PD-BAS-625

PROJECT PAPER FOR IMPLEMENTATION

OF

MALAWI HEALTH INSTITUTIONS

DEVELOPMENT PROJECT

Submitted to: The United States Agency for International Development
Mr. Sheldon W.Cole
AID Representative
Lilongwe, Malawi

By: Government of Malawi

Date: July 1, 1983

Re-Edited March 9, 1984
Howard University

TABLE OF CONTENTS

ANNEXES

i. Project Design Team:

Dr. Thomas Georges, Jr. (Howard University) Team Leader

Ms. Claudette Bailey (Howard University)

Dr. Cyril Crocker (Howard University)

Ms. Pearline Gilpin (Meharry Medical College)

Dr. Deborah Heath (Meharry Medical College)

Dr. Sidney Paige (Howard University)

Dr. Deborah Smith (Howard University)

ii. Contributors:

Dr. Charles DeBose - USAID/Swaziland, RHDO

Dr. M.C. Chirambo - (Ministry of Health)

Dr. J.D. Chiphangwi - " "

Dr. M. Keller - " "

Dr. H. T. Schmidt - " "

Dr. A.R. Msachi - " "

Ms. L. Kadzamira - " "

Mr. S.S. Chigwenembe - " "

Mr. L.L. Chipungu - " "

Mr. S.M.C. Jere - " "

Mr. F.S. Chizimbi - " "

Mrs. N. Luwanja - " "

Mrs. N. Munyenyembe - " "

Mrs. J. Rashidi - " "

Mr. J.D. Manda - " "

Mr. A.M.D. Mosiwa - " "

Mrs. S. Sagawa - " "

Mr. W.H. Kunwenda - " "

Mr. A. Zindawa - " "

Mr. A.G. Malikebu - " "

Mr. M. Phiri - " "

III. ACRONYMS

CDC - Communicable Disease Control

CHN - Community Health Nurse

CO - Clinical Officer

DHI - District Health Inspector

ENM - Enrolled Nurse Midwife

EPI - Expanded Programme of Immunization

FY - Fiscal Year

GDP - Gross Domestic Product

GOM - Government of Malawi

HA - Health Assistant

HC - Health Center

HU - Howard University

IUD - Intra-uterine Device

MA - Medical Assistant

MCH - Maternal and Child Health

MCH/CS- Maternal and Child Health/Child Spacing

MOH - Ministry of Health

MOWS - Ministry of Works and Supplies

PH - Public Health

PHAM - Private Hospitals Association of Malawi

PHC - Primary Health Care

PHN - Public Health Nursing

PHW - Primary Health Worker (Village Level Worker)

RHDO - Regional Health Development Officer

TBA - Traditional Birth Attendant

UNFPA - United Nations Fund for Population Activities

UNICEF- United Nations Children's Emergency Fund

VHC - Village Health Committee

CURRENCY EQUIVALENTS

Currency Unit	=	Malawi Kwacha (MK)
US $1.00	=	MK 1.12
MK 1.00	=	U.S. $0.89

METRIC EQUIVALENTS

1 meter	=	39.37 inches
1 kilometer	=	0.62 miles
1 sq. kilometer	=	0.39 sq. miles

A. PROJECT SUMMARY

This project is a manpower development initiative conceived by GOM/MOH in support of MOH activities. Specifically the project will: (1) train personnel to improve MCH services, (2) train personnel to provide child spacing services to Malawian families, (3) train and retrain mid-level health workers in primary health care, and (4) establish within MOH the institutional capability to train Community Health Nurses, MCH/CS Enrolled Midwives, and PHC - ready Medical Assistants and Health Assistants.

The four components of this project will provide technical assistance, participant training, in-country training, commodities and construction in a coordinated system of training for mid-level health workers. The training programs will be task-oriented and competency-based in response to MOH's need for personnel fully qualified and competent to assume broadened responsibilities for delivering a balance of curative/preventive/promotive personal, family and community health services.

At the end of the project, four categories of health workers will be trained in their new duties. The MOH will be capable of continuing these training activities. MOH and Howard University are submitting this project proposal.

B. BACKGROUND

1. Geographical and Socio Economic Situation

With a land area of 36,325 sq. miles and a further 9,425 sq. miles, covering Lake Malawi, Malawi is a relatively small country. Administratively, Malawi is divided into three regions, each of which is divided into districts, 24 in total. It lies within the tropics, but the varied topography associated with its position along the Great Rift Valley produces wide bio-climatic conditions. Topography and climate combine to produce an environment which favors the presence of vectors such as mosquitoes, snails and flies, the carriers of tropical diseases.

The economy of Malawi is principally agriculture-based and the main export products are tea, tobacco and sugar. Many communities and families are engaged in subsistence farming and the average per capita income is under $US 200 per year, making Malawi one of the twenty poorest countries in the world.

2. Demographic Situation

The demography of Malawi is characterized by an extremely high fertility rate, very high levels of infant and child mortality, low urbanization and a significant level of international migration. The 1980 data of the United Nations Fund for Population Activities indicates a crude birth rate of 51.5 and a crude death rate of 19.1. This results in a rate of natural increase of 3.2% per year. In 1979, the World Bank reported a total fertility rate of 7.0 which is the third highest rate in Africa. Estimates indicate that the infant mortality rate is about 250/1000. The child death rate (age 1 to)4 is 25%. Of the approximately six and one half million population, 46% are aged 14 years and younger. The maternal and child health services population is projected to grow from 2.5 million (women aged

population is projected to grow from 2.5 million (women aged 15-49 years and children under five years of age) to nearly 5 million by 2000. Life expectancy at birth is 47.6 years.

3. Health Status

Morbidity and mortality data are derived from statistics collected by Government and non-government health services. These reports are fragmentary, and have not been adequately evaluated by the Ministry of Health (MOH) for accuracy or quality. Birth and death registration are not mandatory. Demographic mortality indices are derived from analyses of census and survey data. Although data are unreliable, they do provide some evidence of the incidence/prevalence of disease. Obviously, the lack of epidemiological capability is a constraint in identifying health problems and in health planning.

The health status of the Malawian people is generally very poor. It is characterized by low life expectancy at birth and high infant and child mortality. Malaria accounted for over one-quarter of all initial out-patient visits in 1979 and is the third leading cause of in-patient mortality. Other important causes of morbidity and mortality are pneumonia, tuberculosis, diarrheal diseases, measles, and malnutrition. Disease patterns are worsened by low standards of living characterized by poor hygiene and inadequate nutrition.

The incidences of cholera and gastroenteritis are related to the unavailability of the safe water, proper sanitation and waste disposal. Nearly 70% of the urban population, but only 30% of rural people, have access to safe water. Health status is clearly lower in rural areas where a shortage of services exists. This environment is conducive to a high incidence of

infectious and parasitic diseases which are primary causes of morbidity and mortality.

The leading causes of morbidity and mortality in Malawi, as reported in 1981, are presented in the table below.

Table I Leading Causes of Morbidity and Mortality, 1981

Morbidity*	Mortality
Malaria	Respiratory Infection
Diarrhea	Malaria
Respiratory Infection	Measles
Eye Disease	Malnutrition
Dental Disease	Anemia
Other Gastrointestinal Diseases	Diarrhea
Accidents	Unknown
Malnutrition	Perinatal Causes
Measles	Tuberculosis
Hookworm and other worms	Tetanus

*Morbidity figures are based upon ages 0-4 only, but would not differ significantly from data for all ages.

Vital statistics on the Malawi population vary considerably, according to the source being used; however, the figures below are mostly those reported in the Country Assessment prepared in September 1983 for the Combatting Childhood Communicable Diseases (CCCD) Project. They appear to reflect the best collection of recent information and portray a child health status for the population which is slightly worse than that of neighboring countries.

Table 2 Benchmark Statistics, 1984

Population	7 million
Population Density	68 sq. km.
Total Fertility Rate	7.7
Population Growth Rate	2.9 percent annually
Infant Mortality	130-159 per 1000 births
Child Mortality	330 per 1000 children (0-5)
Life Expectancy	42.5 years (at birth)
Adult Literacy	36 percent
Rural Population	90 percent
Rural access to safe water	30 percent
Rural access to health services	80 percent

Malnutrition and under-nutrition also contribute to the major causes of mortality and morbidity, particularly among children under five years of age.

4. Health Policy

One of the major objectives of the Government of Malawi is to raise the level of health of its people through a sound service delivery system capable of promoting general well-being by preventing, reducing and curing diseases, protecting life, and increasing productivity. The Government of Malawi is committed to PHC for all by year 2000 and was an early signatory to the Alma-Ata Declaration. Since 1978, the MOH has created three PHC demonstration areas throughout the country. With this objective in mind, the MOH intends to broaden its maternal and child health (MCH) services by integrating child spacing services in the MCH programs on a national scale.

Achievement of full PHC nationwide is hampered by several constraints. Among the major constraints are lack of health manpower training and development programs, lack of health planning capabilities, and lack of financial resources that support training and health services infrastructure.

Although the Government of Malawi is the major provider of basic health services, the Private Hospital Association of Malawi (PHAM), a group of religious missionary societies, provides 35% of all in-patient care and 18% of all out-patient care.

A 1979 report estimates that there are 5,000 traditional practitioners in Malawi who also provide health services to the Malawian population. There is no apparent relationship between traditional health care and "Western" health care. A recent World Bank assessment concludes that coordination between the Government and private health care systems is very strong. A

large proportion of the health services rendered by the PHAM institutions are hospital based and curative.

Health planning in Malawi, from the time of independence in 1964, has had four basic phases including the current phase which emphasizes community-based primary health care.

a. 1965-1969 Five Year Health Plan - This plan stressed the training of manpower to staff the network of curative services - oriented facilities inherited from colonial times.

b. 1973-1988 15 Year National Health Plan - This plan was developed in 1971 in collaboration with WHO, and followed the "basic health services" from the central ministry and hospitals out to the village level. This plan identified the priority health conditions to be addressed and established targets for the construction of facilities and training of personnel.

The 267 page health plan includes the philosophy of "basic health services," an organization plan for the system's health units and their respective staffing, information systems, special programs, legislative needs and recurrent costs analysis. Aside from its being essentially facilities-oriented, this plan describes a well-balanced comprehensive services system - perhaps beyond the forseeable reach of Malawi. Its main features were:

1. Essential Conditions

- The community must actively participate in the service;
- The health personnel should work in a team;

- The responsibility of each health worker must be clearly defined and controlled, and geographical areas in which they are to work must be specified;

- There must be a system of referral to the next higher unit;

- The next higher unit must exercise supervision and give constant in-service training, guidance and encouragement;

- Facilities, supplies and equipment must be available to enable workers to perform their activities;

- Basic Health Services will particularly depend on the widespread use of auxiliaries, because professional staff is in short supply and it is inefficient and uneconomical to use professionals for routine tasks.

By and large the effectiveness of the auxiliary is dependent on constant supervision and guidance by the professional supervisor, and on in-service training. Cooperation and coordination between large hospitals and all other health services is of fundamental importance.

2. Facilities Organization

The population of Malawi was to be divided into service units of 50,000 each, with each unit served through the following set of facilities:

	1971		Plan		1988
Health Center (50,000 Pop)	50	+	80	=	130
Sub-Center (10,000)	200	+	320	=	520
Health Post (2000)	0	+	2080	=	2080

The figures to the right of the diagram show how many new facilities would have to be built to reach the number needed for the projected 1988 population of 6.5 million (which has already been passed by 0.5 million). In the

first 10 years of the 15 year period covered by the plan, health centers have been renovated extensively, but the number has not increased significantly; there are about twice as many Sub-Centers (450) and hardly any Health Posts (51).

3. Manpower Planning

A staffing plan is presented for the entire Malawi health system from the national central hospital to the two other regional general hospitals, the 24 district hospitals and the entire network of rural facilities described above.

c. 1978-1983 Primary Health Care Plan - Malawi organized a national inter-ministerial conference in 1978 to consider its approach to Primary Health Care. The GOM later participated in developing and fully endorsed the Declaration of Alma Ata and began to design and implement a PHC system in Malawi. The national health policy, that was developed by the Ministry of Health in 1980, combined the objectives of the 15 year health plan and the PHC movement and consisted of the following strategies:

- To provide a comprehensive health care delivery system throughout the country. While the basic health service network, consisting of a Primary Health Center for every 50,000 people, a subcenter for 10,000 people and a Health Post for 2,000 will be established, health services at community level will be provided by Primary Health Workers.
- To strengthen and expand Maternal and Child Health Services and health education.
- To replace and renovate old and inadequate hospital facilities in rural and urban areas.
- To strengthen measures for the prevention and control of communicable diseases. These include vector control, provision of basic sanitation facilities and water supply, and early detection and treatment of diseases.

- To train health personnel at all levels and orientate health manpower development towards meeting the needs of the communities.

In 1982 two basic GOM PHC policy documents were issued: "Plan of Work for the Primary Health Care Process in Malawi" and "Implementation of Primary Health Care in Malawi, 1982-1985, Phase One." The details of this PHC plan strategy are presented below. Although this plan is undergoing further modification in the present fourth phase of Malawi health planning, the third phase still applies to the present system, except for its description at the community level.

With the adoption of the Primary Health Care international movement, Malawi moved from the basic health services approach above to a new approach which emphasized village level health workers and their immediate supervisors. Plans were made to initiate a reorientation process for all health personnel from the MOH to the Sub-Center level to prepare them for their respective roles in supporting PHC and to phase in the actual establishment of Village Health Committees and the training of village PHC teams. This process will be carried out first in the three pilot districts and then in more districts annually until full coverage was attained. The model for the new system was to be added to that for the basic services system and is described below:

Sub-Center

Enrolled Nurse/Midwife
Medical Assistant
Health Assistant

Health Post

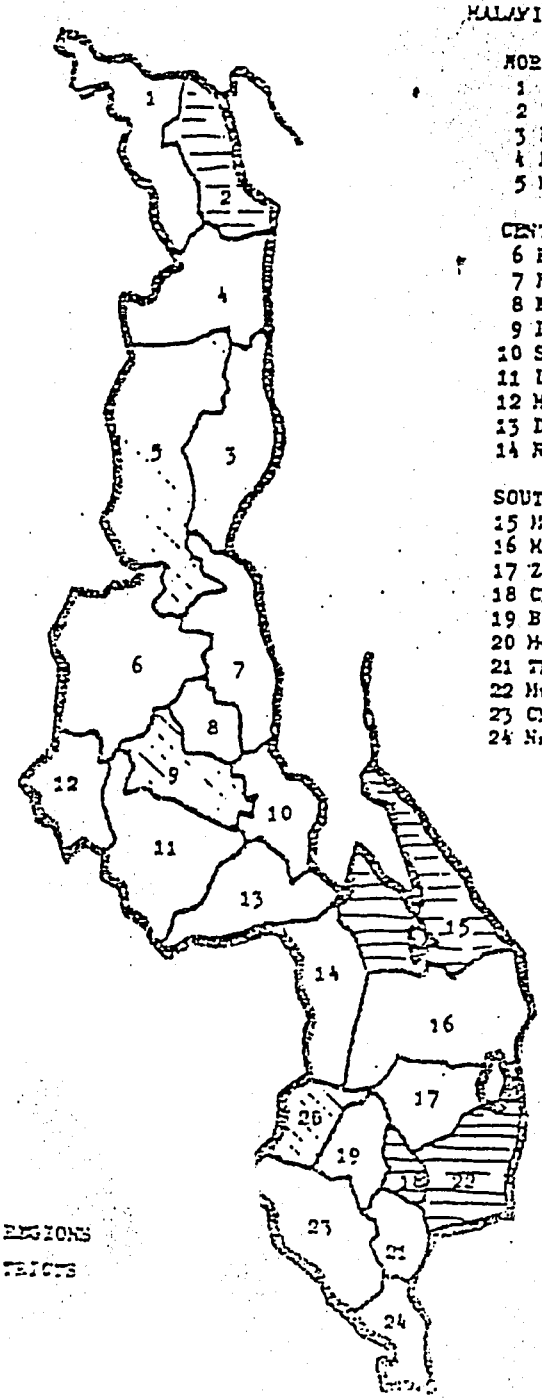
Primary Health Worker
Traditional Birth Attendant

Village Health Committee

18

Village Health Committee development was attempted and 30 Primary Health Workers were trained in 1981 for work in the first 3 pilot zones of Mzimba, Dowa and Mwanza Districts. The following map indicates these three districts as well as the 7 districts scheduled for the next phase.

Region and District	1977 Population ('000)	PHC Phase
MALAWI	5547	
NORTHERN REGION	648	
1 Chitipa	72	
2 Karonga	106	2
3 Nkhata Bay	105	
4 Rumphi	62	
5 Mzimba	301	1
CENTRAL REGION	2143	
6 Kasungu	194	
7 Nkhota Kota	54	
8 Ntchisi	87	
9 Dowa	247	1
10 Salima	132	
11 Lilongwe	784	
12 Mchinji	158	
13 Dedza	298	
14 Ntcheu	226	
SOUTHERN REGION	2754	
15 Mangochi	302	2
16 Machinga	341	
17 Zomba	352	
18 Chiradzulu	176	2
19 Blantyre	448	
20 Mwanza	71	1
21 Thyolo	332	
22 Mulanje	477	2
23 Chikwawa	154	
24 Nsanje	106	



MALAWI REGIONS AND DISTRICTS

1981

1984

"spill-over"

1985

19

The Primary Health Care Plan goes into great detail concerning the role that each level of health workers will play in the system and gives special attention to the district level PHC team and the Sub-Center staff. The proposed AID project is to provide the training (both basic and in-service) for the three categories of health worker at the Sub-Center level to prepare them for their roles in working with the Village Health Committees and the Primary Health Workers and TBAs. The following descriptions apply to these three village level groups:

1. Village Health Committee - The main vehicle for the development of PHC at community level will be the Village Health Committees. Village Health Committees are comprised of local leaders and should represent a cross-seciton of the community; it is essential that a significant proportion of the VHC members be women. There are normally 10 members in each VHC who are elected by the community. These committees will provide the managerial structure for PHC at the community level. The functions of the health committees will include planning and management of maternal and child health, water and sanitation and the treatment of simple diseases. One of the major objectives of PHC is to reduce high morbidity and mortality among infants and children. Thus, it is necessary to include activities such as nutritional surveillance of children who are not brought to child clinics, promotion of nutrition in homes, ante-natal screening, supervision of deliveries, management of diarrhea in children, immunizations and prophylaxis and treatment of malaria. VHCs should, therefore, actively

encourage participation of women. The other main areas of emphasis will be creating awareness of types of health problems in the area.

2. Primary Health Worker - is responsible for:
   - Promotion of sanitation, construction of pit latrines and refuse pits;
   - Monitoring Water Sources;
   - Monitoring Potable Water;
   - Surveillance of Epidemics;
   - Treatment of: malaria, simple eye infections, diarrhea, wounds;
   - First Aid; and
   - Health Education

3. Traditional Birth Attendant - is responsible for:
   - Ante-natal care;
   - Deliveries;
   - Referral of At-Risk-Cases;
   - Treatment of anemia;
   - Advise women to take children to Under-Five clinics
   - Monitoring child development through growth charts; and
   - Health Education

The international PHC movement stresses the importance of community participation, management and financing. The Malawi PHC Plan makes this clear, "It is important that the community realize that the PHC programmes belong to them and not the Ministry of Health. Salaries or stipends will not be given to PHWs by Government, therefore, encouragement should be given to the community that they should find ways to compensate the PHWs. In the case of the TBAs, this is already taking place. With other PHWs, they will be working only

part time, so full renumeration would not be required."

d. 1984 - Community-based Primary Health Care - During the past 6 months, the PHC Core Group has been working to identify an approach to Primary Health Care that would allow the GOM to go directly to the communities to collaborate in the development of a PHC system based on existing community resources.

The basic principles of this new approach to PHC in Malawi are:

1. Primary Health Care is shaped around the life of the population in which it exists;
2. The improvement of primary health care should be an integral part of the national development service system, and all echelons of service should be designed to support the needs of the community, especially with regard to technical supply, supervision, and referral of problems;
3. The local population should be actively involved in the formulation and implementation of improved PHC activities, so that PHC can remain in line with local needs and priorities. Decisions as to the community's needs should be based on continuing dialogue between the people and the services;
4. PHC should place maximum reliance on available community resources, especially those that have hitherto remained untapped; and
5. Primary health care should involve an integrated approach of preventive, promotive, curative and rehabilitative services in all sectors.

e. The Future National Health Plan - The MOH is now engaged in a year-long exercise to formulate a new, revised National

Health Plan. Numerous planning exercises are currently underway in connection with this effort, and the new plan is expected to be approved in 1985.

Private medical practitioners are few in number and are located in the urban areas such as Blantyre, Zomba and Lilongwe. The rural areas are serviced by the few and scattered health personnel of the MOH and the traditional healers.

5. Health Manpower Development

The training of health personnel is being given priority attention by the MOH. At present, there is a considerable shortage of health manpower in general, and particularly the primary health care provider such as Medical Assistant, Health Assistant, and Community Health Nurse.

