

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete)
 Amendment Number: 3
 DOCUMENT CODE: 3

COUNTRY/ENTITY: Malawi
 3. PROJECT NUMBER: 612-0231

4. BUREAU/OFFICE: Africa
 5. PROJECT TITLE (maximum 40 characters): Promoting Health Interventions - Child Survival

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM DD YY 10/6/30/97
 7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4):
 A. Initial FY 1999 B. Quarter
 C. Final FY 1995

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	2,510	2,610	5,120	12,874	10,619	23,493
(Grant)	(2,510)	(2,610)	(5,120)	(12,874)	(10,619)	(23,493)
(Loan)	()	()	()	()	()	()
Other U.S. 1.						
2.						
Host Country	2,500	25	25		2,500	2,500
Other Donor(s)						
TOTALS	2,510	2,635	5,145	12,874	13,119	25,993

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1)				14,740		1,950		23,493	
(2)									
(3)									
(4)									
TOTALS				14,740		1,950		23,493	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters):

To increase the institutional capacity of the Ministries of Health and Works to deliver and sustain health and child survival services; and to increase the supply and utilization of these services at the community and family level.

14. SCHEDULED EVALUATIONS

Interim MM YY 10/7/93 Final MM YY 01/9/97

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

Controller Clearance: *Carol A. Peasley*

17. APPROVED BY: Carol A. Peasley
 Title: Mission Director
 Date Signed: 10/31/97

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
09/16/97

ACTION MEMORANDUM TO THE MISSION DIRECTOR, USAID/MALAWI

William R. Brands, PDO

Date: August 28, 1992

**Subject: Project Paper Supplement and Authorization
Amendment for the Promoting Health Interventions
for Child Survival Project (PHICS)**

**Action: You are requested to approve the PHICS Project
Authorization Amendment and Project Paper Supplement (PPS) to
permit:**

an increase in life-of-project funding from \$21,543,000 to \$23,493,000 and an addition of two conditions precedent to the disbursement of funds under this PPS. This increase of \$1,950,000 will provide funding for the construction of a malaria research facility in Mangochi District and expand training, operations research, monitoring and technical intervention activities in malaria control.

Discussion: The gains made to control other diseases in Malawi have not been realized for malaria. The percentage of children coming to health facilities with malaria is increasing, as is the proportion of under-fives hospital admissions due to the disease. Chloroquine is no longer effective in most cases and studies have led to a Ministry of Health decision to replace chloroquine with sulfadoxine-pyrimethamine ("S-P", trade name Fansidar) as the recommended drug for first line treatment. There is also a growing interest in insecticide-impregnated bednets for personal protection.

As the first African country to change its official treatment protocol so definitively, it is essential that Malawi implement the transition carefully, monitoring the consequences systematically and making adjustments as needed. The actions now needed converge with the aims of the Promoting Health Interventions for Child Survival (PHICS) Project: building health system capacity to diminish childhood morbidity and mortality. Significant PHICS resources have already been directed to malaria control, but more comprehensive assistance is now needed.

This Amendment recognizes four essential components for an effective malaria control program -- appropriate case management, prevention, reinforced primary health services, and monitoring and policy guidance. The natural evolution of the program, previously directed heavily to research, is to focus on how research findings can now be applied to improve health

services. This significant change represented by this Amendment is the provision of assistance to Regional and District Health Management Teams to improve implementation of malaria control in their areas.

Districts already targeted for special attention by the PHICS Project because of their poor infant health statistics will receive particular attention. Collaboration with NGOs will be promoted, particularly at the level of the District Health Management Team.

The strategy of this Amendment to the PHICS Project is to provide funding to accomplish the following:

1. Promote an approach to malaria control which balances research and service delivery, expanding responsibility for malaria control to include health service providers at all levels.

A focal point for malaria control management will be established within MOH headquarters while the Community Health Sciences Unit (CHSU) maintains its research responsibilities. A Malaria Program Management Team, with personnel from both the regions and MOH headquarters, will implement malaria control interventions through service delivery points. Greater responsibility will be given to regional, district and peripheral health personnel.

2. Support continued applied research by CHSU, primarily through the Mangochi Research Station, to guide malaria control policies.

A new facility will be constructed at the Mangochi District Hospital staffed by a three person core group. Salary support will be provided on a decreasing basis until MOH assumes full responsibility by the fifth year. Researchers using the facility will arrange for additional laboratory staff on an as-needed basis. Applied research, such as assessments of presumptive malaria diagnoses, efficacy of S-P, insecticide resistance and bednet studies, will be supported through technical assistance.

3. Reinforce the health service delivery system in providing malaria prevention and treatment services by strengthening the capacity of regional, district and peripheral health teams to commit greater resources to malaria control at the service provider level.

Personnel adjustments within MOH will result in a full-time Malaria Program Manager (previously a half-time position) and Regional Malaria Program Managers to strengthen service delivery capabilities. Critical MOH functions, such as training, health education, drug monitoring and sentinel sites will also be supported. District Health Management Teams will be funded to implement activities at the district level most appropriate to each district's needs.

4. Provide special funding for NGOs working at district and more peripheral levels to develop new approaches to malaria prevention and control.

In particular, NGOs will be supported for operations research into impregnated bednets, local financing of health services and training, health education, supervision, monitoring and community participation.

5. Support the design and implementation of a national campaign to introduce S-P as the first line drug for treatment of presumed malaria.

The Amendment will provide technical assistance, management support and funding to plan and carry out a fully coordinated introduction of S-P.

Financial Plan: The summary revised financial plan for A.I.D. inputs under this project is as follows:

FINANCIAL PLAN

Component	Present Budget	This Amendment	Revised Budget
Technical Assistance	4,090	200	4,290
Training	5,110	424	5,534
Commodities	6,530	105	6,635
Operating Expenses	3,621	831	4,452
Evaluation and Audits	340	-	340
NGO Grants	-	400	400
Construction	-	190	190
AID Direct Grant to SCF-UK	1,100	-	1,100
Contingency	752	(200)	552
	<u>1,543</u>	<u>1,950</u>	<u>23,493</u>

Environmental Examination: An environmental examination (EE) required for this amendment was approved by the African Bureau Environmental Officer. The EE appears as Attachment B in this PPS.

Conditions Precedent: Two conditions precedent to disbursement of funds for activities described in this PPS have been added. The details of the conditions precedent appear in both the Project Authorization Amendment and Section IV of the PPS.

Authority: In accordance with Delegation of Authority (DOA) No. 551 Section 4A(2) and (3) you have authority to approve this Project Amendment.

Recommendation: That you approve the PP Supplement by (1) signing the PP facesheet and (2) the Project Authorization Amendment.

Attachments: Project Authorization Amendment
Project Paper Supplement

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Project Authorization Amendment No. 3

Name of Country: Malawi

Name of Project: Promoting Health Interventions for Child Survival (PHICS) Project

Number of Project: 612-0231

1. Pursuant to Title II of the Foreign Operations, Export Financing and Related Program Appropriations Act of 1989 (Sub-Saharan Africa, Development Assistance), the PHICS Project was authorized on June 30, 1989 at an original LOP of \$15,000,000 with a Project Activity Completion Date (PACD) of June 30, 1997. The PHICS Project was amended on September 20, 1990 to increase the life-of-project funding to \$20,443,000 and on June 22, 1992 to further increase the life-of-project funding to \$21,543,000.
2. Pursuant to Title II of the Foreign Operations, Export Financing and Related Program Appropriations Act of 1992 (Sub-Saharan Africa, Development Assistance), as incorporated in the FY 92 Continuing Resolution, and Section 496 of the Foreign Assistance Act of 1961, as amended, I hereby authorize an additional one million nine hundred and fifty thousand United States dollars (\$1,950,000) in grant funds for said project, for a new authorized life-of-project funding not to exceed twenty-three million four hundred and ninety-three thousand United States dollars (\$23,493,000).
3. The Project Agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following additional conditions precedent, together with other terms and conditions as A.I.D. may deem appropriate.

A. Conditions Precedent

Section 1 Conditions Precedent to Disbursement of Funds For Expanded Malaria Control Research and Training Activities

Except as A.I.D. may otherwise agree in writing, prior to any disbursement of funds for expanded malaria control research and training activities, or to the issuance by A.I.D. of documentation pursuant to A.I.D., in form and substance satisfactory to A.I.D.:

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(a) Written evidence that a Ministry of Health staff member has been appointed to be the full-time Malaria Program Manager and assurance that he or she will commence work within 180 days of his/her appointment. The MOH will submit this individual's job description to A.I.D. for review and approval.

(b) Written evidence that three Ministry of Health staff members have been identified and appointed to function as full-time Regional Disease Control Coordinators and assurance that each will commence work within 180 days of their appointment. These Coordinators will oversee the activities of the National Malaria Control Programme in the three regions of Malawi. The MOH will submit these individuals' job description to A.I.D. for review and approval.

(c) Written evidence that the Grantee has held the initial meeting of the Malaria Program Management Team. This Team will meet, at a minimum of every two months, to address issues affecting the coordination of national, regional and district resources for the malaria control program and to resolve any implementation problems. The Team will consist of the Malaria Program Manager, the three Regional Disease Control Coordinators, the Controller of Preventive Health Services, and the Controller of Clinical Services. Representatives of other MOH Units or other implementing entities may be invited to attend these meetings on an as-needed basis.

Section 2 Conditions Precedent to Disbursement of Funds for Building Laboratory Facilities in Mangochi

Except as A.I.D. may otherwise agree in writing, prior to any disbursement of funds for constructing a laboratory facility in Mangochi, or to the issuance by A.I.D. of documentation pursuant to which such construction will commence, the Grantee shall furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) A written management plan for the laboratory facility, including the proposed staffing plan, a job description for each laboratory staff member, and the Grantee's plan for assuming the recurrent costs associated with the facility.

Section 3. Notification

When A.I.D. determines that any of the Conditions Precedent specified in Sections 1 and 2 have been met, A.I.D. will promptly so notify the Grantee.

Section 4. Terminal Dates for Conditions Precedent

If the Conditions Precedent specified in Sections 1 and 2 have not been met within 180 days from the date of this Amendment, or such later date as A.I.D. may agree to in writing, A.I.D., at its option, may terminate this Amendment, in whole or in part, by written notice to the Grantee.

4. The original authorization, as amended, remains in full force and effect.

Signature: Carol A. Peasley
Carol A. Peasley
Mission Director

Date: 31 August 1992

Drafter:	WBrands, PID	<u>W Brands</u>	Date	<u>8/25/92</u>
Clearances:	CMcDermott, HPN	<u>CMS</u>	Date	<u>8/28/92</u>
	RMahoney, PAE	<u>RMH</u>	Date	<u>8/28/92</u>
	TLOfgren, ADD	<u>TLO</u>	Date	<u>8/28/92</u>
	RAmin, CONT	<u>RA</u>	Date	<u>8/28/92</u>
	RLA/REDSO	<u>H Vance (phone)</u>	Date	<u>8/28/92</u>

Unclassified

PROMOTING HEALTH INTERVENTIONS FOR CHILD SURVIVAL
(PHICS)

PROJECT PAPER SUPPLEMENT NO. 3

MALARIA COMPONENT

August 1992

Unclassified

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List of Acronyms

CDC	Centers for Disease Control (U.S. Public Health Service)
CHAM	Christian Health Association of Malawi
CHSU	Community Health Sciences Unit
DHO	District Health Officer
GM	Government of Malawi
HIS	Health Information System
KAP	Knowledge, Attitudes and Practice (type of survey)
MOH	Ministry of Health
MOLG	Ministry of Local Government
NMCC	National Malaria Control Committee
NMCP	National Malaria Control Programme
NGO	Non-Governmental Organization
PHC	Primary Health Care
PHICS	Promoting Health Interventions for Child Survival Project
PHN	Population, Health, and Nutrition (World Bank)
S-P	Sulfadoxine-Pyrimethamine (combination drug)
TA	Technical Assistance
VSO	Voluntary Services Overseas

**PHICS PROJECT PAPER SUPPLEMENT #3
MALARIA COMPONENT**

EXECUTIVE SUMMARY

As the problem of malaria in Malawi becomes ever more serious, the malaria control program must evolve. The gains made to control other diseases have not been realized for malaria. The percentage of children coming to health facilities with malaria is increasing, as is the proportion of under-fives hospital admissions due to the disease. Chloroquine can no longer be used with confidence for either prophylaxis or treatment of falciparum malaria. A series of careful studies led to a decision by the Ministry of Health to replace chloroquine with sulfadoxine-pyrimethamine ("S-P", more commonly known by its trade name Fansidar) as the recommended drug for first line treatment of uncomplicated malaria in Malawi. Studies are in progress to determine how the prophylaxis policy should be changed, and there is growing interest in bednets impregnated with insecticide for personal protection.

As the first African country to change its official treatment protocol so definitively, it is essential that Malawi implement the transition carefully, monitoring the consequences systematically and making adjustments as needed. A sustained, coordinated effort will be required. In addition, operations research is needed in combining a variety of strategies, one of which, barrier protection through the use of impregnated bednets, looks particularly promising.

In the progression from applied research -- searching for a better control strategy when chloroquine proved to be ineffective -- to implementation of the new strategy, the actions needed converge with the aims of the Promoting Health Interventions for Child Survival (PHICS) Project: building health system capacity to diminish childhood morbidity and mortality. Significant PHICS resources have already been directed to malaria control, but more comprehensive assistance is needed at this critical point. This amendment has been designed to provide such assistance to the National Malaria Control Programme.

This Amendment recognizes four essential components for an effective malaria control program in Malawi -- appropriate case management, prevention, reinforced primary health services, and monitoring and policy guidance. A strong research agenda has guided Malawi's malaria control policies, and impressive gains have been made in understanding malaria control. The natural evolution of the program is to focus now on how those research findings can be applied to improve health services for Malawians. The significant change represented by this Amendment is the provision of assistance to Regional and District Health Management Teams to improve implementation of malaria control in

their areas. Emphasis will be placed on strengthening the capacities of the District Health Management Team and its activities that reach out to health centers and communities. The focus of this support will be improved malaria control, but the capabilities developed will strengthen the capacity of the peripheral health system to provide a package of essential health services. The development of separate vertical structures will be avoided and personnel within the system will be encouraged to participate in finding new ways to provide better services.

Not all 24 districts in Malawi will participate in every program activity. Districts already targeted for special attention by the PHICS Project because of their poor infant health statistics will receive particular attention. Collaboration with NGOs will be promoted, particularly at the level of the District Health Management Team. Because government health services are sometimes less flexible than the private sector in testing new approaches to service delivery and its management, PHICS will provide limited support to such private organizations.

The strategy of this Amendment to the PHICS Project is to provide funding to accomplish the following:

1. Promote an approach to malaria control which balances research and service delivery, expanding responsibility for malaria control to include health service providers at all levels.

