	6,360
Microscopists	3,780	3,780	2,520
Lab. Assistants	1,890	1,890	1,260
Investigators	3,180	3,180	3,180
Chauffeur--Autos	12,150	9,450	8,100
Mechanics	4,500	4,500	2,250
Chauffeur-Boats	1,350	1,350	1,350
	<u>\$307,350</u>	<u>\$185,490</u>	<u>\$94,860</u>
<u>Operating Costs</u>	<u>67,050</u>	<u>39,510</u>	<u>30,140</u>
Total:	<u>\$374,400</u>	<u>\$225,000</u>	<u>\$125,000</u>
Three-Year Total:	\$700,000		

KEY PERSONNEL--HONDURAS MALARIA ERADICATION CAMPAIGN

1. Dr. Antonio Peraza
Ministro de Salud Pública y Asistencia Social
2. Dr. Manuel Bueso
Sub-Secretario de Salud Pública y Asistencia Social
3. Dr. Jorge E. Zepeda
Director del SNEM
4. Dr. Juan Delgado Pineda
Jefe del Departamento de Evaluación Epidemiológica
5. Dr. Luis Vidal Ramos
Sub-Jefe del Departamento de Evaluación Epidemiológica
6. Dr. Wilfredo Perdomo
Jefe del Departamento de Operaciones de Campo
7. P.M. Rubén Barrientos Valle
Jefe del Departamento Administrativo
8. Sr. Rosendo Martínez
Jefe de la Sección de Transportes
9. P.M. Rubén Cáliz P.
Auditor
10. Profesor José A. Cáliz
Jefe del Departamento de Educación Sanitaria
11. Sr. Carlos Gómez Z.
Jefe de Laboratorios
12. Sr. Manuel de J. Amador
Sr. Mario H. Durón
Sr. Armando Moncada
Sr. Ismael Mendoza
Supervisores de Zona

PAHO FIELD OFFICE:

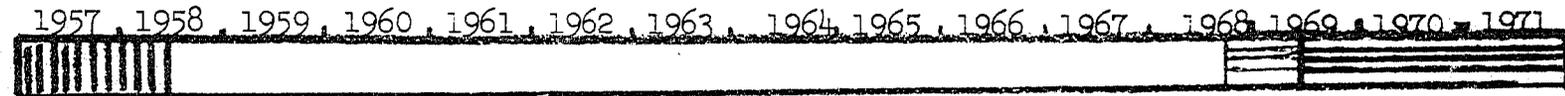
1. Dr. Lelio Colheiros - Medico-Consultor
2. Sr. Ramon Rodriguez - Inspector
3. Sr. Eusebio Ramos Camacho - Inspector

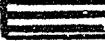
COST ANALYSIS -- PAHO CONTRIBUTION
(US \$)

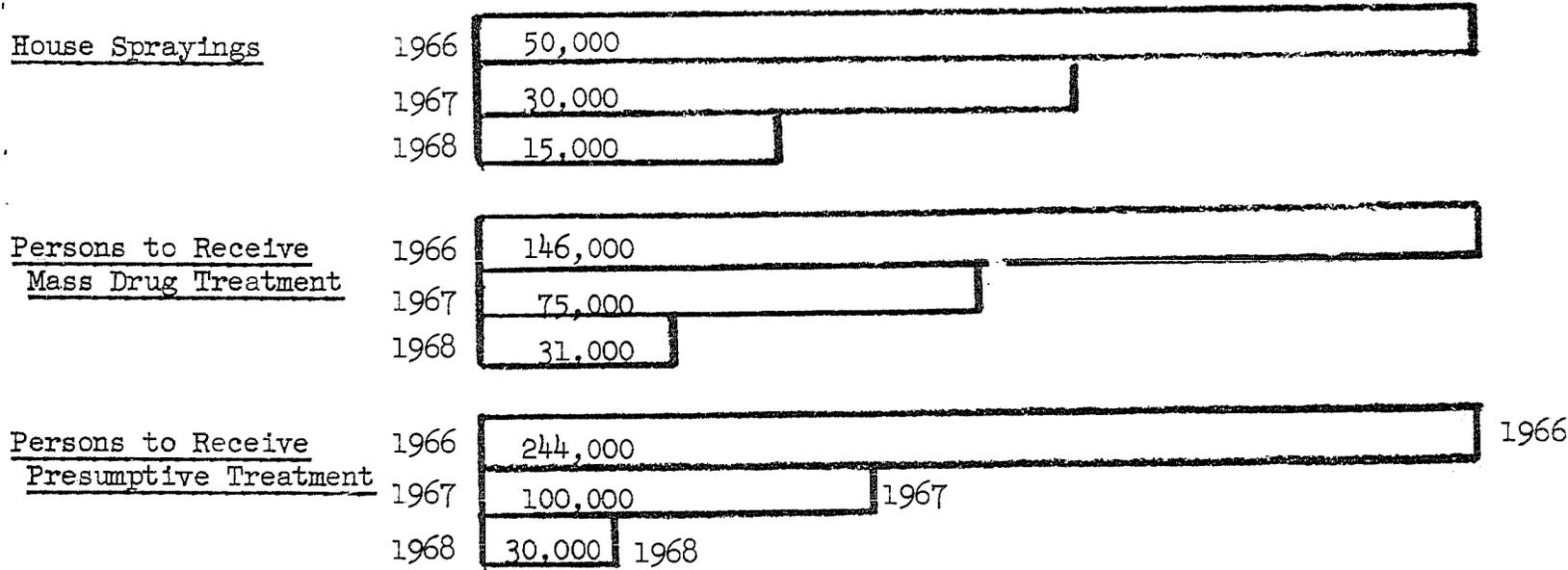
	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>Total</u>
<u>Honduras Office</u> (3 people)	\$63,158	\$66,244	\$65,264	\$194,606
* <u>Regional Office</u> (4 people)	\$18,260	\$18,255	\$18,808	\$ 55,363
Total Three-Year Contribution				<u>\$249,969</u>