The Medical Assistant is the surrogate physician. His present health care function is mainly ambulatory and curative. It is necessary to retrain the M.A. to assume leadership of the PHC mid-level team which will provide a balance of curative, preventive and promotive health services.

The Health Assistant presently monitors public health ordinances and assists in carrying out immunization programs. He will be retrained to assist an extended role in environmental health, community organization/motivation, health education and epidemiology.

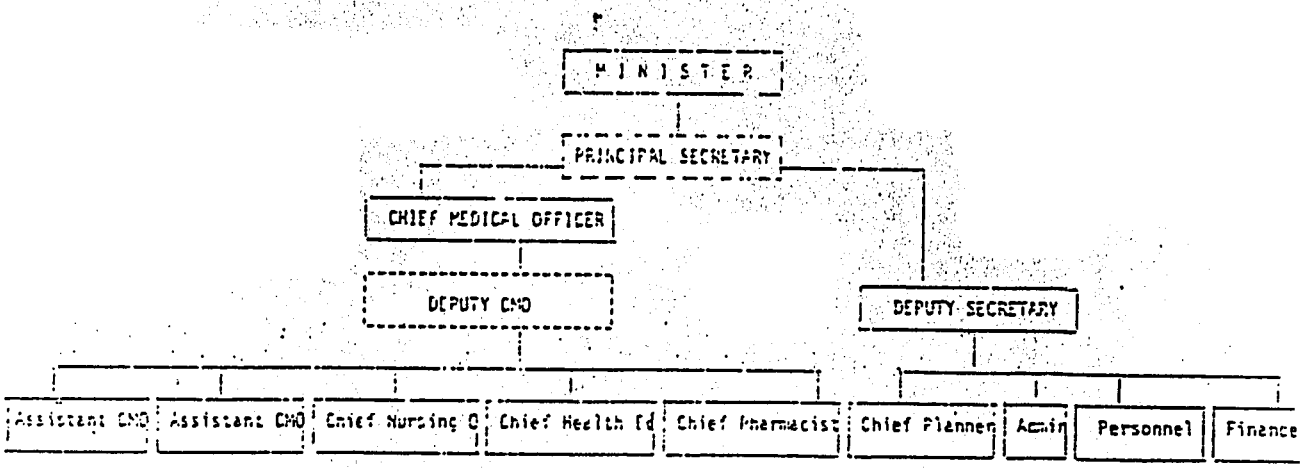
The present Enrolled Nurse Midwife is presently providing a large proportion of health services. After undergoing retraining, she will be converted to a Community Nurse Midwife. Her main function will be to provide community-based curative/preventative/promotive care focusing on MCH/CS.

The training prepared in this project will not only strengthen and expand the capacity of the health manpower training programs, but will also be consistent with the long term health manpower needs of the MOH.

6. Organization of MOH, Facilities and PHC Personnel

The health care services system is organized under the central direction of the Ministry of Health and is composed of a hierarchical, tiered system of facilities and personnel.

Table 3 Ministry of Health Organization*

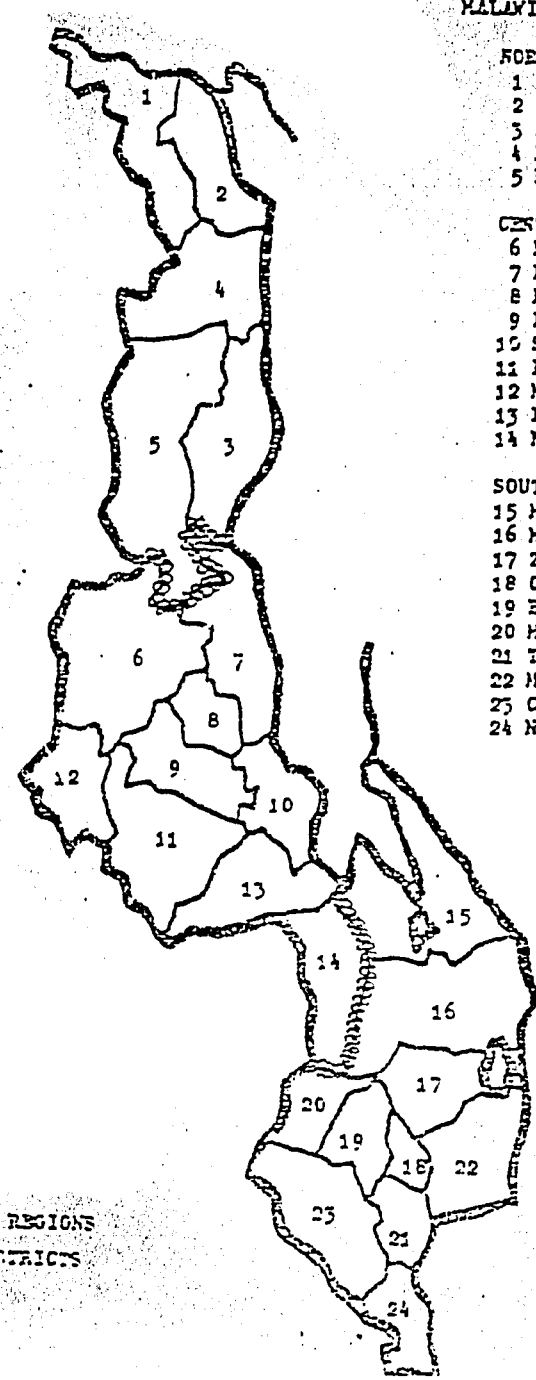


*The organization of the MoH above represents the planned organization as of January 27, 1984. As the current planning exercise proceeds, further modifications can be expected.

24

For administrative purposes Malawi is divided into three regions and 24 districts. The map shows the location of these administrative units.

Region and District	1977 * Population ('000)
MALAWI	5547
NORTHERN REGION	648
1 Chitipa	72
2 Karonga	106
3 Nkhata Bay	105
4 Rumphi	62
5 Mzimba	303
CENTRAL REGION	2143
6 Kasungu	194
7 Nkhota Kota	54
8 Ntchisi	87
9 Dowa	247
10 Salima	132
11 Lilongwe	704
12 Mchinji	158
13 Dedza	296
14 Ntcheu	226
SOUTHERN REGION	2754
15 Mangochi	362
16 Machinga	341
17 Zomba	352
18 Chiradzulu	176
19 Blantyre	406
20 Mwanza	71
21 Thyolo	322
22 Mulanje	477
23 Chikwawa	194
24 Nsanje	103



MALAWI REGIONS AND DISTRICTS

* 1984 population estimates are approximately 21% higher overall, with the greatest increase

Also beginning at the ministry level and extending to the village level, there is a Primary Health Care Coordination Network organized as follows:

Table 4 Primary Health Care Coordination Network

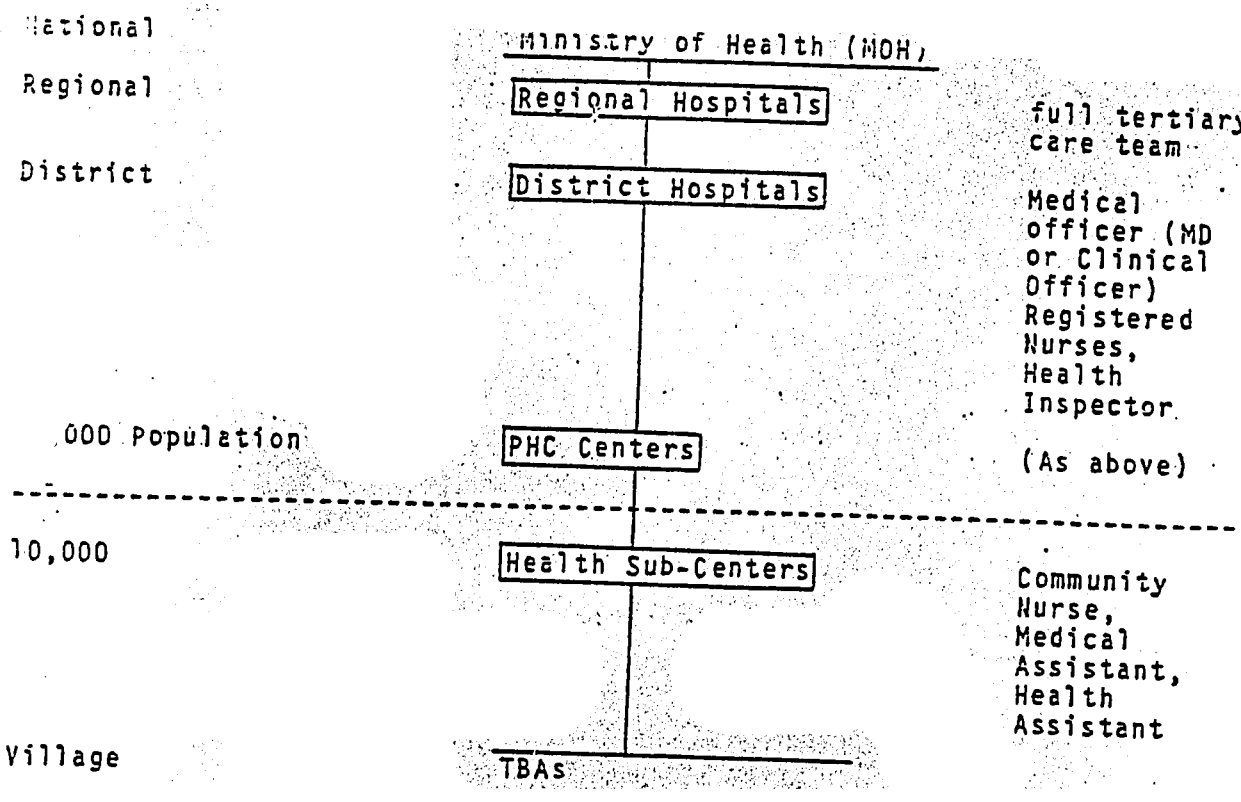
National PHC Committee	15 interministerial members, meet monthly
PHC Core Group	10 members, frequent ad hoc meetings
Regional PHC Teams	5 members
District PHC Teams	
Area PHC Teams	15 members
Village Action Groups	

The underlying strategy of the current PHC plan is that PHC be undertaken, not as an activity of the MOH, but as an integrated element of the general approach to development at the community level. The key level of GOM employees to be working in this PHC system is the Area PHC Team Level.

The existing organization of health services facilities and personnel derives from the MOH's "basic health services" approach to sector development. The diagram below does not include vertical programs or support systems such as training and logistics support, but presents the hierarchical system of service facilities and their respective staffing.

Table 5

Health Care Facilities and Personnel



C. OTHER DONORS

International and bilateral agencies have supported health activities in Malawi since its independence in 1964. UNICEF is supporting projects in primary health care, water and sanitation, nutrition and primary education. UNICEF allocated U.S. $3.3 million to support these activities in 1981-83. WHO provides technical assistance upon request and makes available a number of training fellowships each year. UNFPA and WHO assist the MCH program. WHO also provides consultant assistance for paramedical training and health educatior The European Development Fund (EDF) had financed the replacement of two old district hospitals. In 1981, the African Development Bank. approved a loan of FUA 9.0 million to reconstruct two district hospitals and to build two new health sub-centers.

In 1983, the World Bank approved a health sector loan of US $3,587,700. This loan is intended to strengthen the planning and management capability of the MOH, to improve the pharmaceutical supply and distribution system, to establish an epidemiological unit, to provide training and material support to develop primary care. Of this loan, US$ 900,000 will be used for renovations, equipment, training and a family formation study in support of the initiation of child spacing services.

This proposed project has been designed by GOM/MOH to supplement and build upon the advances in MCH/CS services which are supported by the World Bank loan. The training of the MCH/CS personnel under the World Bank project is short term training (2 weeks) in child spacing techniques for Enrolled Nurse Midwives. The Bank supported training protocol is currently being used on a pilot basis at 3 training sites. This prototype training material will be incorporated in the development of the proposed MCH/CS training program.

The GOM has collaborated with numerous donors throughout the evolution of its development of the health sector. In 1981 about 5% of all donor assistance to Malawi went to the health sector. A list of the 1981 external partners in health development follows:

Beit Trust
Canada (CIDA)
Denmark (DANIDA)
France
Germany, Federal Republic of
Japan
Netherlands
South Korea
United Kingdom
United States

ADB/ADA
EEC/EDF
Overseas Religious Organizations
OXFAM
Save the Children Fund (UK)

FAO
UNCDF
UNDP
UNICEF
UNFPA
World Bank
WFP

The level of support from the principal donors in 1981 was:

Source of Funds	Multilateral/Bilateral	Capital AID	External Loans And Credit
United Kingdom	556 870	---	---
Fed. Rep. Germany	---	628 147	
United States of America	61 000	---	---
France	187 430	---	---
Denmark	810 637	---	---
Japan	507 500	---	---
Canada	50 400	87 800	---
FAO	15 750	---	---
WHO	294 200	---	---
UNFPA	195 280	---	---
WFP	1 972 116	---	---
UNICEF	307 000	---	---
EEC/EDF	---	456 442	---
UNCDF	---	1 306 916	---
ADB	---	---	053 873
UNDP	242 00	---	---
Totals:	5 201 183	2 479 305	1 053 873
Grand Total:	8 743 361		

Source of Funds	Programme/Project/Activity	Duration of Aid	Amount Committed	Remarks
The African Development Fund (ADF)	Rural Health Centres Project (a) Construction, furnishing and equipping two district hospitals in replacement of the existing ones at Mchinji and Salima. (b) Construction, furnishing and equipping two new health subcentres at Kaigwazanga and Mikundi, both in Mchinji District. (c) Strengthening the planning division of the Ministry of Health by providing technical expertise and fellowships.	1982 - 1984	Approximately US$ 7.3 million	These funds have lent to the Malawi Government to be repaid in 40 years after 10 years grace period. The loan attracts an interest of 3/4% per annum.
European Development Fund (EDF)	Construction and Equipment of New Mangochi Hospital	1975 - 1980	UA 1 932 000	Completed
European Development Fund (EDF)	Construction and Equipment of New Nsanje Hospital	1975 - 1980	UA 2 068 000	Completed
European Development Fund (EDF)	Construction and Equipment of New Karonga Hospital	1980 - 1985	UA 4 000 000	Funds committed implementation expected to start early next year
FKDF	Rural subcentres development	1980 - 1983	MK 1 418 000	
OXFAM	Non-medical equipment for 8 health subcentres	1982 - 1983	MK 46 312	
CSC	1. Health Facilities at settlement schemes 2. Health services for children 3. Development of health centres services, Phase III 4. Non-medical equipment for the health centres	1979 - 1980 1979 - 1980 1980 - 1983 1982 - 1983	MK 6 000 MK 79 000 MK 125 000 MK 48 160	
Leit Trust Leit Trust Leit Trust	(i) Dwambazi Rural Hospital (ii) Kaporo Rural Hospital (iii) Chitipa District Laundry	1979 - 1980 1979 - 1980 1979 - 1980	MK 10 000 MK 8 000 MK 10 000	Completed
French Government	New Medical Auxiliary Training School-Lilongwe	1979 - 1980	MK 289 000	Completed
Government of FRG (KFW)	New Ncheu Hospital	Since 1978	DM 4.4 million	Completed
Government of FRG (KFW)	New Mzimba Hospital	Funds committed in 1979	DM 5.25 million	Not started
Government of Canada (CIDA)	Replacement of Rural Health Subcentres	Since 1978	CDN$ 1 330 000	
United Kingdom	Upgrading of Rural and District Hospitals	Started before 1977	£ 1 267 817 atg.	Completed
United Kingdom	Peripheral Health Units in Urban Areas	Started before 1977	£ 1 636 815 atg.	Completed
SANIDA	New Medical Auxiliary Training School-Lilongwe	Since 1974	Dkr. 146 411	Completed

The World Bank construction program to improve MCH sites for child spacing services and acquire of clinical equipment and supplies will be implemented during this year. These facilities will be ready for operation when this proposed project produces its first group of MCH/CS Nurse Midwives. Bilateral health assistance has been provided by some ten governments including the Federal Republic of Germany, Japan, the United States and the United Kingdom. External voluntary agencies have also supported health activities. Members of PHAM receive most of their support from overseas missionary societies. In FY 1980/81 about one-third of the estimated expenditures in health came from external sources.

D. DESCRIPTION OF PROJECT

1. Rationale and Scope of the Project

At present, the rural poor in Malawi are underserved in health. Mothers and children are the group suffering the greatest morbidity and mortality. The Government of Malawi has determined that the most effective intervention strategy is the improvement of MCH services with the integration of CS within the PHC context, especially in rural areas. The lack of appropriately trained mid-level health personnel hampers the achievement of the primary health care strategy.

The project aims at fulfilling a dual need. On the one hand, health personnel will be trained and retrained to implement the PHC strategy of the MOH. Simultaneously, health manpower institutions will be strengthened so that they will have the capability of preparing health workers beyond the life of the project.

The MOH has been effective in coordinating the support of other donor agencies. Assistance has been provided to improve MOH administrative capacities, physical construction and renovation of PHC centers. AID has the opportunity to close the gap by

supporting institution building for health manpower training and development. This project was conceived and prepared by the MOH. Howard University and Meharry Medical College were identified and invited by the GOM to collaborate in the design, planning and joint implementation of this activity. Meharry Medical College participated in the design but has chosen not to participate in the implementation.

The project will be implemented over a five year period. The project will accomplish the following:

a. the Community Health Nurse program at the Lilongwe School of Health Sciences will be graduating 30 Community Nurse Midwives a year. The institution will be capable of operating without external technical assistance.

b. the Enrolled Nurse Midwives will be retrained to deliver improved and effective MCH/CS service. The MOH will have the capability of providing continued in-service training and retraining.

c. the Health Assistant and Medical Assistant training programs at the Lilongwe School of Health Sciences will be expanded and its new curricula will include knowledge and skills necessary for primary health care delivery. The institution will produce 40 graduates per year in each of these health categories.

d. the existing Medical Assistant and Health Assistants will be retrained in public health and supervision techniques. The new curricula will include methods and subjects appropriate for trainers of trainers in Malawi. The MOH will also be able to conduct its training programs.

e. the MOH will increase its capacity and institutional

capabilities to conduct its in-service training program without further external assistance. It will also be capable to develop appropriate curricula.

2. AID Project Functional Elements

a. Support for Community Nurse Midw'fe Training

One of the elemental needs for mid-level primary health care team is the Community Health Nurse-Midwife. Her functions include the provision of maternal and child health services, and the training and supervision of traditional birth attendants. She will also assist in the integration of environmental and personal/family health services and actively participate in case finding, prevention and community organization.

The first significant component of this project will provide the planning and organization of the training program to produce these personnel at the Lilongwe School for Health Sciences. The project will also improve physical facilities and provide equipment and commodities for the support of the Lilongwe School.

For this component of the project, two long term technical assistants will be assigned. They will assist the MOH/Lilongwe School of Health Sciences to develop the CNM job description, task analyses, curriculum development, and design training manuals, texts, syllabi, and other teaching methods. They will also assist in the selection of participant trainees. Moreover, they will provide direct technical supervision and training to the faculty of the newly established CNM training program. The requirements for these positions are a thorough knowledge of public health nursing principles and practices, knowledge of primary health care, expertise in nursing

education, and knowledge of health problems of developing countries.

The candidates for these positions must have appropriate nursing licensure, a Master's degree in Public Health Nursing, Nursing Education or the equivalent, significant experience in nursing education and work experience in developing countries.

b. Support for MCH/CS Enrolled Nurse Midwife Training

In response to the strikingly high infant and child morbidity and mortality, the MOH is moving to intervene by strengthening MCH services. As an integral part of MCH, child spacing services will be initiated complete with information, education and counselling services. The primary provider of MCH services is the Enrolled Nurse Midwife. All MCH-assigned Enrolled Nurse Midwives will be retrained to assume expanded functions. The training will be task-oriented, competency-based, and will stress health care of mothers and children and integrated child spacing services in the community.

Three long term specialists in MCH nursing and in nursing education will be assigned to this component. Part of their responsibility will be to teach child spacing techniques to the MCH/CS trainers at the 24 regional and district hospitals. They will also provide technical expertise in the development of the training program, train the teachers and tutors, provide technical supervision and leadership to the teaching staff and assist in the selection of candidates for participant training. One of these long term technical assistants will be designated Chief of Party.

c. Support for Medical Assistant and Health Assistant Training

The Medical Assistant (mostly male) in the MOH serves in an

ambulatory capacity and works exclusively as a curative health worker. His past training for this position prepared him for only curative functions. He mans an out-patient clinic where he must see, diagnose and treat as many as 200 sick people every day. The curative character of the service the Medical Assistant provides is marked by a lack of adequate patient records, inadequate time to perform thorough examinations, and minimal laboratory support. Diagnostic confirmation except by trial treatment is difficult to obtain. Generally, the mode of treatment practiced by the MA is presumptive diagnosis, and patient follow-up is uncertain. This style of health service is not likely to change significantly until the MOH is able to institute PHC and deploy enough personnel trained with a balance of curative, preventive and promotive health care skills to make PHC effective.