This will be accomplished by creating a full-time malaria program manager position to oversee and coordinate malaria control interventions. In addition, a Malaria Program Management Team will be formed, with personnel from both the regions and MOH headquarters, which will address issues affecting the coordination of national, regional and district resources for the malaria control program and will resolve any implementation problems that arise. Increased responsibility for the coordination and implementation of Malawi's malaria control program will be given to regional, district and peripheral health personnel.

2. Support continued applied research by CHSU, primarily through the Mangochi Research Station, to guide malaria control policies.

A new facility will be constructed at the Mangochi District Hospital which will be staffed by a core group of one Laboratory Technician and two Laboratory Assistants. Salary support will be provided on a decreasing basis until MOH assumes full responsibility by the seventh year of the PHICS project. Researchers using the facility will arrange for additional laboratory staff on an as-needed basis. Applied research, such as assessments of presumptive malaria diagnoses, efficacy of S-P, insecticide resistance and bednet studies, will be supported through technical assistance.

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3. Reinforce the health service delivery system in providing malaria prevention and treatment services by strengthening the capacity of regional, district and peripheral health teams to commit greater resources to malaria control at the service provider level.

Personnel adjustments within MOH will result in a full-time Malaria Program Manager with the management skills needed to oversee malaria service delivery efforts throughout the country. Regional Disease Control Coordinators will assist with strengthening service delivery capabilities and critical MOH functions will be supported. These include: developing training curricula and materials; developing health education approaches and materials; disseminating a malaria newsletter; laboratory quality control; routine monitoring for drug resistance, side effects and treatment failures; maintaining the existing six sentinel sites; and encouraging operations research. In addition, District Health Management Teams will be provided with funding to implement those activities most appropriate to each district's individual circumstances.

4. Provide special funding for NGOs working at district and more peripheral levels to develop new approaches to malaria prevention and control.

In particular, NGOs will be supported for operations research on impregnated bednets, local financing of health services, and training, health education, supervision, monitoring and community participation.

5. Support the design and implementation of a national campaign to introduce S-P as the first line drug for treatment of presumed malaria.

The Amendment will provide technical assistance, management support and funding to plan and carry out a coordinated introduction of S-P, including contracting with a private sector marketing or management firm and ensuring that all the needed components for this introduction of a new drug are carried out fully and effectively.

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**PHICS PROJECT PAPER SUPPLEMENT #3
MALARIA COMPONENT**

I. PROJECT AMENDMENT DESCRIPTION

A. INTRODUCTION

Malaria control in Malawi is evolving. The 1980s witnessed the gradual spread of chloroquine resistance to the point where it can no longer be used with confidence for either the prophylaxis or treatment of falciparum malaria. A series of careful studies documented this development, culminating in the October 1991 decision by the Ministry of Health to replace chloroquine with sulfadoxine-pyrimethamine¹ (S-P) as the recommended drug for treatment of uncomplicated malaria in Malawi. Studies are in progress to determine how the prophylaxis policy should be changed, and there is growing interest in bednets impregnated with insecticide for personal protection.

As the 1 October 1992 target date for the changeover from chloroquine to "S-P" approaches, new treatment guidelines are being prepared, a modest health education plan to introduce the changed policy has been written, and drugs have been ordered. Over the next few months a thorough-going change must occur in the treatment strategy for the most important disease in Malawi - with the possible exception of AIDS, for which no effective treatment exists. As the first African country to change its official treatment protocol so definitively, Malawi must implement the transition as properly as possible, monitoring the consequences systematically and ready to make programmatic adjustments as needed. A sustained, coordinated effort will be required.

At the same time that drug policies are changing, serious interest in malaria prevention is growing. As malaria treatment and chemoprophylaxis have become increasingly problematic, the interests of the public health community is turning to integrated approaches combining a variety of strategies. One of those, barrier protection from the vector *Anopheles* mosquito through the use of bednets or curtains, looks particularly promising, especially when impregnated with insecticide to kill and repel insects.

In the progression from applied research (searching for a better control strategy since the former chloroquine strategy has proven unreliable, even when applied assiduously) to the implementation of selected new strategy or strategies, the types of activities now required converge with the aim of the Promoting Health

¹ More commonly known by its trade name Fansidar.

Interventions for Child Survival (PHICS) Project: building health system capacity to diminish morbidity and mortality from a variety of diseases threatening child survival, malaria prominent among them. Significant PHICS Project resources have already been directed to malaria control, but more comprehensive assistance is needed at this critical point. This Amendment has been prepared to address programming new activities and resources in support of the National Malaria Control Programme.

B. BACKGROUND

1. Evolution of the Malaria Control Program

The development of any disease control program is a circular process which initially relies on research to generate the findings needed to formulate policies. The policies can then be implemented through the general health services after marshalling the needed resources. Policy implementation must be monitored and supervised to assure correct implementation. Subsequent evaluations will highlight areas in need of operational and/or applied research that can lead to policy revision. This leads to changes in implementation and the process continues.

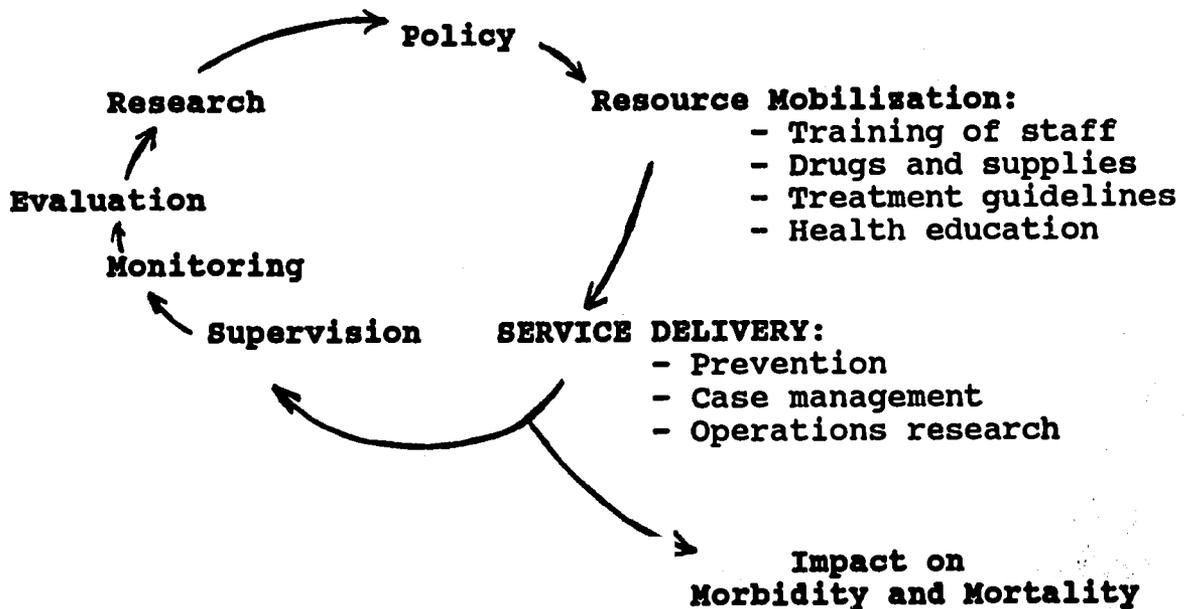


Figure 1. Natural Evolution of a Malaria Control Program

If Figure 1 can be considered to represent the malaria control program in Malawi, recent years have seen a heavy emphasis, in terms of resources and interest, on the research aspect.

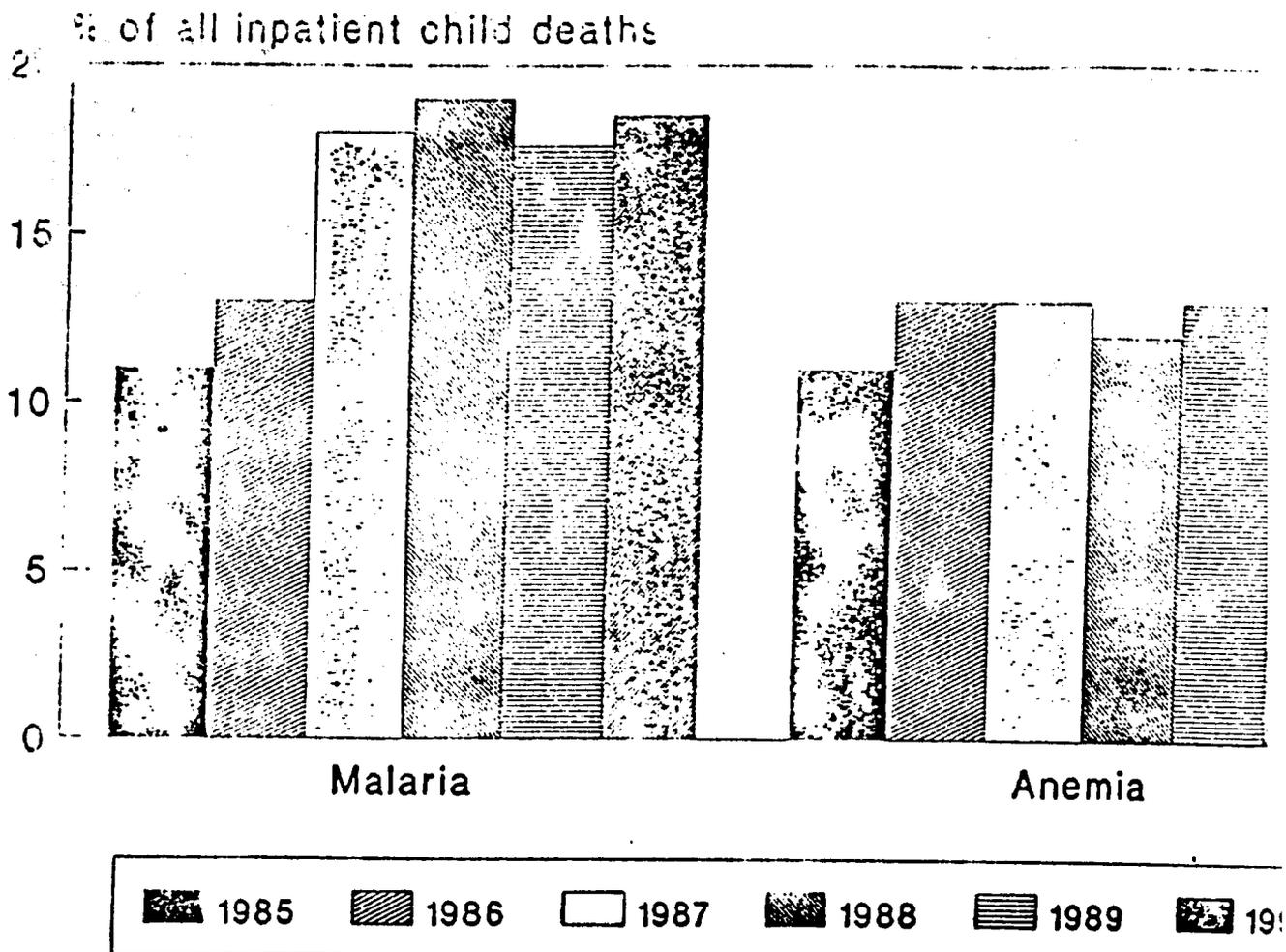
Monitoring and evaluation of the previous policy indicated that it did not work satisfactorily. To pour scarce resources into implementation of an ineffective intervention would have been unconscionable: a better strategy had to be found. MOH achieved this goal through research carried out in collaboration with the Centers for Disease Control (CDC) using funding from USAID. The new strategy that resulted is the systematic use of sulfadoxine-pyrimethamine as the drug of choice for malaria treatment.

It is now time to advance to the implementation phase while monitoring the effectiveness of the policy change in helping to reach the goal of reducing morbidity and mortality, especially in children and their mothers. To effectively implement this new policy, it is necessary to educate many groups: mothers, health personnel and shopkeepers, among others, who need training and education in the replacement of chloroquine by S-P and the correct dosages to use. Equally important is using this opportunity to convince health workers at all levels, and the population at large, that something can be done to reduce the morbidity and mortality caused by malaria, that controlling malaria is not a hopeless task.

It is with this broader mandate that the NMCP must be concerned. The second Five-Year National Plan for Malaria Control in Malawi (1990-1994) calls for a reduction in the morbidity and mortality due to malaria by strengthening malaria control within the general health service delivery system. This can only happen if the services delivery components of the malaria program are significantly improved and better balanced among research, policy development, service delivery and monitoring/evaluation.

2. Malaria in Malawi: A Child Survival Problem

An estimated 3.5 million cases of malaria occurred in Malawi in 1990. Malaria accounted for 36% of all visits to health care facilities, and 40% of those visits were children under five. In 1989 18% of all hospital deaths occurring in children under five were due to malaria. Between 1985 and 1988 the number of hospitalized malaria cases increased 41%, from 17,589 to 25,155. Figure 2 presents trends in child mortality due to malaria and anemia between 1985 and 1990. During the same period malaria accounted for an increasing proportion of admissions among under-fives. The case fatality rate for cerebral malaria is about 30 percent for children under five and almost 20% even in the best equipped facilities. When severe anemia, much of which is considered due to malaria, is combined with malaria cases, the two groups account for 42% of all under-five hospital admissions and 30% of all in-hospital deaths.



Source: Ministry of Health/HIS

Figure 2. Trends in Inpatient Child Mortality Due to Malaria and Anaemia, Malawi, 1985 - 1990

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Table 1 shows that malaria ranked first among the leading causes of in-patient mortality among under-fives in Malawi in 1989. It is important to note that the fourth leading cause of mortality, anemia, is considered to be due largely to malaria..

Table 1. Ten Leading Causes of In-Patient Under Fives Mortality, Malawi, 1989

Rank	Disease/Condition	Number Deaths	% of 10 Leading Causes, < Fives Hosp. Mortality
1	Malaria, including cerebral	1478	19.4
2	Nutritional deficiencies	1470	19.3
3	Pneumonia	1139	15.0
4	Anaemia	1097	14.4
5	Perinatal causes	723	9.5
6	Measles	672	8.8
7	Enteritis and other diarrhoea	549	7.2
8	Diseases of the nervous system	265	3.5
9	Other infectious diseases	123	1.6
10	Tetanus	99	1.3
TOTAL		7615	100.0

(Source: MOH Statistical Unit)

In spite of the efforts to date, the malaria situation continues to worsen. Figure 3 shows trends in infant mortality rates in Malawi over the last twenty-five years. The increase in recent years is largely due to the increase in malaria apparent in Figure 4. The percentage of child outpatients presenting with malaria has also increased. The gains made to control other disease have not been realized by the malaria control program. Between 1982 and 1990 the number of hospital admissions for malaria almost tripled, from 21,000 in 1982, to more than 57,000 in 1990. The severity of the disease has worsened as the number of cases has increased. From 1985 to 1988 there was a 28% increase in incidence of children hospitalized with malaria combined with an increase in the hospitalized case fatality rate of children under five from 4.7% to 6.1%.

