

PN - 1730 - 020

21 27265

INFORMAL DISCUSSIONS ON COORDINATION  
OF MALARIA ERADICATION ACTIVITIES

WHO, AID/W, PHS/NCDC

Washington, D. C.  
September 29-30, 1969

September 29 - 9:00 a.m., Conference Room 8, 6th Floor,  
C Wing, Building 31, NIH

September 30 - 9:00 a.m., Conference Room 7, 6th Floor,  
C Wing, Building 31, NIH

## TENTATIVE AGENDA

### Informal Discussions on Coordination of Malaria Eradication Activities

- I. Procedures proposed by WHO for implementing the 22nd World Health Assembly Resolution WHA 22:39 (Re-examination of the Global Strategy of Malaria Eradication).
- II. Brief review of status of country programs in which AID/PHS directly involved.
- III. Procedures to be followed in collaborative reviews by assisting agencies.
- IV. Future role of assisting agencies.
- V. Future research and training needs.

PRESENT STATUS OF U.S.-ASSISTED MALARIA ERADICATION PROGRAMS

<u>AID Bureau</u>	<u>WHO Region</u>	<u>Country</u>	<u>Present Phase(s)</u>				<u>Review Priority*</u>	<u>Primary Problems</u>	
			<u>Prep.</u>	<u>Attack</u>	<u>Cons.</u>	<u>Maint.</u>		<u>Technical</u>	<u>Admin/Finan.</u>
Latin America	American	Brazil		X	X	X	1	X	X
		Costa Rica		X	X		2		
		Ecuador		X	X		1	X	X
		El Salvador		X	X		2	X	
		Guatemala		X			2	X	
		Haiti		X			1	X	
		Honduras		X		X	2	X	
		Nicaragua		X			2	X	
		Panama		X			2		X
Paraguay		X			2				
Near East-South Asia	Southeast Asia	India		X	X	X	2	X	
	E. Mediterranean	Jordan		X	X	X	2		
	southeast Asia	Nepal	X	X	X		1		X
	E. Mediterranean	Pakistan	X	X	X		1	X	
East Asia	Western Pacific	Philippines		X			2		X
	Southeast Asia	Thailand		X	X		2	X	
Africa	E. Mediterranean	Ethiopia	X	X			1		X
Vietnam	Western Pacific	So. Vietnam		X			2	X	X

\* 1 - Should be reviewed as soon as practical

2 - Can be deferred from immediate review

## BRAZIL

Date Eradication Program Began 1959Target Date for Eradication: Original 1968 Present after 1975

1968 Population (In 1000's):

Total Country	<u>71,479</u>	Nonmalarious Areas	<u>39,847</u>	Malarious Areas	<u>31,632</u>
				Attack	<u>25,331</u>
				Consolidation	<u>5,521</u>
				Maintenance	<u>780</u>

Major problems that need appraisal:

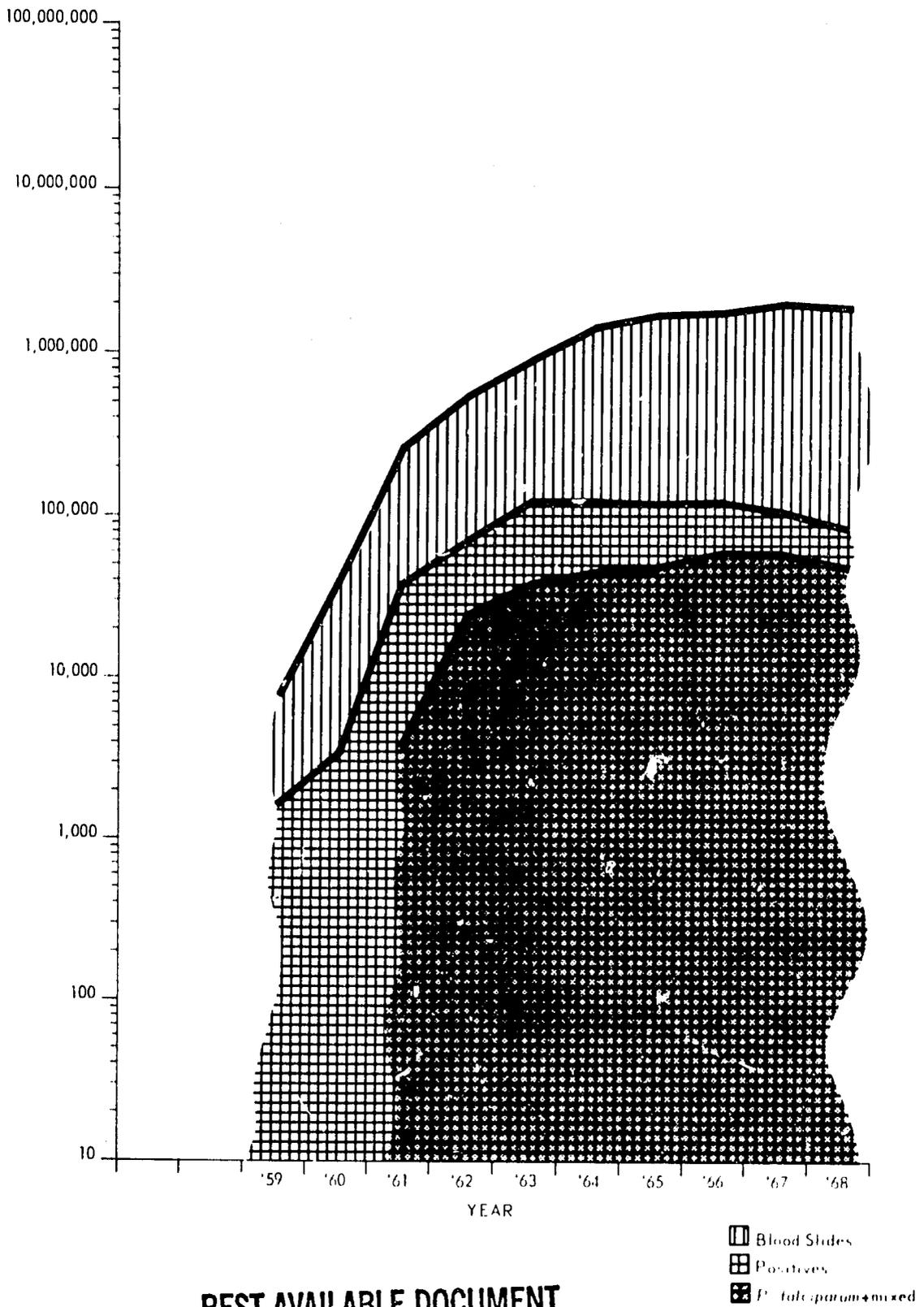
Technical. The massive size of the program and problems associated with communications, logistics, supply and transport in the Amazon Valley present a difficult situation for carrying out malaria eradication activities. One problem in the state of Santa Catarina is persistent transmission in areas of bromeliad-breeding *Kerteszia*. To what extent this is a result of incomplete insecticide coverage rather than outdoor transmission is not known. Achieving program coverage of the entire malarious area of Brazil by the end of CY 1968 necessitated shortening the period for preparation and collection of malarionetric data in some areas; this may result in inadequate base line data by which to evaluate and measure progress at a future date.

Administrative. The recent reorganization of the Brazilian Ministry of Health, which has resulted in a downgrading of the malaria program and a decline in its position of national priority, has caused concern. This is compounded by a somewhat unstable political picture within the country at the present time.

Financial. The administrative developments outlined above are reflected in lessened fiscal support by the Government of Brazil, which may result in the partial curtailment of one spray cycle this year. Discussions on making up the deficit for CY 1969 are being held.

Present Status of Appraisal. The Brazil MEP is currently being appraised, with special emphasis on determining the capability of operating a malaria eradication program effectively within the present Ministry of Health organization.

EPIDEMIOLOGIC SURVEILLANCE  
BRAZIL, 1959-1968  
1968 Population of Malarious Area - 31,632,000



BEST AVAILABLE DOCUMENT

## COSTA RICA

Date of Eradication Program Began 1957Target Date for Eradication: Original 1963 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>1,648</u>	Nonmalarious Areas	<u>1,146</u>	Malarious Areas	<u>502</u>
				Attack	<u>349</u>
				Consolidation	<u>153</u>

Major problems that need appraisal:

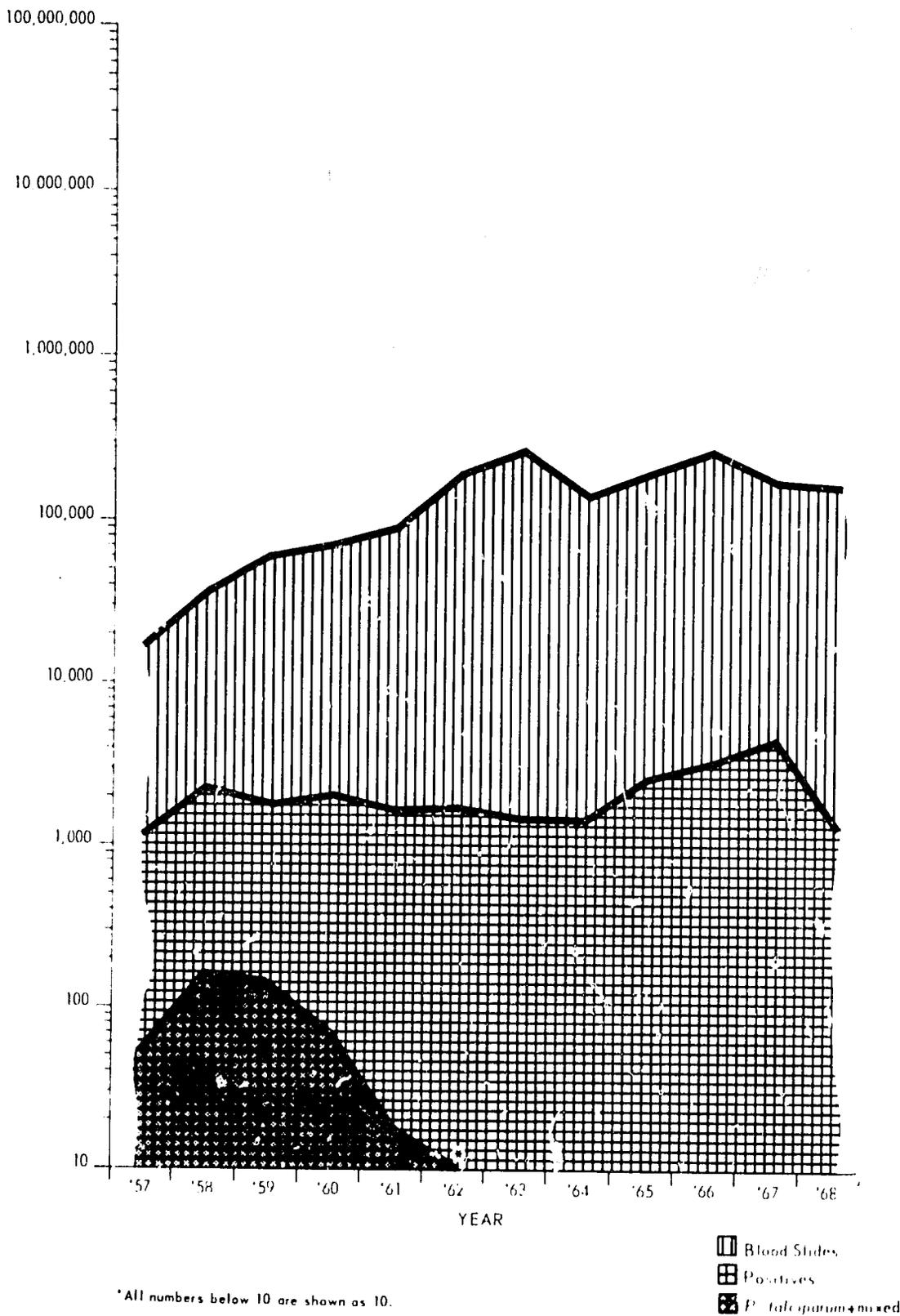
Technical. There are some indications of possible resistance to DDT on the part of A. albimanus in Costa Rica; however, the country is scheduled for total consolidation by the end of CY 1970.

Administrative. There are no major administrative problems in the Costa Rica MEP. One item of some concern to the recent (February 1969) Evaluation Team was the turnover rate of intermediate level supervisory personnel.

Financial. There are no major fiscal problems at this time.

Present Status of Appraisal. A detailed evaluation of the Costa Rica program was carried out by PAHO and NCDC in February 1969.