The Health Assistants in the MOH presently enforce public health environmental ordinances and assist in immunization. They are not presently trained for PHC duties.

In the MOH Plan of Action for Primary Health Care, the PHC team consists of the Medical Assistant, the Community Health Nurse and the Health Assistant. The Medical Assistant acts as the team leader, manages the PHC services, provides curative, preventive and promotive services, and trains and supervises community health workers. The Community Health Nurse provides the bulk of services to mothers and young children, trains and supervises traditional birth attendants, integrates personal/family services and environmental services, and is activte in health education in the community. The Health Assistant is responsible for environmental health activities, integrates environmental and family services, conducts

community organization/motivation efforts and is active in health education.

The MOH not only has vacancies for Health Assistants and Medical Assistants, but also lacks a task-oriented and competency-based training program to produce Medical Assistants and Health Assistants with necessary knowledge and skills in PHC.

This component of the project will strengthen the existing MA and HA training programs at the Lilongwe School for Health Sciences. It will add to the curricula of the two programs the necessary didactic and practical course work. The curricula will embody necessary knowledge and skills in public health, preventive service, health education, teaching skills, supervisionary techniques and health records use.

Two technical assistants will be assigned to this component. One will be an environmental/public health specialist, the other a public health specialist in personal/family health care. The requirements for the environmental public health specialist are a Masters degree in public health with a major in environmental health, significant knowledge and experience in the environmental health problems of developing countries, and experience in training of health workers. The second position will be filled by a public health specialist in personal/family/community health care, possibly a public health nurse practitioner. The requirements will be a Masters degree in public health, knowledge of primary health care in developing countries and experience in training.

These two technical assistants will be assigned for two years to assist the MOH in curricula development and training of the tutors and faculty of the training program.

d. Monitoring and Evaluation

A project-based information system will be located in the office of the Chief of Party. The purpose of of the system will be to provide data and analyses for project monitoring and evaluation. Monitoring of the project will be achieved primarily through monthly project reports.

Two types of evaluation will be conducted: internal and external. Internal evaluations will be conducted annually. External evaluations will take place at the mid-point of the third year and at end the of the fifth year. In addition, other forms of internal evaluation will consist of assessments of trainees' knowledge and skills, evaluation of faculty performance, numbers of trainees successfully completing the programs, and the production of curricula and other training outputs. Evaluation criteria and protocols will be developed jointly by the project staff and the MOH. The AID Representative in Malawi will participate in the design of the external evaluations.

E. LOGICAL FRAMEWORK NARRATIVE

1. Goal

The project goal is to support the GOM/MOH in its effort to produce mid-level health manpower in sufficient quantity and acceptable quality to provide effective primary health care services including MCH/CS services in the immediate future.

Goal achievements during the project can be measured by the implementation of the number of training programs developed for increasing the CHNs, MCH/CS Enrolled Nurse Midwives, MAs and HAs, by production and preparation of teaching staff of the the four categories of the health workers, and by strengthening the

capabilities of the MOH to maintain these services in the institutions identified.

The most significant assumption related to goal achievement i: that the GOM will remain committed to its 15 years health plan.

2. Project Purpose

The project purpose is to assist the GOM to improve its healt services and expanding coverage in the rural areas as outlined in the 15 year health plan. This project has been designed to help the Government develop the cadre of non-physician health care providers in primary health care settings. They will be equipped to deliver curative, preventive and promotive health care service to the Malawi population especially in rural areas where health care delivery is lacking or inadequate. Emphasis will be placed c mothers and children, the population at greatest risk. (See Annex I for excerpts concerning Malawi's national health plans)

3. Inputs

The Technical Assistance inputs necessary to carry out this project are as follows:

Technical Assistance

	Year					Staff Months	
	1	2	3	4	5		
	Person-Months						
CHN Educators	24	24	12	12	12	84	24
MCH/CS Nursing Educators	36	36	36	24	24	156	12/288
HA Public Health Educator			3	12	9	24	
MA Public Health Educator			3	12	9	24	
Curriculum Development Consultant (short term)	3	3	3	3	-	12	
Nutrition Consultant (short term)	3	3	3	3	-	12	
Health Education Consultant (short term)	3	3	3	3	-	12	
Advanced Placement Evaluator (short term)	2					2	
Manpower Development Consultant	2	2	2	2	2	10	
Total Staff Months	73	71	65	71	56	336	

38

4. Outputs

Long and short term technical assistance will strengthen the teaching programs for CHNs, MAs and HAs at L.S.H.S. Assistance will be provided in curriculum and teaching staff development. A new teaching program and a modified curriculum for Community Health Nurses will be instituted. New public health courses will be incorporated into the program for Health and Medical Assistants. A new MCH/CS training program will be located in 3 general and 21 district hospitals. This progam will strengthen and train Enrolled Nurse Midwives in MCH services, and will institute sound CS training. The MOH will improve also its health education and nutrition service capabilities in support of MCH/CS. The retraining activities for HAs, MAs and MCH/CS ENMs will increase the MOH capabilities to organize and conduct periodic in-service training programs responsive to its needs.

5. End of Project Status

a.	105	CHN Graduated
b.	6	CHN Tutors Trained
c.	30	CHN Students Enrolled
d.		CHN Program Institutionalized
e.	6	MCH/CS Tutors Trained
f.	30	MCH/CS Preceptors Trained
g.	800	MCH/CS ENMs Trained
h.	800	MCH/CS ENMs Retrained
i.		MCH/CS Program Institutionalized
j.	1	Health Educator Trained
k.	1	Nutritionist Trained
l.	4	HA Tutors Trained
m.	80	HA (New Curriculum) Graduated
n.	80	HA (New Curriculum) Enrolled
o.	5	HA Trainers Trained
p.	160	HA Retrained
q.		New Retrained
r.	5	MA Tutors Trained
s.	80	MA (New Curriculum) Graduated
t.	120	MA (New Curriculum) Enrolled
u.	5	MA Trainers Trained
v.	350	MA Retrained
w.		New MA Course Institutionalized
x.		Facilities at L.S.H.S. Renovated/Extended

6. PROJECT [illegible]N SUMMARY
LOG[illegible]AMEWORK

Project Title & Number: MALAWI HEALTH INSTITUTIONS DEVELOPMENT

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes To support the GOM/MOH in its effort to produce Mid-Level Manpower in sufficient quantity and acceptable quality to provide effective primary health care services.	*Measures of Goal Achievement:* Measured by: -implementation of training programs developed for increasing CHNs, MCH/CS ENMs, MAs & HAs -production & preparation of teaching staff -strengthening Health Services Departments i.e. Health Education MCH, CS, & Training & Nutrition	-MOH Annual Reports -Contractor Status and Annual Reports -Internal & External Evaluation Reports -MOH Health Status -Reports/Training & Development -Manpower Plan	*Assumptions for achieving goal targets:* -GOM/MOH remains committed to 15 yr. PHC plan. -Availability of external funds -Continued political stability in Malawi
Project Purpose: -Assist GOM/MOH to improve health services and expand coverage in rural areas. -Develop cadre of non-physician PHC workers -Retrain PHC in delivery of Balanced Health Care -Train new cadre of ENM, MA, HA, CHN. -Strengthen MCH/CS services	*Conditions that will indicate purpose has been achieved: End of project status.* -increased capability of existing training and services institutions -increased volume of MCH/CS services -increased trained staff in MOH & other training institutions -100% of ENM retrained -Curricula in training of 4 categories Health Workers Designed revised & instituted within PHC context -all new cadre of health workers trained under new curricula -physical plan of L.S.H.S. extended -MCH/CS training instituted in 3 general and 21 district hospitals	-MOH Annual Reports -Contractor Status and Annual Reports -Internal & External Evaluation Reports -MOH Health Status -Reports/Training & Development -Manpower Plan	*Assumptions for achieving purpose:* -Availability of students to be trained in health sectors -Construction costs and inflation rates remain relatively stable -Synchronization of graduates with availability of service facilities
Outputs: CHN, ENM, HA & MA are trained and [illegible]trained-Tutors and preceptors trained[illegible]ng term & short term participants [illegible]ined-New competency based curricula [illegible]igned, developed & instituted within [illegible]-MCH/CS context-L.S.H.S. renovated [illegible]tended-Key MOH staff trained in nutrition, MCH/CS and health education.	*Magnitude of Outputs:* -31 Tutors trained-30 MCH/CS preceptors trained-1 Health Educator, 1 nutritionist trained-800 MCH/CS ENMs trained-160 HA retrained-350 MA retrained-30 CHN students enrolled per yr.-105 CHN graduated by 1988-40 HA (new curriculum) enrolled per yr.-80 HA (n.c.) enrolled per yr.-40 MA (n.c.) enrolled per yr.-120 MA (n.c.)-1 ENM,CHN,HA & MA curriculum institutionalized MCH/CS program instutional LSHS facilities renovated & expanded	(SAME AS ABOVE)	*Assumptions for achieving outputs:* (SAME AS ABOVE)

40

PROGRAM DESIGN SUPPORT
FRAMEWORK

roject Title & Number: MALAWI HEALTH INSTITUTIONS DEVELOPMENT (Continued)

NARRATIVE SUMMARY	OBJECTIVELY VERFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIO
iputs:	*Implementation Target (Type and Quantity)*		*Assumptions for provi inputs:*
Provision of 4 categories of TA- educators	I. Technical Assistant Staff	-MOH Annual Reports	-Availability of stu to be trained in he sectors
Provision of short term consultants curriculum development nutrition alth Education & Advanced Place- nt evaluation	-CHN Nursing Educators 84 staff months -MCH/CS Nursing Educators-156 " " -HA Public Health Educator-24 " " -MA Public Health Educator-24 " " -Curriculum Development Consultant (short term) 12 " " -Nutrition Consultant (short term) 12 " " -Health Education Consultant (short-term) 12 " " -Advanced Placement Evaluator (short term) 2	-Contractor Status and Annual Reports -Internal & External Evaluation Reports -MOH Health Status -Reports/Training & Development -Manpower Plan	-Construction costs inflation rates rem relatively stable -Synchron zation of graduates with avail lity of service faci
ON provision of counterparts, tors, preceptors, supportive staff students			
ON provision of facilities, pplies & equipment			
rovision of logistical support uilding & facility construction LSHS			
rovision of communities from ternal & external sources vailability of funding & ntractual services from ternal & external sources.			
	II. Budget		
	-Construction and Furnishings 951,000 -Technical Assistance 3,969,000 -Teaching Equipment 95,000 -Participant Training (Long and Short Term) 559,000 -Vehicle Acquisition 146,000 -Vehicle Operating Costs 126,000 -Office Support Staff (Malawi) 67,000 -Office Operating Expenses (Malawi and Washington) 321,000 -Headquarters Salaries (Washington) 773,000 -Project Evaluation (External) 108,000 -Contingency 309,000		

13

F. DETAILED PROJECT DESCRIPTION

This project addresses two basic constraints of the MOH: the lack of appropriately trained mid-level health workers to provide effective primary health care and MCH/CS services and the lack of an institutionalized capability to train the necessary cadres of health workers. In the second year the MOH will be in a state of readiness to provide post-natal care integrated with child spacing services. In the third project year the MOH will offer comprehensive MCH/CS services including prenatal, intrapartum, post natal, child spacing neonatal infant care and early childhood services. It is anticipated that the MOH will move to a nationwide Primary Health Care program during 1990.

To accomplish the PHC goal the "Plan of Work for PHC in Malawi" indicates that the basic staffing plan for each PHC area will consist of a team of:

1 Health Assistant
3 Enrolled Nurse/Midwife (the future Community Health Nurse)
1 Medical Assistant

The Work Plan defines the new roles of these health cadres and the need for retraining initiatives as part of the PHC preparation process. The Health Assistant will be responsible for community organization, health education and in environmental health protection. The ENM will assume a broader role in MCH including child spacing information, health education and couselling in the community. The Medical Assistant will assume responsibilities in team management, preventive/promotive care and general public health. All cadres will receive training as trainers of community health workers and/or traditional birth attendants in primary health care. The will also receiving training in supervision

Previously post natal care and child spacing services were not available. In order to move the nationwide PHC program the earliest health manpower need is for MCH/CS Enrolled Nurse Midwives.

Every one of the existing 800 Enrolled Nurse Midwives assigned to MCH/CS duties will be retrained in curative and promotive care of mothers, neonatal care, and in infant and early childhood care. To provide effective high quality information, education, counselling and service in child spacing, task-oriented and competency-based training approaches will be applied.

One of the priorities of health manpower training and development is the need to train the new cadre of Community Health Nurse. She is best described as the PHC public health Nurse-Midwife. She is expected to provide the bulk of personal/family services to women and children. She will also do case-finding and will make home visits. She will also integrate personal and environmental health services and do health education/ community organization.

A one year post basic nursing course will provide the existing Enrolled Nurse Midwives with the necessary knowledge and skills. This training will be conducted at the Lilongwe School for Health Sciences. In this project component, the MOH and project staff will design and test the curriculum and training materials, and prepare teachers for the new training program. The MOH plans to use the Lilongwe training program as a model for the training pattern in the twelve schools currently training Enrolled Nurse Midwives. The GOM/MOH can use the products--conceptual, material and human -- of this project to gain maximum improvement of its national nurse training effort at minimum cost.

The Enrolled Nurse Midwife class of health workers are given priority because the MOH has decided to move strongly and urgently to address the immediate problems of maternal, infant and early childhood mortality and morbidity, compounded by the debilitating effects of inadequate spacing between pregnancies. The first group of trainees will come from the corps of 800 Enrolled Nurse Midwives and

will be available one year after the start of the project. The Community Health Nurses will begin training one year after the start of the project using a task-oriented and competency-based curriculum. The training duration is expected to be 9-12 months.

In its Health Manpower and Development Plan the GOM/MOH has designated Medical Assistants and Health Assistants as the third priority. Training courses at the Lilongwe School for Health Sciences will be broadened and strengthened by incorporating new material on public health, preventive/promotive service, training methods and supervision. The yield of the school in each category will be 40 students per year. These improved training programs will be phased into the project in the third year. However, preparation for tutor training will begin immediately.

In addition to training these three categories of health personnel, the project will support the MOH with new integrated child spacing services and provide training and technical assistance to the MOH. The Health Education Division of MOH will increase its capability in child spacing services and community health education.

The project will also assist the MOH to meet a critical need in the area of nutrition services by providing training technical assistance and staff development. This is necessary because malnutrition is a contributory factor in infant and early childhood mortality and morbidity.

By the end of the project, enrollment and graduation figures should show that:

1. the training and ENM, CHN, HA and MA will be institutionalized;
2. the production of graduates will be established to match the annual quantitative requirement;
3. a permanent training faculty for the three training initiatives will be in place and functioning;
4. curricula and training materials will be fully developed in each of the participating training programs;

5. MOH will have the capability to develop national curricula and training materials and to conduct these training programs beyond the life of the project.

6. Retraining will have been provided to existing ENMs, MAs and HAs including supervisory levels, and continuing education will be institutionalized in MOH.

G. DETAILED DESCRIPTION OF TRAINING PROGRAMS

A complete description of the components of the training program in the project will be dealt with under the headings: Community Health Nurse Training; Maternal and Child Health/Child Spacing (MCH/CS) Enrolled Nurse Midwife Training; and Health Assistant/Medical Assistant Training.

1. Community Health Nurse Training

The purpose of the Community Health Nurse (CHN) training component is to create and institutionalize within the MOH the capability to produce this category of mid-level health workers for primary health care.

The training will be based at the Lilongwe School for Health Sciences.

Activity in this component will begin in the first month of the project with the adoption of a new official MOH job description for the CHN. The TA staff will collaborate with MCH personnel in task analyzing the job description in preparation for the development of the new competency-based curriculum. With the assistance of a short term consultant in curriculum development, the project staff and tutorial staff appointed by MCH will design the one year training program. A workshop approach will be utilized. In order to maximize synergy between the CHN training program and the Maternal and Child Health/Child Spacing Enrolled Nurse Midwife training activity, a joint workshop of TAs and tutorial staff training programs will be conducted. In this workshop the task-oriented teaching staff will work on joint curriculum

development. They will work in separate but related committees.

Tutors for the CHN training program will be carefully selected by MOH based on education, experience and ability to communicate and teach. They will work intensively with the project staff in the development of the course structure, teaching content and methodology, identification and preparation of training materials, writing of syllabi, work books, manuals, and design of practical exercises. The course planning will extend to the level of individual lesson plans.

On-the-Job training is one of the aspects in the training of the tutors. Two of the tutors will be selected for long term participant training in community nursing and nursing education. The remainder will have their intensive in-country preceptor training augmented by short third country experiential training tailored to their individual needs. The goal of all participant training is to prepare tutors to teach others how to practice and adapt modern community health nursing to the needs of Malawi.

In the second year of the project, the tutors at the L.S.H.S. with the active support of the project staff will begin training Enrolled Nurse Midwives selected by MOH. Because the construction at L.S.H.S. will probably not be ready in time, the MOH plans to admit 15 students to the first class which will be conducted in temporary facilities. Subsequent classes will have 30 students each. At the end of each training cycle, tutors and project staff will evaluate and revise the curriculum and training methods as needed.

A corollary activity of the tutors and project staff will be the provision of workshops and seminars to sensitize other health workers to the new role of the Community Health Nurse. This activity will include executive orientation in MOH.

During the fourth year of the project, the project staff and program tutors will work with the other 18 Enrolled Nurse Midwife Schools to help them implant the community nursing course.

This project component will train six tutors and graduate 105 Community Health Nurses. The MOH will have continuing capability to train CHN and will replicate this new training in all existing Enrolled Nurse Midwife schools.

In addition to the annual self-assessment, mid-point and final evaluations will be conducted.

CHN Training Schedule (Cumulative)

End Year	1	2	3	4	5
Students	15	45	75	105	135
Tutors	6	6	6	6	6
Graduates	-	15	45	75	105
Total	21	66	126	186	246

2. MCH/CS Enrolled Nurse Midwife Training

Manpower resources available to the MOH are not adequate to meet the total needs of the nation. While preparatory work goes on to strengthen the MOH management and service capability in PHC, the Ministry has decided to improve MCH services and to initiate nationwide CS services. Accordingly, this project component is designed to respond to the manpower needs of that purpose.

Since the action decision was made by MOH to initiate CS as an integral part of improved MCH, the MOH has entered into a project with the World Bank to provide the physical renovation of health facilities and equipment, to conduct a family formation study, and to provide small scale technical training of ENM. Support from AID has provided the necessary clinical commodities in the form of IUDs, oral pharmaceuticals and condoms. When the construction program is completed there will be a need for health workers trained to perform competently in counselling, educating and providing clinical services to families in matters of fertility.

This component of the project will train all MCH-assigned Enrolled Nurse Midwives with a task-oriented, competency-based program. They will be trained in regional and district hospitals by preceptor - trainers who have been developed by this project.

Activities of this component will begin immediately upon the start of the project with the development and MOH adoption of a job description for the MCH/CS Enrolled Nurs Midwife. MOH staff appointed as Tutors (trainers of Trainers) will work with project staff to task-analyze the job description. In the curriculum development workshop cited in the CHN component above, MOH staff and project staff will work with a curriculum, select and develop training materials, design the didactic and practical training

methods and set criteria for competency testing of all students at each stage of training.

The tutors and project staff will then train trainers (3 for each of the three general hospitals and one of each of the 21 district hospitals) in a competency-based training program estimated to be sixteen weeks in duration. This group of 30 will become preceptor trainers and will be assigned to the Lilongwe School for Health Sciences and Kamuzu Central Hospital and will be taught the knowledge and skills required to train others.

Upon completion of their training, the preceptor trainers will be assigned to their training sites (hospitals) where they will begin teaching MCH-assigned ENMs in groups of six. These training cycles are projected as being 12-14 weeks in length. At the completion of training, each MCH/CS ENM will be competent to provide all the services of the MOH MCH/CS program. The graduation of these personnel is scheduled to coincide with completion of the renovated hospital and MCH facilities.

The training process will be carefully monitored for quality control by two of the three long term TAs and by the tutors. They will regularly visit training sites to supervise and continue the development of the trainers.

The remaining long term TA, who will also serve as Chief of Party, will be based at the Lilongwe School of Health Sciences. He/she will lead, advise and assist the tutorial faculty in the MCH/CS segment of their course work.

The tutors of this component will be carefully selected on the basis of education, experience and ability to teach. Two of the tutors will be selected for long term participant training; the remainder will be given short term participant training. All tutors will receive intensive in-country training.