These statistics demonstrate the importance of malaria within the health system in Malawi. A large proportion of health sector resources are devoted to malaria treatment, and a study currently in progress will document its economic costs to the country.

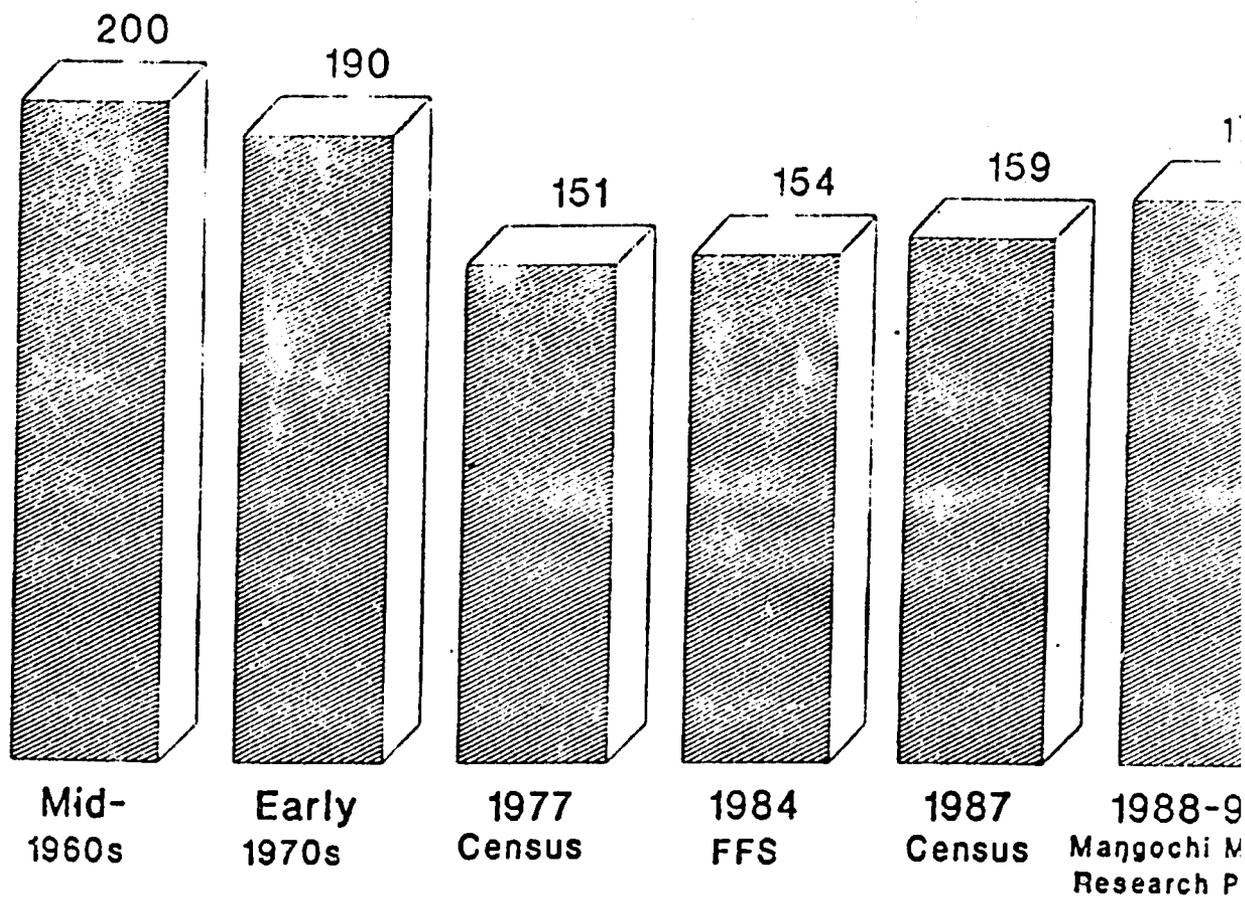
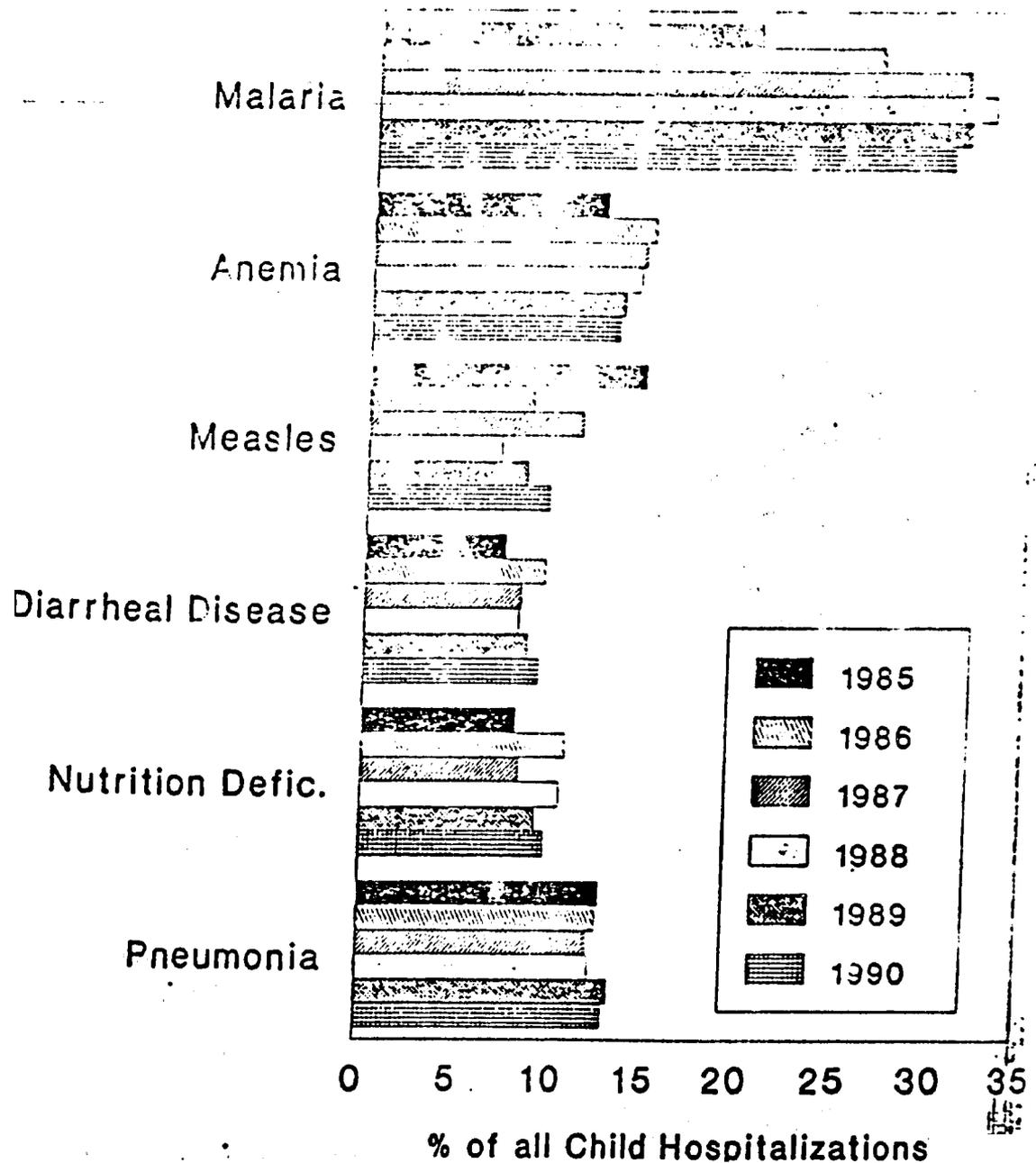


Figure 3. Trends in Infant Mortality Rates, Malawi

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Source: Ministry of Health/HIS

Figure 4. Trends in Child Hospitalization by Disease Category, Malawi, 1985 - 1990

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3. World Health Organization Recommendations

In most of sub-Saharan Africa, as in Malawi, malaria is a major cause of morbidity and mortality. In recent years control methods have become increasingly ineffective and the toll of the disease, especially in children and pregnant women, has been rising dramatically. In response to this increasingly severe problem, the World Health Organization held three regional international meetings in the past year, and a global ministerial meeting on malaria will be held in Amsterdam in October, 1992. The aims of this upcoming meeting are to emphasize that malaria is a serious obstacle to socioeconomic development, to heighten the commitment to combatting the disease, and to mobilize resources and support for malaria control activities. A new strategy for malaria control is expected to be presented. It will call for:

- strengthening local and national capacities to provide effective disease management;
- developing capacities for planning and implementing selective and appropriate preventive measures;
- redefining the malaria problem to include not only the epidemiological criteria but also ecological, social and economic determinants; and
- prevention or early detection and control of epidemics.

For successful implementation of the strategy it is necessary that:

- there be sustained commitment from governments;
- malaria control be integrated within primary health care (PHC) programs and coordinated with other relevant programs in non-health sectors;
- communities be full partners in malaria control efforts; and
- adequate human and financial resources be mobilized.

This strategy integrates recommendations developed at the three regional meetings. It represents a significant departure from previous strategies which relied heavily on vertical malaria control programs separate and distinct from the PHC system. It encourages integration of malaria control within the PHC system, community participation, decentralized management and developing capabilities and focused programs at the district level. The strategies developed at the first regional conference, held in Brazzaville in October 1991, were developed to guide governments in implementing malaria control programs (Attachment A).

As outlined below, the MOH of Malawi has successfully completed many of the initial steps needed to implement the new community-based strategy.

4. Malaria Control in Malawi: Recent History

A national malaria control policy evolved during the 1970s that focused on chloroquine chemoprophylaxis for children under five, treatment of symptomatic malaria with chloroquine, and home spraying with insecticides for vector control.

By 1984, clinicians began to report widespread chloroquine resistance, and the Ministry of Health established a series of sentinel sites to investigate suspected drug resistance. Results of studies at these sites indicated that 90% of children responded clinically to chloroquine within seven days, but that 60% continued to have low-grade parasitemias.

During that same year the MOH developed its first five year national plan for the control of malaria. This plan called for the creation of the National Malaria Control Programme (NMCP), designation of a malaria program manager, and creation of a five member National Malaria Control Committee (NMCC) to oversee program activities. The NMCP emphasized the prompt treatment of febrile illness with chloroquine while treatment failures were to be given alternative drugs. Household level treatment was permitted, and chloroquine was available over-the-counter in grocery stores across the country. In addition, prevention of malaria in pregnant women using chloroquine chemoprophylaxis was promoted in antenatal clinics throughout the country. Finally, applied research was conducted to determine the efficacy of chloroquine and alternative drugs, and guidelines for the treatment and prevention of malaria were printed and distributed throughout the country (the "Green Book," 1986).

From 1986 to 1990 the MOH, with support from USAID and CDC, developed the Mangochi Malaria Research Programme under the Combatting Communicable Childhood Diseases Project. It focused on 120 rural villages in Mangochi District and conducted a series of investigations to:

- 1) assess knowledge, attitudes and practices related to the treatment of febrile illness in children and prevention of malaria during pregnancy;
- 2) monitor the efficacy of antimalarials used in children; and
- 3) determine the efficacy of several antimalarial regimens in the treatment and prevention of malaria in pregnant women.

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The studies of drug efficacy found increasing rates of parasite resistance to chloroquine, with over 80% of children treated with this drug eventually demonstrating varying levels of resistance (Types RII and RIII). These findings led the government to decide in 1991 to change from Chloroquine to Sulfadoxine-pyrimethamine (trade name Fansidar, but to be called "S-P" in Malawi) to treat malaria. Current plans are that S-P will become an over-the-counter drug on October 1, 1992, and at the same time chloroquine will become a prescription drug.

Studies of various prophylactic drug regimens during pregnancy have demonstrated that chemoprophylaxis can result in significant reductions in the frequency of low birth weight infants and in associated neonatal mortality. Four alternative prophylactic and periodic treatment regimens (combinations of S-P and S-P and chloroquine) are currently being investigated. The results are expected to be reported in the fall of 1992.

In addition to the studies conducted at the Mangochi facility, research to evaluate and refine the treatment of severe malaria, particularly cerebral malaria, has been conducted at the Queen Elizabeth Central Hospital in Blantyre. Support for that research is being provided by the Liverpool School of Tropical Medicine and Hygiene and Michigan State University.

The Second National Malaria Control Five Year Plan - 1990-1994

In 1990 the MOH issued a revised five year plan. Its goal is to reduce malaria related mortality by 10% and malaria associated morbidity by 20%. To realize these goals ten program elements were identified for strengthening:

1. Improved understanding of malaria illness, prevention and treatment in the general population;
2. Accurate diagnosis of malaria illness nationwide;
3. Effective malaria treatment available and correctly used nationwide;
4. Effective prevention for high risk groups (pregnant women, children under five years of age, children with sickle cell disease and children with recurrent febrile convulsions);
5. Alternative methods of control related to malaria vector biology and ecology;
6. Training in malaria diagnosis, treatment and reporting incorporated into all training programs at all levels of the health care system;

7. Strengthening the malaria reporting system;
8. Effective management and administration of the NMCP at national, regional, district and community levels;
9. Increased capability to conduct research in malaria; and
10. Increased Government of Malawi and donor support for malaria control.

The activities outlined under each point are of three types: training, operations research, and monitoring and evaluation. In addition, general management and operational support is needed.

PHICS Project Support

In 1989 the Promoting Health Interventions for Child Survival (PHICS) project was authorized by USAID. The project goal is to assist the GM to improve the health status of rural Malawians, with emphasis on decreasing morbidity and mortality in children. The project has two main components: institutional development and service delivery. Under this project a long term technical advisor will be made available to the MOH to assist in managing the NMCP. The PHICS project is also designed to facilitate implementation of the second five-year malaria control plan. Training materials and curricula developed under this project will include the priorities of the five-year malaria control plan.

Several activities funded under the PHICS project, and supported by technical assistance from the Centers for Disease Control and USAID's centrally funded Vector Biology and Control Project, have been planned and/or initiated, including:

a) **Surveillance and monitoring activities:**

- A system for monitoring in-patient malaria morbidity and disease outcome will be tested in the Pediatrics Department of Kamuzu Central Hospital. If successful, attempts will be made to expand it to other hospitals.
- Plans have been made to recruit Regional Surveillance Officers, funded by the PHICS project, to conduct surveillance and direct efforts to control and prevent communicable diseases at the regional level. (None of the positions have been filled.)
- Six sentinel sites have been established to monitor malaria: Bolero, Chintheche (Northern Region); Chitowo, Kapiri (Central Region); Muona, Neno (Southern Region).

