

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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THE MINISTRY OF HEALTH AND POPULATION
THE GOVERNMENT OF THE REPUBLIC OF MALAWI

**MASTER PLAN STUDY
ON
STRENGTHENING
PRIMARY HEALTH CARE SERVICES
IN
THE REPUBLIC OF MALAWI**

FINAL REPORT

**VOLUME 2
MAIN REPORT 2
CENTRAL REGION MASTER PLAN**

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In this Report, project cost is estimated at August 1999 price and at an exchange rate of
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Malawi - Administrative Regions and Districts

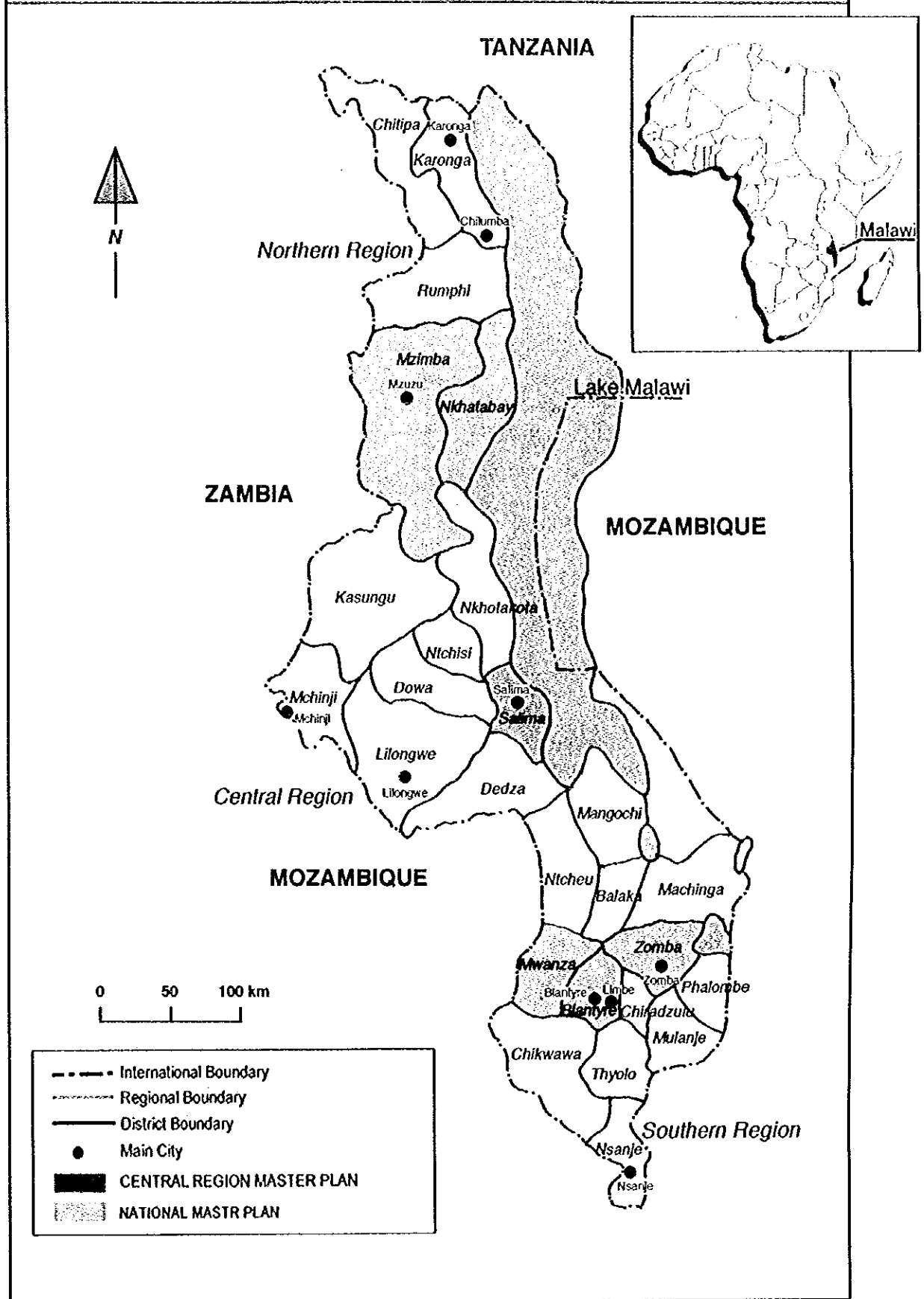




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List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome	NALP	National Adult Literacy Programme
ARI	Acute Respiratory Infection	NEC	National Economic Council
ARC	AIDS Related Complex	NGO	Non-governmental Organisation
BLM	Banja La Mtsogolo	NRU	Nutrition Rehabilitation Unit
CBD	Community Based Distribution	OPD	Outpatient Department
CDD	Control of Diarrhoeal Diseases	OPV	Oral Polio Vaccine
CHAM	Christian Health Association of Malawi	ORS	Oral Dehydration Salts
CHSU	Community Health Sciences Unit	PHC	Primary Health Care
CMS	Central Medical Store	PHN	Population, Health and Nutrition
DDC	District Development Committee	PRA	Participatory Rural Appraisal
DEC	District Executive Committee	PSIP	Public Sector Investment Programme
DFID	Department for International Development	RHMT	Regional Health Management Team
DHO	District Health Office/Officer	RHO	Regional Health Office
DHMT	District Health Management	RMS	Regional Medical Store
DPT	Diphtheria Pertussis Tetanus	SCF	Save the Children Fund
DRF	Drug Revolving Fund	SCM	Standard Case Management
EHP	Essential Health Package	SDH	Salima District Hospital
EPI	Expanded Programme on Immunization	TA	Traditional Authority
EU	European Union	TB	Tuberculosis
FEWS	Famine Early Warning System	TBA	Traditional Birth Attendant
FGD	Focus Group Discussion	U5	Under Five
FP	Family Planning	UNDP	United Nations Development Programme
GDP	Gross Domestic Product	UNFPA	United Nations Population Fund
GIS	Geographical Information System	UNICEF	United Nations Children's Fund
GMC	Growth Monitoring Centre	URI	Upper Respiratory Infection
GMP	Growth Monitoring Programme	USAID	U.S. Agency for International Development
GMV	Growth Monitoring Volunteer	WB	World Bank
GNP	Gross National Product	WFP	World Food Programme
GOM	Government of Malawi	WHO	World Health Organisation
HA	Health Assistant		
HIS	Health Information System		
HIV	Human Immunodeficiency Virus		
HSA	Health Surveillance Assistant		
HSSP	Health Sector Strategic Plan		
IEC	Information, Education and Communication		
JICA	Japan International Cooperation Agency		
KAP	Knowledge, Attitudes and Practices		
KII	Key Informant Interview		
LRI	Lower Respiratory Infection		
MASAF	Malawi Social Action Fund		
MEDP	Malawi Essential Drug Programme		
MEPI	Malawi Expanded Programme on Immunization		
MICS	Multiple Indicator Cluster Survey		
MOHP	Ministry of Health and Population		
MDHS	Malawi Demographic and Health Survey		
MTEF	Medium Term Expenditure Framework		

Chapter 1

INTRODUCTION

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The health sector in Malawi is facing a very trying time, despite the government's efforts through its ten-year National Health Plan 1986-1995. The morbidity and mortality rates are still very high, and the average life expectancy at birth stands at barely 45 years (1995). In 1997, the government of Malawi announced its commitment to provide minimum health care services to the whole population using a community-based approach, and to strengthen the health care system by decentralising the government bureaucracy.