The training cycles for providers of service will be given in a preceptorship mode to ensure full understanding and optimum development of clinical skills. It will be synchronized so that tutors and project staff can better ensure quality control. Inter-cycle periods will be utilized for program assessment, curriculum adjustments and preceptor retraining. It is projected that a cycle (or graduating class of 144) will be completed every four months. This will yield 432 trainees inclusive of supervisory nurses each year. The cadre of 800 ENMs assigned will be trained by the end of the second year of the project. The tutors, trainers and project staff will then review the training process, assess the performance of the MCH/CS trained personnel, and design a refresher course to begin in the second quarter of the third year. Provision will be made to train any new assignees to the MCH/CS program. Workshops and seminars will be used to orient MOH administrators, physicians and Clinical Officers to this program.

In this project component there is a need to undertake two ancillary kinds of health personnel development. Health education and nutrition are essential to the MCH/CS program in Malawi. The MOH has no trained personnel in either area; therefore, short term technical assistance in health education and nutrition will be provided to assist and advise the Health Education Division, and the Nutrition Division, the MCH Divison as well as the tutorial faculty of Lilongwe School for Health Sciences.

Long term participant training will be provided to one candidate in nutrition. A criterion for selection of the health education candidate will be a clinical background in MCH

(preferably nursing). A desirable factor in the selection of a nutrition training candidate is a baccalaureate degree in Home Economics from a school such as Bunda College.

MCH/CS TRAINING SCHEDULE
(CUMULATIVE)

END YEAR	1	2	3	4	5
Tutors	6	6	6	6	6
Preceptors	30	30	30	30	30
Trainees	400	800	800	800	800
Retrainees	-	-	400	800	800x1/2
Health Ed.	-	-	1	1	1
Nutrition	-	-	1	1	1
Total	436	836	1238	1638	1638

3. Health Assistant and Medical Assistant Training

This component is designed to support the MOH purpose to institutionalize its capability to produce mid-level health workers for the PHC team. The MA and HA cadres, as cited earlier, are not currently performing all the duties required for PHC, nor are they being trained to do so. The present training programs at the Lilongwe School of Health Sciences is designed to produce curative-oriented personnel with little teaching of prevention, health promotion, community organization/motivation, primary health care, and epidemiology. MOH recognized the need for a training program broadened to include PHC and the insufficient number of students produced. At present the numbers of students in successive classes vary widely, making graduation projections difficult. MOH has decided to establish an intake of 40 candidates annually for the MA and HA categories. However, the duration of the courses will remain unchanged for the present: two years for HAs and three years for MAs. This component will develop more slowly than the preceding two components, as a result of the priorities of the MOH with its finite resources available for training.

The component will begin immediately upon the start of the project with the selection of one HA and one MA for long term participant training in health services administration. Participants will also pursue courses in public health, environmental health education and epidemiology. Since these candidates will not possess baccalaurate degrees, the project staff will work with an advanced placement specialist to attempt to gain advanced academic placement through a special program such as Howard University's "University Without Walls." The Howard University program works with the schools and colleges throughout

its system to evaluate vocational training, paraprofessional and life experiences. Upon evaluation, training and experience are converted into credits for regular college courses. Under the program, a Bachelor's degree may be obtained within two years. In this instance, suitable candidates will be placed in the Howard University School of Business and Public Administration, Department of Health Administration. A custom designed course will be developed for each individual's needs.

During their academic training, both students will work with their faculty to develop an outline of a primary health care curriculum for the HA and MA training programs. By using job descriptions and other MOH materials from Malawi, these assignments can accelerate the later development of these curricula when the students have returned.

The participants will return to Malawi in June of the third year of the project. At that time two long term Technical Assistants in Public Health (Primary Health Care) and in Environmental Health will be assigned. Their assignment is to assist in the development and implementation of the expanded training. During June-August, the TAs, the two long term participants and the remainder of the HA and MA tutors who have had short term experiential participant training will collaborate on the development of task-oriented course curricula for HA and for MA, using the draft PHC component curricula as a starting point.

The TAs will conduct training of the tutors to teach these new courses during the academic year beginning in September 1985. The courses will be task-and knowledge-oriented and competency testing will be employed for both the didactic and the community oriented practical portions of the MA course and HA course. At the end of

the courses, the students' performance, the curricula and the training methods will be reviewed. During the fourth year, the revised curricula on community health will be taught.

These curricula will be used as the basis of a retraining program for the MAs and HAs currently assigned to the field. A series of modular curricula dealing with principles of PHC, epidemiology, training methods, health education, community organization/motivation, teamwork, preventive services, environment and health will be prepared by the L.S.H.S. tutorial staff and the technical assistants. Five HAs and five MAs will be assigned by MOH to conduct the retraining program at the regional level. The L.S.H.S. tutors and TAs will prepare the 10 assignees to conduct field retraining by means of a one month "training of trainers" seminar.

The trainers will return to their regional offices (Central - 4, Southern - 4, Northern - 2) where they will each train MAs and HAs in groups of 15. Each training session is estimated to last one month. There are approximately 160 Health Assistants and 350 Medical Assistants in ne retraining. By the end of the fourth year all (350) MAs will h had one retraining cycle and all (160) HAs will have had two training cycles. By the end of the fifth year, they will have had an equal amount of retraining. The L.S.H.S. tutors and project staff will assess the retraining program and give refresher instruction to the trainers in the fourth year. During the fifth year the L.S.H.S. staff will conduct the program with little assistance from the Chief of Party.

Executive orientation to the expanded role and training of MAs and HAs will be provided to administrators, physicians and clinical officers of the MOH.

HA TRAINING SCHEDULE (CUMULATIVE)

YEAR END	1	2	3	4	5
Tutors	4	4	4	4	4
Students New Curriculum	-	-	-	80	80
Graduates New Curriculum	-	-	-	40	80
Trainers	-	-	-	5	5
Retrained	-	-	-	(160x2) 320	(160x4) 640

MA TRAINING SCHEDULE (CUMULATIVE

YEAR END	1	2	3	4	5
Tutors	5	5	5	5	5
Student New Curriculum	-	-	-	80	120
Graduates New Curriculum	-	-	-	40	80
Trainers	-	-	-	5	5
Retrained	-	-	-	350	(350x2) 700
	6	7	8	484	915

H. TECHNICAL ASSISTANCE

1. Community Health Nursing Educator

Two CHN Educators will be initially assigned to the project to train tutors, to assist MOH in the creation of this new training program by working closely with assigned Malawian nurse counterparts to develop the curriculum, prepare the tutors to teach, develop teaching materials and assist in the institutionalization of the CHN training program at the Lilongwe School of Health Sciences.

2. Maternal and Child Health/Child Spacing Nurse Educators

Three nurse educators will train tutors for this new training initiative. The Nurse educators will work closely with the assigned Malawi counterparts to develop the training program at the Lilongwe School for Health Sciences and at 24 regional and district hospitals, and will assist in the institutionalization of the MCH/CS training program.

One MCH/CS Nurse Educator will serve as Chief of Party.

3. Environmental Health Consultant (HA Public Health Consultant)

This consultant will join the project in the third year to work with assigned counterparts to develop a PHC-oriented course for Health Assistant students, to train tutors, to assist in re-orienting the HA training for PHC, and to assist in retraining of HAs.

4. PHC Public Health Consultant (MA Public Health Consultant)

This primary health care experienced public health consultant will begin in the third project year to work with assigned counterparts to train tutors, to assist in the development of a PHC course for Medical Assistants, to train tutors, and to assist in the retraining of MAs.

5. Curriculum Development Consultant

A curriculum development specialist will be selected and assigned to work with the project staff and Malawi tutors to assist, advise and guide the development of the four training programs and in the design of the retraining activities. This consultant will be recalled annually as needed for redesign activities. His/her knowledge and skills will complement the skills of the T.A. and Malawi tutors.

6. Nutrition Consultant

This consultant will assist in strengthening the nutrition course work of the four project courses and will provide consultation to MOH to provide a needed expertise for its MCH/CS program.

7. Health Education Consultant

The Health Education Consultant will augment the knowledge and skills of the TA staff and Malawi tutors in strengthening the health education/community organization content of the four training programs. The health educator will also provide consultation to MOH in preparation for the nationwide public health education program in support of MCH/CS.

8. Advanced Placement Evaluator

This project will provide two one month visits by a U.S. university advanced placement evaluator. The evaluator's function will be to examine and evaluate the background and experience of participant training candidates to determine the extent of credit which can be granted for their in-country preparation and training toward a Bachelor of Science degree in Health Administration at an accredited U.S. institution.

9. Health Manpower Development Consultants

These two consultants, one trained and experienced in health planning and one trained and experienced in mid-level health personnel training programs will join the project each year in advance of the internal evaluation. The will work with assigned counterparts from the MOH to assess the progress of this project and the deployment of personnel trained within this project in th light of the overall manpower development plan of the MOH. They shall provide consultation to the MOH and to the project staff.

I. PARTICIPANT TRAINING

The proposed participant training program constitutes as much an integral part of the project as technical assistance. It will develo the necessary and adequately prepared competence to achieve the facul necessary for the project purposes. Each participant will be carefully chosen for appropriateness and each training experience carefully tailored to its purpose. Every participant trainee will, upon return, remain employed in the teaching position.

J. COMMODITIES

The commodities proposed for this project consist of training materials and equipment, supplies for the training programs, automobiles assigned to long term TAs to provide mobility for supervision purposes, a truck to be used to haul materials required during HA field practicals and a bus to transport students to and from community-based practical training sites.

Given the need for a stable and orderly supply of contraceptives and related equipment as the MOH launches its child spacing initiative AID may wish to budget up to $500,000 for the procurement of such supplies. Since this project is not a direct service project, Howard University would receive specifications, quantities and dates from the MOH.

K. CONSTRUCTION

AID will finance physical enlargement of L.S.H.S. to house the new CHN program and to accommodate the enlarged classes of HAs and MAs and to provide office space for project staff. There will also be moderate support to provide accommodation for community-based practical training.

L. RESOURCE REQUIREMENTS

To achieve the desired project purpose and outputs the following resources will be required in support of the project:

1. Government of Malawi

The Government of Malawi will provide:

- tutors to assist in project implementation and training activities
- support to the operation of the program and
- additional support in the form of buildings which will be used during the project implementatin.

2. A.I.D.

a. Technical Assistance

This project will provide 24 persons - years of long term technical assistance. 21 Malawians counterparts will work with the technical advisors. 48 persons - months of short-term consultancy will include nutritionist, health educator and advanced placement evaluator and other areas as identified by the long-term technical assistance team.

Detailed job descriptions for AID - funded technical advisors can be found in Annex P.

b. Participant Training

Twenty-four years of long term participant as well as appropriate short term training, training have been included in the project design. Participants designed for tutor positions and specialists in Health Education and Nutrition will receive Master and Bachelor level training in the Public Health fields related to Primary Health care. Another 12 tutors from the L.S.H.S. faculty and MCH/CS program will receive training in education. All tutors will receive appropriate in-country training.

c. Teaching Equipment and Supplies

Equipment and supplies to be procured under the project include projectors, models, and other reference materials and other instructional equipment to support the curricula for the Maternal and Child Health/Child Spacing, Community Health Nurse Midwife and Health Assistant/Medical Assistant components. Annex E provides a list of project equipment and materials and costs. Annex K provides a listing of the office equipment and supplies which would be used in support of the above training program.

d. Vehicles

Eight vehicles will be purchased for use during the project: six for the long-term technical advisors, one 26-seater bus for the Lilongwe School for Health Sciences to transport students to and from community-based practical training, and a one (1) ton 4WD truck to transport

environmenal health training materials to community training sites. Annex H lists the desired vehicles with associated costs.

e. Workshops/Seminars

70 workshops/seminars are planned to train tutors, develop curricula, retrain health workers, orient Ministry of Health personnel, orient community leaders and evaluate the project.

f. Evaluations

Two major external and annual internal evaluations are planned during the life of the project. The external evaluations are scheduled in 1986 and in 1989.

g. Construction

Construction in this project include 4 classrooms, hostel space for 120 students, a laboratory for 30 students and an administration block containing 10 offices for tutors. Generally construction is done by GOM/Ministry of Works and Supplies. This method will assure that the structure will be available at the time when most needed by the project.

USAID's engineer from REDSO/EA has reviewed the modular building plans for all the project structures and found them adequate for satisfying USAID building codes and conventions.

The GOM/MOH proposes an extension of existing physical facilities of the Lilongwe School of Health Sciences to provide classroom, laboratory, tutorial office, and dormitory space for the new Community Health Nurse training program and for extension of the Medical Assistant/ Health Assistant training. The specific building needs are listed in Annex A. Necessary furnishings are listed in Annex B.

The proposed structures are modular extensions of the existing simple classroom, office, laboratory and dormitory structures which make up the Lilongwe School for Health Sciences. These are Malawi red brick structures. Plans and blueprints are available at the Ministry of Public Works. In on-site discussions between Clarence Grossman, Regional AID Engineer stationed in Zambia, and GOM/MOW Architect, it was agreed that:

1. ample space is available on the L.S.H.S. campus;
2. siting of the buildings is not a problem; and
3. the design is appropriate for the function.

The AID Engineer expressed the opinion that the costs projected by GOM seem reasonable and realistic.

The construction elements represent a physical reflection of the proposed training programs and are necessary for the implementation of the project. It is projected that construction will require about eighteen months from initiation of the project. There is a slump in the construction industry in Lilongwe. Consequently, there is competition among contractors for available business. Officials in the GOM/MOH feel that this situation in the construction industry is advantageous to the project and will result in reduced costs and construction time. It is also felt that the private sector would complete the work faster and be more cost effective than if government were to undertake the construction.

While construction is underway, the GOM has made provisions to accommodate the first class of fifteen nursing students in Lilongwe at temporary facilities.

M. PROJECT SUMMARY

In order to achieve the objective proposed in the previous section(s), Howard University has formulated a four pronged strategy.

1. Institution Building

The Health Sector 15 Year Plan notes that Malawi is firmly committed to promotion and protection of the health of its people by the provision of health, nutrition and child spacing services through Malawi's unique primary health care system. With the new emphasis on primary health care, the organizational structure and health manpower to staff it are grossly inadequate. The existing organizational structure of MOH has been in operation for many years, during which time the scale, complexity and demands by the population of the health sector have all changed considerably. The Ministry's administrative, system delivery, supervisory and evaluation mechanisms need to be redefined, expanded and more streamlined than they are at present. Key to the institution building strategy support by USAID is that the project will impact on nursing, health and medical assistants training throughout the whole system from the National Health Training Schools, through the regional hospital progams and the districts, the catchment areas down to the individual health facility, and health workers themselves. Timing and project coordination with other GOM and donors' inputs are critical.

The new World Bank project is starting in July 1983. It will assist the GOM/MOH in improving the efficiency and effectiveness of it's health delivery capacity.

Specifically, it will:

a. Improve the MOH's ability to plan, monitor and evaluate health programs and policies;

b. strengthen the MOH's capacity to carry out epidemiological studies with supporting laboratory services;

c. improve the system for procuring and distributing pharmaceuticals;

d. extend primary health care services to selected districts; and

e. introduce child spacing services as an element of the MOH' maternal and child health program.

The World Bank project is expected to significantly reduce recurrent account budgetary outlays for pharmaceuticals and to extend primary health care services to 120,000 people.

The manpower training component of MOH's health strategy must be developed along with the health infrastructure and service delivery components. It is critical that projects affecting staff training, MOH's policy, strategy, programs, resources and leadership be organized and coordinated in such a manner that MOH will achieve a threefold effect:

a. establish capability of MOH providing its own training;

b. provide influence and direction to the health service delivery orientation of MOH;

c. and generate the capacity to meet further increasing demands.

2. Participant Training

One of the major necessary factors leading to success of any large scale training program is leadership. This project proposes various combinations of participant training; both in Africa and, for carefully selected positions, in the United States. The participant training element of the project will be integrated and coordinated so that it will achieve maximum benefits for the MOH as a whole. Special attention will be paid to ensure that Malawians receiving training will develop the knowledge skills and experience necessary to build MOH capacity to maintain the

activities beyond the life of the project. This means that procedures for assuring fair, efficient and need-based selection of participant trainees will be developed with MOH early in the project.

3. Technology Adaptation/Transfer

The project is a health training project designed to contribut to development and establishment of child spacing, integrated into maternal child health programs, strengthen the training programs for HAs and MAs, and to upgrade the skills of the Enrolled Nurse/Midwife into a Community Nurse Midwife. Therefore, the project is designed for seven technical advisors (TAs) plus approximately 48 person-months of short-term consultation. Each of the long-term TAs will have a designated Malawian counterpart who will be trained to take over fully the functions performed by the TA when the project terminates. In all instances the counterparts will occupy permanently established posts in the Government of Malawi and will be decision-makers at key places within MOH.

The new curricula, teaching methodologies and teaching materials will be developed using known effective technologies adapted to Malawi's unique culture and environment. There will be frequent assessment of the impact the new training is having on the ultimate beneficiaries, the trainees.

4. Policy Formulation

The training received by the key cadres of health workers is an essential element in improving a health system. The training institution, to be effective, must be involved in policy formulation at the highest level in MOH. The principal of the Lilongwe School of Health Sciences and the Chief of Party of this project,

with inputs from field personnel throughout the country, should help to formulate and implement new policy with MOH.

N. IMPLEMENTATION PLAN

YEAR 1		
1st Quarter	Project Start	
	Chief of Party Arrives in Country	HU
	Office Space for TA Approved	MOH/HU
	TA Housing Designated	HU
	Counterparts Designated	MOH
	HA and MA Participant Trainees Selected	MOH/HU
	Construction Project Tendered	GOM
	Development of Detailed Annual Work Plan and Five Year Projection	HU/MOH
2nd Quarter	Curriculum Development for MCH/CS and CHN	HU/MOH
	L.S.H.S. Construction Begin	GOM
	HA and MA Participant Training	HU/MOH
3rd Quarter	MCH/CS Tutor Training	HU/MOH
	MCH/CS Participant Training	HU/MOH
	CHN Participant Training	HU/MOH
4th Quarter	MCH/CS Training of Trainers Begin	HU/MOH
	CHN Tutor Preparation	HU/MOH
	MOH Orientation Seminars	MOH/HU
	Review of Health Manpower Development with MOH	HU
	Internal Evaluation	HU/MOH/AID
YEAR 2		
1st Quarter	Development of Annual Work Plan	HU/MOH
	MOH Orientation Seminars	MOH/HU
	Training of MCH/CS Personnel	HU/MOH
	Health Education and Nutrition Consultation to MOH	HU
2nd Quarter	CHN Students Enrolled at L.S.H.S.	MOH/HU
	Review and Revision of MCH/CS Training Program	HU/MOH
	Retraining of MCH/CS Trainers	HU/MOH
3rd Quarter	Cyclic MCH/CS Training Continued	HU/MOH
4th Quarter	MOH Orientation Seminars	MOH/HU
	Review of Health Manpower Development with MOH	HU
	Internal Evaluation	HU/MOH/AID
YEAR 3	Development of Annual Work Plan	HU/MOH
	Completion of First CHN Training Cycle	HU/MOH
	CHN Curriculum Review, Revision, Tutor Training	HU/MOH
	MOH Orientation Seminars	MOH/HU

2nd Quarter	MA/HA Curriculum Development	HU/MOH
	External Evaluation	HU/MOH/AID
3rd Quarter	MA/HA Tutor Preparation	HU/MOH
	Mid-Course Redirections in Response to Evaluation	HU/MOH/AID
	MOH Orientation Seminars	MOH/AID
4th Quarter	First Training of all MCH/CS ENMS Completed	HU/MOH
	Review of MCH/CS Training; Development of Retraining Program	HU/MOH
	Review of Health Manpower Development with MOH	HU
	Internal Evaluation	HU/MOH/AID
YEAR 4		
1st Quarter	Development of Annual Work Plan	HU/MOH
	In-Service MCH/CS Training Begins	HU/MOH
	HA/MA Curriculum Introduced at L.S.H.S.	HU/MOH
	MOH Orientation Seminars	MOH/HU
2nd Quarter	HA/MA Training of Trainers	HU/MOH
3rd Quarter	HA/MA Retraining Begins	HU/MOH
	HA/MA Retraining Assessment and Refresher Instruction to Trainers	HU/MOH
	MOH Orientation Seminars	MOH/HU
4th Quarter	Review of Health Manpower Development with MOH	HU
	Internal Evaluation	HU/MOH/AID
YEAR 5		
1st Quarter	Development of Annual Work Plan	HU/MOH/AID
	Review of all Curricula, Methodologies and Materials	HU/MOH
	MOH Orientation Seminars	MOH/HU
2nd Quarter	Health Education and Nutrition Consultation to MOH	HU
	Revision of Curricula, Training Materials	HU/MOH
3rd Quarter	MOH Orientation Seminars	MOH/HU
	Refresher Training for all Tutors	HU/MOH
4th Quarter	Refresher Training for all Trainers	HU/MOH
	Review of Health Manpower Development with MOH	HU
	End of Project Evaluation	HU/MOH/AID

D. ADMINISTRATION ANALYSIS

1. Organization and Administration Structure

The Ministry of Health is directed by the Minister of Health acting through a Principal Secretary who supervises a Chief Medical Officer responsible for all professional/technical services, and an Under Secretary responsible for administrative and support services. The MOH has divisions for major functions such as Nutrition, MCH, PHC, Health Education, Health Planning. With the exception of an Environmental Section and MCH program, the Ministry has no organization at the regional level. At the district level, the District Medical Officer reports directly to the Chief Medical Officer. Two of the regions, Central and Southern, have regional hospitals and there is also general hospitals at Zomba, the old capital, in the Southern Region. Each district has a local hospital and a variety of other facilities, theoretically tiered in descending order to health centers, health sub-centers and health posts. In practice, the lower levels comprise an assortment of maternities and/or dispensaries. The Ministry and its service facilities are critically short of technical staff. In 1980, half the technical posts were vacant due to lack of trained personnel and over half the districts lacked a medical officer. There are serious shortages in all paramedical cadres in district facilities because of the lack of trained health workers.