- Three of four quarterly vector assessments in three ecological regions (Lower Shire Valley, lake shore and central highlands) have been completed.
- Studies on drug sensitivity have been carried out in three sites to monitor for resistance.

b) **Operations research activities:**

- A KAP study regarding malaria was conducted in May 1992 to guide development of targeted health education messages.
- The economic impact of malaria in Malawi is currently being evaluated. This study will provide information for effective resource allocation by the GM and by donor agencies. It will also provide baseline data to assess the economic effect of future interventions.
- The evaluation of different chemoprophylaxis and periodic treatment regimens for pregnant women will be completed in November 1992 and will provide information necessary to determine an effective regimen for reducing malaria in pregnant women.

c) **Training activities:**

- Training microscopists to staff the sentinel sites.
- Refresher training of 120 microscopists (10 per month) to staff District Hospitals is under way.
- ELISA training for malaria vector assessment activity has been initiated.

Other Donor Support

While USAID is the primary donor supporting malaria control efforts in Malawi, other organizations have also provided assistance to the NMCP. In the past, UNICEF has provided chloroquine and will now supply limited quantities of S-P through the Essential Drug Program. It will also supply bednets and insecticides for the proposed WHO bednet study. WHO support will focus on training and resource mobilization for the bednet study. IDA will provide vehicles and some drugs under the World Bank PHN sector credit.

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5. Health Care in Malawi: The Institutional Context

The Ministry of Health

The operational arm of the Ministry is the Health Services Department, which carries responsibility for Clinical, Nursing, Planning, Technical Support, and Preventive Health Services. Responsibility for malaria control resides in the Preventive Health Services Section along with most other disease control programs.

There are more than 700 operational health care facilities, comprising hospitals, health centers, dispensaries and health posts. The MOH structure and health service positions have been described extensively in previous PHICS documentation and will not be repeated here except when discussing activities related directly to malaria control.

There are 49 general service hospitals and two specialized (mental and leprosy) hospitals. Approximately 60% of these are operated directly by the Ministry of Health, with the rest operated by the Christian Health Association of Malawi (CHAM). The Ministry of Local Government (MOLG) operates facilities in 22 of the 24 districts and in four major cities. Various non-governmental organizations (NGOs) and private practitioners also provide health services. Estimates of the percentage of Malawians living within a two hour walk of some kind of health facility range from just over 50% to over 80%.

Three large central hospitals in Lilongwe, Blantyre and Zomba provide a total of 6,815 beds, just under half of all beds in the country. MOH resources are allocated disproportionately to such curative, urban facilities.² Both inpatient and outpatient capacities at all hospitals are intensively utilized. As one example, Mangochi District Hospital is rated as having 220 beds, but the Officer in Charge reports an average census of 350 patients.

Other Health Care Institutions and Capacities

The Christian Health Association of Malawi operates 150 facilities with approximately 5,000 beds. CHAM provides services to approximately 1.3 million patients annually, including one-third of hospital admissions. The CHAM facilities offer services similar to those available in MOH facilities; the major

² A recent World Bank Aide Memoire reports that "it could be argued that approximately 85% of resources and priorities are directed to the benefit of 10-15% of the population and that 80% or more of the Malawi people are out of reach of the core activities of the health sector."

difference is that CHAM facilities charge a nominal user fee for curative services, whereas MOH services are provided free. Preventive services in CHAM facilities are free. The MOH provides about one-third of the funding for CHAM facilities, principally salary support. In addition to direct service provision, the CHAM system plays a major role in training health personnel, particularly nurses.

In addition to MOH, CHAM and MOLG facilities, a number of non-governmental organizations deliver health care and preventive services at the community level. Many private enterprises that employ and house large numbers of people, such as agricultural estates, provide health services to their employees. These are expected to follow MOH policies but are not within the official health care system. The current drought emergency in Malawi is bringing additional resources and manpower to assist with nutritional, food distribution, health and other programs. The large and growing number of Mozambican refugees in Malawi are placing additional strains on the delivery systems. The Malawi government and its people should be commended for the assistance they have provided to the refugees.

Preventive Health Services - Malaria Control

As noted, responsibility for Malaria control falls under Preventive Health Services which is divided into two program areas, Family Health and Community Health. Family Health operates programs for MCH, EPI, Child Spacing, Nutrition and TBAs. Community Health is responsible for the Community Health Sciences Unit (CHSU), Environmental Health, Primary Health Care activities and Health Education. Due to an inadequacy of space at MOH Headquarters, CHSU is located at a different site. CHSU is responsible for the Health Information System, Public Health Laboratory, Epidemiology, and Disease Control Programs.

The Community Health Sciences Unit (CHSU)

Although CHSU is located away from MOH headquarters, it is dependent on the office of the Controller of Preventive Health Services for approvals, concurrences and guidance on both technical and administrative matters. CHSU is expected to provide the MOH with skills in the areas of epidemiology, laboratory and data management which are critical for the support of Malawi's major disease control programs, (malaria, diarrheal disease, ARI, trypanosomiasis, onchocerciasis, schistosomiasis, tuberculosis, leprosy, etc.). CHSU serves as the coordinating unit for Malawi's national disease surveillance system and for research on many of the diseases listed above. In the case of malaria, CHSU has liaised with the National Malaria Control Committee to develop national malaria control plans and policies, such as the recent policy to move from chloroquine to

sulfadoxine-pyrimethamine as the first-line treatment for uncomplicated malaria.

The Malaria Control Program

The 1990 - 1994 National Malaria Control Program has been described above. It contains objectives, plans, guidelines, strategies and activities for a comprehensive and ambitious malaria control effort. Successful implementation of the NMCP depends on donor support for various plan components, as well as on the commitment of the government of Malawi. Uncertainties about levels of support, availability of trained manpower and other factors have created delays in the implementation timetable. The decision to move from chloroquine to sulfadoxine-pyrimethamine as the treatment for uncomplicated malaria was made in October 1991. It was estimated that all the elements of a comprehensive campaign (drug, treatment guidelines, training, media materials) would take one year to put in place. A 1 October 1992 date was set to execute the policy change and "launch" S-P as the new treatment for malaria. Central Medical Stores placed an order for S-P in April 1992 with a contract stipulation of delivery within 90 days. This deadline was not met, and there is uncertainty about when the drug will be available.³ This uncertainty has made it difficult to plan and schedule a coordinated campaign to launch the new drug and treatment guidelines.

The current five-year plan for malaria control identifies a broad list of activities in the areas of research, surveillance, training, case management, drug system strengthening, supervision, alternative methods of control, community programs, mass media campaigns and laboratory capacity building. The plan serves as a vehicle for soliciting donor support for various activities under the plan, with full knowledge that not all activities will be supported. Given this reality, there is a need to conceptualize a more focused and sequenced implementation plan based on the actual level of support available, and which reflects present constraints and realities. Additional attention must be paid to introducing S-P and to delivering services that can reduce mortality and morbidity.

Institutional Constraints

There are a number of important constraints affecting the provision of malaria control and prevention services at the present time.

³ Foreign exchange shortages add to the uncertainty of imports such as drugs.

Management Time, Attention and Priority. On numerous occasions in the past it has been recommended that a full-time Malaria Control Program Manager be named to give full time attention to malaria. As the single disease that accounts for 36% of visits to health facilities, and the disease that is the greatest killer of children, it is difficult to understand why the malaria program does not have a full time manager. Of all of the child survival intervention programs in Malawi, malaria is the only one in which the situation is getting worse. Increases in infant and child mortality in recent years are attributable primarily to increased incidence and deaths from malaria. Onchocerciasis, Trypanosomiasis, and Schistosomiasis all have full time managers, while the Malaria Control Program Manager must manage Diarrhoeal Disease Control as well, another major program deserving a full time manager. A proposed new organization structure of the CHSU, recently submitted for approval, retains responsibility for both Malaria and Diarrhoeal Disease in the same manager.

Personnel Constraints. The personnel practices of the government of Malawi, combined with the constant drain of skilled personnel to better paying jobs in the private sector and outside the country, have resulted in what appears to be a permanent shortage of trained health manpower. Doctors are trained abroad and expected to return to government service, but the policy does not appear to be enforced. Only about twenty Malawian physicians are in government service, roughly the same number as fifteen years ago. The new Medical School in Blantyre aims to provide the final year of training to physicians trained abroad and includes an introduction to community medicine, but the preference for specialist status is likely to draw almost all physicians out of public health service. One result is that, after 28 years of independence, almost all District Health Officers in Malawi are expatriates, as are two of three Regional Health Officers. They explain that their positions have little prestige in the Malawian system, consistent with a government penchant for advanced degrees and specialized training. Management experience and skill do not appear to have particular value in this context.

The requirement that government personnel must be provided with government housing of a quality commensurate with their personnel grade is another factor limiting staffing, especially in rural areas. Women must be assigned to the same community as their husbands, with the result that major cities have numerous Community Health Nurses in government employment, while rural areas have shortages. One of the factors blamed for the inability of the MOH to post its own staff to the Mangochi Research Station is the lack of government housing there.

Due to a lack of trained personnel, many expatriates function without counterparts, losing opportunities for technology or skill transfer. In order to fill vacancies and increase the pool of personnel, the MOH needs to consider recruiting personnel from

outside the health field and then providing the needed training. These individuals can perform quite satisfactorily, especially in positions requiring management and administrative skills rather than clinical knowledge or experience gained from working in clinical settings.

The result of this situation is demonstrated by the positions which PHICS agreed to fund some two years ago. Of a total of 130 positions identified, less than thirty have been filled. Many personnel who would occupy those positions, such as the Regional Surveillance Officers, could play an important role in supporting efforts at malaria control and prevention.

The In-Service Training System. The volume of training in Malawi, and its popularity as "the" solution to health care problems, is remarkable. Exaggerated per diem payments to health care personnel who attend workshops and training seminars have become the rule, creating a situation where the primary motivation to undergo training is money, and the amounts available justify a scramble to participate. It has been observed that it is usually the same persons who repeatedly manage to attend training sessions. A health worker can double his or her monthly salary by attending a training program and cannot be faulted for responding rationally to this system of incentives which distorts the motivations and values of health care workers. In addition, the sliding scale whereby higher grade officers receive higher per diem payments creates a situation in which all levels of personnel, including trainers and managers, are rewarded for attending training programs. Donor organizations have frequently been pressured into providing high per diems as well. Since in-service training is critical to the dissemination of information and the introduction of new approaches to disease control, it is important for program managers to plan training more carefully and to target more judiciously training opportunities to those who would benefit most from additional training.

Long Term TA for the Malaria Control Programme. Two long term advisors have been selected for positions that support the Malaria Control Programme and they will be assuming these positions in the next four months. One is a physician/epidemiologist to head the CHSU Epidemiology Unit; the other is a Malaria Control Technical Advisor to help plan, implement and evaluate the national program. The Malaria Technical Advisor is to serve as a counterpart to the MOH Malaria/CDD Program Manager. In light of the major recommendations of this report, which focus on strengthening service delivery components of the malaria control program, it is recommended that this advisor's job description be modified to place added emphasis on management, supervision and monitoring the malaria control program.

Guidelines for Malaria Management. The Ministry of Health is preparing revised guidelines for the prevention and treatment of malaria, using Sulfadoxine-Pyrimethamine for uncomplicated cases. Observations and suggestions for the consideration of the National Malaria Control Committee are as follows:

1. The guidelines do not recommend a second line drug for use when there is no significant clinical improvement from S-P after 72 hours. The role of amodiaquine, mefloquine, or halofantrine, if treatment failures occur, should probably be specified.
2. The guidelines state that chloroquine has lost its effectiveness in young children but that it remains effective in older children and adults. It is probable that adverse sequelae are not observed in older children and adults because of their acquired immunity and not because of the differential efficacy of chloroquine. This should be clarified.
3. The guidelines still recommend chloroquine for use in older children and adults, but if chloroquine is restricted as a prescription drug, it will become increasingly difficult for adults to gain ready access to it. This should also be clarified.
4. The guidelines do not fully state what information is to be recorded about malaria cases and how that information is to be reported, aggregated, analyzed and used. Since the changed treatment program must be carefully monitored, that should be clearly defined.
5. The health education messages identified in Section IV.C. of the Guidelines are observations of what should be done or encouraged and are not "specific messages". More attention should be given to the specific messages and instructions to be given to patients and to various cadres of health care workers.
6. There is a need to translate the guidelines into a convenient, easy-to-use and accessible pamphlet (such as the "green book") for wide distribution to health workers.

The Health Information System (HIS). As currently constituted and staffed, the HIS cannot satisfactorily provide useful information with which program managers can make decisions, nor does it provide feedback on a timely basis to regional, district and more peripheral levels. Partly this is the result of a staffing situation that is largely beyond the control of the MOH since statisticians are provided by the National Statistics Office and can be reassigned at that office's discretion without

MOH concurrence. During the past year the senior statistician at MOH was transferred to work on the census last year and is not expected to return; one successor died, another resigned, and the VSO computer programmer was withdrawn because no Malawian counterpart was available. In addition, the PHICS epidemiology TA position with HIS responsibility has not been filled. Partly as a result of these weaknesses at the central HIS, the regions have recently begun to process their own information and statistics.

Even if the personnel situation could be resolved, the quality and quantity of information required by the HIS needs careful review. Information that is not needed for decision making should not be processed, and the effort to catch up on data unprocessed from previous years should probably be abandoned.⁴ Ideally, information should be processed first at regional and district levels for management use, before being sent to the national level.

Correcting the HIS would appear to be within the scope of the Epidemiologist and beyond the scope of this Amendment. Information needed to manage malaria activities will have to be garnered, in the short term at least, from local information systems and surveys. Encouraging the testing and perfecting of such systems in an operations research fashion for malaria control could eventually prove a valuable contribution to the national Health Information System.

⁴ Samples from selected months might suffice as a compromise.

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C. DESCRIPTION OF AMENDMENT OBJECTIVES AND ACTIVITIES

1. Goal, Purpose and Technical Approach

The goal of this Amendment to strengthen the malaria component of the PHICS Project is to improve the health of the people of Malawi by decreasing morbidity and mortality due to malaria, particularly in children under five years of age and in pregnant women.

The purpose is to improve prevention and treatment of malaria in Malawi.

The technical approach required to accomplish this objective has four principal components:

- a. appropriate case management
- b. prevention
- c. strengthen health services
- d. monitoring and policy guidance

a. Ensure appropriate case management of malaria.

A direct way to decrease morbidity and mortality due to malaria is to assure that all cases of presumed and confirmed malaria are treated promptly with correct doses of an appropriate antimalarial drug. The severity of the case will determine the correct drug to use. In addition, appropriate case management may include:

- antipyretics and supportive care,
- follow up to ensure malaria symptoms have resolved and to watch for possible drug resistance and/or side effects,
- referral as necessary,
- confirmation by microscopy as available,
- treatment of any intercurrent conditions, and
- reporting cases in accordance with public health policy.