To improve the current health situation and achieve the goals stated above, it was recognised that priority needs to be placed on improving access to health services, reinforcing preventive health care, and upgrading curative services through the strengthening of primary health care (PHC) activities. However, one of the main challenges is to identify feasible strategies, including those on institutional reform, based on limited and often unreliable data and information about the current situation.

In response to a request submitted by the government of Malawi in late 1996, the Government of Japan sent a preparatory mission in January 1998 to initiate a Development Study to improve the health service delivery system. Both sides agreed that the scope of the study would be to investigate possible ways to strengthen PHC with an emphasis on the target populations of children under five and women of child bearing age.

1.2 STUDY OBJECTIVES

The three objectives of the Development Study were:

- 1) To formulate a Regional Master Plan to strengthen the PHC system of the Central Region
- 2) To formulate a National Master Plan to improve Malawi's PHC system by the year 2007
- 3) To transfer essential research and analytical skills and methodologies including Geographical Information System (GIS), Participatory Rural Appraisal (PRA) and participatory planning methods to Malawian counterparts.

1.3 SCOPE OF WORK

1.3.1 The Study Area

The study area covers the entire country, and base camps were established in three districts; namely Salima, Mzimba and Zomba. The first cycle of the study focused on Salima district to formulate the regional master plan, while during the second cycle the study shifted to Mzimba district in the northern region and Zomba in the southern region to formulate the national master plan.

1.3.2 Target Year and Target Groups

The master plans produced by the JICA PHC Study cover the period to 2007, and the main beneficiary groups targeted are children under five years and women of child bearing age.

1.3.3 Study Focus and Strategies

A district health system comprises the following three components: client, service provider and institutional framework. These components are influenced by the socio-economic conditions, culture, customs and natural environment of the respective area, and are interrelated in a complex manner. The study aimed to strengthen a district health system that balances supply and demand, and promotes better health in the community. The following are the key aspects focused on for developing the district health system in order to strengthen PHC services.

1) Referral System

Setting up a referral system is a prerequisite for district health care activities because it is the essential link between the PHC activity bases, i.e., the health centres and dispensaries, and the hospitals. With the aim to fortify the referral system, the following issues were addressed.

Access to health facilities:

Accessibility to health facilities is an important aspect in planning an effective health care system. Since access by the rural population is affected by several factors such as location of the facilities, geography, communication networks, transportation and weather conditions, these factors were analysed in planning referral and emergency transfer systems between the different health facilities. Moreover, utilisation of primary facilities and access to the secondary facilities were also thoroughly analysed.

Capacity of the district hospitals and health centres:

District hospitals play a key role in the district health system as the primary referral point, and because they are expected to supervise and support PHC activities. The district hospitals have long been subject to budgetary constraints. The study addressed the urgent need to improve facilities and build up the capacity of the district hospitals.

As the health centres play a pivotal role in community health, their effectiveness determines the viability of PHC activities. The study examined ways for the capacity of the health centres to be strengthened through upgrading facilities, equipment and personnel and reorganising

activities.