2. Role and Commitment

The policy of the MOH is to continue to move toward PHC, to immediately strengthen its ability to protect and promote the health of mothers and young children through widely available, rural-oriented comprehensive maternal and child health services including integral child spacing services, and to strengthen its ability to train health workers, especially Community Health

Nurses, Medical Assistants and Health Assistants.

3. Administrative Capability Resources

The MOH has administrative and planning needs which it recognizes and which it is addressing with the support of a World Bank loan. While the MOH seems to operate quite well within its present service format, it lacks personnel training in health service management, health planning, epidemiology, health education, environmental health and other health-related disciplines necessary for effective PHC program management.

Financial constraints are severe, although Malawi spends US$ 9.00 per capita for health service. This expenditure, about 4.5% of the GNP, is higher than that of most comparable developing countries and yet is not adequate to significantly impact upon Malawi's health problem as long as health care is curative and hospital based. In response to this situation, the Government is moving to comprehensive ambulatory MCH/CS service enroute to primary health care service.

Support for primary care pilot programs is being provided by WHO and UNICEF. Overall support for MOH administrative strengthening and for strengthening maternal and child health/child spacing services in being provided by the World Bank. Commodity support for the child spacing component of service is being provided by AID through a regional project.

P. SOCIAL ANALYSIS

1. Overview

A landlocked nation of smallholder farmers (85% of the total population), Malawi shares a number of characteristics with its neighbors. The yearly population growth rate is a high and rising 3.2%. Average annual per capita income is less than US $200 per year. The numerous ethnic groups speak different languages but all

belong to the Bantu language family; Christian identity is 25%. Indicators of the rural health conditions signal progress, but there is considerable need for improvement. In rural areas 80% of the population has access to Under-Five Clinics, but an estimated 30% of children under five have mild to moderate caloric and protein deficiencies. An estimated 40-50% of all households have access to a water supply service. Nevertheless, almost half of all recorded diseases are water-related.

Absolute poverty in the country is relatively rare and differences between urban and rural rich and poor are relatively moderate. Despite ethnic differences, intergroup interaction is frequently an easy process. Indications of ethnic integration include adoption of official language, Chichewa, and widespread intermarriage.

The majority of Malawians live in small hamlets dispersed throughout the countryside. These contain a number of simple houses ranging from a few to more than thirty. The average family size is five people. One or several hamlets make up a village, which is the primary social unit. Leadership within the village, which includes allocation of land to villagers, is exercised by the village headman. Other local leadership is provided by representatives of the Malawi Congress Party, Malawi's only political party. Nationwide, the country is organized in 24 districts and 3 regions, South, Central and North.

2. Beneficiaries

The beneficiaries of this project will be those families who will have access to the strengthened maternal and child services and whose health and quality of life will be improved by the newly initiated post natal care and child spacing services provided by personnel trained with the support of this project. It is

estimated that at present 80% of rural families have access to Under-five Clinics. To the extent that trained MCH/CS Enrolled Nurse Midwives and Community Nurse Midwives provide improved service, an impact on maternal and infant morbidity and mortality should be demonstrated during the life of the project.

When the services of PHC team of Community Nurse Midwife, Medical Assistant and Health Assistant can be brought to bear, the beneficiaries will all be Malawi families, particularly the more than 90% who live in rural areas. With the extension of health services through community health workers and traditional birth attendants trained and supervised by the PHC team, and with the provision of a balance of preventive, curative and promotive health services and the integration of environmental and personal services, a significant improvement should be achieved in the effectiveness of the work of MOH.

3. Women

The prime beneficiaries of this project will be women and young children. As the trained MCH/CS Enrolled Nurse Midwives and the new Community Nurse Midwives enter the MOH service program as providers of care in the MCH/CS program, the users of their services will be women (15-49 years) and young children. As PHC develops, the principal users of personal and family health services will continue to be women of all ages and children. Thus women will enjoy improved health and improved quality of life.

4. Participation

While there is no broadspread community participation in the project activities, an important element in the training of the health personnel is community organization, motivation and health education. This philosophy of community participation will be stressed as a part of service delivery. This is one of the basic

principles of PHC. Part of the training of every health worker will be practical training in a rural community setting with community participation.

5. Feasibility

There is no doubt of the social feasibility of services for which these health workers will be trained. The MCH/CS services are being offered on a pilot scale in a few hospitals and are being well used. PHC has been the subject of pilot operations and studies in three demonstration sites for four years and is well received.

6. Conclusion

There is every reason to conclude that the trainees produced with the aid of this project will be productive and well accepted.

Q. TECHNICAL AND ECONOMIC ANALYSIS

1. Introduction

The project does not lend itself to the development of an economic cost benefit analysis which can be quantified in terms of an internal rate of return. The problem, obviously, is with the difficulties entailed in attempting to place monetary values on the various benefits (productivity, health and social well-being) of the institutionalization of training capacity and upgrading knowledge and skills of large numbers of key health workers.

This project is based upon a review of the health sector and MOH's training needs, capacity and requirements which will make primary health care services more available, accessible and acceptable to the rural population and more efficient for the GOM to deliver. It also takes into consideration the recurrent costs situation of the GOM which must be minimized. The project's objective is to improve the existing training capablity and use present human resources more effectiveiy, thereby achieving cost

reductions where applicable. By the end of the project, the Government will have institutionalized the training capacity to produce in-country key cadres needed to implement its fifteen-year health plan. Therefore, this project (training and MCH/CS) and other donor-assisted projects will ensure the optimum utilization of scarce financial and human resources and the developoment of priority investments needed to ameliorate the presently poor health status of its population. The Government will have a system for training Community Health Nurses, the major cadres of professional health workers needed to implement an improved primary health care structure. It will have expanded the training of all nurses with improved MCH/CS content needed to implement the MCH/CS program. By doing this it will have introduced child spacing services as well as counselling in MCH clinics urban and selected rural areas through the country. Also, it will have improved the training and expand the capacity to train Medical Assistants and Health Assistants. Alone, this project will not directly improve the health status of the rural population. However, without an adequately trained staff, the Government would never be able to ameliorate the impact of health problems or realize any reduction of health status indicators. This project represents a necessary, it not sufficient, requirement before the low health status of rural Malawians will be significantly improved.

Given Malawi's present economic problems, substantial increases in real recurrent budgetary allocations to the health sector in the near term are probably not forthcoming. This project attempts to reduce the financial burden to MOH through least cost method design.

The shortage of health manpower is widely accepted as the major

factor impeding the expansion of primary health care, including child spacing, to rural areas. But it is not the only reason. The inadequate preparation of existing manpower is also widely viewed by the MOH as a critical problem for the delivery of appropriate, effective and efficient health services. The present staff is not trained to handle the high incidence and prevalence of infectior and parasitic diseases, nutritional deficiencies, and high morbidity caused by an unhealthy environment, ignorance of the causes of diseases, and lack of MCH and child spacing services. The retraining of existing staff to more effectively deal with community-based health problems and MCH child spacing and to design new training curricula which introduces the teaching of MCH/child spacing and community health to all students is the least costly method of moving from a curative based, hospital dominated system to a primary health community-based health system.

The retraining of existing staff and the development and implementation of new curricula will add very little to the incremental recurrent costs that would continue after completion of the project. The major costs will be for upgrading salaries for tutors and trainees, petrol for vehicles used by the training staff, per diem, and teaching materials and supplies.

The option of training smaller number of personnel would cost less monetarily, but would retard the implementation of MCH/child spacing programs throughout Malawi. This approach would extend the time period in which the total staff is adequately trained to handle Malawi's most pressing health problems. Also, it would require a longer period of time to reverse the present trend from a curative, hospital-based to a primary health care, community-based health system. A health system that concentrates its training and resources on curative care, when the major health problems are

preventable, is more expensive to maintain and probably has less effect on overall health status than a system which provides its staff with community health training for primary health care services. Secondly, in order to develop the capability to implement a MCH/child spacing program, the staff must be adequately trained and supervised.

In the section that follows, some of the benefits using the least cost method of analysis will be described and the project will be assessed in view of its cost effectiveness.

2. Benefits

a. Improved Health

The most apparent benefit of better and appropriately trained health personnel will be more effective and efficient service delivery. With more personnel delivering better services to the rural areas, this project will assist GOM/MOH to achieve improved health and well-being of the people it serves. The actual and perceived conception of being healthier with increased energy levels can produce other societal benefits, most relevant to social and economic development and increased agricultural productivity.

b. Increased Agricultural Productivity

Health projects that are successfully implemented can lead to improvement in the health status of selected groups in the population. If the improved health program in coordinated with other successful developmental activities the health status of a larger portion of the target population can be achieved. The improvement in a substantial portion of the population's health status results in increased productivity. However, the strength of the direct linkage between improved health and increased output is not well established and the cost attached to gathering baseline data and following individuals and

families over a long period of time with longitudinal studies is prohibitive. However, the results from a small number of studies indicate that healthier more efficient workers are more productive workers.

In Malawi, improved health in the rural areas is expected to have a long term positive impact on agricultural productivity. The rationale is as follows: As noted in the FY 1984 CDSS, over 90 percent of Malawi's population reside in the rural areas, with about 85 percent deriving their living from agriculture. In 1981, agriculture provided approximately 90% of exports and 42% of GDP. The small holder sub-sector (Malawian farmers who farm their own holdings of land on either a part or full-time basis) accounts for over 85% of all agricultural production. This sub-sector, except for drought-induced shortfalls in certain years, has provided adequate supplies to make Malawi self-sufficient in maize. Also, about 30% of the total agriculture sector exports originate in this sub-sector. In addition to providing agriculture commodity export, the total agriculture sector provides the basis for most manufacturing activity.

The health status of the smallholders cannot be allowed to deteriorate. If possible, their health status should be improved for the reasons summarized below:

With a large percent of the male labor force employed in the mines in South Africa and other locations outside the country (150,000 in 1977), this leaves a higher proportion of women and children to work on the smallholder's farms. As women and children are generally more affected by health problems and their conditions and more responsive and accessible to health

services, their improved health status will likely translate into greater agricultural productivity.

In addition to the fact that sick farmers cannot perform to their normal ability, agricultural productivity really declines if an epidemic or a high agricultural productive area is hit by a major outbreak of incapacitating disease during either the planting or harvest period. In this case, only the health system can break the epidemic or reduce the time frame of the disease outbreak thereby maximizing agricultural outputs. Also sick workers affect agricultural productivity due to their lack of responsiveness and grasp of progressive agricultural technologies, work methods, in-service education and innovations.

In both the agricultural and other sectors better health services can reduce deaths of the most productive members of the population and keep absenteeism from becoming excessive during critical productive periods. This is very important to a society with an expectation of life at birth of only 45 years and very youthful population, where 47 percent are aged 14 years and under. By increasing the life expectancy of the most productive members of the population, overall productivity is increased by each prolonged year of life. And with such a high dependency ratio, the society needs the most productive members working at maximum capacity and with minimum absenteeism to provide support for the large numbers of dependents.

c. Reduced Fertility

The demography of Malawi is characterized by an extremely high fertility rate of over 7.5, a 3.2 percent population growth rate (1977) census and an infant mortality rate of 142/1,000, 1981). These factors have important implications for the labor/land ratio, as Malawi's population density, about 140 persons per sq. Km. of agricultural land and already among the highest in Africa, is projected by the World Bank to rise to around 265 persons per sq. Km. by the year 2000. The situation affects Malawi's ability to supply the nation with enough food. A reasonable presumption can be made that better health, particularly by reducing infant and child mortality, will beneficially affect attitudes leading to lower fertility. This project will assist in direct measures to reduce fertility rates by providing training programs for all major categories of health personnel to include child spacing as an integral part of Maternal and Child Health (MCH). In cooperation with World Bank and UNICEF projects which are service oriented, this project is the major training component for accelerated MCH/child spacing program. Regional and district hospitals will provide oral contraceptives, IUD, and condoms. Oral contraceptives and condoms will be available to health centers, starting with one health center in each of 21 districts by 1984, later to expand to other health centers. Improved counselling will be introduced in all facilities. All health staff throughout Malawi will receive orientation in child spacing concepts and how the program operates. This will eventually reach about 2,000 staff, with the extensive technical training reaching a smaller number.

3. Cost Effectiveness

By upgrading Enrolled Nurse/Midwives to Community Health Nurses and providing relevant community oriented MCH/child spacing training to the majority of the health personnel, the GOM feels it can maximize its return on investment in health worker personnel. By employing the "Clinical Officer" in hospitals and the "Medical Assistant" in health centers as "physician extenders", with Community Health Nurses and Health Assistants devoting more attention to community problems, over time a positive health impact should be realized. With all these health personnel either oriented to or trained in depth in MCH/CS, the GOM, other donors and the project team agree that this project employs the most cost effective means of training large numbers of personnel in the shortest time frame and will assist GOM/MOH, with other donor projects, to expand health services to rural areas.

3. Summary Conclusion

Based on the above analysis, it is felt that the project is economically sound in terms of benefits in will produce and the cost effectiveness of the project strategy employed.

Also this project proposes no new development of technology, but is does intend to transfer existing technologies of competency-based, task-oriented training modules, more effective and efficient teaching methodologies and skill-testing evaluation to Malawi. It also intends to support and build on proven technological innovations already in use in Malawi. The introduction of new activities will be tailored to fit local needs and conditions. This will be ensured by developing close working and collaborative relationships between technical advisors and Malawian counterparts, and by getting frequent feedback from trainees in the various training programs. In order for this

project to be successful, close coordination must be achieved among the other donors and GOM/MOH.

In summary, in terms of capital, operating and maintenance cost this project will use the least costs approach to train existing staff and new entry staff to adequately serve Malawi's population characterized by a very high fertility rate, high levels of infant and child mortality, poor environmental conditions and inadequate nutrition.

R. PROJECT MANAGEMENT

The Health Institutions Development Project will be implemented and managed by Howard University in support of, and with the cooperation of, the Ministry of Health.

Howard University will be responsible for the overall administration of the project grant. Using the resources of the grant, Howard University will provide long and short term technical assistance, provide and/or arrange participant training, seminars and workshops, and will provide material support necessary for the implementation of this project.

Howard University will place the management of the project in the Department of Community Health & Family Practice in the College of Medicine. The Project Director will have access to all of the services and facilities of the University in the management of the project. For more information about Howard University and its international health activities, see "Howard University Capability Statement, May 1983." Howard University will maintain a project management office of Washington, D.C. and will hold U.S. support costs to the necessary minimum. H.U. will employ a part-time project director, an administrative assistant and a secretary.

The H.U. Project Director will be responsible for the overall implementation and management of the project. He/she will supervise the Chief of Party in Malawi, will monitor activities in the field, supply technical assistants as required, provide material support as necessary and will manage expenditures. The Project Director will submit quarterly and annual budget and expenditure reports to A.I.D.

The project staff in Malawi will be under the supervision of a Chief of Party (C. of P.) appointed and supported by HU. The Chief of Party will also serve as the MCH/CS Technical Assistant stationed at the Lilongwe School for Health Sciences. The Chief of Party will be supervised by the HU Project Director. The Chief of Party will provide management and project leadership in Malawi, and will relate to the GOM/MOH Project Director. The Chief of Party will be assisted by a local hired administrative assistant.

The Chief of Party will collaborate with the MOH and the project staff to prepare a detailed project work plan during the first 3 months of the project and will prepare an annual project work plan each year. The C. of P. will require monthly reports of each of the project staff as well as consultation reports from each short-term technical consultant, and will prepare monthly and annual reports to be submitted to GOM/MOH, to USAID/Malawi and to the HU Project Director.

The GOM/MOH Project Director will collaborate in the preparation of work pains, will assign tutors, trainers, students and other personnel required for the implementation of this project. The GOM/MOH will also be responsible for the development of the policies, appropriate deployment of personnel, physical development of the L.S.H.S. facility as provided by the resources of the project, and for coordinating this training project with other activities and programs of the MOH. The GOM/MOH will participate in internal and external evaluations.

GOM/MOH will provide specifications for any child spacing commodities provided by this project.

AID/Malawi will review annual work plans, will participate in internal and external evaluations and will provide direct support to GOM/MOH in the form of construction funding and funding for the bus and truck cited in Annex H.

S. PROJECT BUDGET

This section describes the costs associated with the proposed project and identifies the Annexes which describe the derivation of cost elements.

Table a provides a summary of estimated expenditures (in US$ 000) for each of the AID supported components of the proposed budget according to fiscal year. An obligation schedule (by fiscal year) has also been designed to ensure that funds and will be available in accordance with planned project activities.

Table b presents a summary of the proposed AID contributions and Government of Malawi contributions. These figures are organized in accordance with project components and also describes the anticipated distribution between foreign exchange (FX) and local currency (LC).

In Tabel c we provide a precise listing of overall project expenditures.

1. Cost Estimates for Project Components

The individual cost elements for Table c were derived by procedures described in selected Annexes as indicated in the following paragraphs:

a. Construction and Furnishings

The cost estimates for the proposed construction and furnishing of new buildings at the Lilongwe School for Health Sciences (LSHS) were provided by the GOM. These estimates are presented in Annexes A and B. Annex C describes

82

the conversion from Malawi Kwacha to U.S. dollars. The budgeted cost for construction will be handled as a direct disbursement from USAID to the Malawi Government, and therefore, is not subject to indirect costs. Also, because contingencies are included in derivation of Annexes A and B, the overall project contingency (5%) was not applied to construction/furnishings.

b. Technical Assistants

The actual costs of technical assistants will depend on their skill level and personal situation (e.g. number of individuals in family, need for U.S. storage, need for auto shipping services etc.). Because these factors cannot be determined until personnel selections are made, we have decided to establish estimates based on a series of logical assumptions. The assumptions and derivation of the expected average cost for typical long term and short term technical assistants are provided in Annex D. Table d presents estimated costs for long term and short term technical assistants for the proposed project.

c. Teaching Equipment

Annex E lists the teaching equipment and supplies to be purchases for the Lilongwe School for Health Sciences as a part of the proposed project.

d. Participant Training

The person year loading for the long term and short term participant training is provided in Tables g and h respectively. Annexes F and G describes the derivation of estimated average costs for individual units of long term and short term participant training. Table e summarizes

requirements for participants training and describes the derivation of overall costs.

e. Vehicle Acquisition and Vehicle Operating Costs

Table f provides a summary of vehicle requirements and the derivation of vehicle related costs. The derivation of these cost estimates are described in Annexes H and I. The bus and the truck (to be purchased in the 3rd year) will be handed over to the MOH immediately after purchase and the Ministry will assume all subsequent fiscal responsibility for these vehicles. Therefore, indirect costs were not applied to these two items.

f. Office Support Staff Salaries (Malawi)

The initial estimate for Malawi office support staff salaries was obtained from MOH officials. The method used for extending this initial estimate throughout the life of the project is provided in Annex J.

g. Office Operating Expenses (Malawi and Washington, D.C.)

Estimates for operating expenses for the Offices of Malawi and Washington, D.C. were totaled and the results displayed on Table g. The list of office equipment for the Malawi office is provided in Annex K. The project management table for Howard (Table g) includes estimates of office operating expenses for the Washington, D.C. office.

h. Headquarters Salaries

The proposed salaries for headquarters (Washington, D.C.) project management/administrative staff are presented in Table g.

i. Project Evaluation

Internal evaluation will be included as a normal part of project management, and therefore, will not incur added costs.

However, external evaluation will require the expenditure of extra funds. Annex M describes these costs.

j. Contingency

A 5% contingency has been added to cover events which have not been planned for. The contingency percentage was applied to all estimated project costs except construction/furnishing. The construction/ furnishings figures in Table c already includes contingency funding.

k. Miscellaneous

Notes have been prepared and annexed to describe miscellaneous derivations.

Table a. - SUMMARY COST ESTIMATES AND SUGGESTED OBLIGATION SCHEDULE
(in thousands of dollars, U.S.)