EPIDEMIOLOGIC SURVEILLANCE  
COSTA RICA, 1957-1968  
1968 Population of Malarious Area - 502,000



## ECUADOR

Date Eradication Program Began 1957Target Date for Eradication: Original 1963 Present Consolidation in 1973

1968 Population (In 1000's):

Total Country	<u>5,497</u>	Nonmalarious Areas	<u>2,474</u>	Malarious Areas	<u>3,023</u>
				Attack	<u>1,542</u>
				Consolidation	<u>1,481</u>

Major problems that need appraisal:

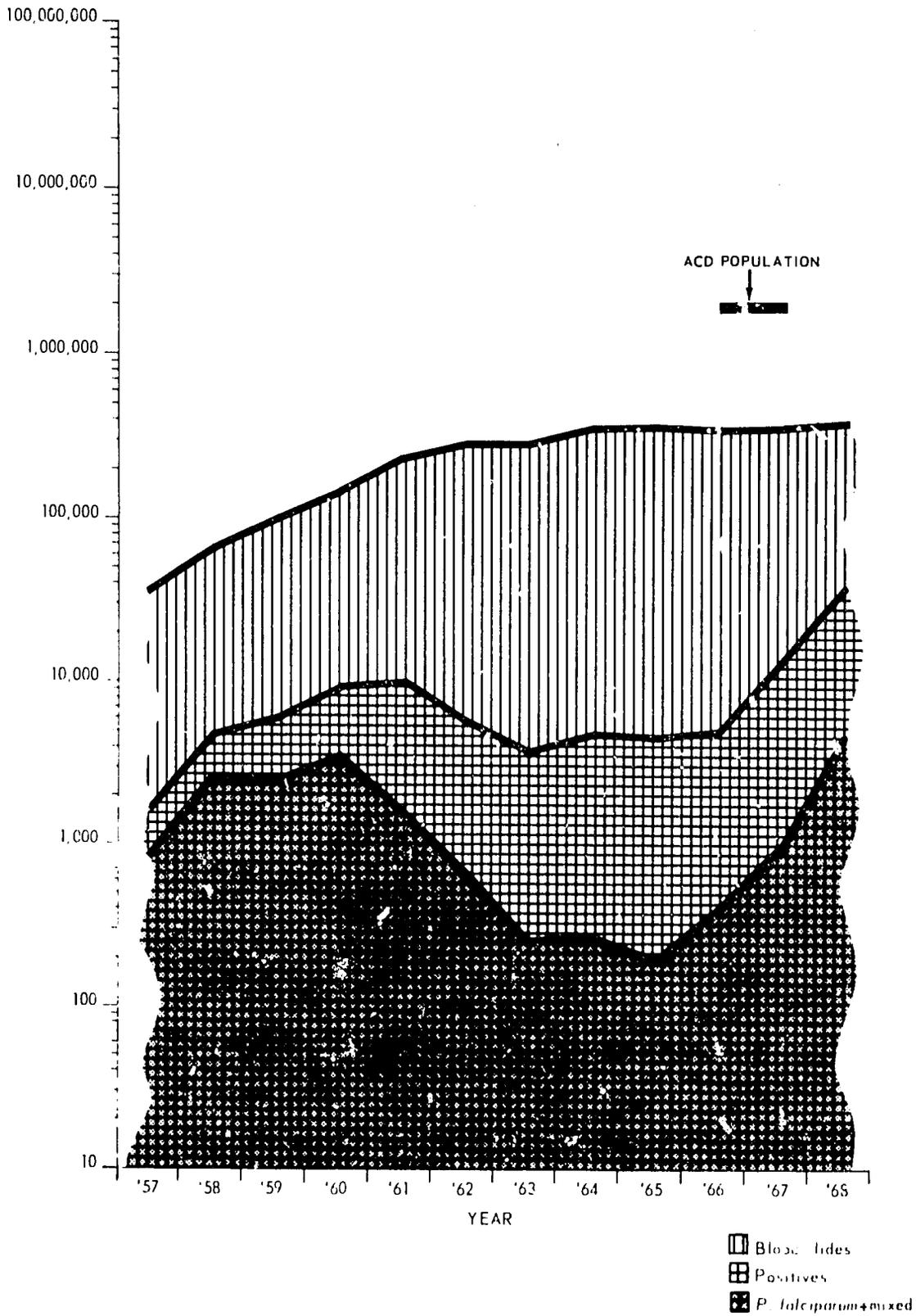
Technical. The Ecuador program has problem areas with high levels of continuing transmission. Because of the rapid construction of houses, often with incomplete or no walls, total DDT coverage has been difficult and may be a major cause of persistent transmission in areas where there has been a large population influx due to agricultural development. The possibility of outdoor biting also exists.

Administrative. Union agitations for shorter work weeks, family subsistence, and higher salaries have led to work stoppages and partial disruption of scheduled activities. Unions have focused on the MEP director as obstructionist, leading to further internal demoralization of personnel.

Financial. Country fiscal problems have led to uncertain amounts and late delivery of scheduled financial support with consequent administrative difficulties to MEP.

Present Status of Appraisal. The Ecuador program was evaluated in September 1968.

EPIDEMIOLOGIC SURVEILLANCE  
ECUADOR, 1957-1968  
1958 Population of Malarious Area - 3,024,000



## EL SALVADOR

Date Eradication Program Began 1956Target Date for Eradication: Original 1962 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>3,269</u>	Nonmalarious Areas	<u>1,052</u>	Malarious Areas	<u>2,217</u>
				Attack	<u>1,495</u>
				Consolidation	<u>722</u>

Major problems that need appraisal:

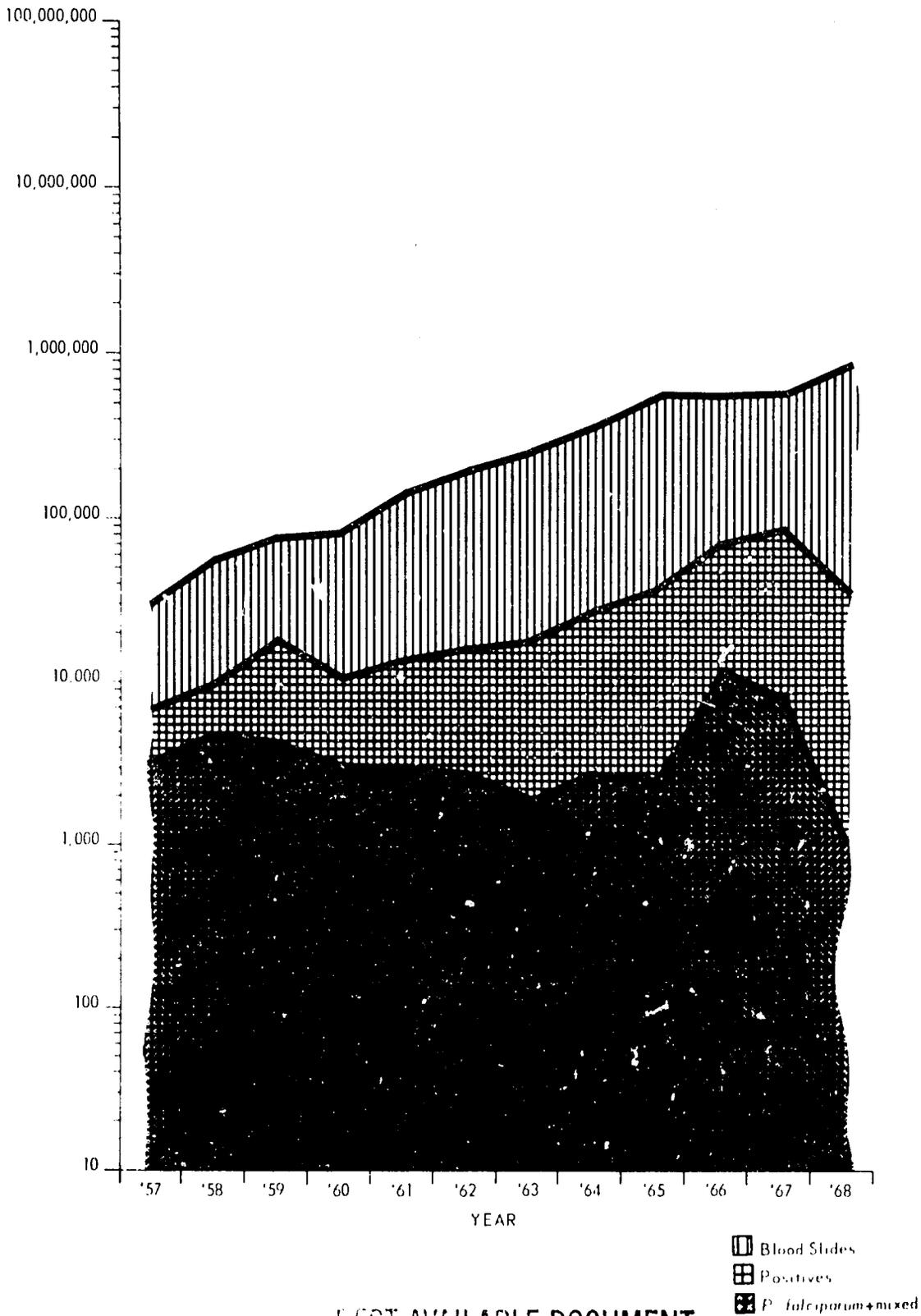
Technical. Resistance of the vector A. albimanus to DDT is the major technical problem of the El Salvador MEP. A high refusal rate in the collective treatment areas has resulted in decreased coverage by drugs. Spraying with DDT will not interrupt transmission over the entire malarious area, nor will combined DDT and collective drug treatment be satisfactory to totally interrupt transmission.

Administrative. Compartmentalization of the various services within the MEP has resulted in a certain lack of coordination of the program. Work output can be increased, according to a recent evaluation report, and there are some difficulties in the areas of logistics and transport. The state of hostilities between El Salvador and Honduras has created certain problems regarding accessibility and communications.

Financial. There are no outstanding funding problems under the Revised Triennial Plan and the augmented AID loan; however, the current funding arrangements will terminate at the end of CY 1970.

Present Status of Appraisal. A detailed evaluation of the El Salvador program was carried out by PAHO and NCDC in March 1969.

EPIDEMIOLOGIC SURVEILLANCE  
EL SALVADOR, 1957-1968  
1968 Population of Malarious Area - 2,217,000



BEST AVAILABLE DOCUMENT

## GUATEMALA

Date Eradication Program Began 1956Target Date for Eradication: Original 1962 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>4,958</u>	Nonmalarious Areas	<u>2,751</u>	Malarious Areas	<u>2,207</u>
				Attack	<u>2,207</u>

## Major problems that need appraisal:

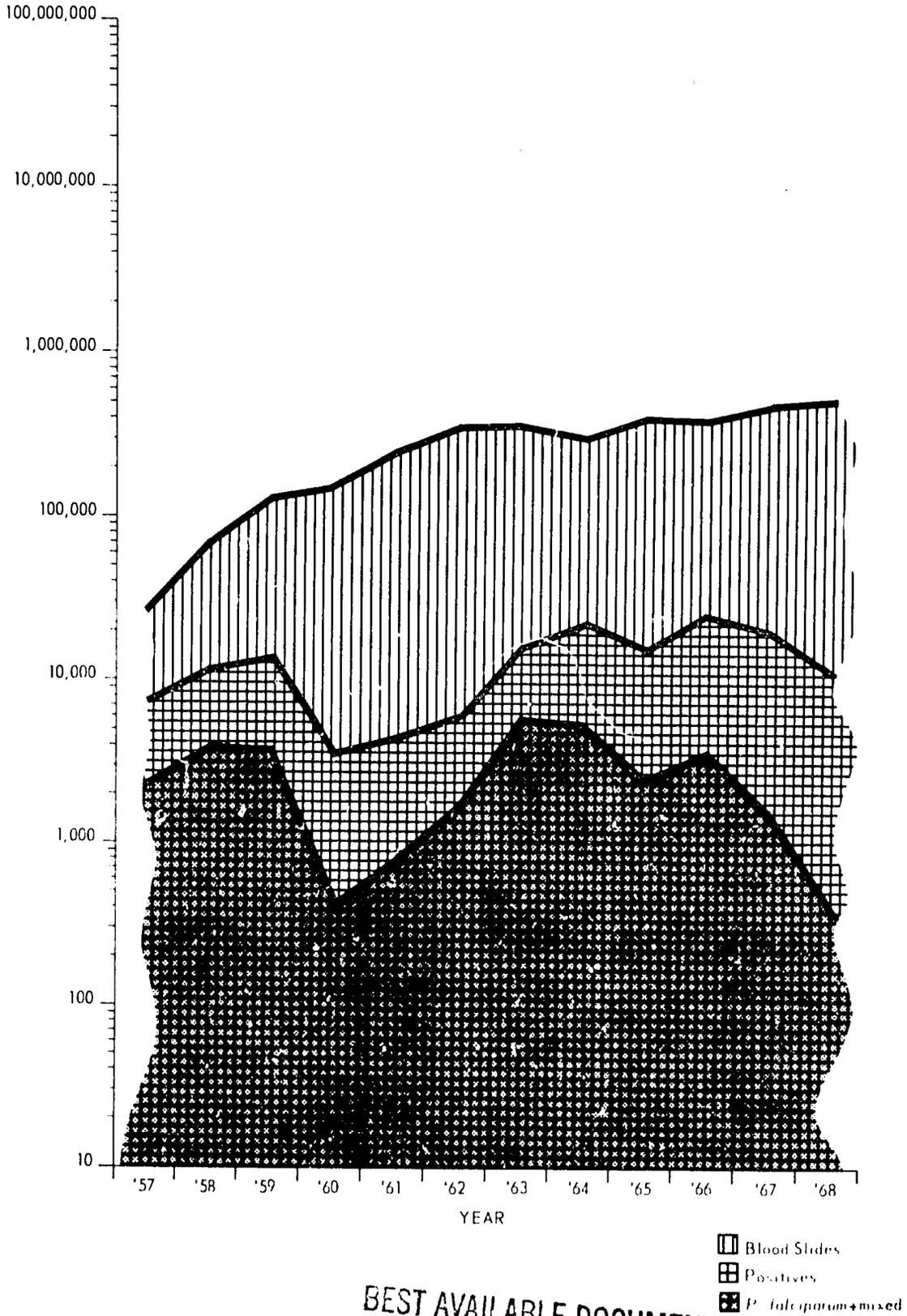
Technical. There has been a steady increase in vector resistance to DDT since 1963, both in degree and geographical extension. Other factors which create technical problems are refusals, migratory movement of the population and the types of incomplete or wall-less houses inhabited by the Guatemalans. The rate of acceptance of the collective treatment system has always been low and has decreased with succeeding cycles of treatment. Spraying with DDT will not interrupt transmission over the entire malarious area, nor will combined DDT and collective treatment be satisfactory to totally interrupt transmission.

Administrative. A lack of administrative flexibility within the MEP has had adverse effects on the spray operations and prevented adequate supervision of the field work. Further, there is excessive centralization within the program as well as difficulties in the area of logistics and supply.

Financial. There are no funding problems at present; however, the current funding arrangements will terminate at the end of CY 1970.

Present Status of Appraisal. A detailed evaluation of the Guatemala program was carried out by PAHO and NCDC in February 1969.