Quality of district health services:

For a referral system to function properly, it is necessary to install the appropriate management support functions for each level of referral, e.g., laboratory examinations, case management, and medical and pharmaceutical supply systems. The study examined the institutionalisation of locally appropriate effective management systems with the aim to improve the quality of district health services.

2) Human Resources

Any reduction in the number of medical personnel leads to deterioration of the quality of health care services. For the purpose of improving health care, both human resource and management development should be planned. The current training and deployment systems were analysed in order to identify the constraints to securing an adequate number of medical personnel. Allocation of medical and paramedical personnel were examined in terms of their quantity (sufficiency in numbers) and quality (qualification or expertise vis-à-vis the prevalent diseases).

3) Financial Resources

Due to severe financial constraints, the budget allocation process by which funds are allocated to district level services by the central government needs to be revised. Additionally, cost effective programmes are needed. At the district and community levels, consideration was given to improving the financial management of the district hospitals, collaboration with non-governmental organisations (NGOs) and other private health service providers, and the introduction of community contributions. Particular attention was paid to develop measures to mobilise resources for preventive and PHC activities, which are currently excluded from the government's cost sharing scheme.

4) Health Management Information System

Policy formulation and programme planning should reflect the needs of the area and fully utilise limited resources. Information about disease prevalence and PHC activities in the area is essential for the process. Similar to other developing countries, health information in Malawi is often inaccurate and unreliable as a result of poor information management. This study analysed the strengths and weaknesses of the existing health information management systems at the district level, particularly the network and management structure at each health administration and hospital, and designed measures for more effective planning, decision making and service provision.

5) Community Involvement

A participatory survey approach was employed to best understand how individual communities perceive problems and constraints regarding disease prevention and treatment and general health. The process was considered a useful and important tool for the supply side, i.e., for integrating community perceptions into programme planning and policy formulation.

1.3.4 Time Framework of the Study

The study began in early June 1998 and was completed in October 1999, a total duration of 17

months. The first cycle of the study took place in Malawi from June 13, 1998, to October 4, 1998, and was followed by work in Japan to formulate the regional master plan. The second cycle of the study took place in Malawi from January 16, 1999, to March 24, 1999, and was followed by work in Japan to formulate the national master plan. Fig. 1.1 shows the study work schedule.

YEAR/MONTH DESCRIPTION	1998							1999										
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
WORK IN MALAWI	■							■						■				■
WORK IN JAPAN	□					□						□				□		
STUDY CYCLE	← First Cycle (Central Region) →							← Second Cycle (Entire Country) →										
REPORT PRESENTATION	▲ IC/R			▲ P/R(1)			▲ IT/R							▲ P/R(2)	▲ P/R(3)		▲ DF/R	▲ F/R

IC/R: Inception Report, P/R: Progress Report, IT/R: Interim Report, DF/R: Draft Final Report, F/R: Final Report

Fig. 1.1 JICA PHC Study Time Framework

Chapter 2

***CHARACTERISTICS OF THE STUDY
AND COURSE OF STUDY ACTIVITIES
IN THE FIRST CYCLE
(CENTRAL REGION)***

CHAPTER 2: CHARACTERISTICS OF THE STUDY AND COURSE OF STUDY ACTIVITIES IN THE FIRST CYCLE

The JICA PHC study was divided into two cycles. The first cycle was carried out from the base camp in Salima District in the Central Region to formulate the regional master plan. In-depth field studies including household surveys, focus group discussions and key informant interviews were conducted in Salima District only. Other information and data on geographical information system (GIS), health information system (HIS), referral system and logistics system were collected at the central government level and at health facilities in Lilongwe.

2.1 PROFILE OF THE STUDY AREA

2.1.1 National Overview

Malawi is divided into three administrative regions, namely the Northern, Central and Southern Regions, which are further divided into a total of twenty-six districts. There are huge differences between north and south in terms of geography, demographic trends, socio-cultural characteristics, the economy, and infrastructure. The administrative system consists of Central and Local Government and Traditional Authorities. Each of these branches of government plays an essential role in the implementation of development programs. Though the administrative system is well structured, its effective performance has been hindered by a lack of decentralisation and devolution in terms of decision-making and financial autonomy at the local level, a limited number of trained personnel, logistical problems, and limited interaction with villagers to promote participation.¹

1) Geography

Malawi is a small and land-locked country in southeastern Africa. The country has a total area of 118,484 square kilometres, of which 94,276 square kilometres are land. Of this, only 56 percent are arable and Lake Malawi, the third largest lake in Africa, occupies a large part of the land. From north to south, Malawi is 900 kilometres in length. It stretches over the latitude nine degrees thirty minutes south and seventeen degrees ten minutes south. The whole of Malawi is in the tropics, south of the equator, but temperatures and rainfall vary according to altitude. There are three seasons in Malawi: the dry season (masika), the hot season (malimwe), and the wet season (dzinja). The dry season is from September till November, and the hottest

¹ Situation Analysis of Poverty in Malawi, executive summary, UN/GOM, 1993

months are October and November with an average temperature of 29.4°C. The wet season is from November until April; and the area near Lake Malawi has the highest rainfall, with a total of over 1500 millimetres.

2) Macro-economic setting

Malawi is classified as a least developed country, with an estimated per capita income of US\$180 in 1996.² The country has few mineral resources and is heavily dependent on agriculture, which employs 80 percent of the labour force and accounted for an average of 37 percent of GDP during the period 1981 to 1991. Recently, agricultural production has suffered from an unstable climate and fluctuation in international commodity prices, stifling the economy even more.