Appropriate case management may vary with the resources and expertise available in different situations and at different levels of the health care system. Guidelines developed and disseminated by the National Malaria Control Programme should define what is expected in various circumstances.

Since not all Malawians have immediate access to the organized health care system, self-treatment and treatment of children by a parent or caretaker frequently occurs. Guidelines for such care should be developed and widely disseminated.

b. Promote effective methods of prevention.

Even better than appropriate case management, of course, is malaria prevention. Various methods are available and should be promoted in accordance with the guidelines of the National Malaria Control Programme. These include barrier methods such as protective clothing, screening and bednets (which may be impregnated with insecticide). They also include repellent methods such as mosquito coils and traditional methods. Chemoprophylaxis or periodic treatment of certain high risk groups may also be a recommended preventive measure. High risk groups would include pregnant women (particularly those pregnant for the first time), children with a history of multiple febrile seizures, and persons whose immune systems are compromised. Finally, vector control measures such as destruction of vector breeding sites and carefully selected use of insecticides or larvicides may be appropriate in specific situations.

c. Strengthen capacity to provide child survival services.

The integration of malaria control interventions into the full complement of child survival activities is essential to provide the greatest possible access to sustainable services at an affordable cost. Strengthening the capacity to provide all such health services will improve malaria management without competing unnecessarily with other priority health programs. Malawi has adopted the WHO concept of devolving significant responsibility to more peripheral health workers, and the District Health Management Team in particular. Malaria activities should be integrated within that structure whenever feasible.

A significant portion of health services in Malawi is provided by private, non-profit hospitals, many of them receiving assistance from the MOH through the CHAM network. These and a number of other non-governmental organizations are involved in the health sector in Malawi. Facilitating their capacity to provide and promote malaria control services will increase the reach of the whole health program.

d. Maintain research and policy development capability.

The history of malaria control is one of approaches that change and evolve as some become less effective and others become more appropriate. Applied and operations research are needed to set and revise policy over time. In recent years Malawi has developed the

capability to carry out applied malaria research and make informed policy decisions. Although the recent decision to replace chloroquine with sulfadoxine-pyrimethamine for first line treatment requires that special effort be directed to implementation at this time, the ability to monitor the consequences of the policy change and to make adjustments as needed must be maintained. For that reason, support to maintain the applied research capability of the MOH is crucial.

2. Roles and Responsibilities

The natural evolution of the program is to focus now on how research findings can be applied to improve health services for the individual and family in Malawi. As described previously, a strong research agenda has guided Malawi's past malaria control activities. Impressive gains have been made in understanding malaria control, such as identifying new therapeutic and preventive interventions that can impact on malaria morbidity and mortality.

It is now necessary to expand the "ownership" of malaria control to include all cadres of health workers caring for persons with malaria and to promote more effective methods of prevention. What is needed, in short, is to maintain research capability and increase support for implementation.

Role of the National Malaria Control Committee

The National Malaria Control Committee provides oversight of the malaria situation in Malawi and the possible interventions that might be employed. This is especially important at a time when the biology of malaria and the approach to it are changing. The existing committee has performed this function well and can be expected to continue to do so. No special additional resources are needed.

Role of the Community Health Sciences Unit (CHSU)

The MOH Community Health Sciences Unit has been charged with coordinating and managing the malaria control program in Malawi. With its malaria research arm at Mangochi, it is well placed to coordinate malaria research and to monitor the malaria situation in the country. With guidance from the National Malaria Control Committee, it can disseminate policy, monitor malaria research and control activities, and provide technical guidance to the persons and organizations at the service delivery level throughout Malawi. This capability should be strengthened.

On the research side, CHSU should be supported to develop a research agenda whose results will have a direct and significant

impact on the activities of the NMCP and the health of the target population in Malawi. Funding should permit, at a minimum, completing the ongoing research at Mangochi into chemoprophylaxis of both S-P and chloroquine, presumptive treatment of pregnant women, completing the vector assessments already planned, and collaborating with the proposed WHO bednet study.

The existing laboratory, housed in the tailor's room of the Mangochi District Hospital, should be replaced with an expanded laboratory to be used for: malaria research, strengthening the capacity of hospital's own laboratory, and meeting the needs of Medical School students during their community health rotations in Mangochi. The laboratory at Mangochi should be limited, however, in order not to drain resources unduly (including management and supervision time) from the national public health laboratory complex at CHSU itself. Certain functions, such as laboratory support for the sentinel sites and monitoring possible S-P resistance, may be located better at CHSU's central laboratory facility.

CHSU should be informed about other disease specific medical research activities in the country. These include the research into severe childhood malaria being conducted (with support from the Liverpool School of Tropical Medicine and Hygiene and Michigan State University) at Queen Elizabeth Central Hospital in Blantyre, as well as operations research in practical topics. These topics can include the distribution and sale of bednets which several NGOs active in Malawi are eager to begin.

CHSU should also be supported to improve the national health information system and national epidemiology capability. Assistance is already available through the PHICS epidemiology position soon to be filled. CHSU should help to clarify policies and to disseminate information throughout the Malawi health establishment. It should be a national source of technical guidance in training and in defining health education messages relating to diseases of public health importance.

CHSU has had difficulty, in the past, managing the service delivery aspects of the Malaria Control Programme. The difficulties have largely been due to an insufficient number of qualified and experienced staff dedicated to overseeing the implementation of malaria control activities. The PHICS Amendment, through its creation of a full-time Malaria Program Manager and the establishment of a National Malaria Control Management Team, will remedy this problem. The Malaria Program Manager will work with the long-term malaria control technical advisor (a position funded through this Amendment) and with appropriate colleagues from the various units of the MOH (those responsible for implementing malaria control interventions) to improve coordination between research and service delivery and also between the national, regional and district levels.

The National Malaria Control Committee, which has been operational since 1984, will continue to provide critical technical guidance for the development and monitoring of malaria policies. The Malaria Program Management Team will address resource coordination and implementation issues. Many of these issues have been in existence for some time. However, the recent decision to launch a comprehensive campaign substituting chloroquine with fansidar (S-P) as the new treatment for malaria has identified new issues and given old ones new importance. The success or failure of this campaign may depend on the timely resolution of such issues as ensuring adequate supplies of S-P, the rapid dissemination of information about S-P to the public and to health workers, and other. The Malaria Program Management Team can also provide valuable assistance in resolving difficult implementation and management issues for the Regional Disease Control Coordinators and, through them, for District Health Management Teams.

In sum, CHSU's capacity to guide and implement Malawi's Malaria Control Programme will be greatly enhanced on several fronts by the support provided through this Amendment. At the base of this support is an effort to establish a critical mass of expertise devoted to malaria control in Malawi.

Role of the MOH Service Delivery System in Malaria Control

Once the policies for malaria control are defined, implementation of the actions required is the responsibility of the clinical medical services, including the hospitals, health centers and dispensaries, and peripheral health workers extending out to the Health Surveillance Assistants and the Community Health Volunteers with whom they work in the community. For the rural areas these services are coordinated by the District Health Management Team led by the District Health Officer (DHO) under the guidance of the Regional Health Officer. The significant change represented by this Amendment to the PHICS Project is providing assistance to Regional and District Health Management Teams to improve implementation of malaria control in their areas.

As recommended by WHO, and conforming with the latest recommendations of WHO/Brazzaville concerning malaria control strategies in Africa, emphasis will be placed on strengthening the capacities of the District Health Management Team and its activities that reach out to the health centers and communities. The focus of this support will be improved malaria control, but the capabilities developed will strengthen the capacity of the peripheral health system to provide a package of essential health services, including: MCH services; care of diarrhea, respiratory tract infections, and other common medical problems; health education; and other preventive services. As the ability to manage this range of services through the health care system

increases, the ability to manage malaria will increase as well. In addition, the development of separate vertical structures will be avoided: training will be through the usual mechanisms; drugs will be supplied through standard channels; and information will flow through the regular health information system (except for special research). Personnel within the system will be encouraged to participate in finding new ways to provide better services.

Because the resources available under this Amendment are limited, and to facilitate management and monitoring of the activities undertaken, not all 24 districts will participate in every program activity. Operations research, for example, is expected to be selective. If the systems developed in one district prove successful, it is expected that they will be applied elsewhere as time and resources become available.

Assistance directed to the decentralized portions of the MOH is expected to result in development of peripheral health services that can manage the routine aspects of malaria control and other interventions.

Role of the Non-Governmental Sector in Malaria Control

Extensive cooperation exists between the government health system and the non-governmental sector, particularly the CHAM hospitals and their outreach facilities. This will be promoted, particularly at the level of the District Health Management Team. There are also NGOs in several districts with health interests and local expertise. Such NGOs should be encouraged to contribute to malaria control as appropriate. Because government health services are sometimes less flexible than the private sector in testing new approaches, PHICS will provide limited support to private organizations.

3. Activities for Malaria Control Support

The strategy of this Amendment to the PHICS Project is to provide funding to accomplish the following:

- a. Promote an approach to malaria control which balances research and service delivery, expanding responsibility for malaria control to include health service providers at all levels.
- b. Support continued applied research by CHSU, primarily through the Mangochi Research Station, to guide malaria control policies.

- c. Strengthen malaria control by increasing the capacity of regional, district and peripheral health teams to carry out programs at the service provider level.
- d. Provide special funding for NGOs to develop new approaches to malaria prevention and control.
- e. Support the design and implementation of a national campaign to introduce Sulfadoxine-Pyrimethamine (S-P) as the first line drug for treatment of presumed malaria in Malawi.

Each of these strategic approaches is described in greater detail below, highlighting expected activities, the persons responsible for their implementation and the level of effort required. Where existing mechanisms within PHICS can contribute to the outcomes anticipated, that will be noted.

a. Promote an approach to malaria control in Malawi which balances research and service delivery while expanding responsibility for malaria control to include health service providers at all levels.

- 1). In order to increase program management expertise, and particularly to strengthen service delivery, one full-time Malawian manager will be appointed to be the **Malaria Program Manager**. This individual will be supported by the long-term malaria control technical advisor (provided through the PHICS mechanism). These individuals will work with their colleagues in the MOH to link the expertise based at CHSU with that at MOH headquarters. They will also continue to receive technical guidance and support for policy development and monitoring from the **National Malaria Control Committee**.

A **Malaria Program Management Team** will also be created with responsibilities for addressing resource coordination issues and resolving implementation problems. This Team will consist of the Malaria Program Manager, the Controller of Preventive Health Services, the Controller of Clinical Services, and three Regional Disease Control Coordinators. The three Regional Disease Control Coordinators will be appointed to oversee the activities of the National Malaria Control Programme in the three regions of Malawi and to improve coordination between the national and district level. They will work with the District Health Management Teams to disseminate information and guidance from the national to the local/district level.

Because these actions are urgently needed in order to manage

peripheral implementation activities, they are Conditions Precedent to this Amendment.

This personnel structure requires that adjustments in responsibilities and job descriptions be made by the MOH to ensure that essential team members function within the service delivery hierarchy. Since malaria management TA is already provided for with PHICS funding, no significant additional funding will be required.

- 2). Foster broader health sector participation in malaria control by giving greater responsibility and resources to health personnel at regional, district and peripheral levels. In addition, local NGOs will be incorporated into the team responsible for malaria control at the district level as appropriate. NGOs may be provided separate funding to permit their contribution to malaria control in ways that facilitate local initiative and flexibility.

Funding will be available for district level in-service training, health education, supervision, monitoring and operations research with the approval of the Malaria Program Management Team. Within wide guidelines to be established by that team, the District Health Management Team will be expected to plan, implement and monitor its own malaria control efforts. All districts will not necessarily receive the same level of support. The seven districts designated for special attention by the PHICS Project because of their high levels of infant and child mortality are expected to receive greater funding.

- 3). Focus the malaria research agenda to guide service delivery that reduces morbidity and mortality, particularly among children and mothers.

This is in line with the current research agenda of the Mangochi Research Station and of the target population of the PHICS Project.

Funding implications: Since PHICS funding has already been identified to support the individuals comprising the Malaria Program Management Team, and funding for more peripheral levels is provided below, no additional resources are provided by this Amendment.

b. Support continued applied research by CHSU, primarily through the Mangochi Research Station, to guide malaria control policies.

- 1). Expand the existing facilities/capabilities at the Mangochi Research Station integrating activities, to the extent possible, with the District Hospital Laboratory and the Community Medicine program of the Malawi Medical School at

Mangochi. Funding will be provided under this Amendment to permit:

- construction of new laboratory facilities/living quarters in such a way as to coordinate with the Mangochi District Hospital laboratory and to permit Medical School students access to laboratory facilities when in Mangochi for community health rotations;
- procurement of basic laboratory equipment for CHSU/Mangochi (details in the commodity procurement section below);
- operating costs for CHSU/Mangochi, including supplies, rent, utilities and maintenance on a decreasing scale (first PHICS project year 100%, second year 75%, third year 50%, fourth year 25%, fifth year none) that will permit the MOH gradually to take over operation of the facility.

- 2). **Provide salary support** for one Laboratory Technician and two Laboratory Assistants on a decreasing scale and according to the schedule for the MOH's assumption of these costs as stated in the original PHICS project paper (25% in the fifth PHICS project year, 50% in the sixth project year, 75% in the final project year, and 100% in the first post-project year and thereafter).

These three persons will be a core laboratory staff under CHSU authority who are available to: contribute laboratory expertise to a variety of research activities; maintain the equipment and supplies; and provide assistance as appropriate to the hospital laboratory staff and medical students. Decreasing salary support will permit the Ministry to assume the recurrent costs of this staffing without hardship while demonstrating its intention to institutionalize such research capacity. The intention is that the balance of laboratory staff required for research purposes will be employed using funds designated for specific research projects (the usual practice for research laboratories).

- 3). **Support applied research**, the results of which will have a significant impact on malaria control in Malawi. All necessary salaries, supplies and technical assistance (aside from that already provided from PHICS through other mechanisms) will be supplied in the research budget.

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The research agenda of the CHSU/Mangochi is expected to include:

- assessment of presumptive diagnosis of malaria,
- efficacy of sulfadoxin-pyrimethamine in selected study populations,
- population dynamics and insecticide resistance of vector populations, and
- bednet studies.

Funds will provide TA to help coordinate bednet studies and to help plan other studies. Operating funds will be available for small-scale, innovative studies that seek to establish the viability of bednets in rural areas.

- 4). Provide eventual entomological capability within the NMCP by funding one student's training to the M.Sc. level in medical entomology. Two years of tuition and expenses will be provided. Afterwards, the student will provide entomological expertise to CHSU for studies including, but not limited to, malaria transmission.

c. Reinforce the health service delivery system in providing malaria prevention and treatment services by strengthening the capacity of regional, district and peripheral health teams to commit greater resources to malaria control at the service provider level.