	FY '84	FY '85	FY '86	FY '87	FY '88	TOTAL
I. OBLIGATIONS	2893	1120	1200	1100	1114	7427
II.EXPENDITURES						
Construction & Furnishings	951	0	0	0	0	951
Technical Assistance	732	775	779	926	757	3969
Teaching Equipment	95	0	0	0	0	95
Participant Training (Long and Short Term)	275	227	44	13	0	559
Vehicle Acquisition	92	0	54	0	0	146
Vehicle Operating Costs	16	19	27	29	35	126
Office Support Staff (Malawi)	10	11	13	15	17	66
Office Operating Expenses (Malawi & Washington)	82	67	51	57	64	321
Headquarters Salaries	115	132	152	174	200	773
Project Evaluation	0	0	54	0	54	108
SUBTOTAL	2368	1231	1174	1214	1127	7114
Contingency @ 5% (Except construction/furnishings)	71	62	59	61	56	309
GRAND TOTAL	2439	1293	1233	1275	1183	7423

Table - SUMMARY COST ESTIMATE AND FINANCIAL PLAN ($U.S.)

	USAID		GOM		TOTAL		ACCUMULATED TOTAL
	Foreign Exchange	Local Currency	Foreign Exchange	Local Currency	Foreign Exchange	Local Currency	Combined Currencies
Construction & Furnishings	0	951054	0	1419500	0	2370554	2370554
Technical Assistance	3968432	0	0	498437	3968432	498437	4466869
Teaching Equipment	94526	0	0	50000	94526	50000	144526
Participant Training	460233	97994	0	193000	460233	290994	751227
Vehicle Acquisition	0	145381	0	0	0	145381	145381
Vehicle Operating Costs	0	126708	0	0	0	126708	126708
Office Support Staff (Malawi)	0	67194	0	24000	0	91194	91194
Office Operating Expenses (Malawi and Washington)	307021	13622	0	447700	307021	461322	768343
Headquarter Salaries	772872	0	0	0	772872	0	772872
Project Evaluation	108000	0	0	0	108000	0	108000
Family Formation Survey	0	0	0	300000	0	300000	300000
SUBTOTAL	5711084	1401953	0	2932637	5711084	4334590	10045674
Contingency @ 5% (Except construction & furnishings)	285554	22545	0	0	285554	22545	308099
INDIVIDUAL COLUMN TOTALS	5996638	1424498	0	2932637	5996638	4357135	10353773
CUMULATIVE TOTALS	7421136		2932637		10353773		10353773

Table c.-DETAILED COST ESTIMATE BY FISCAL YEAR

	FY '84	FY '85	FY '86	FY '87	FY '88	TOTALS
Construction & Furnishings	951054	0	0	0	0	951054
Technical Assistance	732043	774978	778600	926139	756672	3968432
Teaching Equipment	94526	0	0	0	0	94526
Participant Training	274626	226590	44280	12731	0	558227
Vehicle Acquisition	91568	0	53813	0	0	145381
Vehicle Operating Costs	16364	18730	26881	29350	35383	126708
Office Support Staff (Malawi)	9966	11460	13180	15157	17431	67194
Office Operating Expenses(Malawi & Washington)	81553	67104	50838	57020	64128	320643
Headquarter Salaries	114629	131823	151596	174337	200487	772872
Project Evaluation	0	0	54000	0	54000	108000
SUBTOTAL	2366329	1230685	1173188	1214734	1128101	7113037
Contingency 05% (Except construction /furnishings)	70764	61534	58659	60737	56405	308099
GRAND TOTAL	2437093	1292219	1231847	1275471	1184506	7421136

Table d. - TECHNICAL ASSISTANCE (TA)
(Requirements and Cost by Fiscal Year &
Program Component/Personnel Category)

	FY '84	FY '85	FY '86	FY '87	FY '88	TOTAL
LONG TERM TECHNICAL ASSISTANCE						
MCH/CS(person-years)	3	3	3	2	2	13
HA/MA(person-years)	0	0	.5	2	1.5	4
CHN(person-years)	2	2	1	1	1	7
Cost($/person-year)	117169	126543	136666	147599	159407	687384
Total(LT-TA)	585845	632715	614997	737995	717332	3288884
SHORT TERM TECHNICAL ASSISTANCE (n person-months)						
rriculum Development	3	3	3	3	0	12
utritionist	3	3	3	3	0	12
Health Education	3	3	3	3	0	12
Advanced Placement Specialist	2	0	0	0	0	2
Manpower Development Consultant	2	2	2	2	2	10
Total person-months	13	11	11	11	2	48
Cost($/person-month)	11246	12933	14873	17104	19670	75826
Total cost(ST-TA)	146198	142263	163603	188144	39340	679548
TOTAL COST-TECHNICAL ASSISTANCE	732043	774978	778600	926139	756672	3968432

Table e. - PARTICIPANT TRAINING
(Requirements and Associated Costs)

	FY '84	FY '85	FY '86	FY '87	FY '88	TOTAL
Long Term (person-years)	6	4	0	0	0	10
Average Cost per person-year	38796	44615	51307	59003	67853	
Total cost (long-term)	232776	178460	0	0	0	411236
Short Term (no.of training experiences)	5	5	4	1	0	15
Average cost per experience	8370	9626	11070	12731	14641	56438
Total cost (short-term)	41850	48130	44280	12731	0	146991
PARTICIPANT TRAINING						
TOTAL COSTS	274626	226590	44280	12731	0	558227

Table f. SUMMARY OF VEHICLE REQUIREMENTS AND COST DERIVATIONS

	Quantity	Estimated Price*	Purchase Time
Bus, 26 seats	1	$37,500**	Year 1
Car, Subaru, 4WD, 4 Dr. Sedan	5	50,063	Year 1
C) Truck, one ton, 4WD	1	21,104**	Year 3
D) Vehicles, 10 seats, 4WD	1	30,286	Year 3
Subtotal	8	$138,953	
8% Indirect Cost	=	6,428	
Total	=	145,377	

*Estimted Price = Dealer's price + 25% in spare parts and 15% per year inflaction factor for 3rd year purchases.

**Excluded from Indirect Cost.

Vehicle Operating Costs

(For Items B and D above; Bus and Truck to be operateed by MOH

Fuel Costs

	FY 84	FY 85	FY 86	FY 87	FY 88
. of Vehicles	5	5	6	6	6
Estimated Mileage	60,000	60,000	72,000	72,000	72,000
Gallons of Fuel	4,000	4,000	4,800	4,800	4,800
Estimated Cost/Gallon	3.27	3.76	4.32	4.97	5.72
Sub-Total Fuel Cost	$13,080	$15,040	$20,736	$23,856	$27,456
8% Indirect Cost	1,046	1,203	1,659	1,908	2,196
Total =	$14,125	$16,243	$22,395	$25,764	$29,652

Total = $108,180

Table f. Cont'd. SUMMARY OF VEHICLE REQUIREMENTS AND COST DERIVATIONS

Maintenance Costs

	FY 84	FY 85	FY 86	FY 87	FY 88
Services/Vehicle/Yr.	2	2	3	2	3
Total Servicing in Yr.	10	10	18	12	18
Estimated Cost/ Servicing	$ 150	$ 173	$ 199	$ 229	$ 263
Sub-Total Cost/All Vehicles	$ 1,500	$ 1,730	$ 3,582	$ 2,748	$ 4,734
8% Indirect Cost	120	138	287	220	379
Total =	$ 1,620	$ 1,868	$ 3,869	$ 2,968	$ 5,113

Subtotal = $15,438

Contingency (@ 20%; including indirect costs) = $ 3,008

TOTAL - $18,526*

*Mismatch with original figure in Annex H ($18,525) is due to roundoff.

Table g.- PROJECT MANAGEMENT COSTS BY FISCAL YEAR

	FY '84	FY '85	FY '86	FY '87	FY '88	TOTAL
PERSONNEL						
Project Director @ 50%	40000	46000	52900	60835	69960	269695
Administrative Assistant	27200	31280	35972	41368	47573	183393
Secretary	15720	18078	20790	23909	27495	105992
Personnel Salaries (Total)	82920	95358	109662	126112	145028	559080
Fringe (@28% of salaries)	23218	26700	30705	35311	40608	156542
Salaries & Fringe	106138	122058	140367	161423	185636	715622
Indirect Costs (8% of salaries & fringe)	8491	9765	11229	12914	14851	57250
TOTAL HDQTR SALARIES (Includes fringe and indirect costs)	114629	131823	151596	174337	200487	772872
SUPPLIES/ADMINISTRATIVE						
General supplies	600	600	600	600	600	3000
Xerox charges	400	400	400	400	400	2000
Telex machine rental	1200	1200	1200	1200	1200	6000
Telex machine supplies	200	200	200	200	200	1000
Long distance phone	600	600	600	600	600	3000
Postage	200	200	200	200	200	1000
Consultation	2000	2000	2000	2000	2000	10000
PLIES/ADMINSTRATIVE OSTS	5200	5200	5200	5200	5200	26000
TRAVEL COSTS	30000	34000	32000	35000	38000	169000
SHIPPING COSTS	12000	12000	0	0	0	24000
INDIRECT COSTS (8% of total direct costs, excluding headquarter salaries which already include indirect costs)	3776	4096	2976	3216	3456	17520
GRAND TOTAL (includes each of the major cost categories listed above)	165605	187119	191772	217753	247143	1009392
						1009392

ANNEX A

PROPOSED EXTENSION TO LILONGWE
SCHOOL FOR HEALTH SCIENCES

	OMMODATION	AREA SQ. M.	UNIT COST K/M(2)	TOTAL COST
1.	4 NO 30 student class Rooms (Existing Design) each classroom 135m(2)	540	K300.00	K162,000
2.	120 Bed Students Hostel (comprising of (i) 40 Health Asst. (ii) 40 Medical Asst. (iii) 40 Comm. Nurses at 15m(2) per student	1,800	K300.00	K594,000
3.	IN. Lab for 30 students at 4.5m(2) per student	135	K320.00	K43,200
4.	Admin. Offices 10 Offices	150	K300.00	K45,000
5.	External Services 10%			844,200
				84,420
				928,620
	Contingency Escallation 10%			92,862
				1,021,482
7.	Supervision to Expenses 0.5%			5,107.4
				1,026,589
	TEC VALID TO 1/1/84		SAY	1,026,600

ANNEX B

EQUIPMENT FOR THE HOSTELS AND CLASSROOMS

120 Students Mattresses at K18.00	2160.00
120 Students Bedcovers at K20.00	2400.00
240 Students Blankets at K15.00	3600.00
240 Students pairs of Bedsheets at K25.00 pair	6000.00
120 Classroom tables at K85.00	10200.00
120 Classroom chairs at K27.50	3300.00
120 Hostel Stacking Chairs at K13.00	1560.00
20 Executive Tables 6 Drawers at K295.00	5900.00
20 Executive Chairs at K50.00	1000.00
40 Officer Trays at K9.00	360.0

ANNEX B

EQUIPMENT FOR THE HOSTELS AND CLASSROOMS

		K t
120	Students Mattresses at K18.00	2160.00
120	Students Bedcovers at K20.00	2400.00
240	Students Blankets at K15.00	3600.00
240	Students pairs of Bedsheets at K25.00 pair	6000.00
120	Classroom tables at K85.00	10200.00
120	Classroom chairs at K27.50	3300.00
120	Hostel Stacking Chairs at K13.00	1560.00
20	Executive Tables 6 Drawers at K295.00	5900.00
20	Executive Chairs at K50.00	1000.00
40	Officer Trays at K9.00	360.00
	Total Cost	K36,480.00
	Plus 15% contingency	5,472.00
	Grant Total	K41,952.00
	say	K42,000.00

ANNEX C

Notes on Derivation of Construction/Furnishing Cost Estimates

The Government of Malawi provided cost estimates for the construciton and furnishing of the proposed additions to the Lilongwe School for the Health Sciences (LSHS). The detailed estimates are provided in Annexes A and B. The summarized total costs, in Malawi Kwacha (MK) is shown below:

Construction Costs (including a contingency)	MK 1,026,600
Furnishings	MK 42,000
=	MK 1,068,600

The current conversion rate of $ .89 per MK was applied to MK1,068,600 to obtain the equivalent amount in $ U.S.

$$MK1,068,600 \times 0.89 \frac{\$US}{MK} = \$951,054$$

ANNEX D

Explanatory Notes for Cost Estimates

A. The estimate of the average cost of one person year of long-term technical assistance assumes an average assignment of 4 years and and average family size of 2 adults and 2 children with the total children being equally divided between primary and secondary school ages.

Average Annual Cost FY 83

1.	Salary	$ 40,000
2.	Transportation of Personnel 1 RT/year for PAT HL or RR $3000 x 3	9,000
3.	HEE Transportation RT divided by 4 HL Freight (700 lbs. gross wt.)	
	Surface	8,410
	Air	1,795
4.	Automobile Transportation 3000 lbs RT divided 4	3,750
5.	U.S. storage (7500 lbs. net wt.)	3,456
6.	Post Differential (10%)	4,000
7.	One time soft furnishings Allowance 5,000	5,000
8.	Educational Travel and Educational Allowance 1500 + 9,248	10,748
9.	Transfer Allowance	200
10.	Temporary Lodging (30 days x $69)	2,070
11.	Fringe Benefit 28% x salary	11,200
12.	Miscellaneous	825
	Subtotal	$ 100,454
13.	Indirect Costs	8,036
	Total =	$ 108,490

The average cost for each subsequent fiscal year was determined by applying an average inflation rate of 15%, as follows:

FY 84	FY 85	FY 86	FY 87	FY 88
117,169	126,543	136,666	147,599	159,407

3. The estimate of the average cost of one person month of short-term technical assistance assumes an average consultancy of two months.

Average Cost Per Person Month FY 83

1.	Salary ($175/day x 22 days)	3,850
2.	Per Diem 28 x $69 2 x $17	1,966
3.	Transportation ($3000 divided 2)	1,500
4.	In-country transportation $12/day x 30 days)	360
5.	Fringe Benefit 28% x salary	1,078
6.	Miscellaneous	300
	Subtotal	$ 9,054
	Indirect Costs	724

The estimated average cost per person month for each subsequent fiscal year was determined by applying an average annual inflation rate of 5%, as follows:

FY 84	FY 85	FY 86	FY 87	FY 88
11,246	12,933	14,873	17,104	19,670

ANNEX E

LIST OF TRAINING EQUIPMENT AND SUPPLIES

ITEM AND QUANTITY	TOTAL AMOUNT $US
1 video camera, color	2500
1 portable video cassette color tape recorder/player	1625
27 blank video cassettes	270
2 color monitors	2500
4 opaque projectors	3972
60 extra bulbs for projector	1800
5 motion picture projectors, 16mm	7300
5 extra take up reels	75
25 extra bulbs for movie projector	300
10 spare part kits for movie projector	850
3 power generating sets, 250/300W	2331
1 power generating set 200W	939
10 IUD sets	1875
3 Betsy breasts	850
4 slide/sound projectors with built-in screen	6000
2 childbirth education films	700
30 other films	12000
30 film strips	450
1 aquarium, plastic	80
2 aquarium, glass	52
3 anatomy charts	855
3 anatomy charts, Schick	480
5 anatomy charts, human embryology	155
5 anatomy charts, pregnancy	115
3 birth atlas, flipbook	135
3 birth atlas, slides/script	84
3 breastfeeding, slides/tape	111

ITEM	ANNEX E-2	TOTAL AMOUNT $US
---	books (reference, text, library supplementary, etc.)	15000
10	slide project/film strip projectors	2525
120	extra bulbs	576
3	semi-auto changers	270
40	slide trays	128
7	cassette tape recorders	1400
200	blank cassettes	320
2	carousel slide projectors	1250
100	batteries, "C" 1.5v	160
2	extra earphones, tape recorder	60
3	cables	60
20	shovel roundtips	260
20	axe, hand	260
3	crowbars	39
10	cement trowels	70
20	crosscut saws	140
2	water quality analysis kits	2500
16	mobile housing structures	3200
100	35mm slide films with processing mailer	1400
1	ken-a-vision model, microscope slide projector	625
2	35mm SLR cameras	750
10	batteries, for cameras	40
5	35mm range finder cameras	785
10	extra mercury cells	40
7	overhead projectors	2198
84	extra bulbs	1344
21	acetate rolls	202
35	felt-tip pens, for acetate	112
28	acetate sheets	314

ANNEX E-3

ITEMS	TOTAL AMOUNT $US
28 acetate sheet mounts	404
7 portable projection screens	804
14 portable projector stands	1848
Subtotal	87,524
Indirect Cost 8%	7,002
Total	94,526

ANNEX F

Derivation of Estimated Costs for Long Term Participant Training

The average cost of one year of long-term training in the U.S. in FY '83 was estimated at $33,757 by the project team, as follows:

Estimated Cost of Training at the B.S. Level (3 yr.)

		U.S. Dollars
1.	Tuition (9 semesters, including 3 summer sessions at $3,600/year)	$ 32,400
2.	Books (9 semesters at $200/semester)	1,800
3.	Insurance ($1,600/semester)	14,400
4.	Contractor fee (3 yr. at $3,650/year)	10,950
5.	Research cost (computer, materials, etc. $750/year)	2,250
6.	Typing of papers ($20/month)	720
7.	Living allowance ($550/mo. x 36)	19,800
8.	Initial advance and allowance	1,200
9.	Travel to and from the U.S.	3,000
10.	U.S. travel, meetings, etc.	1,400
11.	Per diem ($75/day x 30 days)	2,250
12.	Contingencies and miscellaneous (including tutorial assistance)	6,000
	Subtotal	96,170
	Indirect Costs (@ 8% on all costs except tuition)	5,102
	Total	$ 101,272

$101, 272 divided by 3 = $33,757 (FY 83) per year.

The estimated average annual cost for subsequent fiscal years was determined by applying an average annual inflation rate of 15%, as follows:

FY 84	FY 85	FY 86	FY 87	FY 88
$38,821	$44,644	$51,341	$59,042	$67,898

ANNEX G

Derivation of Estimated Costs for Short-term Participant Training

Each short-term participant training experience is assumed to last 3 months. The average costs estimated for this training experience are listed below:

Per diem	=	90 x $75	=	$ 6,750
Travel	=	$1,000	=	1,000
		Total	=	$ 7,750

Application of a 15% per year inflation factor gives the following schedule.

	FY 84	FY 85	FY 86	FY 87
	$7,750	$8,913	$10,250	$11,788
Indirect Costs (@ 8%)	620	713	820	943
TOTAL =	$8,370	$9,626	$11,070	$12,731

ANNEX H

NOTES ON THE DEVELOPMENT OF VEHICLE ACQUISITION AND OPERATING COSTS

1. Vehicle Acquisition Costs

Total costs for acquiring the 8 vehicles associated with the project are listed below in Table 1. The cost of each vehicle includes a spare part allotment equal to 25% of vehicle purchase price. This allotment will be used to obtain an array of vehicle parts which most often require replacement. These parts will be purchased at the time of initial vehicle purchase. Table 1 lists costs in $U.S. Table 2 shows derivation of 3rd year acquisition costs.

The factor used for conversion is 0.89 dollars per Malawi Kwacha. All prices are the duty free prices which normally apply to government vehicles.

Table 1. Vehicle Acquisition Costs

Item	Quantity	Cost ($US)
26 Seater Bus	1	$ 37,500*
4-Wheel Drive, One Ton Truck	1	21,104*
4-Wheel Drive, 4-Door Sedan	5	50,063
4-Wheel Drive, 10 Seater Vehicle	1	30,286
		$138,953
*Indirect Cost 8% -		6,428
	Total	= 145,381

2. Vehicle Operating Costs

Vehicle operating costs consist of two major components: fuel costs and maintenancy costs. (Insurance costs for vehicles used in government service are reportedly quite small).

The bus and the truck will be handed over to the GOM immediately after purchase. The GOM will assume all further operation costs for these two vehicles. The remaining six vehicles will be operated using project funds. One of these six vehicles (the 4-wheel drive 10 seater) will be purchased for use in the third and subsequent years.

Table 2. Vehicle Acquisition - 3rd Year

One ton truck -
4 WD, 1 Ton Petrol Daihatsu

FY '83 Price*	MK12473	=	$11,101	Total Price
25% Spare Parts Allotment		=	$ 2,775	$13,876

15% Inflation Factor Applies

FY 84	FY 85	FY 86
15,957	18,351	21,104

10 Seater - Landrover or Equivalent
4 WD Petrol

FY 83 Price	MK 17900	=	$15,931	Total Pric
25% Spare Part Allotment		=	$ 3,983	$19,914

15% Inflation Factor Applied

FY 84	FY 85	FY 86
$22,901	$26,336	$30,286

a. Fuel Costs

The current prive for fuel in Lilongwe is 96 Tambala per liter. This corresponds to $3.27/gallon (U.S). Assuming that this price will hold as an average price during FY 84 and that subsequent years will experience 15 per year inflation, we obtain the following schedule of fuel costs (in $U.S./gallon) by fiscal year:

FY 84	FY 85	FY 86	FY 87	FY 88
$3.27	$3.76	$4.32	$4.97	$5.72

We estimated that the vehicles will be used an average of 12,000 miles peryear. We assume an overall average mileage of 15 miles per gallon g(mpg). Take 3 lists total miles driven for all project vehicles by fiscal year along with the corresponding quantities of petrol required and associated costs (based on the derived fuel cost schedule).