The main exports of Malawi are agricultural products, such as tobacco, tea and sugar. After vigorous economic growth during the 1960s and 1970s, the economic situation had a marked slowdown at the beginning of the 1980s. The economy faced external shocks due to the civil war in Mozambique, resulting in soaring transport costs, and deteriorating terms of trade.

Various structural adjustment programs pursued by the government brought a remarkable improvement in the country's macro-economic performance, however, the situation of the poorest sections of the population worsened. Nearly 60 percent of households are food insecure, 40 percent of the population is unable to satisfy basic caloric needs such that about 49 percent of children under five years of age are stunted and half of them are severely malnourished.³

New approaches and strategies for socio-economic development include agricultural productivity improvements, smallholder sector development, poverty alleviation and investments in human resource development. Particular attention is also being given to the position of women, who are still disadvantaged in Malawi today despite impressive government initiatives.⁴

3) Socio-cultural characteristics

Malawi's society is characterised by a patrilineal system in the north and in the southern districts of Chikwawa and Nsanje, and a matrilineal system in the centre and the remaining districts in the south, with a distinct set of social customs between the two systems. The extended family remains the chief production unit and the main source of social support. The village is organised under customary law with authority vested in a traditional village headman or chief helped by village elders. Malawi's villages are grouped under group headmen, sub-chiefs, and traditional chiefs. The traditional authority plays a central role and therefore its support is critical when developing projects at the grassroots level.⁵

Customary land tenure is a major feature in the rural subsistence economy. Land allocation is controlled by the traditional chief and headmen. Informal self-help institutions respond to

2 Population Reference Bureau 1998 World Population Data Sheet

3 UNFPA Country Programme MALAWI (1997-2001), UNFPA, Lilongwe, Malawi, 1996

4 Malawi Population Sector Report, World Bank, 1991

5 Situation Analysis of Poverty in Malawi, executive summary

people's survival needs. Traditional beliefs, customs, ceremonies, and other social and cultural factors have a powerful influence on community life. These factors determine social relationships, decision-making patterns, inheritance rights, the acceptability of new ideas and modern practices in areas such as education, health, family planning, sanitation, agriculture, borrowing and debt repayment.

Community participation is not a new concept in Malawi as is evident from the traditions of self-help and community support; however, institutional structures could be more responsive and flexible to the concerns and needs of villagers. Strong community initiatives and action, and grassroots participation will need to be promoted by development workers who themselves need to be oriented and trained in participatory approaches. Organised groups in the community can exercise more effective demand for access to resources and services and work jointly with local authorities in achieving social benefits. A participatory approach will help to realise development goals by capitalising on the potential that lies in Malawi's villages and people.

4) Demographic trends and their implications

On the basis of the 1987 population census, Malawi's population in 1996 was estimated at 10.9 million. This translates into a high population density of 116 persons per square kilometre of land area and 200 persons per square kilometre of arable land, which represents one of the most densely populated countries in Africa. The population is increasing at an annual rate of 3.2 percent and it is estimated to double between the years 2020 and 2025.

The age structure indicates a youthful population with about 46.1 percent of the population comprised of children under 15 years of age, implying a very high dependency ratio. The population, which is 87 percent rural, is unevenly distributed with 50 percent living in the South, 39 percent in the Centre and 11 percent in the North. The high rate of population growth is exerting increasing pressure on various sectors of society.

Although the mortality rate in Malawi has been declining gradually, it is a relatively slow decline compared to other developing nations. The emergence of the AIDS epidemic is likely to stall any further net mortality decline over the next decade or so. There is also an overall pattern of high mortality in the heart of the Central Region, with levels lessening progressively to the north and south except for a high-mortality cluster in the extreme south of Malawi.⁶ The major causes of the country's very high childhood mortality are thought to be malaria and malnutrition. AIDS is now a significant cause of death among both adults and children.

Although declining from 7.6 children per woman in 1987, the total fertility rate (TFR) is still high and stable at 6.7 births per woman in 1996. This is a result of a pattern of early marriage, early age at first pregnancy, and relatively short birth intervals. There is an overall pattern of highest fertility in the heart of the Central Region (TFR of 8-10), with other high fertility areas in the extreme South and the Northern Region highlands (TFR of 8-8.5), and below-average fertility (TFR of 7-7.5) in the Southern highlands and lakeshore and in the extreme North.

⁶ Malawi Population Sector Report, World Bank, 1991

Sterility is extremely low. Though breast-feeding is lengthy (18 months), post-partum amenorrhoea is relatively short (9 months) and post-partum abstinence is even shorter (6 months). Thus, nearly a quarter of birth intervals are less than 2 years and 60 percent less than 3 years. According to the 1992 Malawi Demographic and Health Survey (MDHS), at the time of the survey, 65 percent of teenagers had started childbearing. As expected, fertility among rural women is higher (6.9 children per woman) than among urban women (5.5 per woman). In spite of the more than 90 percent awareness of modern contraception as reported by the same survey in 1992, the contraceptive prevalence rate (CPR) is very low at 7 percent. Injectables, followed by the pill, are the most popular methods.