EPIDEMIOLOGIC SURVEILLANCE  
GUATEMALA, 1957-1968  
1968 Population of Malarious Area - 2,207,000



BEST AVAILABLE DOCUMENT

## HAITI

Date Eradication Program Began 1962Target Date for Eradication: Original 1968 Present \_\_\_\_\_

1968 Population (In 1000's):

Total Country	<u>4,677</u>	Nonmalarious Areas	<u>1,039</u>	Malarious Areas	<u>3,638</u>
				Attack	<u>3,638</u>

Major problems that need appraisal:

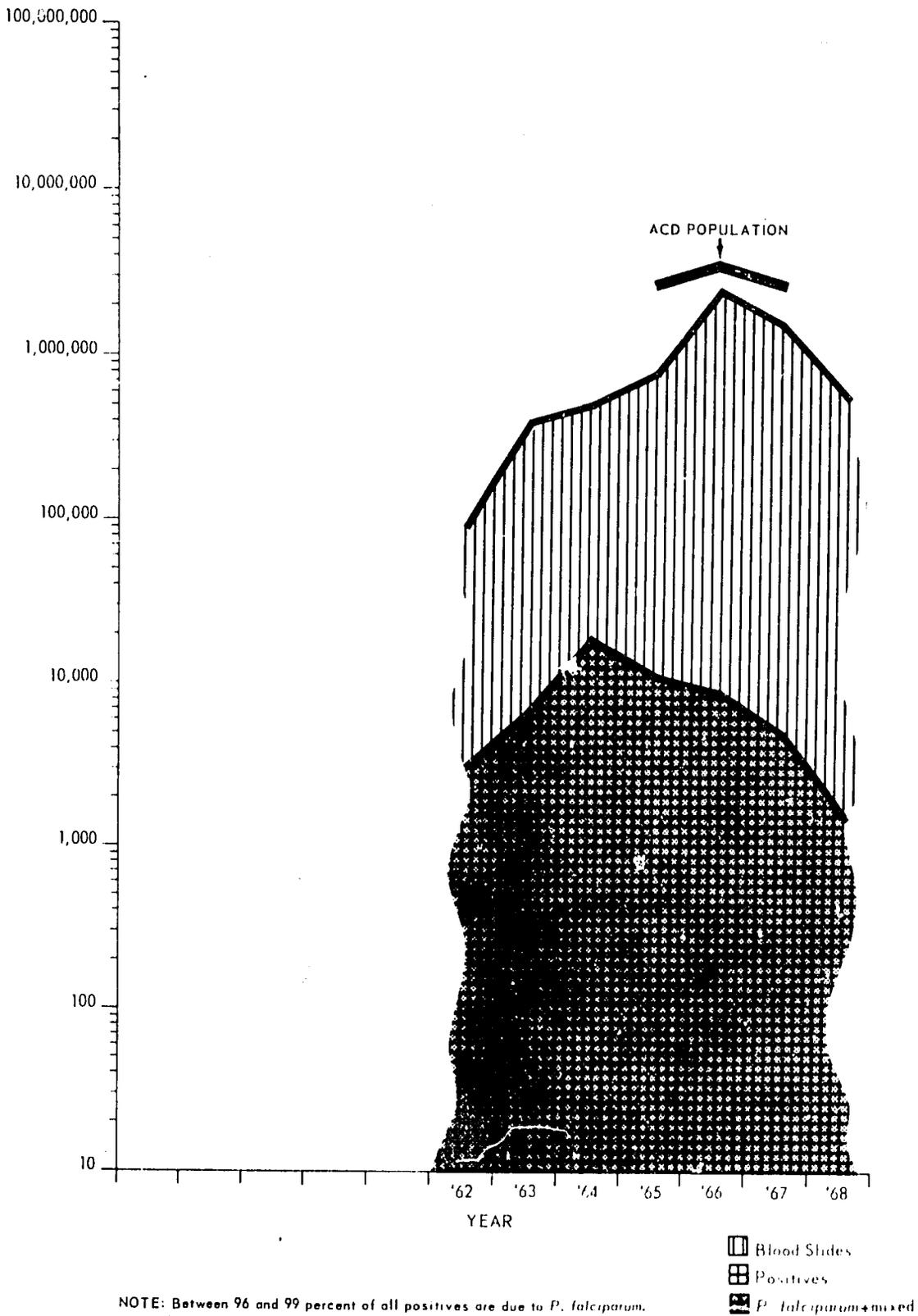
Technical. A technical problem of the Haiti MEP is the exophilic and exophagic behavior of the vector (*A. albimanus*) coupled with the outdoor activity of the human population during the peak biting hours. In addition, vector resistance to DDT is becoming evident in a number of areas; investigation of the extent of this resistance is underway. Assessment of the malaria problem in Haiti is complicated by the high degree of population movement.

Administrative. The program has special administrative problems related to the financial status (below). Logistics, vehicle support, and supervision are at a low level of efficiency. Directorship of the program is awkward--PAHO and Haitian co-directors are at the top echelon with administration under AID/PHS leadership and management. The program is in need of reorganization.

Financial. Grant monies are not program oriented and present funding of almost 100% of costs by the U.S. government is not scheduled beyond FY 1971.

Present Status of Appraisal. Although there has been a series of six-monthly program reviews and budgeting sessions, there is a distinct need for an appraisal team to determine the future course for this program.

EPIDEMIOLOGIC SURVEILLANCE  
HAITI, 1962-1968  
1968 Population of Malarious Area - 3,638,000



## HONDURAS

Date Eradication Program Began 1958Target Date for Eradication: Original 1963 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>2,538</u>	Nonmalarious Areas	<u>323</u>	Malarious Areas	<u>2,215</u>
				Attack	<u>988</u>
				Consolidation	<u>1,227</u>

Major problems that need appraisal:

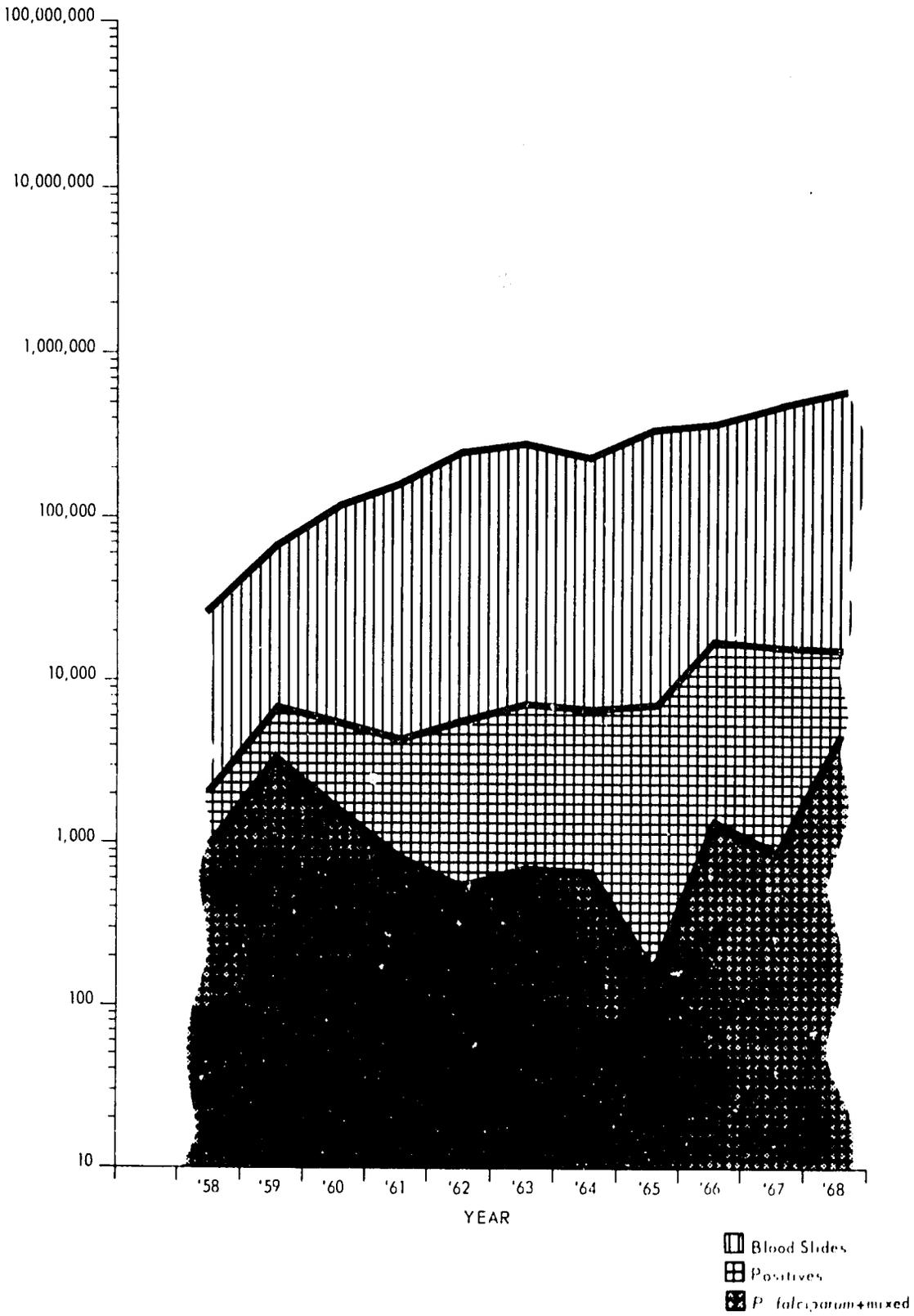
Technical. The major technical problem in Honduras is the resistance of the vector A. albimanus to DDT. Other operational difficulties include population migration, temporary shelters, refusals and missed houses, and a low grade of acceptance of collective treatment. Spraying with DDT will not interrupt transmission over the entire malarious area, nor will combined DDT and collective drug treatment be satisfactory to totally interrupt transmission.

Administrative. There have been personnel shortages, as well as a high turnover rate, which adversely affected epidemiologic surveillance activities. The program can benefit from other administrative improvements.

Financial. There are no outstanding fiscal problems under the Revised Triennial Plan and the amended AID loan agreement; however, the current funding arrangements will terminate at the end of CY 1970.

Present Status of Appraisal. A detailed evaluation of the Honduras program was carried out by PAHO and NCDC in March 1969.

EPIDEMIOLOGIC SURVEILLANCE  
HONDURAS, 1958-1968  
1968 Population of Malarious Area - 2,215,000



BEST AVAILABLE DOCUMENT

## NICARAGUA

Date Eradication Program Began 1957Target Date for Eradication: Original 1963 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>1,830</u>	Nonmalarious Areas	<u>0</u>	Malarious Areas	<u>1,830</u>
				Attack	<u>1,830</u>

Major problems that need appraisal:

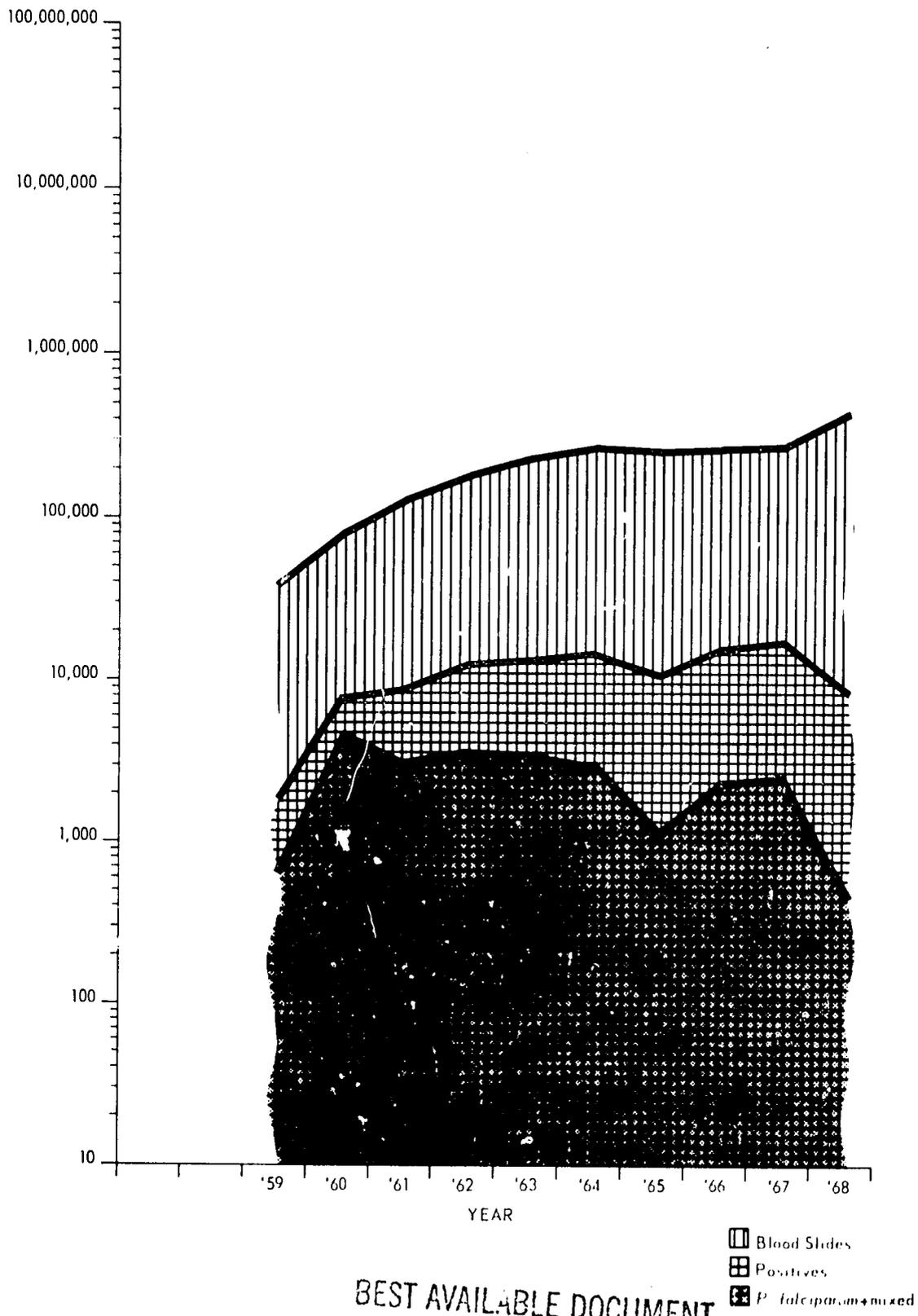
Technical. The primary problems in the Nicaragua malaria program are vector resistance to DDT, excito-repellency, migratory movements, characteristics of the housing, and increasing refusal rates over the period of collective drug treatment. Spraying with DDT will not interrupt transmission over the entire malarious area, nor will combined DDT and collective drug treatment be satisfactory to totally interrupt transmission.