*Price is duty free government price.

b. Maintenance/Repairs

As shown in Annex I, the magnitude of these fuel costs made it impossible for us to make total fuel and maintenance costs (over the 5 years of the project) equal to or less than75% of the acquisition costs for the vehicles being operated by the project. Therefore, we chose to make a series of reasonable assumptions and make our estimate the overall costs which result. The assumptions used are listed below:

- vehicle servicing will occur every 5,000 miles
- each servicing will cost $U.S. 150 during FY 84 which will cover labor and spare parts not included in the initial spare part allotment.
- the service fee will undergo a 15% per year inflation over the life of the project.
- the spare part allotment will include, at a minimum, the items normally required for routine maintenance (e.g. oil filters, spark plus, air filters, condensers, etc.) for the life of the project vehicle use.
- any major repairs required will be covered by a contingency comprised of a) 20% of total derived maintenancy costs and b) any portion of vehicular service fees not required for routine service visits.

The number of service visits for each year was determined based on the assumed 5,000 mile service interval and the assumed 12,000 miles/year. (Because 12,000 is not evenly divided by 5,000, certain years will have 2 service visits, while other years will have 3 service visits). The information used in deriving the total maintenance costs have been displayed in Table 4. The derived total cost (including a 20% contingency) is $17,153.

c. Summary of Vehicle Acquisition and Operating Costs

Total vehicle acquisition and operating costs are summarized are:

Vehicle Acquisition	$145,381
Vehicle Fuel	108,181
Vehicle Maintenance (including contingency)	18,525
Total Vehicle Acquisition and Maintenance Costs	
Total =	242,087

Table 4. Derivation of Maintenance Costs

	No. of Project in Operation	No. of Services Required During Fiscal Year	Total No. of Services Required During FY for all Vehicles in Operation	Average Estimated Cost per Service @ 15%/year Inflacion)	Total Service Cost for All Vehicles in operation
FY 84	5	2	10	150	1,500
FY 85	5	2	10	173	1,730
FY 86	6	3	18	199	3,582
FY 87	6	2	12	229	2,748
FY 88	6	3	18	263	4,734
					14,294
				Contingency @	2,859
				Subtotal	17,153
				Indirect Cost 8%	1,372
				Total	$18,525

ANNEX I

ASSESSMENT OF RELATIONSHIP BETWEEN VEHICLE ACQUISITION COSTS AND VEHICLE OPERATING COSTS

We examined whether it was possible to keep the total fuel and maintenance cost (over the 5 years of the project) equal to or less than 75% of vehicle acquisition costs. We found that this was impossible due mainly to the high fuel costs. The following paragraphs show our derivation.

A. Basic Assumptions

- Vehicles to be supported by project funds.
  - 5 sedans
  - 1 10-seater
- Total acquisition costs (including 25% spare part allotment and 8% indirect cost) = $86,777
- 75% of $86,777 = $65,083

B. Scenario 1

- Miles driven during project = 60,000
- Fuel costs based on following schedule (FY 83 cost not used)
  - '84 - $3.27
  - '85 - $3.76
  - '86 - $4.32
  - '87 - $4.97
  - '88 - $5.72
- Petrol mileage = 15 mpg
- Use of 6th vehicle starts in year 4
- Total petrol cost - $108,181
- Therefore, if vehicles are driven 12,000 miles/year each, the total cost for fuel alone is greater than 75% of vehicle acquisition costs.

Assessment of Relationship Between Vehicle Acquisition Costs and Vehicle Operating Costs (Continued)

C. Scenario 2

- Miles travelled = 30,000
- Previous fuel cost schedule
- Previous vehicle use start dates
- Total petrol cost = $62,217
- Inadequate amount for 5 years of maintenance for 5-6 vehicles

Therfore, if vehicles are driven 6,000 miles/year each, the total cost of fuel is only $2,866 less than 75% of the vehicle acquisition costs. This $2,866 would be the total amount available for maintenance for the 5-6 project supported vehicles for the 5 year life of the project. This corresponds to less than $115/vehicle/year for all maintenance, an amount considered to be inadequate. Furthermore, 6,000/miles per year will certainly be less than the average mileage assessed to each vehicle.

ANNEX J

NOTES ON COST ESTIMATES FOR OFFICE SUPPORT STAFF (MALAWI)

Salaries for the secretary and other office support staff.

Estimated obtained from Ministry of Health (MOH) is MK8100 = $7209. Assume that this amount applies to FY '84 and is inflated at 15$ per year.

	FY 84	FY 85	FY 86	FY 87	FY 88
Salary	7,209	8,290	9,534	10,964	12,609
Fringe	2,019	2,321	2,670	3,070	3,531
Salary & Fringe	9,228	10,611	12,204	14,034	16,140
Indirect Costs	738	849	976	1,123	1,291
Sub-Totals	9,966	11,460	13,180	15,157	17,431

otal $67,19·

ANNEX K

MALAWI OFFICE OPERATING EXPENSES DETAILED ITEMIZATION

ITEM	QUANTITY	TOTAL COST	SPARE ALLOTME INCLUDE
Gestetner Model 145T, hand operated	1	440	Yes
Gestetner ink, black	150 tubes	480	-
Gestetner ink, blue	150 tubes	480	-
Gestetner ink, green	50 tubes	160	-
Gestetner stencil masters box of 50	40 boxes	256	-
Gestetner stencil correction fluid	50 bottles	40	-
Gestetner stencil styli	10	48	-
Tapewriter machine	3	159	Yes
IBM Selective typewriter, correcting	1	2,000	Yes
Correcting tape	72	346	-
Type ribbon	72	346	-
Pencils, black	675	54	-
Pens, ballpoint	338	27	-
Felt-tip marker, black	338	270	-
Pencil Sharpener	10	96	-
Eraser, hand held	67	107	-
Scissors	7	20	-
"White-out" correction fluid	50	50	-
Stapler	20	292	-
Staples, box of 5000	40	648	-
Staple remover	20	20	-
Cellophane tape with dispenser	50	40	-
Masking tape One inch wide	20	32	-
Two inches wide	20	64	-

ANNEX K-2

ITEM	QUANTITY	TOTAL COST	SPARE ALLOTMENT INCLUDED
Ruler, plastic	360	180	-
Lined writing pad (pak of 50 sheets)	800	400	-
Bond paper, copier quality, ream	120	600	-
Bond paper, typing quality, ream	60	300	-
Bond paper, high cotton, high weight, ream	120	775	-
"White-out" correction fluid	25	25	
Photocopier, sharp or equivalent	1	4,125	Yes
Photographer Supplies (for 5 yrs)	-	2,000	
Postage	-	2,500	-
International courier service	-	3,000	-
Contingency @ 5%		6,000	
	Subtotal =	26,000	
Indirect Costs @ 8% of Total	=	2,000	
	TOTAL =	28,000	

ANNEX L

NOTES ON COSTS ASSOCIATED WITH PROJECT EVALUATION

International review and evaluation procedures will occur at selected times throughout the project (monthly progress reports, annual reviews, and overall project evaluations scheduled midcourse and at end of project). In addition to these internal reviews/evaluations, there will also be two evaluations performed by outside consultants. These evaluations are scheduled for midcourse (during FY 86) and at the end of the project (during FY 88). We have budgeted $54,000 to cover consultant salaries/expenses associated with each of these evaluations.

	FY 84	FY 85	FY 86	FY 87	FY 88	Total
Project Evaluation	-	-	50,000	-	50,000	100,000
Indirect Costs (@ 8%)	-	-	4,000	-	4,000	8,000

ANNEX M

Determination of Distribution of Foreign Exchange (FX) and Local Currency (LC) Costs for Participant Training

Assume that all long-term (LT) participant training will occur in the U.S. and, therefore, will require foreign exchange.

Long Term Training Required = $411,236

$411,236

The bulk of the short-term (ST) participant training will occur in Malawi and will, therefore, utilize local currency. However, it is reasonable to expect 1/3 of the short term participant training will occur in some other country (most likely in Africa) and foreign exchange will be required.

	(1)	
Total short term training	= $146,991	
1/3 outside Malawi	= 48,997	FX
2/3 inside Malawi	97,994	LC

Total foreign exchange required = total FX for LT training plus total FX for ST = $411,236 + 48,997 = $460,233

Total local currency required = $ 97,994

Total cost for participant training = $460,233 + 97,994

= $558,227

(1) Includes Howard University indirect costs @ 8%.

ANNEX N

Derivation of Office Operating Expenses (Malawi)

Total cost for items as itemized on Annex K is $27,982. The periodic cost elements of this figure include courier service, postage and contingency and amounts to $11,593. All other costs are those for items which must be purchased at the beginning of the operation of the office. Therefore, we expect these costs (amounting to $16,389) to be incurred during the first year. We also assume that the periodic costs of $11,593 be spread over 5 years at the rate of $2,319/year. Based on these figures, the following schedule is generated:

FY 84	FY 85	FY 86	FY 87	FY 88	Total
$16,389					16,389
2,319	2,319	2,319	2,319	2,319	11,595

JOB DESCRIPTIONS

ANNEX O-2

Job Description

Title: MCH/CS NURSE EDUCATOR

Responsible to: Chief of Party

Overall Responsibilities: To advise and assist the Project and MOH in the development and conduct of Maternal and Child Health and Child Spacing educational programs.

Professional Responsibilities:

1. Collaborate with short-term curriculum design consultant and with Malawian counterparts in the development of suitable educational programs for the preparation of nurses and other paramedical personnel. These educational programs will be designed to meet the needs of the population for curative services in acute care settings in the urban areas, but more importantly, to delivery health care to rural areas which are presently underserved. These programs will emphasize disease prevention, promotion of health, early detection and treatment of illnesses in rural areas and the referral of complex health problems to appropriate health services for treatment.

2. Give instructions to potential Malawian tutors, trainers and service providers in:
   - Maternal and child health
   - Child spacing
   - Growth and development
   - Communicable diseases of childhood
   - Health education
   - Disease prevention
   - Teaching methodology
   - Counselling, supervision and evaluation
   - Home visiting
   - Community organization
   - Environmental health

3. Serve as support personnel teacher of counterparts and role model for beginning MCH/CS tutors and trainers. These tasks will gradually diminish in their operational aspects as rapidly as the Malawian tutors become competent to take over all operational roles in the education program.

4. Coordinates with:
   - Ministry of Health
   - Curriculum design consultant
   - Other short-term consultants; e.g. health educator, media specialist
   - The Nursing schools
   - University of Malawi
   - Other donor organizations
   - Religious organizations and other voluntary health care providers.

ANNEX O-3

MCH/CS NURSE EDUCATOR

Personal Responsibilities:

1. Prepare and submit monthly, quarterly and annual reports of activities for contractor.

2. Prepare and submit a comprehensive work plan with a minimum of 1 year projections within 10 weeks of arrival at post.

3. Prepare an annual work plan.

4. Attend project meetings as arranged by COP.

QUALIFICATIONS:

Registered Nurse-Midwife required
Graduate preparation in MCH/CS (or equivalent) required
MCH/CS Nurse Practitioner qualifications will be considered
At least two years experience in teaching MCH/CS required
Experience working in developing countries preferred

ANNEX O-4

Job Description

Title: COMMUNITY HEALTH NURSE EDUCATOR

Responsible to: Chief of Party

Overall Responsibility: To advise and assist the project and MOH in the development and conduct of community health care by nurses and other paramedicals.

Professional Responsibilities:

1. Collaborate with the short-term curriculum design consultant and with Malawian nurse counterparts in the development of suitable educational programs for the preparation of nurses and other paramedical personnel.

These educational programs should be designed to meet the needs of the population for curative services in acute care settings, but more importantly to delivery health care in rural areas which are presently underserved. These programs will emphasize disease prevention, promotion of health, early detection and treatment of illnesses in rural areas and the referral of complex health problems to appropriate health services for treatment.

2. Give instructions to potential Malawian tutors and service-providers in:

community nursing

home visiting

environmental health

communicable diseases

nutrition

epidemiology

immunization

disease prevention

teaching methodology

counselling, supervision and evaluation

maternal and child health

child spacing

3. Serve as support person, teacher counterpart and role model for beginning Malawian tutors in community health care. These tasks will gradually diminish in their operational aspects as rapidly as the Malawian tutors become competent to take over all operational roles in the education program.

4. coordinates with:

Ministry of Health
curriculum design consultant
other short-term consultants
nursing schools
University of Malawi
other paramedical schools
other donor organizations
religious organizations
other voluntary health care organizations

Personal Responsibilities:

1. Prepare and submit monthly, quarterly and annual report of activities to contractor

2. Prepare and submit a work plan with a minimum of 1 year projections within 10 weeks of arrival at post

3. Attend project team meetings arranged by COP.

Qualifications:

Registered nurse-midwife
Graduate preparation in community health or equivalent at least five years experience in teaching and practice required
Work experience in developing countries preferred.

ANNEX O-6

Job Description

Title: MEDICAL ASSISTANT EDUCATION-TECHNICAL ADVISOR

Responsible to: Chief of Party

Professional Responsibilities:

1. Collaborate with short-term curriculum design consultant and Malawian counterparts in the development of suitable educational programs for the preparation of paramedical personnel. These educational programs should be designed to meet the needs of the population for curative services in an acute care setting in urban areas, but more importantly, to delivery health care to the rural areas which are presently underserved. These programs will emphasize disease prevention, promotion of health, early detection and treatment of illnesses in rural areas and in the referral of complex health problems to appropriate health services for treatment.

2. Give instructions to potential Malawial tutors, trainers and service providers in:

Orientation to the health services of Malawi including hospital, health centers, and clinics and types and levels of personnel serving in these facilities.

The development of good interpersonal relationships among personnel in the health services and between these personnel and the population that they serve.

Skills in verbal and recorded communication.

Human growth and development from conception to aging and death.

History taking and interviewing.

Physical and mental assessment and diagnostic skills.

The management of selected medical problems of children and adults.

Use of the referral system.

Teaching methodology and practice teaching.

3. Serve as support personnel, teacher of counterparts and role model for beginning Malawian tutors. These tasks will gradually diminish in their operational aspects as rapidly as the Malawian tutors become competent to take over all operational roles in the education program.

4. Coordinates with:

Ministry of Health
Curriculum design consultant
Other short-term consultants
Other paramedical schools and programs
Other donor organizations
Private religious institutions and agencies

Personal Responsibilities:

1. Prepare and submit monthly, quarterly and annual reports of activities to contractor through Chief of Party.

2. Prepare and submit a comprehensive work plan with a minimum of 1 year projections within 10 weeks of arrival at post.

3. Prepare an annual work plan.

4. Attend project meetings arranged by COP.

Qualifications:

Education and certification in a non-physician health profession which focuses on physical assessment, diagnosis and treatment; e.g. family nurse practitioner, physician's assistant.

Graduate preparation in Public Health.

At least two years experience in teaching.

At least two years experience in clinical practice.

ANNEX O-8

Job Description

Title: ENVIRONMENTAL HEALTH EDUCATOR

Responsible to: Chief of Party

Overall Responsibilities: To advise and assist the Project and MOH in the development and conduct of environmental health worker training.

Professional Responsibilities:

1. Collaborate with short-term curriculum design consultant and with Malawian counterparts in the development of educational programs for the preparation of paramedical personnel. These educational programs should be designed to meet the needs of the population for environmental health services in the urban areas , but more importantly, to deliver these services to the rual areas which are presently underserved. These programs must include disease prevention, promotion of public health, the early detection and treatment or removal of environmental health hazards in rural areas and the referral of complex health problems to appropriate health services for treatment.

2. Give instruction to potential Malawian tutors in:

    Teaching methodology
    Environmental health
    Sanitation, meat, milk, public places, homes, etc.
    Communicable diseases
    Refuse disposal
    Provision of clean water

3. Serve as support personnel, teacher of counterparts and role model for Malawian tutors. These tasks will gradually diminish in their operational aspects as rapidly as the Malawian tutors become competent to take over all operational roles in the education programs.

4. Coordinates with:

    Ministry of Health
    Curriculum design consultant
    Other short-term consultants
    Other donor organizations
    Private religious institutions
    Other participating agencies and Government of Malawi Ministries.

Personal Responsibilities:

1. Prepare and submit monthly, quarterly and annual reports of activities for submission to the Chief of Party.

2. Prepare and submit to the COP a comprehensive work plan with a minimum of 1 year projections within 10 weeks of arrival at post.

3. Prepare an annual work plan.

4. Attend project team meetings arranged by COP.

Qualifications:

MPH with emphasis in environmental health required

A minimum of 3 years experience in teaching and training methodology required

Experience working in developing countries preferred

Experience-derived familiarity with water supply, sanitation and vector control in developing countries required.

ANNEX O-10

Job Description

Title: CURRICULUM DESIGNER

Responsible to: Chief of Party

Overall Responsibilities: Design of curriculum for all components of the project: Community Health Nursing, Maternal and Child Health/Child Spacing, Medical Assistant and Health Assistant.

Professional Responsibilities:

1. Will conduct a workshop in curriculum design for tutors and trainers.

2. Will review the job description for Community Health Nurse Midwife.

3. Will perform task analysis of responsibilities listed in the job description of the community nurse midwife and the MCH/CS nurse.

4. Will design the community health nurse and MCH/CS nurse curricula.

5. Will design and/or revise the community health components of other paramedical courses in an advisory capacity.

6. Will devleop evaluation tools for the community health nurse and MCH/CS curricula.

7. Will assist in integrating the community health program in the basic enrolled nurses curriculum and disseminating the curriculum to all enrolled nursing schools.

8. Will present the curriculum to appropriate members of MOH.

9. Will have discussions with the Malawi Nursing Council to arrive at a mutual agreement for incorporating the Council's mandate for the training of CHNs and MCH/CS service providers in the curriculum.

10. Will develop a curriculum evaluation tool to be used for assessing the effectiveness and appropriateness of the CHN and MCH/CS curricula.

Personal Responsibilities:

1. Will prepare a plan of work for contractor, MOH and USAID

2. WIll submit the plan of work through the COP within one week after arrival at post.

3. Will submit a written report to contractor, MOH and USAID through COP at end of assignment.

Qualifications:

A Masters degree in nursing education-curriculum design (or equivalent) preferred.

Formal training in curriculum design required.

At least five years experience in curriculum design and nursing education (or equivalent) required.

Professsional experience in working in or for developing countries preferred.

ANNEX O-12

Job Description

Title: ADVANCED PLACEMENT EVALUATOR

Responsible to: Chief of Party

Overall Responsibilities: Evaluation of the background and experience of prospective nurse tutors, health assistant tutors and medical assistant tutors to determine the credit which can be granted toward obtaining advanced qualifications at an accredited U.S. educational institution.

Professional Resposibilities:

1. Will review transcripts of prospective candicates for participant training.

2. Will grand advanced standing in degree program based on candidates' background and experience.

3. Will visit Malawi to engage in the following activities:

   - Examine the professional experience of the Malawian nurse and paramedicals.
   - Identify projects for independent study
   - Identify preceptors for extramural study
   - Assign independent study
   - Review the curricula of relevant professional institutions
   - Promote affiliation of University of Malawi (and other Malawian schools) with an accredited U.S. university.

Qualifications:

Senior position in a Health Science Department of an accredited university.

Authority to grant university credits

Contacts or capability to recommend and/or obtain advanced placement for prospective candidates at accredited universities.

ANNEX O-13

Job Description

Title: HEALTH EDUCATION TECHNICAL ASSISTANT

Reports to: Chief of Party

General Responsibilities: Advise and assist the project staff and Ministry of Health (MOH) in: 1) developing implementing a health education program in support of a Maternal and Child Health and Child Spacing (MCH/CS) program; 2) developing and conducting teaching programs in health education/community organization for specified categories of health workers; and 3) strengthening the health educational capabilities of the MOH.

Specific Duties and Responsibilities:

1. Assist and advise project staff at MOH in the preparation and teaching of health education and community organization courses to specified categories of mid-level health workers.

2. Assist and advise project staff and MOH in the development and implementation of a health education initiative in support of a MCH/CS program.

3. Conduct and participate in health education workshops and seminars with MOH staff and project staff.

4. Advise and assist in activities to strengthen the health education division of MOH.

5. Prepare written materials as requested by Chief of Party.

6. Prepare a written report of consultation visit for submission to Chief of Party and to the Project Director.

Qualifications Criteria:

Education: Masters degree in Public Health Education.

Experience: Five years of experience in developing, implementing and evaluating programs in health education. Significant experience in teaching. Knowledge of health problems, issues and services structure in developing countries. Sensitivity to cultural considerations necessary to health education/community organization initiatives in developing countries.

Developing country experience required.

ANNEX O-14

Job Description

Title: NUTRITION CONSULTANT

Reports to: Chief of Party

General Responsibilities: Advise the project staff and Ministry of Health on matters of nutrition, with special emphasis on nutritional problems in pregnancy, lactation, infancy and early childhood as they occur in developing countries.