- 1). **Make malaria program management adjustments within the MOH:**
 - Designate a full-time Malaria Program Manager within the MOH service delivery hierarchy. This person's management skills are more essential than scientific or medical skills.
 - Direct the malaria management TA provided by PHICS to function as a counterpart with this manager.
 - Designate a Disease Control Coordinator from each of the three regions with responsibility to strengthen health service delivery from region to district to peripheral levels for malaria and other diseases of public health importance.
- 2). **Strengthen critical functions of the MOH to be able to implement malaria control. Funding will be available for selective activities that improve the capacity of the Ministry to carry out actions that can be standardized.**

Note that some of these actions may be carried out in conjunction with the campaign to launch the S-P policy. Functions for which funding will be available include the following:

- Development of training curricula and materials for various levels of personnel. Three months of short term TA will be available as needed, and both pre-service training carried out by the existing system and in-service training carried out by service delivery supervisors will be supported. Additional support should be available through PHICS support for health system training.
- Development of health education approaches and materials for the malaria control program. Anticipating that policy adjustments will probably be required during the life of the Project, two months of short term TA will be available in addition to that provided during the S-P launch phase.
- Dissemination of information concerning malaria control to health care providers throughout Malawi. It is recommended that a malaria newsletter be prepared by the Malaria Program Management Team, with technical input from CHSU, and published every six months. The format should be similar to that which UNICEF/Malawi uses to inform health service providers. At least 6,500 copies of each issue should be printed and mailed to all health workers.
- Maintaining quality control of district laboratories. Funds will be provided to monitor the quality of malaria microscopy and the appropriate use of microscopy results at district level. One month of TA to assist in developing an appropriate quality control protocol and methods will be provided in addition to operating expenses.
- Routine monitoring for resistance to drugs, drug side effects, possible treatment failures and referrals. Because Malawi is the first country in Africa to adopt as a national policy the routine use of S-P to replace chloroquine, it is important to monitor this exercise carefully. This includes documenting the nature and frequency of side effects and the frequency of treatment failures (with confirmation that they are true failures). If a new policy regarding chemoprophylaxis or periodic treatment of high risk populations is adopted, that policy will have to be monitored also. Follow-up on treatment of both presumed and confirmed malaria should become part of

health care providers' routine activities. Designing and instituting a system to encourage this should be an objective of the National Malaria Control Programme.

The existing system of six sentinel sites should be reviewed to accommodate changed policies and to determine whether they are functioning properly and collecting appropriate data. Funds will be provided and TA made available (up to two months as needed) to ensure that both a routine system and the specialized sentinel system are established and maintained.

Encourage operations research by sponsoring a yearly contest for the best new malaria control ideas. As the national malaria strategy changes over the next few years, it will be useful to encourage operations research and fresh approaches. A yearly competition in conjunction with the malaria newsletter will be supported.

Increase the capacity of district teams by providing them with their own funding for use in supporting local management of malaria control activities. Approval would be required from the Malaria Program Management Team, but the details of how the funds are employed would be left largely to the District Health Management Teams to encourage them to organize their activities in ways most appropriate to local circumstances. The following types of activities should be organized using such funds:

- **In-service training.** This could be organized at district level or at the level of health centers to permit the training of entire health center teams and their outreach personnel. There should be an attempt to economize on per diem costs which have become unreasonably high in recent years in Malawi. Different districts would be permitted to organize their activities in different ways.
- **Health promotion and community education.** As with in-service training, local approaches will be encouraged.
- **Monitoring and supervision.** Local methods need to be further developed. Objectives would include monitoring systems that collect no more information than is needed for decision-making, and supportive supervision methods that encourage quality assurance and realistic problem-solving at the local level.
- **Operations research.** Local efforts to develop effective and efficient approaches to promote and manage malaria control activities will be encouraged.

Areas for operations research include effective case management at the community and household level, promotion of personal protection methods (including the use of insecticide impregnated bednets or curtains), promotion of special drug treatment programs to protect high risk groups, and the exploration of cost recovery methods for health services as appropriate.

d. Provide special funding for NGOs working at district and more peripheral levels to develop new approaches to malaria prevention and control. NGOs and US PVOs currently work with District officials in delivery of primary and secondary health services, including malaria control. Due to the drought and the severe economic difficulties facing the country, NGOs have reported a significant decrease in volume of patient visits in recent months. The corresponding decrease in patient receipts, coupled with increasing salary costs, have severely compromised NGOs' ability to maintain essential health services. One result is reduced access to malaria services. PHICS grants will provide specific support to assist NGOs to maintain malaria treatment and educational programs. They will work with the District Health Management Team in designing and implementing malaria control program activities. Small grants will enhance NGO capabilities to develop and test new approaches to malaria control. USAID will award grants on the order of \$25-100,000 to NGOs after review and approval by GM authorities to support:

- 1). Operations research in promoting insecticide impregnated bednets. NGOs may be particularly well placed to conduct operations research into methods whereby households would be willing to purchase bednets at their real value. They may also be able to help answer practical questions such as the best sizes, how to avoid damaging the net and how people who do not sleep on true beds can use the nets.
- 2). Operations research in local financing of health services. Since government health units are constrained from testing systems to recover health service costs from the community, NGOs are in a position to do important work in this area. Given MOH's financial problems, it is likely that some form of cost recovery will have to be implemented eventually. NGOs can perform a valuable service in helping to test alternative financing methods.
- 3). Operations research in training, health education, supervision, monitoring and community participation. NGOs should be able to help to develop improved methods of promoting healthy practices and in managing health delivery

services. Limited funds will be provided to assist them in this activity. It is hoped that some of the new approaches developed by NGOs could later be employed more widely.

e. Support the design and implementation of a national campaign to introduce Sul'adoxine-Pyrimethamine (S-P) as the first line drug for treatment of presumed malaria in Malawi.

- 1). Provide technical assistance, management support, and funding to plan and execute a coordinated "launch" of this new product. The package of services will include a public education campaign using mass media, a health worker campaign to train health workers in proper diagnosis and treatment, and a special management effort to ensure that necessary stocks of S-P are widely available for the launch.
- 2). Contract with a private sector marketing or management firm to design and coordinate the launch, with technical advice provided by the Ministry of Health and the National Malaria Control Committee.
- 3). There will be five components of the launch effort:
 - The product, with appropriate packaging, an educational insert and a visual insert for non-literate users.
 - Distribution -- a special, one-time effort to ensure that adequate stocks of S-P are available at the time of the launch.
 - Health worker training, following development of a comprehensive set of educational materials including treatment guidelines, curricula for various categories of health care personnel, visual aids and patient educational materials. Clinical Officers at district levels will conduct the training.
 - Mass media campaign aimed at the general public, with messages, approaches and materials designed, tested, produced and disseminated to carry out a major media campaign introducing S-P to Malawi. Included will be a distinctive logo for S-P, radio spots, posters, magazine advertisements, newspaper articles and other efforts. Exposure and coverage will be evaluated.
 - Overall management and coordination of the above elements will be funded by this Amendment.

II. PROJECT AMENDMENT MANAGEMENT AND PROCUREMENT

The overall plan and procedures for PHICS Project management, implementation and financing described in the 30 June 1989 Project Grant Agreement and in the PHICS Project Paper apply to the activities under this Amendment, as the activities described herein are an expansion of the originally proposed Project activities.

There follows a summary of the understandings regarding management of activities under this Amendment.

1. The MOH PHICS Project Coordinator and Accountant: The MOH Project Coordinator and Accountant are full-time staff devoted exclusively by the MOH to the PHICS Project who have day-to-day responsibility for the management and coordination of Project activities, including any new activities added via amendments. These two staff coordinate with the responsible MOH and MOW technical and program staff on planning and implementation of specific project activities.
2. Community Health Sciences Unit (CHSU): The Community Health Sciences Unit has the primary responsibility for implementation, monitoring and evaluation of malaria and disease control activities under all the objectives described in this Amendment. CHSU will work jointly with the Research Unit and the University of Malawi College of Medicine and other institutions to coordinate the design, review and utilization of research results. There will be a need to coordinate with the MOH Manpower Development Unit and training section regarding pre- and in-service training needs. The National Malaria Control Committee and the Controller of Preventive Health Services will provide general oversight.
3. The MOH will review small grants to NGOs working in malaria based upon criteria established under the PHICS project (see PHICS Project Paper, section C, part 2, page 25). Notices soliciting proposals will be placed in local media. USAID will make the final grant awards. The small grants program will stimulate innovative approaches to malaria control and will be geographically specific; grants will support ongoing established health-related NGOs and are not intended to support new country programs. District Health Management Teams should be closely involved in these activities as described in the previous section.
4. Mangochi Health research Station: The day-to-day administrative and technical operations of the Mangochi Health Research Station research facility and laboratory will be managed by a core of CHSU staff posted to the site. CHSU headquarters will provide support as needed and general oversight.

Commodities under this Amendment will be procured directly by USAID or REDSO/ESA. Section VI, Implementation and Procurement, Paragraph B.3, of the original Project Paper is revised to add the following:

ITEM	QTY	BUDGET	PROBABLE S/O	PROCURING ENTITY
8. Mangochi Laboratory Facility:				
a. Lamina flow station hood	1	\$ 4,200	U.S.	USAID
b. Incubator	1	1,500	U.S.	USAID
c. PH Meter	2	1,500	U.S.	USAID
d. Microbench Centrifuge	1	2,000	U.S.	USAID
e. Balance Top Pan	1	1,000	U.S.	USAID
f. Portable Furnace	1	1,000	U.S.	USAID
g. Electric Autoclave	1	500	U.S.	USAID
h. Utility Wash Bath and Accessories	1	1,000	U.S.	USAID
i. Hemoglobinometer and Accessories	1	500	U.S.	USAID
j. Lab Freezer	1	4,000	U.S.	USAID
k. Gas Pak Jar System	1	500	U.S.	USAID
l. Generator	1	6,000	U.S.	USAID
m. Air Conditioners	4	9,000	U.S.	USAID
n. Laboratory Glassware	1	4,000	U.S.	USAID
o. Liquid Nitrogen Tank	1	200	U.S.	USAID
p. Office Furniture	1	30,000	U.S.	USAID
Shipping and Insurance		23,000		
SUBTOTAL		90,000		

III. MONITORING AND EVALUATION

The overall plan and procedures for PHICS Project monitoring and evaluation described in the 30 June 1989 Project Grant Agreement and in the PHICS Project Paper apply to the activities under this Amendment, as the activities described herein are an expansion of the originally proposed Project activities.

There follows a summary of the understandings regarding monitoring and evaluation under this Amendment.

The implementing ministries (MOH and MOW) will continue to develop annual workplans consistent with the Project's implementation schedule. Both ministries will also prepare quarterly progress reports. The quarterly progress report for the last quarter of each year will serve as the annual review.

As an additional activity to those specified in the original PHICS Project Paper and Grant Agreement, the MOH will prepare an annual training plan for those activities necessary under this Amendment.

The Project Coordination Committee will continue to play a central role in project monitoring by meeting regularly to discuss progress reports, identify and resolve problems, coordinate work programs and address other implementation issues important to Project progress.

Addition information from a number of sources will assist in monitoring and evaluation efforts. These include data from the Health Information System, from the six sentinel sites, through special studies and surveys and, under this Amendment, from reports generated by non-governmental organizations receiving assistance under the Amendment.

The PHICS Project will have two evaluations performed by a team of people external to USAID, which will include evaluations of activities under this Amendment. A mid-term evaluation (July 1993) and an end-of-project evaluation (January 1997) will be conducted.

To support PHICS implementation, including those activities under this Amendment, the project is supporting the costs of a Personal Services Contractor, hired by USAID/Malawi to work in the HPN office. This person assists the responsible Project Officer in meeting USAID project monitoring and evaluation requirements.

IV. CONDITIONS PRECEDENT AND NEGOTIATING STATUS

A. Conditions Precedent

Section 1. Conditions Precedent to Disbursement of Funds under Project Paper Supplement No. 3 - PHICS Malaria Component.

Except as A.I.D. may otherwise agree in writing, prior to any disbursement of funds under this Project Paper Supplement No. 3 - PHICS Malaria Component, or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Grantee shall furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) Written evidence that a Ministry of Health staff member has been appointed to be the full-time Malaria Program Manager and assurance that he or she will commence work within 180 days of his/her appointment. The MOH will submit this individual's job description to A.I.D. for review and approval.

(b) Written evidence that three Ministry of Health staff members have been identified and appointed to function as full-time Regional Disease Control Coordinators and assurance that each will commence work within 180 days of their appointment. These Coordinators will oversee the activities of the National Malaria Control Programme in the three regions of Malawi. The MOH will submit these individuals' job description to A.I.D. for review and approval.

(c) Written evidence that the Grantee has held the initial meeting of the Malaria Program Management Team. This Team will meet, at a minimum of every two months, to address issues affecting the coordination of national, regional and district resources for the malaria control program and to resolve any implementation problems. The Team will consist of the Malaria Program Manager, the three Regional Disease Control Coordinators, the Controller of Preventive Health Services, and the Controller of Clinical Services. Representatives of other MOH Units or other implementing entities may be invited to attend these meetings on an as-needed basis.

Section 2. Conditions Precedent to Disbursement of Funds for Building Laboratory Facilities in Mangochi under Project Paper Supplement No. 3 - PHICS Malaria Component.

Except as A.I.D. may otherwise agree in writing, prior to any disbursement of funds for constructing a laboratory facility in Mangochi under this Project Paper Supplement No. 3 - PHICS Malaria Component, or to the issuance by A.I.D. of documentation

pursuant to which such construction will commence, the Grantee shall furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) A written management plan for the laboratory facility, including the proposed staffing plan, a job description for each laboratory staff member, and the Grantee's plan for assuming the recurrent costs associated with the facility.

Section 3. Notification.

When A.I.D. determines that any of the Conditions Precedent specified in Sections 1 and 2 have been met, A.I.D. will promptly so notify the Grantee.

Section 4. Terminal Dates for Conditions Precedent.

If the Conditions Precedent specified in Sections 1 and 2 have not been met within 180 days from the date of this Amendment, or such later date as A.I.D. may agree to in writing, A.I.D., at its option, may terminate this Amendment, in whole or in part, by written notice to the Grantee.

B. Status of Negotiations

The Government of Malawi has been notified of the above Conditions Precedent and is now undergoing its deliberation process.

V. REVISED COST ESTIMATES AND FINANCIAL PLAN

A. Costs of Additional Inputs

1. RESEARCH ACTIVITIES - ILLUSTRATIVE BUDGET

Support continued applied research by CHSU, primarily through the Mangochi research station, to guide the malaria control policies in Malawi.