Administrative. The greatest administrative needs are adequate selection of qualified personnel and the availability of funds to meet payrolls on time. Frequent emergencies and administrative duties are given priority over routine supervision. The program can benefit from other administrative improvements.

Financial. There are no financial difficulties in the Nicaragua program at this time; however, the current funding arrangements will terminate at the end of CY 1970.

Present Status of Appraisal. A detailed evaluation of the Nicaragua program was carried out by PAHO and NCDC in March 1969.

EPIDEMIOLOGIC SURVEILLANCE  
NICARAGUA, 1959-1968  
1968 Population of Malarious Area - 1,830,000



BEST AVAILABLE DOCUMENT

## PANAMA

Date Eradication Program Began 1957

Target Date for Eradication: Original 1963 Present Consolidation by 1971

1968 Population (In 1000's):

Total Country	<u>1,380</u>	Nonmalarious Areas	<u>56</u>	Malarious Areas	<u>1,324</u>
				Attack	<u>1,324</u>

Major problems that need appraisal:

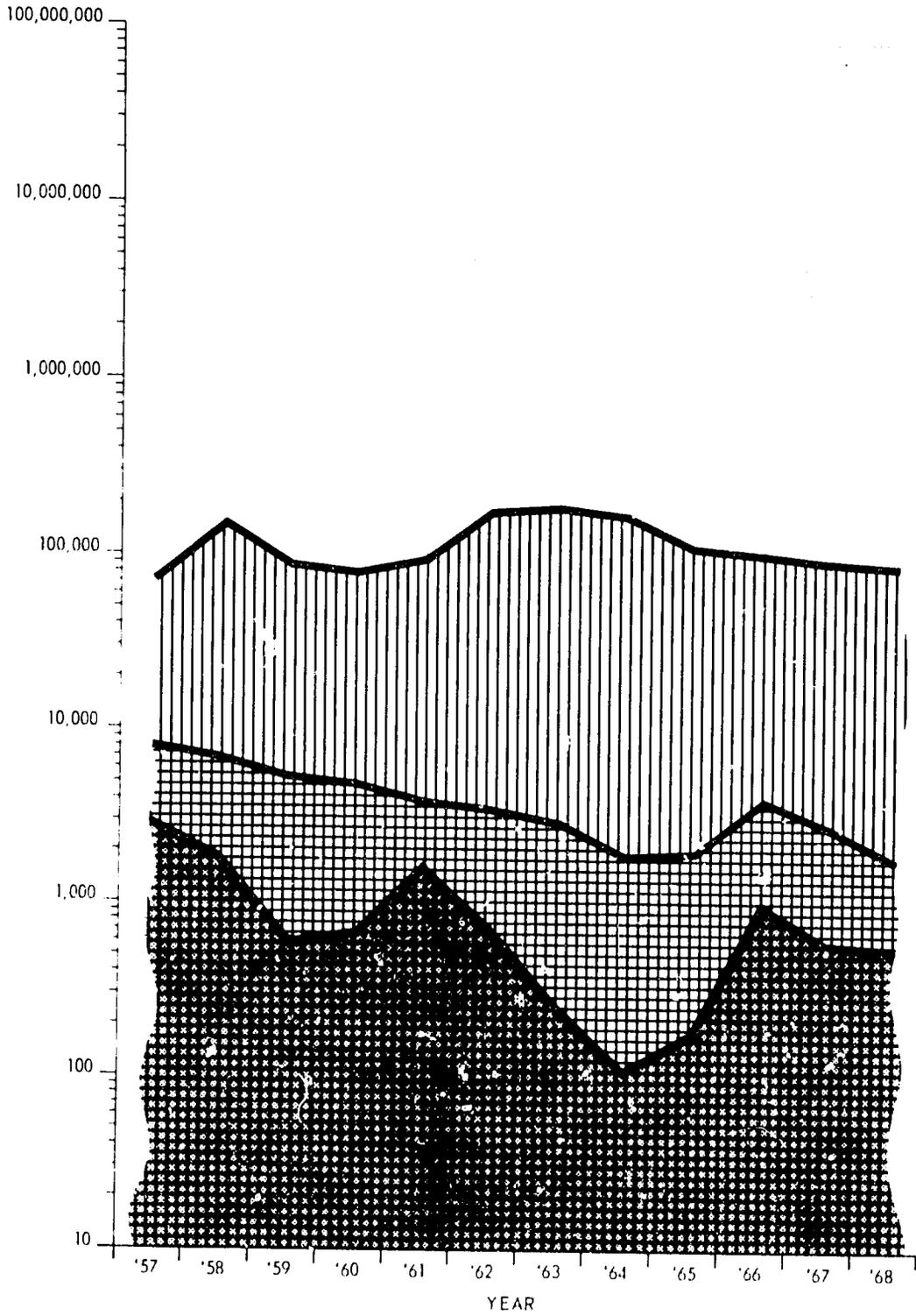
Technical. Panama started complete coverage in July 1969 after years of partial control. The extent of technical problems is not known, but to date there has been no indication of technical problems that might hamper the program.

Administrative. The long history of Panamanian efforts to conduct a nationwide eradication program have been thwarted by administrative complications. Even though these have been resolved this continues to be the area of prime concern, and whether or not solutions are permanent is not yet known.

Financial. There are no financial difficulties in the Panama program at this time. Due to the delay in starting the program, the AID loan will provide support to Panama later than 1970 when the loans to the five Central American countries are expected to terminate.

Present Status of Appraisal. It is too early to evaluate the Panama MEP since the first country-wide cycle of DDT was only begun in July 1969. Case detection is sketchy; personnel are still being trained.

EPIDEMIOLOGIC SURVEILLANCE  
PANAMA, 1957-1968  
1968 Population of Malarious Area - 1,324,000



▨ Blood Slides  
▣ Positives  
▤ *P. falciparum* mixed

BEST AVAILABLE DOCUMENT

## PARAGUAY

Date Eradication Program Began 1957

Target Date for Eradication: Original 1963 Present 1975

1968 Population (In 1000's):

Total Country	<u>2,221</u>	Nonmalarious Areas	<u>289</u>	Malarious Areas	<u>1,932</u>
				Attack	<u>1,932</u>

Major problems that need appraisal:

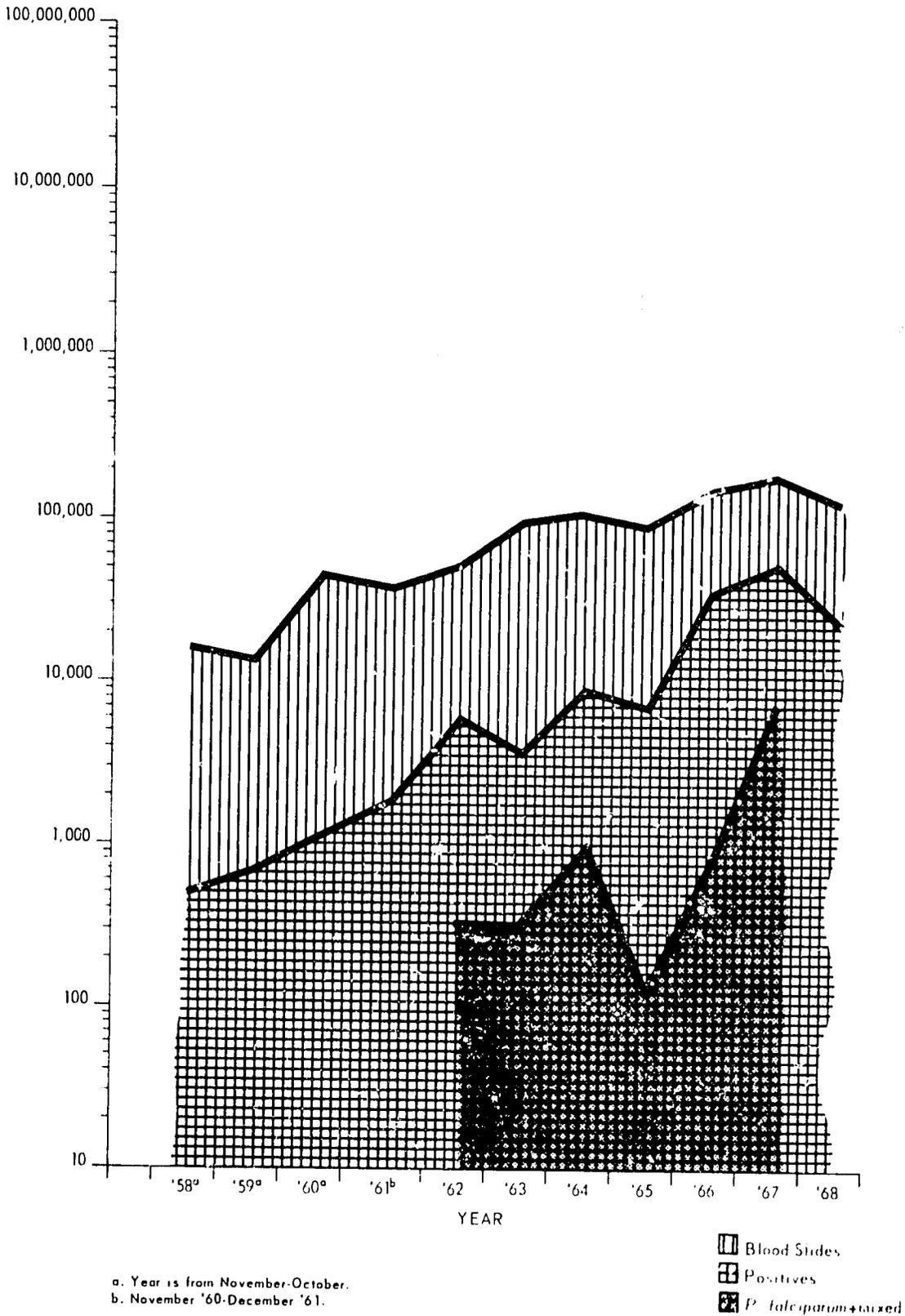
Technical. Because of the rapid construction of houses, often with incomplete or no walls, total DDT coverage has been difficult and may be a major cause of persistent transmission in areas where there has been a large population influx due to agricultural development. The possibility of outdoor biting also exists.

Administrative. Administrative problems are being resolved.

Financial. There are no major financial problems at this time. The program was initiated in 1968 and is on schedule.

Present Status of Appraisal. The program is scheduled for appraisal in 1970.

**EPIDEMIOLOGIC SURVEILLANCE**  
**PARAGUAY, 1958-1968**  
**1968 Population of Malarious Area - 1,932,000**



## INDIA

Date Eradication Program Began 1958Target Date for Eradication: Original 1969 Present \_\_\_\_\_

1968 Population (In 1000's):

Total Country	<u>517,000</u>	Nonmalarious Areas	<u>15,000</u>	Malarious Areas	<u>502,000</u>
				Attack	<u>141,000</u>
				Consolidation	<u>91,000</u>
				Maintenance	<u>270,000</u>

Major problems that need appraisal:

Technical. The major technical problems in the India MEP are vector resistance to DDT and BHC in some areas, inadequate basic health services for effecting maintenance, and the continuing problem of urban malaria. The rephasing of units in problem states during 1967 and 1968 resulted in reversion to attack phase of 71 units with a population of 90 million.

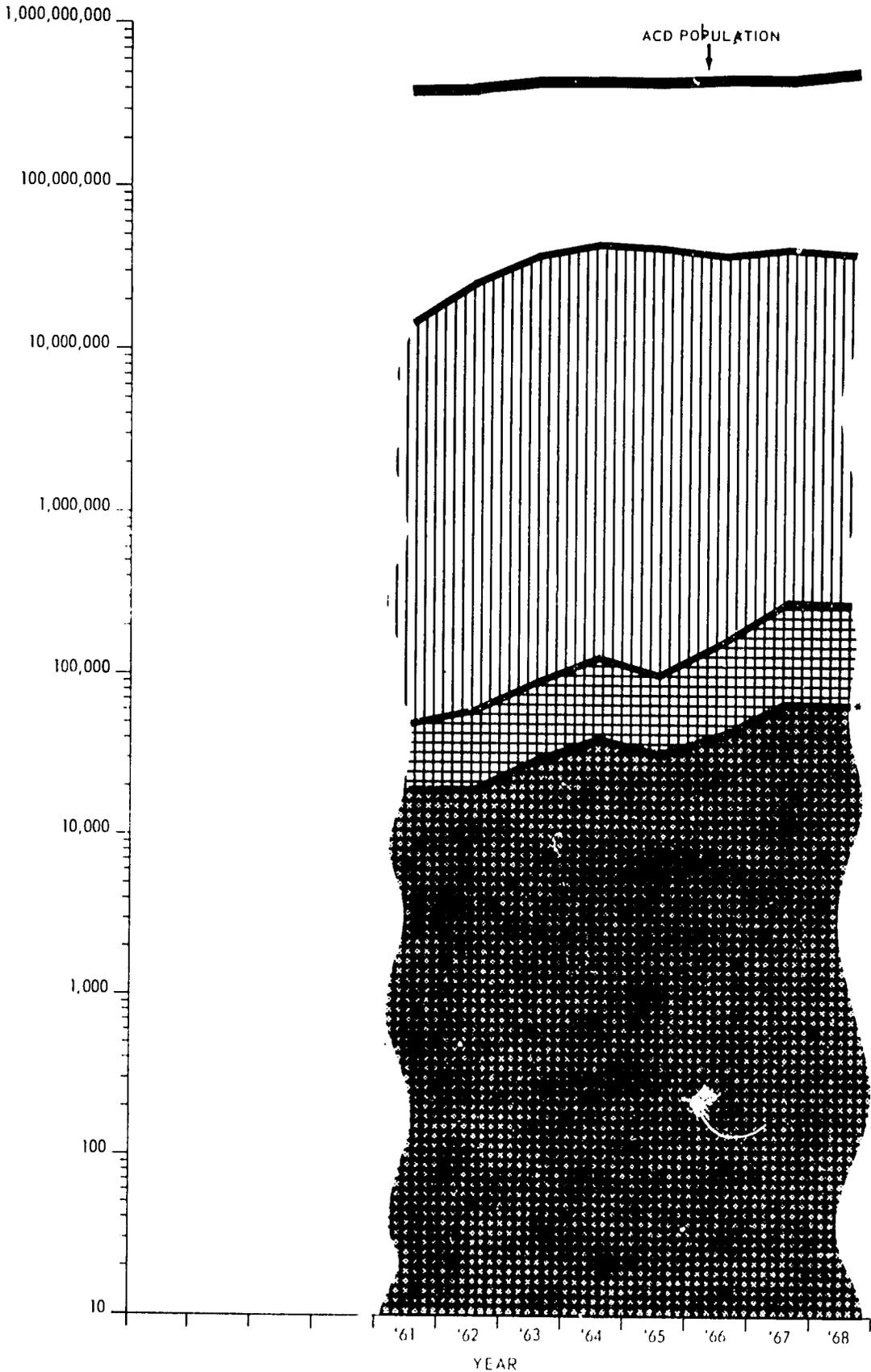
Administrative. Administration of this program is difficult due to its sheer size and is complicated by the federated type of organization with central guidance for 28 semi-autonomous programs.