Factors accounting for the low contraceptive rate include limited access to, and availability of, family planning services as well as socio-cultural attitudes that inhibit utilisation of reproductive health services. The already deep-seated socio-cultural beliefs and practices were further entrenched by Malawi's virtual 30-year isolation which came to an end only in May 1994, when the former autocratic regime was defeated during the country's first democratic elections. The transition to democracy and the new Government have heralded a new era of openness in which challenge to old and uncontested values is not only allowed but also encouraged.⁷

5) Health Indicators

The health situation in Malawi is generally poor and exacerbated by poverty (see Table 2.1). Of the total estimated population of 11.7 million in 1998, 60 percent of the rural and 65 percent of the urban inhabitants, respectively, live below the poverty line. Although the government gives high priority to the social sectors, per capita national recurrent health expenditure was just US\$3.50 in 1996/97.

Table 2.1 Social and Health Indicators, 1996

Life expectancy at birth (years)	44
Infant mortality rate (per 1,000 live births)	134
Maternal mortality rate (per 100,000 live births)	620
Children classified as underweight (%)	27
Children classified as stunted (%)(<5 years old)	7
Illiteracy rate (% , 1995)	
Male	31
Female	52
Access to safe drinking water (%)	47
Access to sanitation facilities (% , rural areas)	31
People living in houses with mud flooring (%)	
Rural areas	93
Urban areas	44

Source: MOHP, Malawi Health Sector Strategic Plan, 1997

⁷ UNFPA Country Program MALAWI (1997-2001)

The morbidity and mortality rates are still very high, with average life expectancy at birth standing at barely 45 years in 1995. Malnutrition, pneumonia, anaemia and infectious diseases such as malaria, enteritis, measles and tuberculosis cause around 70 percent of inpatient deaths. Figure 2.1 shows that infectious diseases also contribute as a major cause of outpatient attendance.⁸

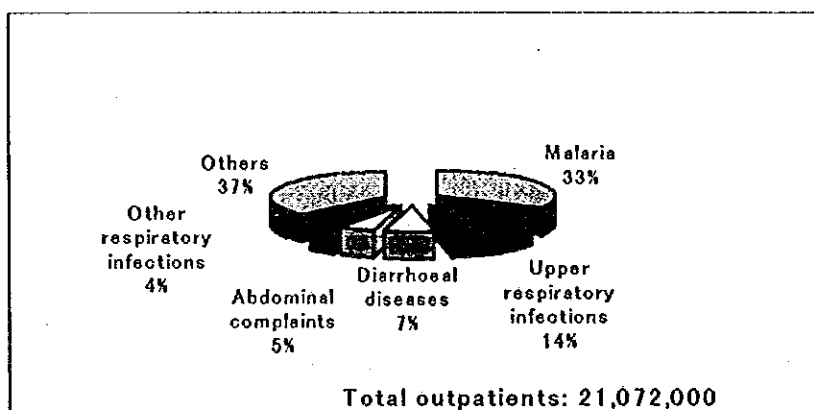


Fig. 2.1 Causes of Outpatient Attendance, 1994

Acute Respiratory Infection (ARI), diarrhoeal diseases, malaria and malnutrition all contribute to a high child mortality rate. In addition, the rapid spread of HIV/AIDS has culminated in a situation where 13 percent of the general population in the 15-49 age group is reported to be HIV positive.

6) HIV/AIDS

According to an April 1996 World Bank report, HIV/AIDS has spread rapidly since 1985 due to a number of factors, including sexually transmitted diseases and unprotected sexual intercourse. Officially, 36,263 AIDS cases were reported as of December 1994, but this figure represents only a tip of the iceberg. It is estimated that one out of every three persons in the urban areas and one out of six in the rural areas are HIV/positive. A total of 200,000 people will be infected with HIV by the year 2000.⁹

7) Health expenditure and finance in Malawi

Malawians obtain health services from a variety of public and private sector providers. There were 850 facilities in 1994 including hospitals, health centres, dispensaries and health posts (see Table 2.2). Forty percent of these facilities are run by the MOHP, and 19 percent are mission facilities (mainly large hospitals and health centres). Local authorities run 8 percent, and the remaining 33 percent are private or NGO facilities (which are normally small dispensaries and clinics rather than hospitals). Three-quarters of outpatients attend

8 Master Plan Study on Strengthening Primary Health Care Services in the Republic of Malawi, Inception Report, St. Mary's Hospital/Global Link Management, Inc. 1998

9 Master Plan Study on Strengthening Primary Health Care Services in the Republic of Malawi, Inception Report, St. Mary's Hospital/Global Link Management, Inc. 1998

government facilities, according to routine health statistics. Mission hospitals, which contain 38 percent of beds, are important providers of inpatient care.¹⁰

Table 2.2 Providers of Health Services in Malawi, 1994

Category of provider	Facilities	Outpatient visits (million)	Beds
Government	339 (40%)	15.82 (75%)	8,156 (55%)
Mission	164 (19%)	2.12 (10%)	5,648 (38%)
Local government	65 (8%)	0.51 (2%)	493 (3%)
Other (private & NGO)	282 (33%)	2.63 (12%)	596 (4%)
Total	850 (100%)	21.07 (100%)	14,893 (100%)

An analysis of MOHP recurrent expenditure per capita reveals that the resource distribution pattern favours the Northern Region. It has the highest expenditure per capita averaging MK17.17 between the 1990/1991 and 1996/1997 financial years. In contrast, the Central and Southern Regions registered MK15.32 and MK16.76 per capita respectively.¹¹

2.1.2 Profile of Central Region / Salima District

1) Geography

There are nine districts in the Central Region: Kasungu, Nkhotakota, Ntchisi, Dowa, Salima, Lilongwe, Mchinji, Dedza and Ntcheu. The administrative headquarters of the Region is the same as the national capital, Lilongwe. Much of central Malawi is formed of plains. There are fewer hilly areas than in either northern or southern Malawi. Because there is so much land with gentle slopes, which can be cultivated, this is a rich agricultural region. It is the most important part of the country for growing two of the main export crops: tobacco and groundnuts.