- Expand the existing facilities/capabilities of CHSU at the Mangochi Research Station, integrating to the extent possible with the District Hospital Laboratory and the Community Medicine program of the Malawi Medical School at Mangochi:

- Construct laboratory/housing facilities . \$ 190,000
 - Laboratory equipment for CHSU/Mangochi 70,000
 - Operating costs for CHSU/Mangochi 52,000

- Provide the salaries for one Laboratory Technician and two Laboratory Assistants on a decreasing scale (100% for the first year, 75% for the second year, 50% for the third year, and 25% for the fourth year):

- Salaries for a limited core staff 18,000

- Support applied research, the results of which will have a significant impact on malaria control in Malawi. All necessary salaries, supplies, and technical assistance will be supplied in the research budget.

- (a) Support for bednet studies 300,000
 - (b) 1 mo. each short term TA for 3 other studies 37,500
 - (c) Operations expenses for 3 other studies 100,000

- Support the development of entomological expertise within the NMCP by training a student to the M.Sc. level in medical entomology.

- Two years of tuition and expenses 80,000

TOTAL \$ 847,500

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2. HEALTH SERVICE DELIVERY ACTIVITIES - ILLUSTRATIVE BUDGET

Reinforce health service delivery systems within Malawi to assure appropriate malaria prevention and treatment throughout the country by strengthening the capacity of regional, district, and peripheral health teams to commit greater energy and resource to malaria control at the service provider level.

Activities for country-wide application:

Develop curricula and materials for malaria training:	
TA (3 months)	\$ 37,500
Materials	30,000
(NOTE: Other PHICS funds may supply TA.)	
Develop health education approaches and materials:	
TA (2 months)	25,000
Materials	30,000
(NOTE: Other PHICS funds may supply TA.)	
Malaria information by newsletter every 6 months:	
Operations	15,000
Quality control system for laboratories:	
TA (1 month)	12,500
Operations	60,000
Development passive monitoring of S-P use:	
TA (2 months)	25,000
Operations	75,000

Activities to be carried out in selected districts:

In-service training	400,000
Health Education and community participation	150,000
(NOTE: Other PHICS funding may be available.)	
Monitoring and supervision	500,000
Operations research	300,000

TOTAL	\$1,660,000
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3. CAMPAIGN TO LAUNCH S-P - ILLUSTRATIVE BUDGET

Support the design and implementation of a national campaign to introduce Sulfadoxine-Pyrimethamine (S-P) as the first line drug for treatment of presumed malaria in Malawi.

-Intensive radio campaign production of 3 different spots	\$ 50,000
-Consultant to prepare health worker training materials, handouts, visuals	20,000
-Health worker training	20,000
-Posters and other promoting materials	34,000
-Coordinator/monitor of drug distribution	5,000
-Management/Marketing Consultants to lead, coordinate efforts	25,000
-ODCs, fees, etc. (20% of total)	25,000
	<hr/>
TOTAL	179,000
	<hr/>

4. Comprehensive Malaria Amendment Budget

BUDGET LINE: Item:.....	Constr.	T.A.	Training	Commo	Operat.	Eval.	Total
1. Program management		(a)			(a)		-0-
2. CHSU/Mangochi and applied research:							
a. Building	190						
b. Equipment				70			
c. Operations/salaries					70		
d. Research studies		337.5(b)			100		
e. Entomologist			80				
.....							847.5
3. Health service delivery:							
a. Management changes							
b. Country-wide:							
i. curricula/matls.		37.5		30(a)			
ii. Health education		25		30(a)			
iii. newsletter					15		
iv. lab quality control		12.5			60		
v. monitor drug		25			75		
c. District level:							
i. training			400(a)				
ii. health education					150(a)		
iii. monitoring/superv.					500		
iv. operations research					300		
.....							1,660
4. NGO support:					400		400
5. Launch S-P campaign		54	24	35	66		179
6. Contingency							
.....							
TOTALS:	190	491.5	504	165	1,736		3,086.5

NOTES: (a) PHICS funding available or potentially available to provide this.
 (b) CDC PASA funds potentially available to provide this.

B. Funding Sources of Amendment

This amendment adds US\$1,950,000 to the PHICS Project. However, this amount is not adequate to carry out all activities proposed in the amendment. Additional funds in the order of US\$1,136,500 will be required to execute the proposed amendment activities. These funds are expected to come from the existing PHICS Project budget as follows:

- (i) Technical Assistance will come from VBC Project and CDC using funds available from the Buy-in (US\$129,000) and PASA (US\$162,500) respectively. Additional funds will come from contingency in the PHICS budget (US\$200,000).
- (ii) Offshore training for a medical entomologist will come from participant training funds in PHICS. There are savings arising from trainees not completing their courses as well as TCT and incountry training (US\$80,000).
- (iii) Materials for Health Education and curricula would come from IEC supplies (US\$30,000) and the Child Survival HSA kits (US\$30,000).
- (iv) Operating expenses would be funded jointly from the amendment and PHICS budget. Salaries would be funded through unused salary budget for Epidemiology unit (US\$70,000). Other activities will be funded thus, laboratory quality control (\$60,000) and drug monitoring (\$75,000) through the Child Survival HSA salaries, Research studies through unused fund in Epidemiology unit (US\$100,000) and Research through the Research support grant (US\$200,000).

In total US\$1,136,500 will come from the existing PHICS Project budget and US\$1,950,000 will come from new funds allocated for this amendment.

The following three tables illustrate: Malaria Amendment Source Of Funding, the Revised Financial Plan; and the Revised Financial Plan by Year Of Disbursement.

1. MALARIA AMENDMENT SOURCE OF FUNDING - ILLUSTRATIVE BUDGET

EXISTING PHICS FUNDS

1.	<u>VBC</u>	<u>CDC</u>	<u>OTHER</u>	<u>NEW OBLIGATION</u>	<u>TOTAL</u>
Curriculum Develop.	37,500				37,500
Health Education	25,000				25,000
Quality Control	12,500				12,500
Drug monitoring		25,000			25,000
Research Studies		137,500	200,000		337,500
Launch	54,000				54,000
					<u>491,500</u>
2. TRAINING					
Medical Entomology			80,000		80,000
S-P Launch				24,000	24,000
District Level Training				400,000	400,000
					<u>504,000</u>
3. COMMODITIES					
Equipment				70,000	70,000
Drugs				35,000	35,000
HE materials			30,000		30,000
Curricula			30,000		30,000
					<u>195,000</u>

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EXISTING PHICS FUNDS

	<u>VBC</u>	<u>CDC</u>	<u>OTHER</u>	<u>NEW OBLIGATION</u>	<u>TOTAL</u>
4. OPERATING EXPENSES					
Salaries			70,000		70,000
Research Studies			100,000		100,000
News letter				15,000	15,000
Lab Quality Control			60,000		60,000
Drug Monitoring			75,000		75,000
Dist. Level HE				150,000	150,000
Dist. Level Monit. & Supervisor				500,000	500,000
Dist. Level Operations					
Research			200,000	100,000	300,000
Launch Campaign				66,000	66,000
					<hr/>
					1,336,000
5 NGO Support				400,000	400,000
6 Construction				190,000	190,000
					<hr/>
TOTAL	129,000	162,500	845,000	1,950,000	3,086,500

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2. REVISED FINANCIAL PLAN

Component	Present Budget	This Amendment	Revised Budget
1. Technical Assistance	4,090	200	4,290
2. Training	5,110	424	5,534
3. Commodities	6,530	105	6,635
4. Operating Expenses	3,621	831	4,452
5. Evaluation and Audits	340		340
6. AID Direct Grant to SCF - UK	1,100		1,100
7. NGO Grants	-	400	400
8. Construction	-	190	190
9. Contingency	752	(200)	552
TOTAL	21,543	1,950	23,493

3. REVISED FINANCIAL PLAN BY YEAR OF DISBURSEMENT
(In U.S.\$000)

Project Element	YEAR 1	YEAR 2	YEAR 3	TOTAL	PHICS FUNDS	THIS AMENDMENT
1. Technical Assistance	230	200	61.5	491.5	200	-
2. Training	164	240	100	504	80	424
3. Commodities	70	95	-	165	60	105
4. Operating Expenses	340	700	296	1336	505	831
5. Evaluation and Audit	-	-	-	-	-	-
6. NGO Direct Grants	100	200	100	400	-	400
7. Construction	90	100	-	190	-	190
8. Contingency	-	-	-	-	-	-
Total	994	1535	557.5	3086.5	845	1950

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C. Methods of Implementation and Financing

The GOM through the Ministry of Health will again be the primary agency for implementing activities contained in this amendment. A major change, however, is the addition of NGOs as implementing agencies for specific operational research and health service activities. NGOs will receive funding through direct AID grants approved by a committee of representatives from AID and the MOH.

All technical assistance and training activities provided under this amendment will be implemented using the same mechanisms as described in the PHICS Project Paper.

Procurement of commodities under this amendment will be done directly by USAID/Malawi or REDSO/ESA. Suppliers will be paid directly by AID in accordance with standard payment provisions.

The construction of the laboratory facilities at Mangochi will be done by local firms to be contracted with the MOW in accordance with the procedures detailed in AID Handbook II, Chapter 2 - Construction. USAID/Malawi will issue direct letter(s) of commitment as necessary to the contractor(s) of the construction services upon receipt of engineer's certification of completion and approved by the MOW.

The following revised chart incorporates additional funding under this third supplement and summarizes the revised methods of implementation and financing to be used in this project:

IMPLEMENTATION METHOD OF FINANCING ESTIMATED AMOUNT (US\$000)

A. <u>Technical Assistance</u>		<u>4,290</u>
1. AID Direct Contract (AED)	Letter of Credit	2,666
2. Buy Ins to AID centrally funded project/contracts AID direct contracts	Direct Payment	1,624
B. <u>Training</u>		<u>5,534</u>
1. Off-Shore/AID Direct Contract (AED)	Letter of Credit	1,872
2. In-Country/HC Implementation	HC Reimbursement	3,662
C. <u>Commodities</u>		<u>6,635</u>
1. Electronics and computers: HC Contract (PSA) HC Contract (Goods)	Direct payment Bank L/COM	885
2. Local Shelf Items: HC Procurement (Purchase Orders)	HC Reimbursement and Direct Pay	3,900
3. Vehicles, Motorcycles and Bicycles: AID Procurement	Direct payment	1,745
4. Lab Equipment, Drugs and Office Furnishing: AID Procurement	Direct Payment	105
D. <u>Operating Expenses</u>		<u>4,452</u>
PIL - GOM	HC Reimbursement	4,452
E. <u>Evaluation and Audits</u>		<u>340</u>
AID Direct Contract	Direct payment	340
F. <u>Drought Relief Asst.</u>		<u>1,100</u>
AID Direct Grant SCF-UK	Direct Payment	1,100

G.	<u>NGO Grant</u>			
	AID Direct Contract	Direct payment	400	<u>400</u>
H.	<u>Construction - Laboratory:</u>			<u>190</u>
	HC Contract	Direct L/Com/ Direct Payment	190	
I.	<u>Contingency</u>		552	<u>552</u>
	TOTAL AID CONTRIBUTION			<u>23,493</u> =====

Financial Review and Audit

All procedures and mechanisms for financial reviews and audits described in the original PHICS Project Paper remain in effect for activities contained in this amendment. In addition, however, USAID will perform and/or arrange for the pre-award surveys and/or assessments of local NGO's institutional and financial management capabilities prior to awarding any grants.

Under the new Recipient Audit Program guidelines issued by A.I.D. Inspector General, all foreign recipients including the GOM and its agencies and other grantees will be responsible for an annual financial audit of project activities by independent auditors acceptable to the A.I.D. Inspector General and in accordance with U.S Government auditing standards. Furthermore, sub-grantees that receive \$25,000 or more per year will also be required to have audits performed by independent auditors acceptable to A.I.D. Inspector General and in accordance with U.S Government auditing standards. In such case, the Grantee and not A.I.D. will be responsible for assuring that the sub-grantee's audit is adequately performed and that any audit recommendations are fully implemented. Sufficient funds have been budgeted under the project for pre-award surveys of the NGO's, any A.I.D mission contracted (formerly non-federal) audits where the grantees are unable to comply with the annual audit requirements, and for other specific A.I.D. audit requests.

ATTACHMENT A

**Strategies for the Development of
National Malaria Control Programs,
Brazzaville, 1991**

Short term (one to two years) strategies:

- 1) Designate malaria control as the highest national health priority.
- 2) Establish/strengthen malaria control units.
- 3) Stratify the country by intensity of malaria transmission.
- 4) Develop national malaria policies and plans.
- 5) Form national malaria advisory committees.
- 6) Develop guidelines for treatment, chemoprophylaxis, vector control, training and research.
- 7) Order antimalarial drugs.

Medium term (two to five years) strategies:

- 1) Establish/strengthen epidemiological surveillance systems.
- 2) Develop supervision and management plans to ensure drugs and supplies are available.
- 3) Develop patient education plans to ensure families know what to do with a member ill with malaria.
- 4) Develop systems for local participation and management at the village level.
- 5) Establish quality control for antimalarial drugs and ensure they are properly labeled.
- 6) Establish an operational research program.
- 7) Determine the efficacy and feasibility of using insecticide treated bednets.

Long term (five to ten years) strategies:

- 1) Strengthen entomological capabilities.
- 2) Assess the importance of urban malaria.
- 3) Integrate specially trained malaria control staff into the peripheral health system.
- 4) Extend surveillance into several sentinel communities.
- 5) Publish current information.

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ENVIRONMENTAL EXAMINATION

PROGRAM DATA

Program Location: Malawi

Program Title: Promoting Health Interventions for Child Survival (PHICS)

Funding: \$1,950,000 increase in LOP to \$23,493,000

Life of Project: 6 years

EE Prepared By: Paul Andre DeGeorges and William Brands
Environmental Officer PDO
REDSO/ESA USAID/Malawi

Environmental Action Recommended:

Negative Determination for the Construction of a Health Research Center in Mangochi

Categorical Exclusion for Monitoring/Surveillance, Operational Research Activities, Technical Assistance and Off-shore Training

Approval:

Carol A. Peasley
Carol A. Peasley, Director
USAID/Malawi

Date:

August 10, 1992

8/25/92

Concurrence:

John O. Gaudet
John O. Gaudet
Bureau Environmental Officer

Approved:

Disapproved:

Clearances:

T. Lofgren, PZO *TL* Date 8/25/92
C. McDermott, HPN *CM* Date 8-2-92
GC/AFR *GC* Date 8/26

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PROJECT PROBLEM

In its National Health Plan (1986-1995) the Ministry of Health (MOH) recognized malaria among the top 5 illnesses listed as priority problems. It is the most frequent morbidity and mortality problem for children under five years of age. In 1990 it accounted for 36% of all visits to health care facilities, and of these, 40% were children under five years old. Malaria has become difficult to treat effectively due to increasing resistance to chloroquine by malaria parasites. The extent is that nearly 80% of the clinical cases examined are resistant to the drug. This has resulted in a change to the more efficacious drug, Fansidar, to treat malaria cases. Targeting malaria as a priority disease to improve child survival is one of the basic objectives of the National Health Plan.