Financial. The continuous financial pinch is reflected in low salaries and morale, an old and feeble fleet of vehicles, and a shortage of microscopes, and has contributed to the constant stress which erodes the program effectiveness.

Present Status of Appraisal. Projected parts of the Indian MEP have been reviewed by an annual Independent Appraisal Team for the past six years. These reviews are both highly specialized and localized; no general review, other than internal ones, has taken place for some years.

1960

EPIDEMIOLOGIC SURVEILLANCE  
INDIA, 1961-1968  
1968 Population of Malarious Area - 502,000,000



\*1968 figure is estimated.

BEST AVAILABLE DOCUMENT

-  Blood Slides
-  Positives
-  P. falciparum mixed

## JORDAN

Date Eradication Program Began 1958Target Date for Eradication: Original \_\_\_\_\_ Present 1970

1968 Population (In 1000's):

Total Country 1,239 (Est.) Nonmalarious Areas 104 Malarious Areas 1,135Attack 254Consolidation 280Maintenance 601

Major problems that need appraisal:

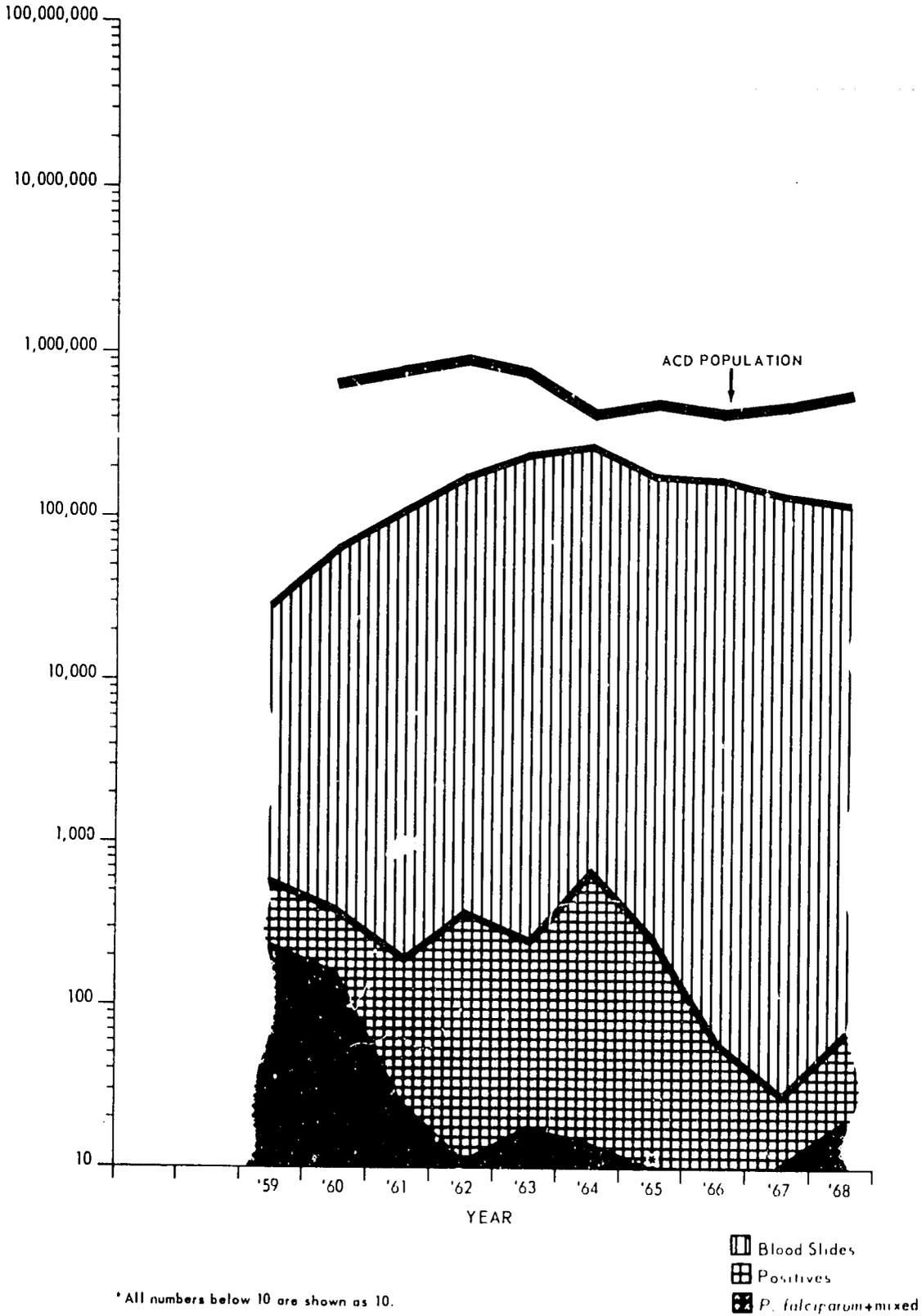
Technical. The program is at a high level of control and has adequately confronted such technical problems as it has encountered.

Administrative. There are no major administrative problems.

Financial. There are no pressing fiscal problems at this time.

Present Status of Appraisal. The last in-depth assessment was conducted in late 1967. The program has no immediate problems, thus no recent assessments have been conducted.

EPIDEMIOLOGIC SURVEILLANCE  
JORDAN, 1959-1968  
1968 Population of Malarious Area - 1,135,000



BEST AVAILABLE DOCUMENT

## NEPAL

Date Eradication Program Began 1958Target Date for Eradication: Original 1971 Present 1973

1968 Population (In 1000's):

Total Country	<u>10,800</u>	Nonmalarious Areas	<u>4,992</u>	Malarious Areas	<u>5,808</u>
				Preparatory	<u>411</u>
				Attack	<u>3,610</u>
				Consolidation	<u>1,787</u>

Major problems that need appraisal:

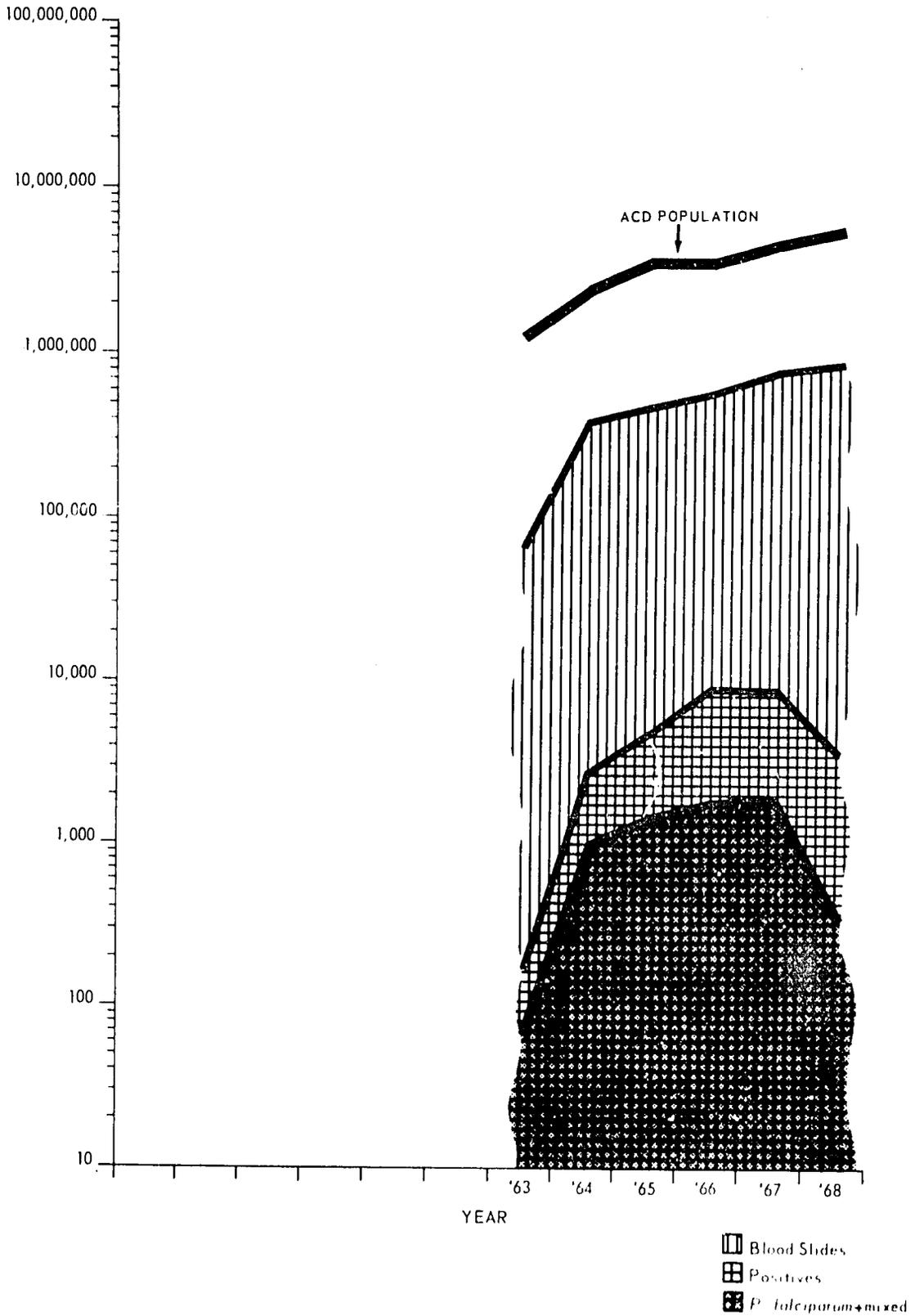
Technical. Many of the problems facing the Nepal MEP are related to the poor communication and transport facilities and the rugged terrain. Persistent effort is limiting the difficulties associated with the rapid building and rebuilding of dwellings in the formerly hyperendemic resettlement areas.

Administrative. The lack of qualified personnel for some positions has been especially marked in the more remote field offices due to the unwillingness of trained personnel to move from Kathmandu to locations where the living conditions are primitive. Major administrative problems will develop if the program expands to cover the entire country.

Financial. Although questions have arisen regarding the level of rupee support, there is no immediate fiscal problem.

Present Status of Appraisal. The Nepal program was reviewed by external appraisal teams from PHS and WHO in 1967, 1968, and 1969. Another review is anticipated early in CY 1970.

EPIDEMIOLOGIC SURVEILLANCE  
NEPAL, 1963-1968  
1968 Population of Malarious Area - 5,808,000



## PAKISTAN

Date Eradication Program Began 1961Target Date for Eradication: Original 1974 Present 1974East Pakistan. 1968 Population (In 1000's):

Total Country	<u>60,800</u>	Nonmalarious Areas	<u>0</u>	Malarious Areas	<u>60,800</u>
				Preparatory	<u>5,100</u>
				Attack	<u>36,400</u>
				Consolidation	<u>19,300</u>

West Pakistan. 1968 Population (In 1000's):

Total Country	<u>51,300</u>	Nonmalarious Areas	<u>0</u>	Malarious Areas	<u>51,300</u>
				Preparatory	<u>1,400</u>
				Attack	<u>26,000</u>
				Consolidation	<u>23,900</u>

Major problems that need appraisal:

Technical. Malaria transmission in urban areas, a major problem confronting the West Pakistan MEP, has been responsible for reinfesting rural areas which had reached consolidation phase. The program's strengths and weaknesses are evident in the pattern of successful attack measures followed by deterioration during the consolidation phase.

Administrative. There are a few administrative problems due to the geographic distribution of the program into the two wings of the country, each with its own administrative support, loosely coordinated at the national level. Administrative problems are compounded by inadequate communication and transportation networks.