Most of Salima District is lowlands or swamps alongside the lake, and the climate is hot and humid because of its lower altitude. The average temperature in November is 28°C. The annual rainfall is 750-900 millimetres, nearly all of which falls between December and March. The hill areas, such as Dowa and Dedza, are cooler and wetter than the plains, with an annual rainfall of 750-1250 millimetres. The geographical and climate features make the area prone to malaria and schistosomiasis.

2) Demographic trends and their implications

In the Central Region, there is a sparsely populated area along the rift valley scarp separating the two more densely populated areas, Kasungu plain and Lilongwe plain and Nkhota Kota and Salima lake shore plain. The population of the Central Region is 4,029,146 which accounts for 39 percent of the total population of the country, of which Lilongwe District accounts for a third of the total population in the region.

¹⁰ DRAFT Malawi Health Sector Strategic Plan, Ministry of Health and Population, Malawi 1997

¹¹ Analysis of Public Expenditures on Health in Malawi 1998, Strategic Health Plan, MOHP, 1998

Salima District, the target area of the first cycle of the study, faces Lake Malawi on the east, and has an area of approximately 2900 square kilometres with a population density of 81.7 per square kilometre. Salima District has a population of 245,005 of which 109,939 are under 15 years of age (see Table 2.3).

Table 2.3 Demographic Indicators for Salima District (1995 estimate)

Total Population	245,005
Under 1	9,534
1-4	32,899
5-14	67,506
15+	135,066
Women of childbearing age (15-49 yrs)	56,064

Sources: Basic Health Statistics 1995; Health Planning Division, MOHP, October 1997

3) Health indicators

Some basic health indicators for Salima District were available at the outset of the study (see Table 2.4); however, the actual situation was unknown due to a lack of comprehensive and reliable information. Data on diseases in Salima District was updated by the present study (see Vol.4, Part 1, Ch2).

Table 2.4 Health Indicators for Salima District, 1997

Infant mortality rate (per 1,000 live births)	167
Maternal mortality rate (per 100,000 live births)	880
Outpatient attendance over 5 years of age (1993)	
Acute respiratory infection	3,380
Diarrhoeal diseases	1,980
Malaria	4,361
Tuberculosis	433

Sources: Save the Children Fund (UK), Salima District Health Project, 1997; Salima DHO, 1995.

4) Health care facilities

Fig. 2.2 indicates population/bed ratios by region and for Salima District in 1994.¹² The ratio for the Northern Region was substantially below the national average while the ratios for the

¹² Basic Health Statistics 1994 Report 18, MOHP August 1996

Central and Southern Regions were higher than average. This ratio serves as a rough indicator of the quality of health care available to a population. A high ratio as in the Central Region is a sign of low quality care and a low ratio as in the Northern Region is a sign of higher than average quality care.

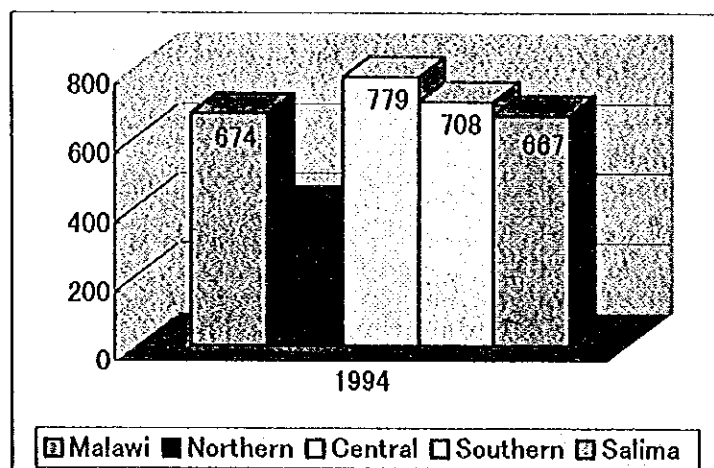


Fig. 2.2 Population/Bed Ratios by Region and Salima District in 1994

Salima District has two hospitals (see Table 2.5)¹³. The Salima District Hospital (178 beds) functions as the centre of primary health care activities and the mission-run Mua Rural Hospital (42 beds) serves the southern part of the district. JICA has been involved in the District's health care through the JICA-CHSU (Community Health Sciences Unit) Project since September 1994.

Table 2.5 Health Care Facilities in Salima District, 1997

Hospitals	2
Health centres	21
Mobile outreach services	61
Private clinics	7

Sources: Save the Children Fund (UK), Salima District Health Project, 1997; Salima DHO, 1995.