PROJECT OBJECTIVES

As the first country to change its official treatment protocol so definitively, it is essential that Malawi implement the transition carefully, monitoring the consequences systematically and making adjustments as needed. The actions now needed converge with the aims of the Promoting Health Interventions for Child Survival (PHICS) Project and the National Health Plan: building capacity to diminish childhood morbidity and mortality. Activities funded under the project paper supplement will directly assist the Ministry of Health (MOH) to reach its targets of reducing malaria related mortality by 10% and malaria related morbidity by 20% by 1995.

PROJECT STRATEGY

The strategy of the amendment to the PHICS Project is to provide funding to accomplish the following:

1. Promote an approach to malaria control which balances research and service delivery, expanding responsibility for malaria control to include health service providers at all levels.

A focal point for malaria control management will be established within the MOH headquarters. A Malaria Program Management Team, with personnel from both the regions and MOH headquarters, will implement malaria control interventions through service delivery points. Greater responsibility will be given to regional, district and peripheral health personnel.

2. Support continued applied research at the Community Health Sciences Unit (CHSU), primarily through the Malaria Research Station, to guide malaria policies.

A new laboratory will be constructed on free space adjacent to the Mangochi District Hospital. It will be staffed by a three person core group. Salary support will be provided on a decreasing basis until MOH assumes full responsibility by the fifth year. Applied research, such as assessments of presumptive malaria diagnoses, efficacy of Fansidar and mosquito barrier studies, will be supported through technical assistance. Funding will also be provided for long-term offshore training for one entomologist.

3. Reinforce the health service delivery system in providing malaria prevention and treatment services by strengthening the capacity of regional, district and peripheral health teams to commit greater resources to malaria control at the service provider level.

Personnel adjustments within MOH will result in a full-time Malaria Control Manager and Regional Malaria Program Managers to strengthen service delivery capabilities. Critical MOH functions, such as training, health education, drug monitoring and sentinel sites will also be supported. District Health Management teams will be funded to implement activities at the district level most appropriate to each district's needs.

4. Provide special funding for NGOs working at district and more peripheral levels to develop new approaches to malaria prevention and control.

NGOs will be supported for operations research, local financing of health services and training, health education, supervision, monitoring and community participation.

5. Support the design and implementation of a national campaign to introduce Fansidar for treatment of presumed malaria.

The Amendment will provide technical assistance, management support and funding to plan and carry out a fully coordinated introduction of Fansidar.

RECOMMENDED ENVIRONMENTAL DETERMINATION

Based upon 22 CFR Part 216.2 (c) (2) (ii), a Categorical Exclusion is recommended for Monitoring and Research Activities.

Based upon 22 CFR Part 216.2 (c) (1) (i), a Categorical Exclusion is recommended for Technical Assistance and Offshore Training.

Based upon 22 CFR Part 216.2 (c) (1) (i), a Categorical Exclusion is recommended for Operational Activities since they will not have an effect on the natural or physical environment. These activities should in fact have a positive impact on the man-made environment by improving the quality of life for the people in the region.

Based upon 22 CFR Part 216.3 (a) (2) (iii), a Negative Determination is recommended for the laboratory in Mangochi as this building is situated on existing government grounds and will not have a significant impact on the natural or man-made environments. Mitigative actions which will be taken to minimize impacts on the natural and man-made environments include: a septic tank system to discharge human sewage; pipe connections to the municipal water supply; a small incinerator system to dispose of blood, needles and other materials that could be contaminated by AIDS and/or other diseases; and a solid waste disposal site for safe burial of materials not disposable through incineration.

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Project Name : PHICS MALARIA AMENDMENT
 Est. Completion : 1997
 Date of Revision: 8/1992
 Design Team : HOLLISTER, LANDRY, SONNEMANN

Narrative Summary (NS)	Measurable Indicators (OVI)	Means of Verification (MOV)	Important Assumptions
Goal: 1 To improve the health status of Malawians by strengthening malaria control programs.	1.1 Reduce mortality rates due to acute and chronic malaria particularly in children under five and pregnant women. 1.2 Reduce the malaria case fatality rate. 1.3 Reduce the incidence of low-birth weight infants.	1.1 MCH Health Information System. 1.2 MCH, hospital records. 1.3 Special studies and surveys	(goal to supergoal) 1.1 Malaria has a significant impact on health. 1.2 There are effective measures for the control and treatment of malaria in Malawi. 1.3 Malaria is a significant cause of low-birth weight and the rates of low-birth weight caused by conditions other than malaria remain unchanged.
Purpose: 1 To identify appropriate methods of preventing malaria in Malawi and incorporating them into the national malaria control strategy. 2 To assure prompt and accurate diagnosis and treatment of malaria.	1.1 Operational research to identify appropriate strategies for preventing malaria in Malawi is completed. 1.2 Plans for the implementation of preventive measures are incorporated into the national malaria control strategy. 2.1 80% of cases of fever presenting at health facilities are properly diagnosed and treated. 2.2 40% of treated cases of malaria are appropriately followed. 2.3 At least 60% of referred cases of complicated malaria are appropriately handled. 2.4 75% of mothers take appropriate action within 24 hours of the onset of a child's fever.	1.1 Reports to the national malaria management team, the national malaria advisory committee, and U.S.A.I.D. 1.2 Strategies at the district level include activities for the prevention of malaria. 2.1 Supervisor's records at the district level and special studies and surveys. 2.2 Supervisor's records and special studies. 2.3 MCH hospital records. 2.4 KAP studies.	(purpose to goal) 1.1 Effective measures to prevent malaria in Malawi are feasible and identified by operational research. 1.2 Local populations will practice preventative health care if it is understood and affordable. 2.1 Adequate logistical systems, and accessible knowledge and skill are in place to ensure health care providers can perform their jobs. 2.2 2.3 2.4 Mothers will take the appropriate actions if resources are available and they understand its significance.
Outputs: 1 Program management focuses on service delivery.	1.1 A Malaria Control Management team is assembled and meets	1.1 Meeting minutes indicate quarterly meetings of the Malaria Control	(output to purpose) 1.1 The Malaria Control Team is empowered to promote and implement malaria

	regularly to monitor the compliance with and effectiveness of the national malaria control guidelines.	Management Team.	control activities throughout Malawi.
		Supervisory reports and special surveys.	
	1.2 The most recent guidelines for the treatment and prevention of malaria are available in 93% of the health facilities.	1.2 Supervisors' reports and special surveys.	1.2 HIS malaria statistics are available from the districts in a timely fashion.
	1.3 Semi-annual information newsletter is produced and distributed to 90% of the health units.	1.3 Special surveys and health facility inventories.	
2 Research capability to guide malaria control policies is maintained.	2.1 The CHSU/Mangochi research facilities are built and equipped.	2.1 Site visits and MOH financial reports.	2.1 The MOH is willing to commit more resources to the maintenance of the applied research program.
	2.2 Three individuals are hired and paid increasingly by the MOH to provide core staff for the research facility in Mangochi.	2.2 MOH financial and employment records.	
	2.3 Studies are completed which: determine the efficacy of bednets, monitor the efficacy of S-P, assess the reliability of presumptive diagnosis of malaria in Malawi, and monitor changes in the biology of the vectors of malaria.	2.3 Reports to the national malaria management team, the advisory committee, and U.S.A.I.D.	
	2.4 A MOH staff member receives a M.Sc. in medical entomology and returns to the MOH for employment.	2.4 MOH employment records.	
3 Regional, district and peripheral level health teams have increased capacity to deliver malaria control services.	3.1 All district teams have plans of action for malaria control.	3.1 Review of district action plans	3.1 The District teams have the resources and capabilities to develop (with the help of the national malaria advisory committee), implement, and monitor malaria control activities within their districts.
	3.2 District teams conduct training sessions in accordance with their action plans, retraining at least 80% of the service delivery personnel.	3.2 District reports and financial records, field surveys of training coverage.	
	3.3 District teams monitor and supervise malaria control activities within their districts.	3.3 Supervisors' records and reports.	
	3.4 District teams have conducted operational research programs.	3.4 District reports to the malaria control management team.	

<p>4 NGOs have the capacity and opportunity to contribute to malaria control activities in their districts.</p> <p>5 S-P is effectively launched as the replacement for chloroquine as the drug of choice for the treatment of malaria.</p>	<p>3.5 All district teams have implemented health education and community participation programs.</p> <p>4.1 NGOs participate at the district level in the management of malaria control activities.</p> <p>4.2 NGOs have conducted effective operational research.</p> <p>5.1 S-P is available in all health units and selected commercial outlets.</p> <p>5.2 80% of health workers prescribe S-P properly.</p> <p>5.3 50% of the general population is aware of S-P and its proper use.</p>	<p>3.3 KAP studies.</p> <p>4.1 District reports to the malaria control management team and NGO progress reports to U.S.A.I.D.</p> <p>4.2 Progress reports to U.S.A.I.D.</p> <p>5.1 Drug inventories.</p> <p>5.2 Supervisors' records.</p> <p>5.3 KAP studies.</p>	<p>4.1 The priorities of the NGOs are consistent with the district's malaria control strategy.</p> <p>4.2 NGOs have the capacity to conduct effective operational research.</p> <p>5.1 Central Medical Stores can maintain and distribute sufficient supplies of S-P.</p>
<p>Activities:</p> <p>1.1 Assemble a malaria control management team to include:</p> <p>a) a full time team manager from the health services delivery section within the MOH headquarters,</p> <p>b) a representative of CHSU and the malaria advisory committee,</p> <p>c) a representative from each region, responsible for malaria control within the region.</p> <p>1.2 Assist in the publication and distribution of revised guidelines for the prevention, diagnosis, and treatment of malaria.</p> <p>1.3 Assist in the publication of a semi-annual malaria control newsletter and its distribution to all levels of health care providers.</p> <p>2.1 Support the expansion and equipping of the CHSU research facilities at Mangochi and Lilongwe.</p> <p>2.2 Provide support for research staff and operating expenses for applied research on a decreasing scale.</p> <p>2.3 Support selected applied</p>	<p>Inputs/Resources:</p> <p>Budget in thousands</p> <p>1.1 Cost covered in PHICS</p> <p>1.2 Cost covered in PHICS</p> <p>1.3 \$ 15.0</p> <p>2.1 \$260.0</p> <p>2.2 \$ 70.0</p> <p>2.3 \$437.5</p> <p>2.4 \$ 80.0</p> <p>3.1 \$250.0</p> <p>3.2 \$400.0</p> <p>3.3 \$500.0</p> <p>3.4 \$300.0</p> <p>3.5 \$150.0</p> <p>4.1 & 4.2 \$300.0</p> <p>5.1 \$150.0</p> <p>Contingencies (10%) 291.0</p> <p>TOTAL \$3203.5</p> <p>Budget (\$000)</p> <p>Construction 160.0</p> <p>Technical Assistance 437.5</p> <p>Training 630.0</p> <p>Commodities/Equip 100.0</p> <p>Operating Expenses 1585.0</p> <p>Evaluations & Audits 0</p> <p>Contingencies 291.0</p> <p>TOTAL 3203.5</p>	<p>1.1 USAID audits and evaluations</p> <p>1.2 U.S.A.I.D. financial and progress reports</p> <p>2.1</p>	<p>(activity to output)</p> <p>1.1</p> <p>2.1</p>

<p>research studies including:</p> <ul style="list-style-type: none"> a) WHO/Hangochi bednet study, b) monitoring the efficacy of S-P, c) assessment of the reliability of a presumptive diagnosis of malaria in Malawi, d) monitoring for changes in the biology of malaria vectors. 	4d		
2.4 Provide support for the training of a medical entomologist to the M.Sc. level.			
3.1 Support the development of district malaria control action plans.		3.1	3.1
3.2 Support the districts to conduct training programs in accordance with their action plans.			
3.3 Support the districts in their effort to monitor and supervise malaria control activities.			
3.4 Provide support for operational research at the district and local level.			
3.5 Assist the districts develop malaria control health education and community participation programs.			
4.1 Support NGO's participation in malaria control activities at the district and local level.		4.1	4.1
4.2 Provide support for NGO's to conduct operational research.			
5.1 Fund a campaign to introduce S-P as the replacement for Chloroquine including:		5.1	5.1
<ul style="list-style-type: none"> a) packaging and marketing S-P, b) a mass media public education campaign, c) training of public health workers. 			

Telegrams: FINANCE, Lilongwe
 Telephone: Lilongwe 731 311
 Telex: 44407
 Fax: 734 739

SECRETARY TO THE TREASURY
 MINISTRY OF FINANCE
 P.O. BOX 30049
 LILONGWE 3
 MALAWI



REF. NO. USA/10/VOL. II/56

DATE: 08/28/92
 ACTION TO: M/C & memo H/M
 INFO:
 August 28, 1992

DIR	
DD	
AFS	
CONT	
EXO	
GSO	
HPN	
HRDO	
PAE	
PID	

DUE DATE: 09/08/92
 ACTION TAKEN:
 INITIALS

The Mission Director,
 USAID,
 P.O. Box 30455,
 LILONGWE 3

Dear Madam,

PROMOTING HEALTH INTERVENTIONS FOR CHILD
 SURVIVAL (PHICS) PROJECT

As you are aware, a number of amendments have been agreed and implemented under the PHICS Project. The latest amendment was mutually agreed upon in 1990 and in that amendment, the Howard University Project activities for the Lilongwe School for Health Sciences was launched. The creation of the Manpower Development Unit in the Ministry of Health was, yet, another.

2. From the foregoing, we should like, with your agreement, to propose a further amendment which, will be aimed at covering the Malaria Research activities in Mangochi district. It is envisaged that this project activity will require an additional sum of US\$1.65 million.

3. If the amendment is agreed upon and the sum of US\$1.65 is made available, the Ministry of Health will use these funds for developing their staff research capabilities by way of constructing and equipping research laboratories, building a few staff houses and the provision of salaries and wages for the staff working on the research project. A detailed breakdown of the financial requirements is attached hereto for your consideration.

4. The Malawi government attaches a lot of importance to this project most particularly that malaria is one of the five deadly diseases in Malawi and accounts for about 36% of the out-patients visits to the hospitals and other health

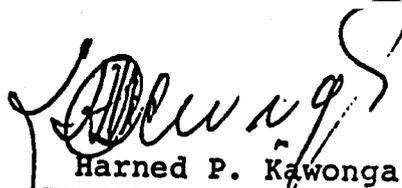
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clinics. We believe that any assistance in this direction will not only assist the Ministry of Health in its untiring efforts to combat the disease, but that it will also make a direct impact in the over-all improvement of the health of people of this country.

5. We should be most grateful for your kind consideration and approval.

Yours faithfully,



Harned P. Kawonga

FOR: SECRETARY TO THE TREASURY

CC: The Secretary for Health, LL3.

CC: The Secretary for Economic Planning & Development, LL3.