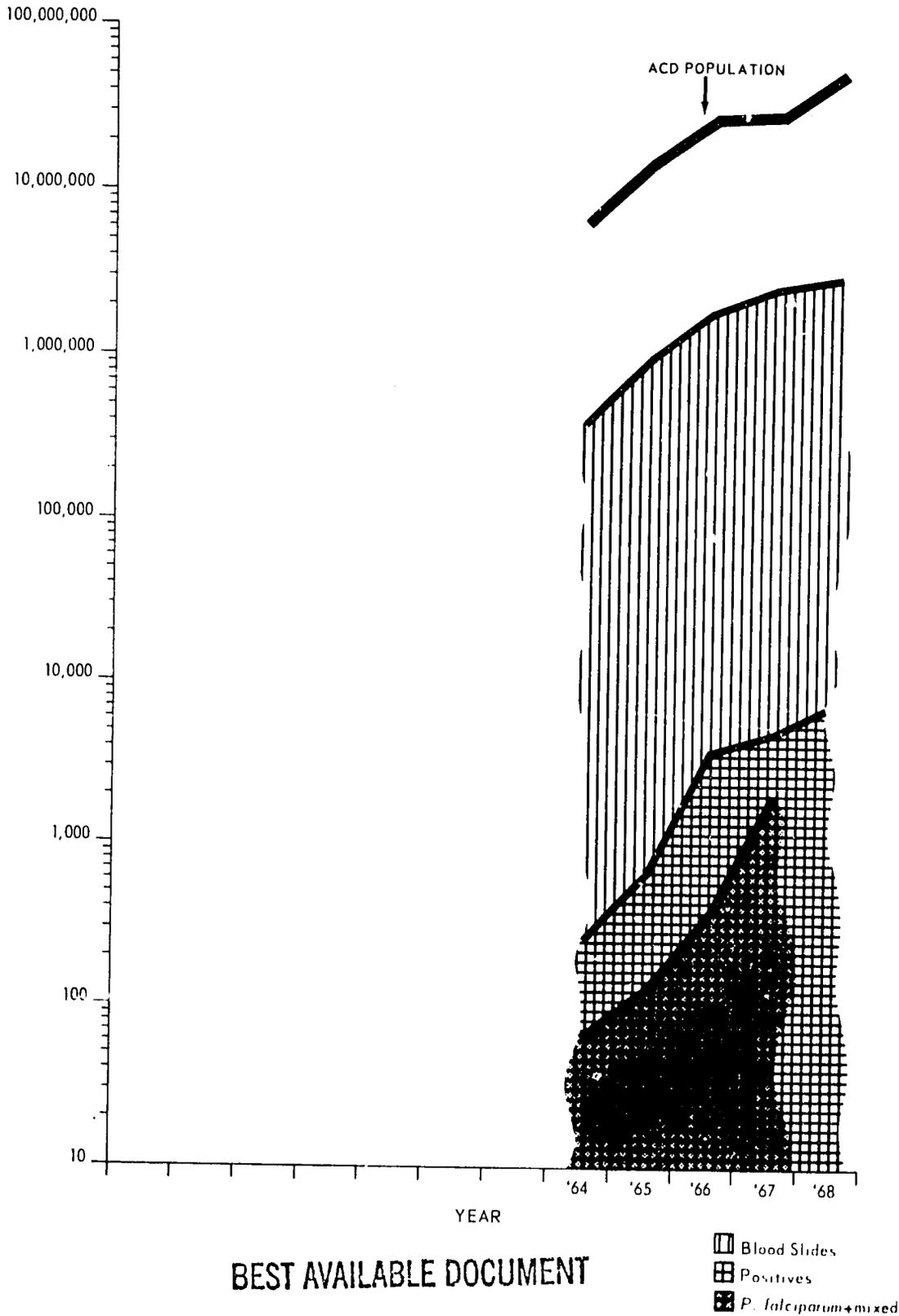
Financial. East Pakistan has no immediate fiscal problem. Even though West Pakistan has had chronic fiscal problems due to a lower GOWP priority of malaria, there are no major fiscal problems at the moment.

Present Status of Appraisal. Annual appraisals were carried out in Pakistan in 1967, 1968, and 1969. The USAID Mission has proposed a complete review of the program.

Quarterly Report - 14 million people are reacting to Attack from Consolidation. Done Internal Assessment Team.

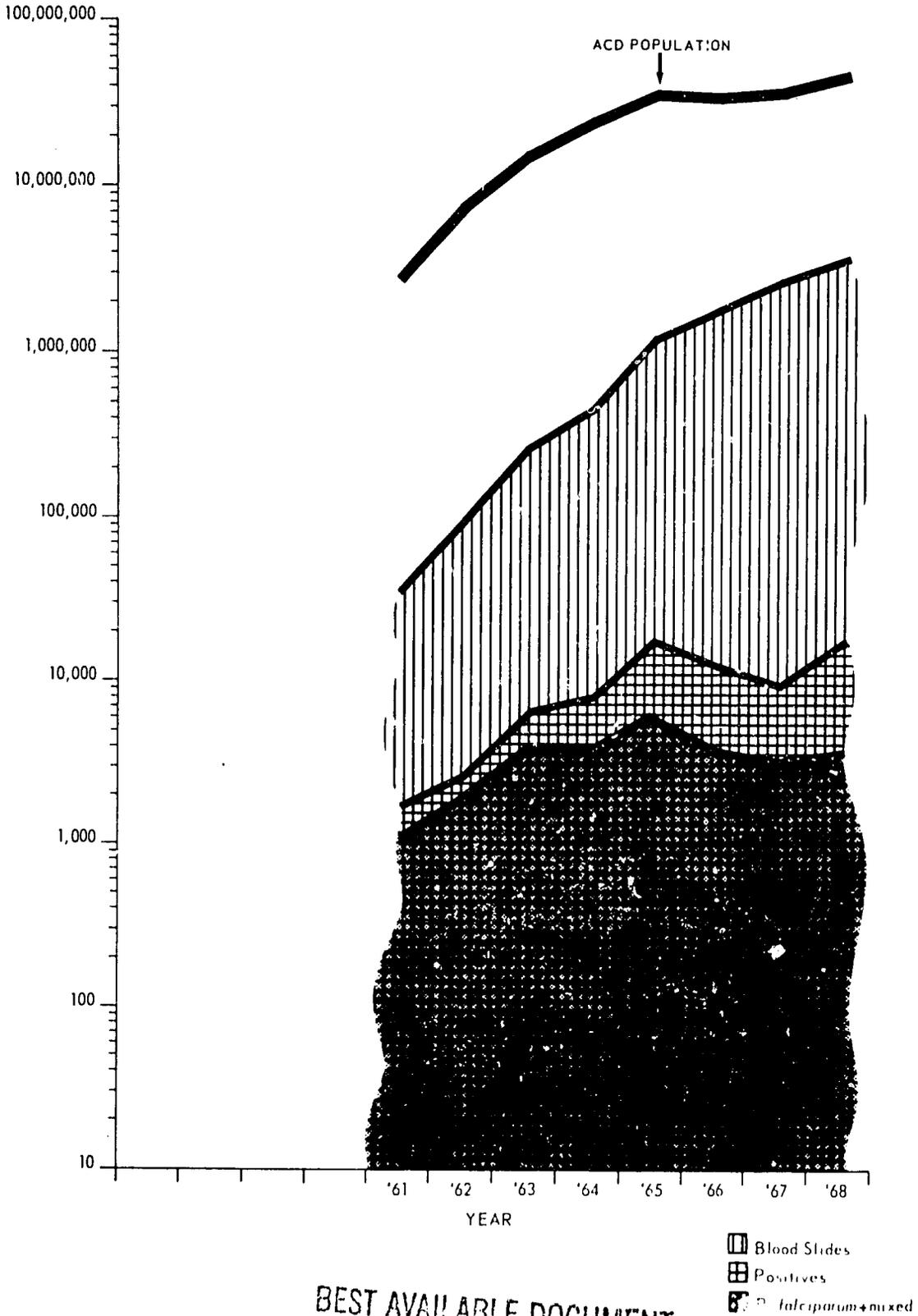
Moulton Area - Zones 14, 15 (S.W. of Lahore) - see with Wood. - West East Pakistan - Zone 2, 3, 4 (East Pak)

**EPIDEMIOLOGIC SURVEILLANCE  
EAST PAKISTAN, 1964-1968  
1968 Population of Malarious Area - 60,800,000**



**BEST AVAILABLE DOCUMENT**

**EPIDEMIOLOGIC SURVEILLANCE**  
**WEST PAKISTAN, 1961-1968**  
**1968 Population of Malarious Area - 51,300,000**



BEST AVAILABLE DOCUMENT

Nicolas - Dep. Director - will take over. Been here few months. Went to Palawan and liked the work. ~~Push~~ Malaria is accepted? as good, might be help -

PHILIPPINES

Date Eradication Program Began 1956

Target Date for Eradication: Original \_\_\_\_\_ Present FY 1974

1968 Population (In 1000's):

Total Country 33,024 (Est.) Nonmalarious Areas 24,729 Malarious Areas 8,295 ✓  
Attack 8,295

Major problems that need appraisal:

Technical. A major deficiency has been an almost complete lack of surveillance activities at any time in the long history of the program. This, coupled with frequent reorganization, has obscured any understanding of the extent or degree of malaria in the country. A possible problem, of unknown degree and extent, is the recent appearance of parasite resistance to synthetic antimalarials. Human resistance to spray operations has resulted in wipe-off of DDT from sprayed surfaces and refusal of house spraying in certain areas.

Administrative. Administrative problems have plagued this program since its inception; the organization has varied from centralized to decentralized and back again. As a result, the administrative, logistic, vehicle, personnel and payroll systems have all suffered and have been inadequate to meet the needs of the field operation. A series of crises in leadership at the national and regional levels had adverse effects on the program.

Financial. Fiscal support for this program has been inconsistent in the past as a result of the inability of the Philippine government to appropriate and allocate the funds that are budgeted. However, there now appear to be sufficient fiscal resources available to meet the needs of the present program.

Present Status of Appraisal. External assessments of the Philippine MEP were undertaken in 1966, 1967, 1968, and the program was reviewed by the WHO Global ME Strategy Team in 1968.

Concentrated - Palawan, Sulu Island, Tayugunjan Valley. *used Abate here - worked well. / 10 kgs of insecticide (A. hitoralis - not doing well. A. MINIMOS - pick up for DDT)*

a) switched to emulsion from wdp - better coverage and "wipe-off" has decreased. No bio-assay tests have shown DDT.

b) 1.4 cut back to .5 (-.9) for U.S. assistance to the MEP based on the fact you are using emulsion instead of wdp only in hard-core areas. The program is now based on emulsion.

c) DDT resistance and parasite resistance (R-1 - Resistance)

These are the first new slots since Founda-  
tion days. —

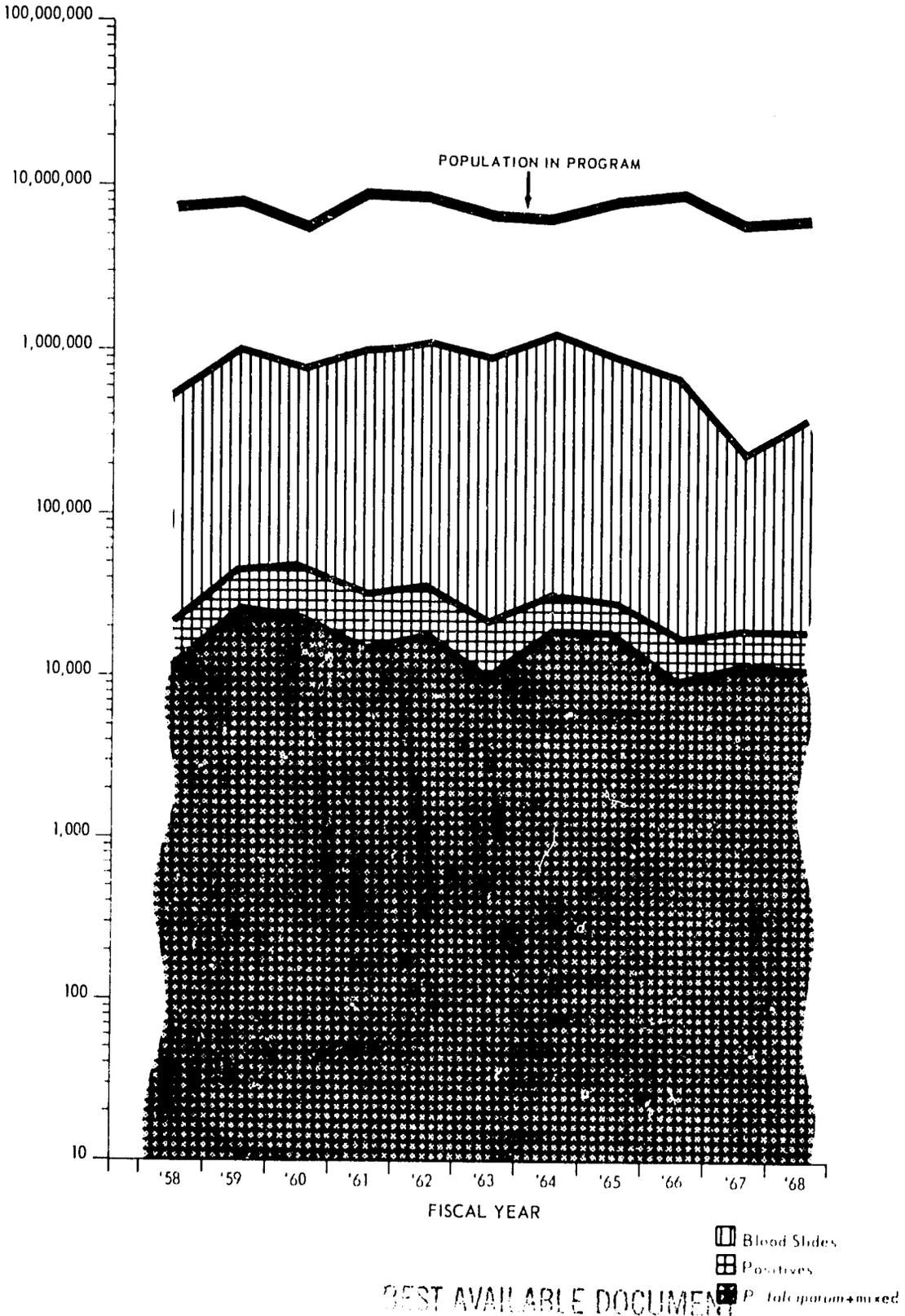
METC



new course - (a) <sup>3-week</sup> Economic and Social implications in  
a malawi graduation program.

(b) Workshop on operational research - 3 weeks.