5) Maternal and child health data

Table 2.6 contains a distribution of three specific types of MCH sessions planned compared to the distribution of sessions actually provided by region and Salima District. Regarding child immunisation sessions, the number of sessions planned exceeded the number actually

¹³ Master Plan Study on Strengthening Primary Health Care Services in the Republic of Malawi, Inception Report, St. Mary's Hospital/Global Link Management, Inc. 1998

provided. In the other types of MCH sessions, there were similar discrepancies in number between planned sessions and those actually delivered.

Table 2.6 Specific MCH Sessions by Region and Salima District: 1995

	Immunisation		Ante-natal		Growth Monitoring	
	Planned	Provided	Planned	Provided	Planned	Provided
Malawi	78400	72933	57543	55525	64246	60571
Northern	12064	10886	10478	10097	10606	9969
Southern	30696	28826	22224	21755	23855	22901
Central	35640	33221	24841	23673	29785	27701
Salima	1603	1389	1753	1495	1680	1555

Sources: Basic Health Statistics, 1995; MOHP, 1997.

2.2 STUDY ACTIVITIES IN LILONGWE

2.2.1 Discussion of the Inception Report

The JICA PHC Study commenced on June 10, 1998. A meeting to discuss the inception report was held on June 16 and 17 and many issues including study activities, the relationship between JICA and other donors, logistics, and the assignment of counterparts were discussed. Both the JICA PHC Study team and the Malawi government exchanged signatures on the minutes of Meeting on Inception Report on June 18.

2.2.2 Collection of Related Documents

The team collected more than 100 documents related to the JICA PHC study from the Ministry of Health and Population (MOHP), donor organisations and other institutions. These were classified into the following specific categories: health support system, PHC activities, health care services (demand side), disease patterns and statistics, donor activities, and other areas. The regional master plan for upgrading PHC services was formulated based on an analysis of the survey results obtained in the first cycle as well as on information extracted from the various documents.

2.2.3 Discussion with International Donor Organisations

After the meeting on the Inception Report, the team visited international and other donor organisations to introduce the JICA PHC Study. Discussions with these organisations provided valuable insights and recommendations regarding the implementation of the study. Organisations met with include WHO, UNICEF, WB, UNFPA, USAID, DFID, AIDS secretariat, EPI, SCF (UK), STAFH, BLM and others.

2.3 STUDY ACTIVITIES IN THE CENTRAL REGION

2.3.1 Study on Health Care Delivery Services (Supply Side)

The study on health care services (supply side) covers such fields as health management and support systems, health information system, human resources and training, PHC activities, referral system, logistics system, disease management and treatment planning. Most of these study activities were carried out in cooperation with health staff in Salima District from mid July to late August 1998. In addition, a social infrastructure inventory survey linked with the geographical information system was conducted. The methodologies used and the study results were outlined in the Interim Report.

2.3.2 Study on Health Care Services (Demand Side)

In order to understand the needs and opinions of community members regarding the health care services and delivery systems, extensive consumer health surveys were conducted in Salima District. The main surveys included household surveys, focus group discussions, key informant interviews, and exit interviews at health facilities. These studies were carried out in parallel with the studies on the provider side.

2.3.3 Specific Donor Activities in the Central Region

A large variety of donors are involved in nationwide health cooperation activities in Malawi. Many donor organisations implement health programmes only in selected areas, including certain districts in the Central Region (see Table 2.7). The African Development Bank (AfDB) is conducting a preinvestment survey for the improvement of health care delivery in Nkhotakota, Ntchisi, Mchinji and Salima Districts in the Central Region as well as Phalombe District in the Southern Region. In Dowa District, the European Union (EU) has finished a basic investigation of health facilities and plans to construct a district hospital. UNICEF is involved in specific health activities such as reproductive health, safe motherhood and capacity building in policy development at the district level, particularly targeting the Kasungu District in the Central Region. In addition, a hand dug well project was carried out in six districts of the Central Region by the water and sanitation section of UNICEF. Mchinji District was also selected as a target area for the reproductive health programme by UNFPA.

USAID implements health programmes through private voluntary organisations (PVOs). In the Central Region a community health partnerships (CHAPS) programme has been carried out in Salima District by Save the Children Fund (UK). Similarly, a child survival (CS) grants application programme by Project HOPE was conducted in Kasungu District.

Table 2.7 Specific Health Programmes by Donors in Individual Districts of the Central Region

Donors/ District	AfDB	EU	UNICEF	UNICEF (water)	UNFPA	USAID
Kasungu			○	○		○
Nkhotakota	○					
Ntchisi	○			○		
Dowa		○		○		
Mchinji	○				○	
Lilongwe				○		
Salima	○					○
Dedza				○		
Ntcheu						

2.3.4 Donor Activities In Salima District

Since 1996, the JICA-CHSU Project has implemented a malaria control programme that focuses on distributing impregnated bednets and starting drug revolving funds in certain villages in Salima District. Last year, Information, Education and Communication (IEC) activities against acquired immunodeficiency disease (AIDS) were also carried out in the district by the NGO Banja La Mtsogolo (BLM) of Malawi with the support of the NGO Marie Stopes International of England. SCF (UK) is now conducting the Salima District Health Project which aims to better integrate the District's health delivery system. In addition, AfDB has conducted a preinvestment health survey from October 1998. These donor activities were taken into consideration when developing the regional master plan.