* One-sixth of total cost of PAHO Regional Office serving six countries.

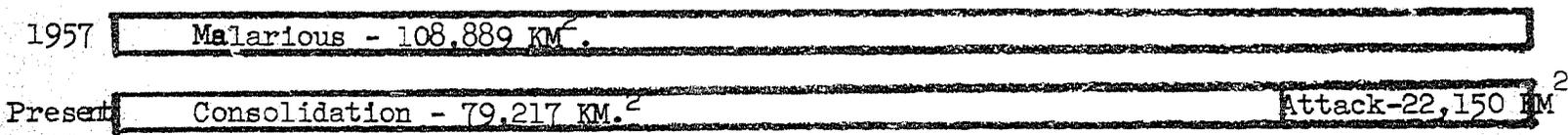
CHRONOLOGY OF THE PROGRAM PHASES



 Preparatory Phase
  Attack Phase
  Consolidation Phase



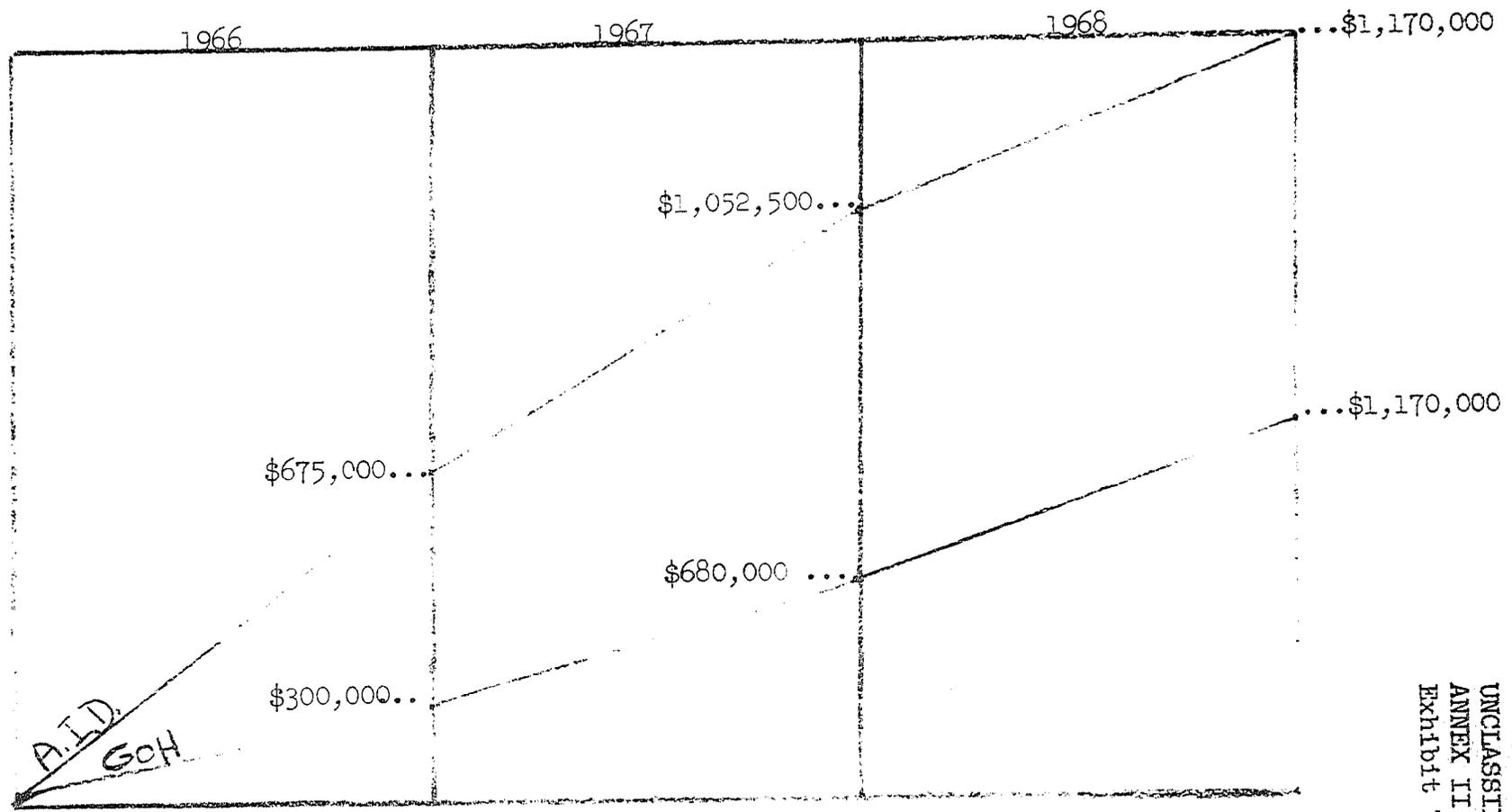
STATUS OF MALARIAL AREA



UNCLASSIFIED

UNCLASSIFIED
ANNEX II, 6 of 8
Exhibit 6

CUMULATIVE DISBURSEMENT SCHEDULE: A.I.D./GOH FUNDS



UNCLASSIFIED

UNCLASSIFIED
ANNEX II, 7 of 8
Exhibit 7

A.I.D. ASSISTANCE - MALARIA ERADICATION PROGRAMS - 1958 THROUGH 1968

(\$U.S.; 000 omitted)

<u>Country</u>	<u>GRANT</u>								<u>LOAN</u>		
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Guatemala	-	350	485	485	517	585	140	250	650	650	250
El Salvador	-	-	-	-	-	200	200	100	-	-	-
Honduras	150	550	345	248	410	410	116	150	675	378	118
Nicaragua	100	200	200	300	433	430	335	335	1,000	784	280

HOST GOVERNMENT BUDGET - MALARIA ERADICATION PROGRAMS - 1958 THROUGH 1968

(\$U.S.; 000 omitted)

<u>Country</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Guatemala	682	401	423	416	573	702	500	750	945	945	945
El Salvador	515	542	488	564	466	366	366	366	1265	1168	1003
Honduras	134	292	138	279	300	300	300	300	300	380	490
Nicaragua	232	330	330	330	330	453	453	465	474	696	900

UNCLASSIFIED

UNCLASSIFIED
ANNEX II, 8 of 8
Exhibit 8

UNCLASSIFIED

AID-1A/A-74(draft)

ANNEX III, 1 of 4

LOAN AUTHORIZATION

Provided from: Alliance for Progress
HONDURAS: Malaria Eradication

Pursuant to the authority vested in the Deputy U.S. Coordinator, Alliance for Progress by the Foreign Assistance Act of 1961, as amended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title VI, Alliance for Progress, of said Act, to the Republic of Honduras ("Borrower") of not to exceed one million one hundred and seventy thousand United States dollars (\$1,170,000) to assist in financing the United States dollar and local currency costs of equipment, material, and services necessary for the conduct of Borrower's regionally coordinated national plan to eradicate malaria from its territory, this loan to be subject to the following terms and conditions:

1. Interest and Terms of Repayment. Borrower shall repay the loan to the Agency for International Development ("A.I.D.") in United States dollars within forty (40) years from the first disbursement under the loan, including a grace period not to exceed ten (10) years. The Borrower shall pay interest to A.I.D. in United States dollars on the disbursed balance of the loan of one (1) percent per annum during the grace period and two and one-half (2½) percent per annum thereafter.
2. Other Terms and Conditions.
 - (a) Prior to the execution of the Loan Agreement PAHO/W and AID/W formally shall have approved the Honduran Technical Plan and the Regional Coordination Plan.
 - (b) Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and content satisfactory to A.I.D., a schedule of its contributions to the project during the estimated disbursement period of three years from the date of execution of the Loan Agreement. The Borrower shall accompany that schedule with evidence satisfactory to A.I.D. that it will provide the contributions called for by the schedule.

UNCLASSIFIED

- (c) Prior to the first disbursement or the issuance of the first commitment document under the Loan Agreement the Borrower shall furnish A.I.D., in form and substance satisfactory to A.I.D., evidence that UNICEF's contribution to the Project will be available on a timely basis.
- (d) Borrower shall covenant to provide the resources necessary to achieve the eradication of malaria within its territory and to use its best efforts to prevent the reappearance of malaria in that territory; and in furtherance of those understandings Borrower shall covenant to consult periodically with representatives of A.I.D., or such persons as A.I.D. may nominate, during at least the first five years after the last disbursement under the loan.
- (e) Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Member Countries of the Central American Common Market. Shipping financed under the loan shall be procured from the United States, and marine insurance financed under the loan shall be placed in the United States with a company authorized to do marine insurance business in any state of the United States.
- (f) United States dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee through appropriate procedures and shall be used only for procurement in the United States.
- (g) The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Deputy U. S. Coordinator

Date