EPIDEMIOLOGIC SURVEILLANCE  
PHILIPPINES, FY 1958-1969  
1968 Population of Malarious Area - 8,295,000



## THAILAND

Date Eradication Program Began 1961

Target Date for Eradication: Original \_\_\_\_\_ Present 1973

1968 Population (In 1000's):

Total Country	<u>33,206</u>	Nonmalarious Areas	<u>0</u>	Malarious Areas	<u>33,206</u>
				Attack	<u>18,494</u>
				Consolidation	<u>14,712</u>

Major problems that need appraisal:

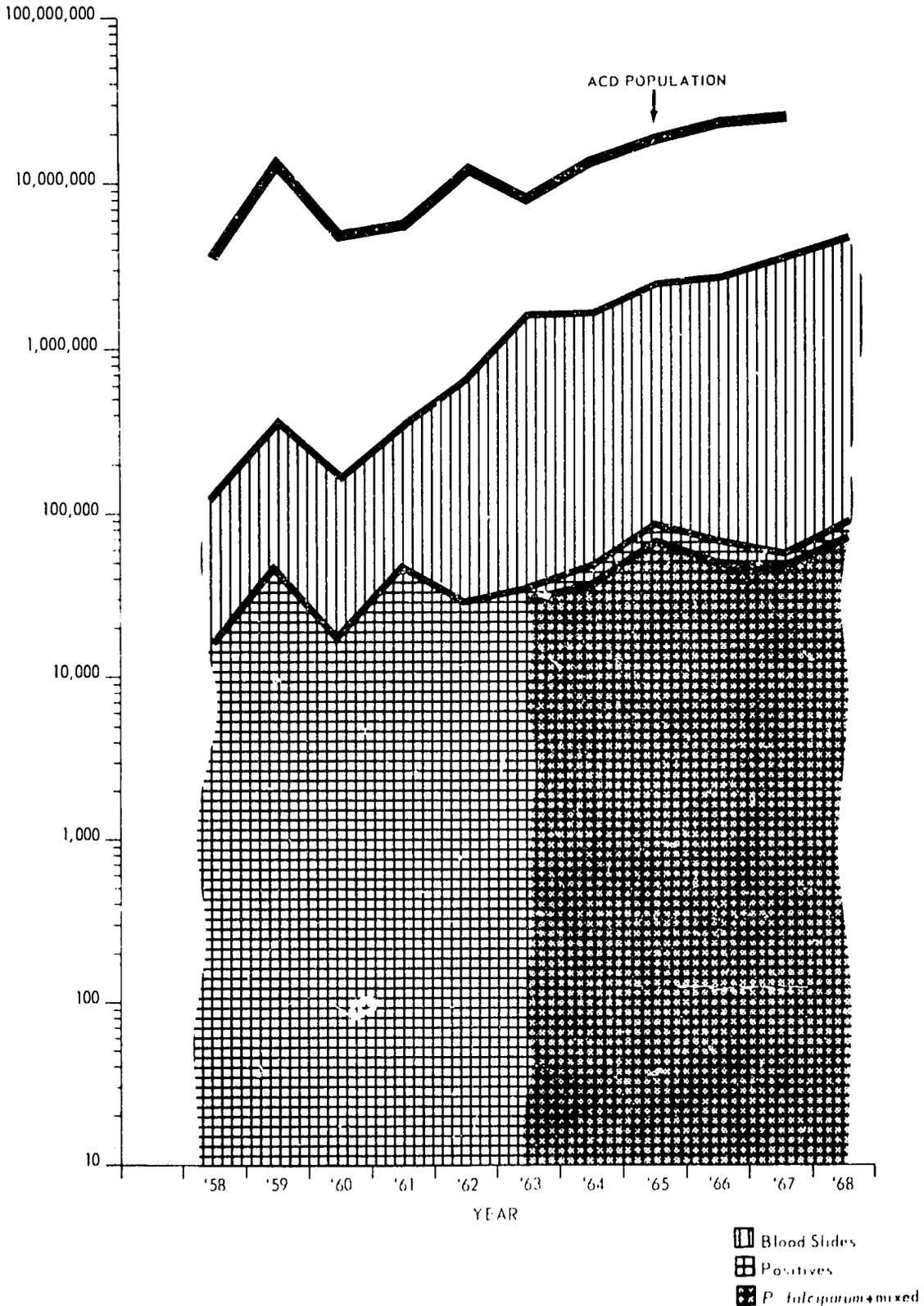
Technical. The Thai MEP has technical problems due to parasite resistance to synthetic antimalarials, exophilic and exophagic behavior of at least one vector (A. balabacensis), and extensive migration without known patterns. In addition, considerable human resistance in the Moslem areas of South Thailand has resulted in a high rate of refusals to program activities.

Administrative. Problems associated with internal security have curtailed the effectiveness of field operations in the Northeast (Laos border) and South Thailand (bordering Malaysia). The program is unable to recruit adequate numbers of specialized persons, and there is a high personnel turnover at all levels.

Financial. The RTG is on a firm financial footing and should be able to support the program. A problem could arise following the end of USAID assistance in 1970 when the RTG assumes full responsibility for commodities.

Present Status of Appraisal. This program has been reviewed frequently during the past several years.

EPIDEMIOLOGIC SURVEILLANCE  
THAILAND, 1958-1968  
1968 Population of Malarious Area - 33,206,000



BEST AVAILABLE DOCUMENT

## ETHIOPIA

Date Eradication Program Began 1963Target Date for Eradication: Original \_\_\_\_\_ Present 1980

1968 Population (In 1000's):

Total Country	<u>24,000</u>	Nonmalarious Areas	<u>12,500</u>	Malarious Areas	<u>11,500</u>
				Preparatory	<u>3,300</u>
				Attack	<u>4,400</u>
				Not in Program	<u>3,800</u>

Major problems that need appraisal:

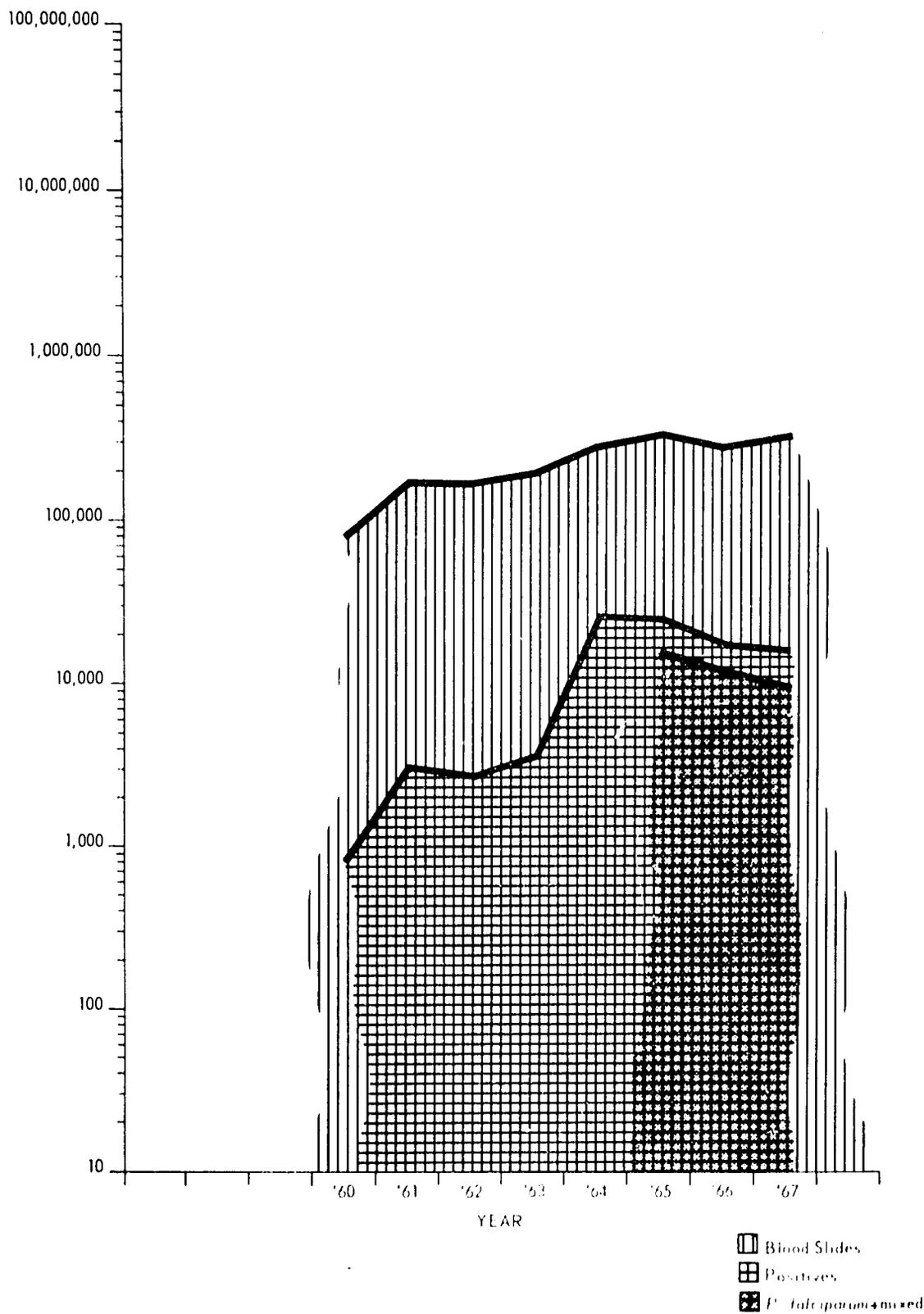
Technical. Other than characteristic African nomadic movements of the human population, it is felt that there are no major problems in the Ethiopian MEP. The size of the country, the distribution and density of population, and the lack of an adequate transportation network contribute to the difficulty of program activities and may make some less effective.

Administrative. There are presently no major administrative problems.

Financial. These problems are profound. The IEG has found it difficult to meet its commitments under the AID loan for local costs. This has led to a reduced level of funding and a need to reprogram and revise the operational timetable for Ethiopia, but internal disagreements between the Ministries of Finance and Health have delayed a solution. The program is reaching a stage of financial crisis.

Present Status of Appraisal. There have been only short-term reviews of the program by single representatives of WHO or the NCDC during recent years.

EPIDEMIOLOGIC SURVEILLANCE  
 ETHIOPIA, 1960-1967  
 1968 Population of Malarious Area ~ 11,500,000



BEST AVAILABLE DOCUMENT

## SOUTH VIETNAM

Date Eradication Program Began 1958  
 Target Date for Eradication: Original 1966 Present \_\_\_\_\_

1968 Population (In 1000's):

Total Country 17,135 Nonmalarious Areas 0 Malarious Areas 17,135  
 Attack 17,135\*

Major problems that need appraisal:

Technical. These problems include resistance of the parasite to synthetic anti-malarial drugs, exophagic and exophilic behavior of a major vector (A. balabacensis), and naturally nomadic movement of the population, compounded by large-scale shifts of refugee populations from malarious to nonmalarious areas. Additionally, the present strife has destroyed much of the surveillance system, and no adequate information on the extent or amount of malaria is available.

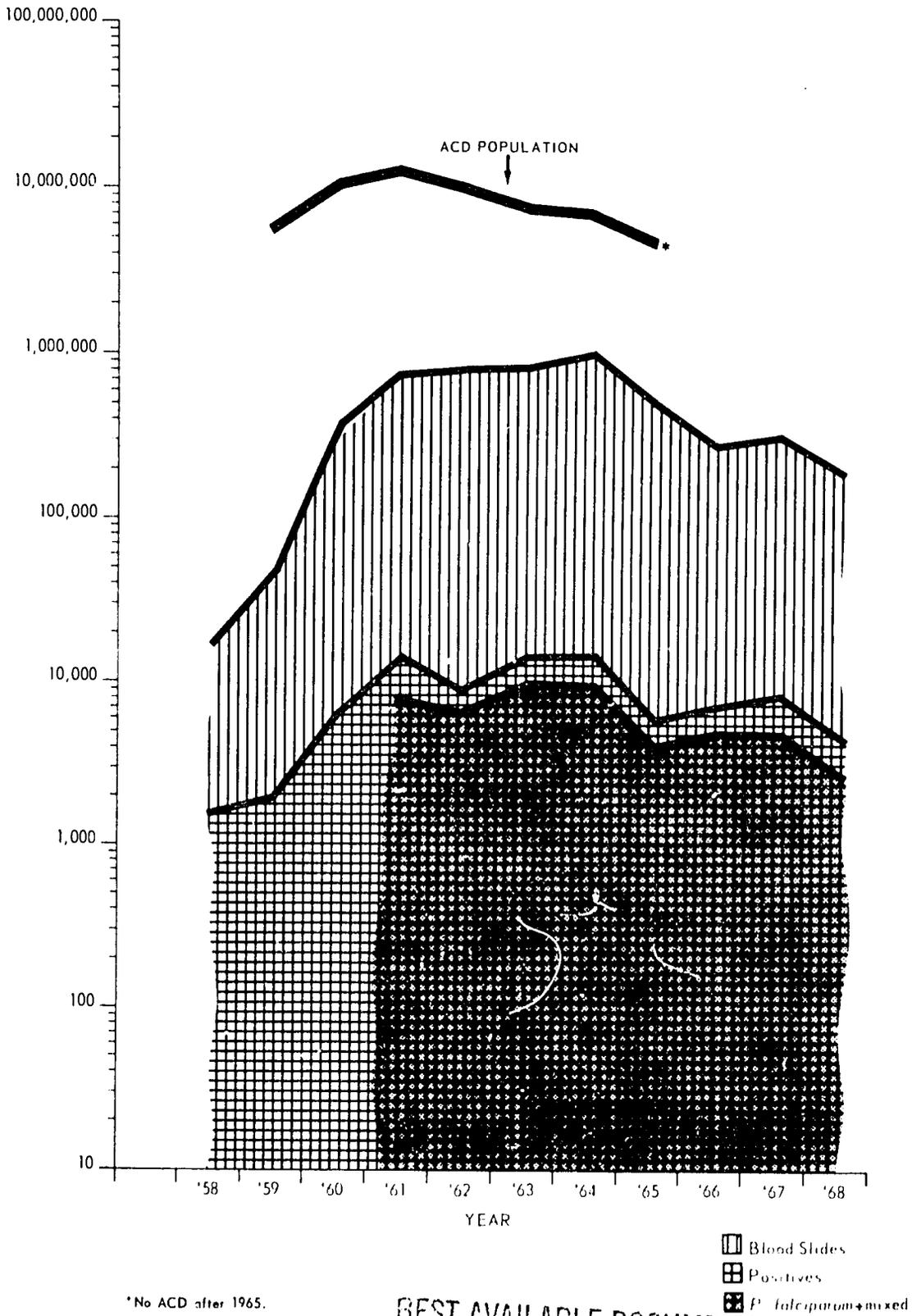
Administrative. These are almost entirely associated with the fact that the country is at war and are concerned with insecurity, lack of access to the malarious areas and the population at malaria risk, and a personnel drain of trained and experienced malaria personnel to the military. In addition, an extensive decentralization with authority and responsibility for the program being placed in the hands of the Provincial Medecin Chefs has removed any degree of central control over vital aspects of the program, its personnel and equipment.

Financial. The program staff is very limited and relatively little is being spent on malaria eradication.

Present Status of Appraisal. There is need for an epidemiological review of malaria in Vietnam; this would be concerned with the status of malaria in the country, rather than with the status of the program. There will also be need for establishing future plans for this MEP after the cessation of hostilities.

\*Under attack when security conditions permit.