Specific Duties and Responsibilities:

1. Advise and assist project staff and Ministry of Health (MOH) tutors in the preparation and teaching of nutrition courses to specified categories of mid-level health workers.

2. Advise and assist MOH and project staff in the identification, appraisal, analysis and solution nutritional problems in Malawi.

3. Conduct and participate in nutrition workshops and seminars with MOH and project staff.

4. Prepare written materials as requested by Chief of Party.

5. Submit a written report of consultation visit to Chief of Party and to Project Director.

6. Advise MOH and project staff in the formulation and conduct of a MCH nutritional service.

Qualifications:

Education: possession of a Masters degree in a nutritional science or its equivalent.

Experience: five years professional experience in studying assessing and developing intervention initiatives for nutritional problems on a community and family level. Significant experience in teaching. Developing country experience required.

ANNEX 0-15

Job Description

Title: PROJECT SECRETARY

Reports to: Chief of Party

General Responsibilities: Provides secretarial/clerical support to project staff, under the supervision of the Chief of Party.

Specific Duties and Responsibilities:

1. Performs typing as assigned by Chief of Party
2. Maintains project files
3. Schedules and arranges meetings as assigned
4. Takes minutes at meetings as assigned
5. Operates office equipment

Qualifications Criteria

Successful completion of a secretarial course

Demonstrated competence in typing

Satisfactory work history and references

ANNEX O-16

Job Descriptions

Title: ADMINISTRATIVE ASSISTANT

Reports to: Chief of Party

General Responsibilities: Under the direct supervision of the Chief of Party, performs administrative, record-keeping, and communication tasks; gathers, processes and analyses project related information; and prepares reports.

Specific Duties and Responsibilities:

1. Assist in the development of reporting formats for use in the project.
2. Maintains time and employment records for project staff.
3. Maintains budget and account records for the project.
4. Prepares purchase orders and other fiscal documents.
5. Assists in the preparation of reports.
6. Assists in the preparation ofd correspondences.
7. Performs other duties as assigned.

Qualifications:

Education: Bachelor's degree in administration

Experience: Three years experience in an administrative position, preferably in a government post.

ANNEX P

INTERVIEWEES AND CONTACTS

Dr. A.S. Abdullah	Dental Department-Lilongwe School For Health Sciences (LSHS)
Mr. R. Ainsworth	P.H.C. (Rural Piped Water) Ministry of Health
Mr. P.D. Asani	Medical Laboratory Tutor (LSHS)
Miss E.E. Banda	Nurse Tutor-Kamuzu College of Nursing
Mr. Paul Baj	Psychiatry Tutor-Zomba Psychiatric Hospital
Mr. F.K. Banjola	Primary Health Care Coordinator Ministry of Health
Ms. Cecile Benoot	Laboratory Technician Tutor-LSHS
Ms. Chris Blogerant	Staff Sister-NKhoma Hospital
Mrs. Chembonga	Enrolled Nurse Midwife-Dedza
Mr. Cheonga	Principal Pharmacist-MOH
Dr. Chiomba	GMO-Mwanza District Hospital
Mr. S.S. Chigwenembe	Principal Clinical Superintendent-MOH
Ms. J. Chirmango	Public Health Nurse-KHN
Mrs. Chinyama	PHN: MCH/CS in charge of TBAs-MOH
Dr. Chipangwi	Senior Obstetrician-Gynecologist Queen Elizabeth Central Hospital
Mr. L. Chipungu	Acting Principal Health Officer-MOH
Mr. A. Chipungu	Senior Clinical Officer-Dedza
Mrs. M.F.d Chipwete	Tutor-KCN
Dr. M.C. Chirambo	Chief Medical Officer-MOH
Mr. F.S. Chizimbi	Senior Health Planner-MOH
Mr. C. Chowa	Health Education Unit-in charge of Mobile Cinema Van
Dr. Johan D. Bruijn	Medical Director-Nkhoma Hospital
Dr. Driessen	Senior House Officer, Obstetrics and Gynecology-QECH

Mr. R.P. Dzanja	Chief Accountant-MOH
Mr. Chris Forshaw	Pharmacy Tutor-LSHS
Dr. John Gilles	GMO-Ntecheu District Hospital
Mrs. Gunda	Chief Matron-QECH
Mrs. M. Hassam	Public Health Nurse-Health Education KCN
Mrs. M. Haynes-Chilenda	Staff Associate Nursing-KCN
Dr. Petro Hunphries	Staff-Nkhoma Hospital
Mr. S.M.C. Jere	Chief Clinical Officer: MCH-MOH
Mr. J.A. Kadzanja	Acting College Registrar-KCN
Mr. Kasonga	Health Education Unit-Health Band
Dr. M. Keller	Obstetrics and Gynexology-KCN
Mr. L. Kadzamira	Chief Nursing Officer-MOH
Dr. A. Klouda	PHAM
Dr. Frans Krige	Staff-Nkhoma Hospital
Mr. W.H. Kumwenda	Deputy Principal-LSHS
Sr. C. Legemate	Staff-Nkhoma Hospital
Mr. S. Lewis	WHO Health Education Consultant
Mrs. N. Luwanja	PHN-in charge of PHN Program-KCN
Mr. J.C. Malawezi	Principal Secereteary-MOH
Mr. Milikebu	Senior Health Inspector-LSHS
Mr. J. Manda	Chief Health Planning Officer-MOH
Mr. G. Manjolu	Senior Health Inspector-Zomba General
Dr. Mataka	Chief Medical Superintendent-QECH
Mr. T. Matanda	Staff Associate in Nursing-KCN
Sr. Mhlanga	Sister in charge-Ntecheu District Hospital
Mrs. Mphaya	Chief Matron-Zomba General
Mr. Msefula	Principal Administrative Officer Manpower Planning-MOH

Mrs. N. Mnyenyembe	Central Region MCH Coordinator
Dr. A. Msachi	Assistant Chief Medical Officer-MOH
Mr. Mtilatila	Health Education Unit-Radio
Mr. Msowoya	Senior Health Inspector Dedza
Mrs. C. Msowoya	PHAM-Nurse Midwife Consultant
Mr. F.Munthali	Under Secretary-MOH
Mrs. R. Munthali	Staff Associate Nursing-KCN
Mr. D. Namate	Principal Tutor-QECH
Mr. Ndala	Principal Administrative Officer-MOH
Dr. Ndovi	Obstetrics-Gynecology-QECH
Mrs. L. Ngalande	Health Education Unit-Radio Women's Programs
Mr. F. Nyamwela	Principal Personnel Officer-MOH
Mr. Y. Nyasulu	Senior Health Inspector-Central Region
Mrs. H. Phallaza	Sister in charge Mwanza Hospital
Sr.Pierrette Perald	Staff-Nkhoma Hospital
Mrs. J. Rashidi	Senior Nursing Officer-MOH
Mrs. S. Sagawa	Registrar of Nurses-Midwives Council
Miss J. Spiers	Midwifery Tutor-KCN
Dr. Tembo	Principal-LSHS
Mr. Zamaere	Senior Statistician-MOH
Mr. P.D. Zgambo	PHAM-Executive Secretary
Mr. A.R. Zindawa	Medical Assistant Tutor-LSHS

ANNEX Q

MEETINGS AND SITE VISITS IN MALAWI FOR PROJECT DESIGN

Monday - June 13th

7:30 Meeting with USAID Representatives for introduction of the Team

9:30 Meeting with Ministry of Health Officials to introduce Team and plan schedule of activities

1:00 Visit Lilongwe School of Health Sciences

Tuesday - June 14th

8:00 Meeting at the Ministry of Health

10:00 Visit Kamuzu Central Hospital

2:00 Visit Health Centers in Lilongwe Area 18 - Area 25

Wednesday - June 15th

8:00 Meeting at the Ministry of Health including Private Hospital Association of Malawi Representatives (PHAM)

2:00 Visit to Kamuzu College of Nursing and Kawale Center

Thursday - June 16th

7:00 Leave Lilongwe for Blantyre

8:10 Visit Dedza District Hospital

9:30 Visit Ntcheu District Hospital

10:30 Visit Shire River Area

11:00 Visit Zomba Hospital and Nursing School

3:30 Visit Queen Elizabeth Hospital

Friday - June 17th

8:30 Visit District Hospital at Mwanza

9:30 Attend Primary Health Care Workshop

Saturday June 18th

9:00 Visit Queen Elizabeth Hospital-Tour of OB/GYN and Pediatrics

1:00 Visit Health Centers - Mikolongwe and Namitambo

Monday June 20th

9:00 Plenary Session at Ministry of Health

1:00 Small Group Meetings - Design Team/Ministry of Health

ANNEX Q-2

Tuesday - June 21st

9-4:00 Small Group Meetings Howard-Meharry Design Team/MOH

Wednesday - June 22nd

9-12:00 Small Group Meetings - Design Team

1:00 Proposal Drafting

Thursday - June 23rd

Design Team Meeting - Project Design

2:30 Dr. T. Georges, Principal Secretary and Chief Medical Officer
Review Project

Friday - June 24th

8-12:00 Howard-Meharry Meeting with AID/RHDO and Project Design

1:00 Howard-Meharry Meeting with USAID/Malawi

Saturday - June 25th

Howard-Meharry Meetings Project Design

Sunday - June 26th

Meeting: Dr. Chirambo, Dr. Heath, Dr. Georges

Monday - June 27th

9-12:00 Plenary session Principal Secretary, MOH, Howard-Meharry
Design Team Presentation of the Proposal

Tuesday - June 28th

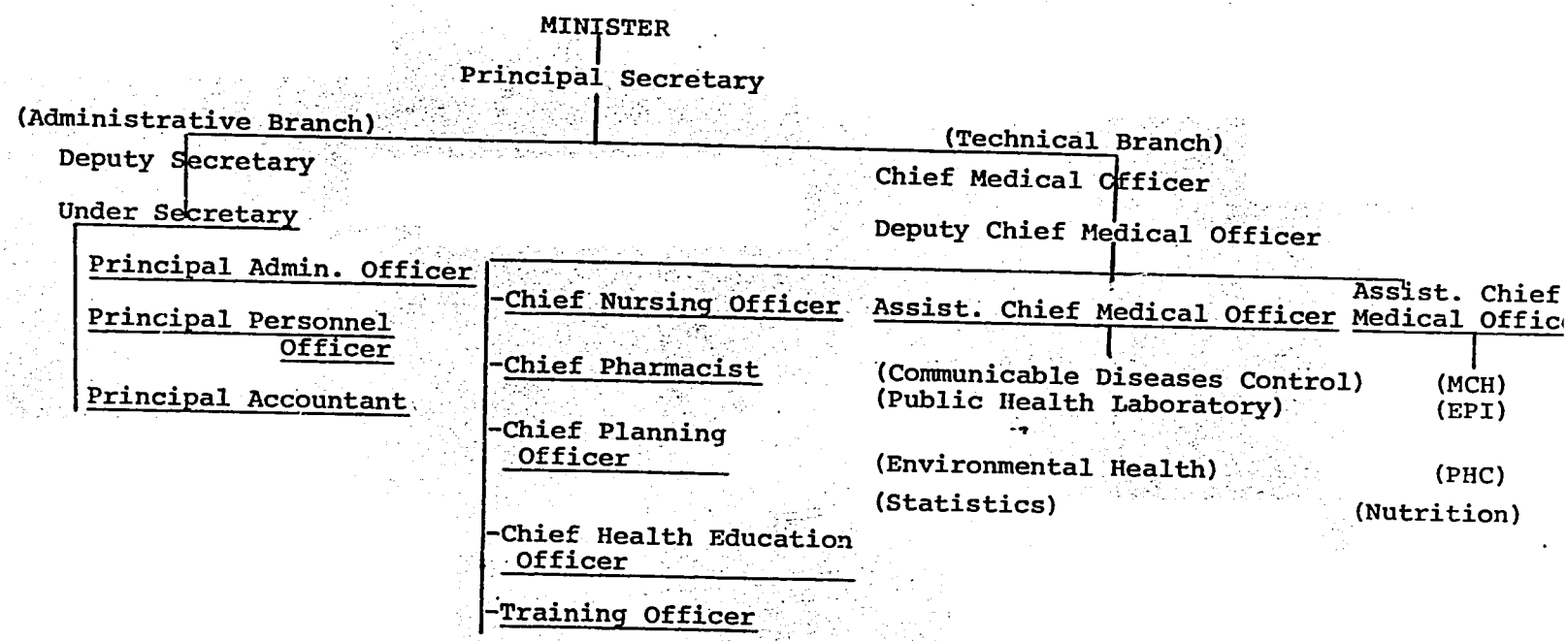
Visit Nkhoma Hospital (PHAM)

Visit Mitundu Health Center

Wednesday - June 29th

Meeting: Dr. Chirambo, Dr. Georges, Dr. Cooper

Table 3: Organization Chart of the Ministry of Health (Headquarters)



3. NATIONAL HEALTH POLICIES, PLANS AND LEGISLATION

3.1 Planning Machinery in Health Sector

Overall coordination in the responsibility of the Health Planning Unit in the Ministry of Health. The Unit prepares the proposed plan in cooperation and consultation with the technical and administrative division in the Ministry of Health. The Ministry of Health processes the plan directly with the Development Division of the Office of the President and Cabinet.

3.2 National Health Policy

The national health policy, that was developed by the Ministry of Health in 1980, consists of the following strategies:

- To provide a comprehensive health care delivery system throughout the country. While the basic health service network, consisting of a Primary Health Centre for every 50,000 people, a subcentre for 10,000 people and a Health Post for 2,000 will be established, health services at community level will be provided by Primary Health Workers

- To strengthen and expand Maternal and Child Health Services and health education.

- Replacement and renovation of old and inadequate hospital facilities in rural and urban areas.

- To strengthen measures for the prevention and control of communicable diseases. These include vector control, provision of basic sanitation facilities and water supply, and early detection and treatment of diseases.

- To train health personnel at all levels and orientate health manpower development towards meeting the needs of the communities in which they work.

3.3 National Health Plan

3.3.1 Five year Health Plan (1965-1969) was introduced when Malawi became independent. Its major emphasis was on Health manpower development. Accordingly the training of State Registered Nurses started in 1965 with the opening of the Kamuzu College of Nursing and Midwifery followed in 1969. The Polytechnic also started training of Health Inspectors in 1965.

3.3.2 15 Year National Health Plan (1973-1988)

3.3.2.1 In 1971, at the request of the Government, a WHO team of experts came to Malawi, studied the health situation and prepared a report entitled the "National Health Plan for Malawi," which covered a period of 15 years from 1973 to 1988. The plan which was accepted by the Government included the development of basic health services and of existing training programmes for all levels of staff to meet the rising needs of development programmes. The plan proposed a hierarchy of sub-units supervising the lowend and the lower referring patients to the higher. A typical Health Unit, serving a population of 50,000 would consist of:

ANNEX S-2

1 Primary Health Centre
4 Health Sub-Centres
20 Health Posts

Health Posts: These are at the very ground level. Each post will serve a population of 2,000 people. The health posts are manned by MCH assistants who delivers very basic preventive, first aid and simple treatment.

Subcentres: (Dispensary and Maternity): The Subcentres are directly above health posts. Each subcentre will eventually have four health posts under its supervision. One subcentre will serve every 10,000 people. The subcentre is staffed by one Medical Assistant, one Health Assistant,s one Enrolled Nurse/Midwife and hospital servants. It deals with curative and maternity cases including normal deliveries and is a base for health education and mobile clinics which support health post activities.

Primary Health Centre: These are at the apex of the pyramid. The aim is to have one PHC for every 50,000 people. The staff are a Clinical Officer, a Registered Nurse, a Medical Assistant, a Laboratory Assistant, a Driver and servants. There are four subcentres under each PHC. The PHC should be able to deal with most cases which do not require specialist treatment.

The following table shows the numbers of the basic health units required in 1981 (based on the population of 5.5 million) and in 1988 (based on the population of 6.5 million) as well as the actual existing numbers in 1981.

Table G: Basic Health Units

	Required in 1988	Required in 1981	Actual No. in 1981
Primary Health Centres	130	110	34
Health Sub-Centres	520	440	450
Health Posts	2080	1760	51

3.3.2.2 During the planning exercise of PHC in January 1982, it was felt that the structure of BHU should be revised in view of the introduction of PHC programme. It was suggested that:

- Health Posts are now superfluous and not necessary to build more.
- Health Sub-centres should become Health Centres which would have responsibility of supervision, field training and supply of essential drugs to PHW, as well as being nearest referral units.
- Primary Health Centres should be called Training Health Centres and would undertake training PHWs, inpatient care, laboratory work and ambulance service.

3.3.2.3 The MINIPLAN is part of the 15 year National Health Plan and designed to achieve improvement of national and child health services during the first three year period (1973-75) when it was not yet possible to establish basic health services. Subsequently, the Ministry of Health decided to extend the planned period to 1979.

ANNEX T

NUMBER OF HEALTH PERSONNEL BY CATEGORY AND PLACE OF EMPLOYMENT

Category of Personnel	Category				
	Government	PHAM	Other	1982 Totals	1984 Totals
Medical Officer	54	37	30	121	127
Senior Clinical Officer	39	4	3	46	66
Clinical Office	48	9	4	61	136
Medical Assistant	321	90	136	547	442
Registered Nurse	245	136	21	402	506
Enrolled Nurse/Midwife	696	438	159	1,293	1,302
Dentist	3	2	1	6	13
Dental Technician	5	1	-	6	11
Pharmacist	7	4	-	11	13
Pharmaceutical Assistant	10	4	2	16	20
Laboratory Technician	15	16	-	31	27
Laboratory Assistant	44	36	5	85	86
Veterinarian	39	-	-	39	-
Veterinary Technical Officer	71	-	-	71	-
Veterinary Assistant	310	-	-	310	-
Veterinary Scouts	90	-	-	90	-
Radiographic Technician	6	1	3	10	10
X-Ray Assistant	-	2	-	2	8
Health Inspector	45	-	7	52	54
Health Educator	-	1	3	4	3
Health Assistant	145	-	16	161	107
Homecraft Workers	27	69	17	113	110
Medical and Nursing Aids	1,023	594	84	1,701	1,624
Other	281	910	44	1,235	-

INITIAL ENVIRONMENTAL EXAMINATION

OR

CATEGORICAL EXCLUSION

Project Country:

Project Title:

Funding: FY(s) 1984-1989 $7,500,000

IEE Prepared by: Thomas W. Georges, Jr., M.D.
Chairman
Dept. of Community Health & Family Practice
College of Medicine
Howard University

Environmental Action Recommended:

Positive Determination_____

Negative Determination_____

Categorical Exclusion

This project meets the criteria for Categorical Exclusion in accordance with Section 216.2(c) (1) (i) which states, "The action does not have an effect on the natural or physical environment."

The project is basically a manpower training initiative which would also meet the criteria set forth in Section 216.2(c) (2) (i) with the exception that there is a small construction component. The activity is designed with the goal of improving the Maternal and Child Health (MCH) services of the Government of Malawi. Central to the project is the introduction of Child Spacing (CS) services to Malawian families. Public Health concepts and practices with an emphasis on Primary Health Care (PHC) will be introduced to the curricula of institutions which train and re-train health workers in Malawi. By the end of the project, the Ministry of Health of the Government of Malawi will have the institutional capability to train community health nurses, MCH/CS enrolled nurse mid-wives, and PHC oriented medical assistants and health assistants.

The bulk of the funds provided by AID will be used to furnish technical assistance. Funds will also be provided for participant training, teaching equipment and supplies, vehicles, workshops/seminars, administrative and project management costs and some contruction.

New facilities will be added to the existing Lilongwe School of Health Sciences (LSHS) which occupies more than ten acres of land on the outskirts of Lilongwe. Site plans and construction plans have been developed. The regional AID engineer has conferred with the GOM/Minister of Works architect and there agreement that:

1) ample space is available on the LSHS campus for new construction.

2) siting of the buildings is not a problem.

3) the design of the buildings is appropriate for the function.

Four buildings are to be constructed as follows:

1) A classroom building with 4 classrooms. Area: 540 sq. meters.

2) A hostel with a capacity to lodge 120 students. Area: 1800 sq. meters.

3) A laboratory building with space for 30 students. Area: 135 sq. meters.

4) An administrative building with 10 offices. Area: 150 sq. meters.

The construction elements represent a physical reflection of the proposed training programs and are necessary for the implementation of the project.

Construction materials will be locally procurred and will compliment the existing architecture of the area. The structures will be one storied and built of red, kiln fired bricks.

An Impact Identification and Evaluation Form was employed in an attempt to uncover any significant environmental impacts. All elements of the checklist were rated N - no environmental impact.

In summary, there are no significant activities in the project which will affect the physical or natural environment. It is, therefore,

recommended that a negative environmental action be determined for the Malawi Health Institutions Development Project.

Concurrence:

Bureau Environmental Officer

Approved_____

Disapproved_____

Date_____

Clearance: GC/AFR_____ Date_____