EPIDEMIOLOGIC SURVEILLANCE  
SOUTH VIETNAM, 1958-1968  
1968 Population of Malarious Area - 17, 135,000



BEST AVAILABLE DOCUMENT

TABLE 1  
Malaria Eradication Financing in Countries Currently Receiving U.S. Assistance 1/  
1958-1968  
(In thousands of dollars)

	U.S. Financing			U.S. Total	Host Country	WHO/PAHO	UNICEF	TOTAL
	Grant	Loan	Local Currency					
<u>LATIN AMERICA</u>								
Brazil	14,127	18,981 <u>2/</u>	1,613	34,721	80,341	2,831	0	117,893
Costa Rica	0	990	0	990	3,816	773	589	6,168
Ecuador	2,211	787	468	3,466	83,622	2,082	2,688	91,858
El Salvador	500	2,665	0	3,165	6,526	1,396	2,637	13,724
Guatemala	2,812	1,550	0	4,362	5,677	1,403	3,079	14,521
Haiti	11,546	0	0	11,546	985	1,037	1,731	15,299
Honduras	2,399	2,650	0	5,049	3,373	839	1,575	10,836
Nicaragua	2,218	3,934	0	6,152	4,988	1,355	1,680	14,175
Panama	0	1,417	0	1,417	6,953	1,057	1,530	10,957
Paraguay	325	1,900 <u>3/</u>	0	2,225	3,112	361	867	6,565
TOTAL	36,138	34,874	2,081	73,093	199,393	13,134	16,376	301,996
<u>NEAR EAST-SOUTH ASIA</u>								
India	62,578	15,356	201,869	279,803	12,718	649	0	293,170
Jordan	1,856	0	0	1,856	1,699	223	245	4,023
Nepal	6,030	0	0	6,030	1,414	1,534	0	8,978
Pakistan	772	25,000	23,899	49,671	13,240	1,812	0	64,723
TOTAL	71,236	40,356	225,768	337,360	29,071	4,218	245	370,894
<u>EAST ASIA</u>								
Philippines	5,533	0	40	5,573	15,420	1,689	0	22,682
Thailand	13,105	0	700	13,805	22,034	683	0	36,522
Vietnam <u>5/</u>	7,650	0	0	7,650	3,325	318	0	11,293
TOTAL	26,288	0	740	27,028	40,779	2,690	0	70,497
<u>AFRICA</u>								
Ethiopia	4,531	5,800 <u>4/</u>	0	10,331	8,360	995	94	19,780
TOTAL	4,531	5,800	0	10,331	8,360	995	94	19,780
GRAND TOTAL	138,193	81,030	228,589	447,812	277,603	21,037	16,715	763,167

1/ U.S. Financing includes loan funds available, but not necessarily expended. Does not include METC nor Regional Support.

2/ Includes 2,881. Local Currency

3/ Local Currency

4/ Includes 2,600. Local Currency

5/ Bureau for Vietnam

TABLE II  
Malaria Eradication Financing in U.S.-Assisted Countries, 1958-1968  
(In thousands of dollars)

Region		FY 1958	FY 1959	FY 1960	FY 1961	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	TOTAL FY 58-68
<u>LATIN AMERICA</u>		<u>2,512</u>	<u>4,233</u>	<u>5,855</u>	<u>2,053</u>	<u>4,784</u>	<u>7,001</u>	<u>9,320</u>	<u>2,493</u>	<u>1,952</u>	<u>10,376</u>	<u>15,229</u>	<u>65,808</u>
Brazil	G	1,490	2,577	4,000	165	1,896	3,593	211	126	132	39	34	14,263
	L							6,500	-	-	-	10,300	16,800
Colombia	G	500	366	460	430	150	0	0	0	0	0	0	1,906
Costa Rica	L										500	-	500
Ecuador	G	100	100	200	340	420	437	330	250	20	12	0	2,209
	L										2,000	-	2,000
El Salvador	G					200	200	100	0	0	0	20	520
	L										1,635	-	1,635
Guatemala	G		350	485	485	517	585	140	250	0	0	0	2,812
	L										1,550	-	1,550
Haiti	G	75	0	0	5	943	1,346	1,488	1,397	1,800	1,400	1,400	9,854
Honduras	G	150	550	345	248	410	410	116	150	0	0	19	2,398
	L										1,170	-	1,170
Jamaica	G	12	15	15	15	15	0	0	0	0	0	0	72
Nicaragua	G	100	200	200	300	433	430	335	220	0	0	21	2,239
	L										2,070	-	2,070
Panama	L											1,500	1,500
Paraguay	G	85	75	50	65	0	0	0	0	0	0	35	310
	L											1,900	1,900
Peru	G			100	0	0	0	0	0	0	0	0	100

G= Grant

L= Loan

- Indicates distribution of loan funds approved in prior year.

TABLE 11 Con.

Region		FY 1958	FY 1959	FY 1960	FY 1961	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	TOTAL FY 58-68
<b>NEAR EAST- SOUTH ASIA</b>													
		<u>12,337</u>	<u>11,011</u>	<u>15,753</u>	<u>14,512</u>	<u>10,980</u>	<u>9,619</u>	<u>5,535</u>	<u>14,007</u>	<u>2,775</u>	<u>7,217</u>	<u>10,884</u>	<u>114,630</u>
Ceylon	G	150	273	293	193	165	0	0	0	0	0	0	1,074
India	G	11,995	10,355	14,857	13,500	9,839	65	56	44	27	37	117	60,892
	L						4,900	3,150	2,500	1,500	2,025	3,124	17,199
Iran	G	15	16	68	65	202	75	60	0	0	0	0	501
Iraq	G	13	22	2	0	0	0	0	0	0	0	0	37
Jordan	G	77	97	183	200	194	150	80	295	297	93	46	1,712
Nepal	G	57	248	350	554	580	594	612	677	791	875	586	5,924
Pakistan	G	30	0	0	0	0	35	77	91	160	187	211	791
	L						3,800	1,500	10,400	-	4,000	6,800	26,500
<b>EAST ASIA</b>													
		<u>4,802</u>	<u>4,438</u>	<u>4,825</u>	<u>10,244</u>	<u>10,595</u>	<u>8,057</u>	<u>5,261</u>	<u>3,727</u>	<u>2,910</u>	<u>3,911</u>	<u>3,915</u>	<u>62,685</u>
Cambodia	G	210	130	146	120	70	0	0	0	0	0	0	676
China (Taiwan)	G	0	70	40	5	20	0	0	0	0	0	0	135
Indonesia	G	2,860	3,210	3,157	7,500	8,199	5,665	2,763	0	0	0	0	33,354
Laos	G	252	120	203	24	0	0	0	0	0	0	0	599
Philippines	G	473	201	364	490	400	392	535	542	565	1,085	936	5,983
Thailand	G	330	272	301	540	992	1,000	1,258	2,226	2,175	2,609	2,600	14,303
Vietnam *	G	677	435	614	1,565	914	1,000	705	959	170	217	379	7,635
<b>AFRICA</b>													
		<u>451</u>	<u>347</u>	<u>356</u>	<u>531</u>	<u>540</u>	<u>721</u>	<u>400</u>	<u>708</u>	<u>573</u>	<u>980</u>	<u>6,006</u>	<u>11,613</u>
Ethiopia	G	350	200	230	393	420	629	380	708	573	980	206	5,069
	L											5,800	5,800
Liberia	G	77	59	56	86	98	71	2	0	0	0	0	449
Libya	G	24	88	70	52	22	21	18	0	0	0	0	295
<b>GRAND TOTAL</b>													
		<u>20,102</u>	<u>20,029</u>	<u>26,789</u>	<u>27,340</u>	<u>26,899</u>	<u>25,398</u>	<u>20,516</u>	<u>20,935</u>	<u>8,210</u>	<u>22,484</u>	<u>36,034</u>	<u>254,736</u>

\* Bureau for Vietnam

Summary of Funding Requirements  
U.S.-Assisted Malaria Eradication Programs, FY 1969-71  
(In thousands of dollars)

COUNTRY		1969	1970	1971	Total
<u>BRAZIL</u>					
	(G)* (1)***	35	40	40	115
U.S. Technicians	(L)** (5)	108	(5)118	(5)130	356
Participants	(G)	8	10	10	28
Commodities	(L)	3,300	3,300	3,500	10,100
Local Costs		0	0	0	0
U.S. Local Currency		65	69	75	209
TOTAL	(L)	3,408	3,418	3,630	10,456
	(G)	108	116	125	352
<u>COSTA RICA</u>					
U.S. Technicians	(0)	0	0	0	0
Commodities		0	0	0	0
Local Costs	(L)	299.2	188.4	-	(L)487.6
Local Currency		0	0	0	0
TOTAL	(L)	299.2	188.4		(L)487.6
<u>ECUADOR</u>					
U.S. Technicians	(L) (1)	23.3	23.3	-	46.6
Participants		0	0	0	0
Commodities	(L)	40.0	40.0	-	80.0
Local Costs	(L)	606.7	496.7	-	1,103.4
Local Currency		0	0	0	0
TOTAL	(L)	670.0	560.0		1,230.0
<u>EL SALVADOR</u>					
U.S. Technicians		0	0	0	0
Commodities		0	0	0	0
Local Costs	(L)	832.5	232.5	-	1,065.0
Local Currency		0	0	0	0
TOTAL	(L)	832.5	232.5		1,065.0

\*(G) = Grant

\*\*(L) = Loan

\*\*\*(1) = No. technicians

TABLE III Con.

45

COUNTRY	1969	1970	1971	Total
<u>ETHIOPIA</u>				
U.S. Technicians (G)*	(7) 220	(7) 220	(7) 220	660
Participants (G)	21	24	18	63
Commodities (L)	1,400	1,200	1,600	4,200
Local Costs (L)	2,000	800	1,500	4,300
Local Currency	-	-	-	-
TOTAL	(L) 3,400	2,000	3,100	8,500
*Grant funding recommended by PHS.	(G) 241	244	238	723
<u>GUATEMALA</u>				
U.S. Technicians (O)	0	0	0	
Commodities (L)	0	0	0	
Local Costs	630.3	379.1	-	1,009.4
Local Currency	0	0	0	
TOTAL (L)	630.3	379.1	0	1,009.4
<u>HAITI</u>				
U.S. Technicians (G) (5)	110	110	110	330.0
Commodities	0	0	0	0
Local Costs (G)	1,577	1,400	1,400	4,377
U.S. Local Currency	0	0	0	0
TOTAL	1,687	1,510	1,510	4,707
<u>HONDURAS</u>				
U.S. Technicians	-	-	-	-
Commodities	-	-	-	-
Local Costs (L)	680	347.5	-	1,027.5
Local Currency	-	-	-	-
TOTAL	(L) 680	347.5		1,027.5

TABLE III Con.

COUNTRY		1969	1970	1971	Total
<u>INDIA</u>					
U.S. Technicians	(G) (2)	67	52	52	171
Participants	(G)	60	60	-	120
Commodities	(L)	5,000	6,148	5,636	16,784
Local Costs	(G)	25	30	-	55
Local Currency	(L)	9,000	7,000	-	16,000
TOTAL	(L)	14,000	13,148	5,636	32,784
	(G)	152	142	52	346
<u>JORDAN</u>					
U.S. Technicians	(G) (1)	25	30	25	80
Commodities		0	0	0	0
Local Costs		0	0	0	0
Local Currency		0	0	0	0
TOTAL	(G)	25	30	25	80
<u>NICARAGUA</u>					
U.S. Technicians	(1) (G)	25	0	0	25
Commodities		0	0	0	0
Local Costs	(L)	1,401.1	462	-	1,863.1
Local Currency		0	0	0	0
TOTAL	(L)	1,401.1	462	-	1,863.1
	(G)	25	0	0	25
<u>PANAMA</u>					
U.S. Technicians	(0)	0	0	0	0
Commodities		0	0	0	0
Local Costs		522.5	552	150	1,224.5
Local Currency		0	0	0	0
TOTAL	(L)	522.5	552	150	1,224.5

TABLE III Con.

COUNTRY	1969	1970	1971	Total
<u>PAKISTAN</u>				
U.S. Technicians (G)* (9)	164	(7) 164	(7) 130	458
Participants (G)	21	8	8	37
Commodities (L)	4,400	2,400	750	7,550
Local Costs	0	0	0	0
Local Currency PL480(?)**	9,700	9,300	---	19,000
TOTAL (G)	185	172	138	495
(L)	4,400	2,400	750	7,550
(?)	9,700	9,300	---	19,000

\* Grant funding recommended by PHS

\*\* PL480, not known if grant or loan

<u>PARAGUAY</u>				
U.S. Technicians (G)* (2)	60	60	60	180
Commodities	0	0	0	0
Local Costs (L)	235	435	458	1,128
Local Currency	0	0	0	0
TOTAL (G)	60	60	60	180
(L)	235	435	458	1,128

\* Grant funding recommended by PHS

<u>PHILIPPINES</u>				
U.S. Technicians (G) (10)	270	270	270	810
Participants (G)	0	0	0	11
Commodities (G)	1,047	665	428	2,140
Local Costs	0	0	0	0
U.S. Local Currency (G)	60	60	60	180
TOTAL (G)	1,377	1,006	758	3,141

TABLE III Con.

COUNTRY		1969	1970	1971	Total
<u>NEPAL</u>					
U.S. Technicians (G)	(7)	160	(6) 140	(6) 125	425
Participants (G)		22	2	---	24
Commodities (G)		415	415	350	1,180
Local Costs		0	0	0	0
U.S. Local Currency (G)		750	650	500	1,900
TOTAL (G)		1,347	1,207	975	3,529
<u>THAILAND</u>					
U.S. Technicians (G)	(6)	190	(4) 100	(3) 75	365
Participants (G)		6	3	---	9
Commodities (G)		2,204	1,052	---	3,256
Local Costs		---	---	---	---
Local Currency		---	---	---	---
TOTAL (G)		2,400	1,155	75	3,630
<u>VIETNAM</u>					
U.S. Technicians (G)	(4)	121.4	(3) 130.0	---	251.4
Participants (G)		3.5	3.5	---	7.0
Commodities (G)		105.0	145.0	---	250.0
Local Costs		---	---	---	---
Local Currency		---	---	---	---
TOTAL (G)		229.9	278.5	---	508.4