2.3.5 Significance of Salima District Study in the First Cycle

According to the Scope of Work for this Development Study, Salima District was to be used as a base camp to formulate the master plan for the Central Region during the first cycle. While JICA instructed that the study focus on Salima District, it was permissible to extend the study to other districts in the Central Region if required. In the end, detailed and comprehensive health studies were carried out largely in Salima District for the following reasons:

- 1) The JICA public health project has been implemented in Salima District since 1994, and the study planned to make use of results and information accumulated by the project.
- 2) Although there is much literature on the health sector in Malawi, there was yet to be such a full and comprehensive health study in one district.
- 3) It was believed that a detailed study carried out in a representative district like Salima would allow the findings of the study to be applied to other districts in Malawi.

- 4) It was felt that the results of the Salima study could be used to formulate a new direction for the second cycle study.
- 5) To avoid duplication of data collection in other districts. The aim was for the results of the Salima study to be effectively combined with other existing district level data.

Although most of the current studies were conducted in Salima District, parts of the study such as health policy, management, organisation, human resources and logistics system included other areas as well. The study for the referral system was carried out at the "bottom hospital" in Lilongwe. Moreover, GIS work extended beyond the Central Region to the national level. Although the main study focused on Salima District, the results were considered relevant for the formulation of a regional master plan.

Chapter 3

STUDY FINDINGS IN THE FIRST CYCLE

(CENTRAL REGION)

CHAPTER 3: STUDY FINDINGS IN THE FIRST CYCLE

3.1 DISTRICT HEALTH POLICY, ORGANISATION AND MANAGEMENT

The study for this section was conducted through document review and structured interviews using a questionnaire with key actors at the central and regional level.

3.1.1 National Health Sector Reform

1) Health organisation and management structure

Health services in Malawi are provided by four distinct sources: the Government of Malawi (GOM), through (a) the MOHP and (b) the Ministry of Local Government (MoLG); (c) the Christian Health Association of Malawi (CHAM); and (d) private health care providers. MOHP is the largest health service provider and plays the central role in the country's health care system. Like many other ministries, the MOHP has three tiers of administration: head quarters, regional offices, and district offices (Vol.5, Fig.1.1).

2) Policy framework for reform

In 1996, MOHP decided to develop the next (five-year) health plan using a rational and participatory process involving national stakeholders. To this end, a draft of the District Guidelines was developed describing the major health problems of the country, strategies, national goals and objectives to improve the health services, resource development and management. Upon completion, this plan will be integrated into the national plan.

3) Policy on decentralisation

The Government of Malawi introduced the Decentralisation Policy of District Focus for Rural Development in November 1993, with the aim to strengthen the role of the districts in the planning and management of the development process at the local level.

3.1.2 District Health Organisation in Salima

Within the district level, the senior MOHP officer in a district is the District Health Officer (DHO). The organisation under DHO is shown in Fig. 3.1.

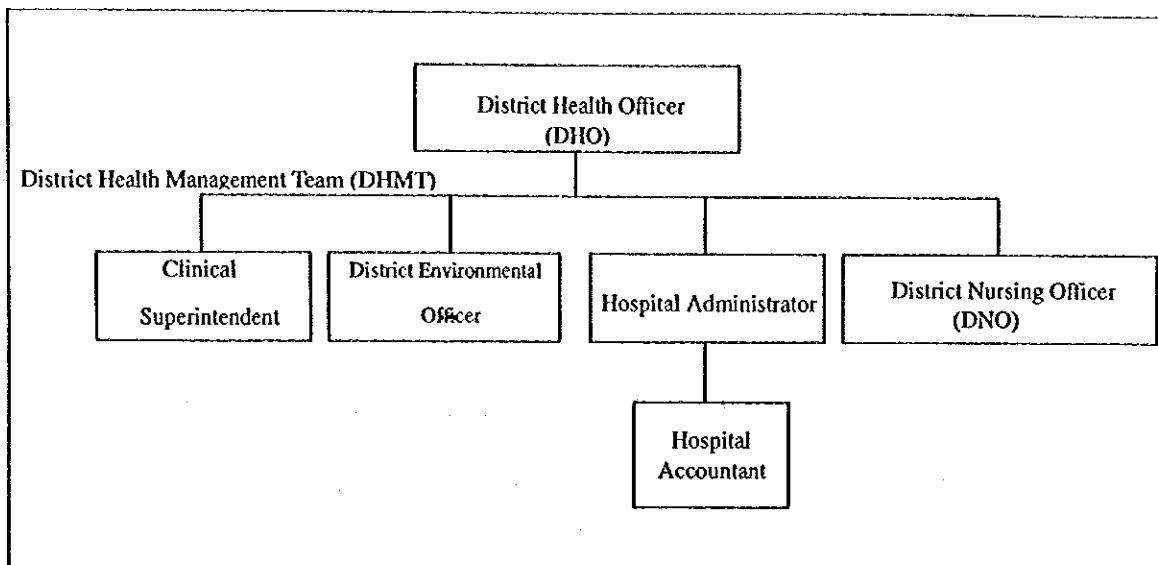


Fig.3.1 Organisation Chart of the Salima District Health Office

3.1.3 District Health Plan

At the outset of the study, the Salima DHO had not yet developed a district health plan, and was unsure of the timing in which they were expected to formulate one, although they had been formulating the Medium-term Expenditure Framework, an annual activity plan. However, based on interviews with key actors in the Salima DHO, the priority issues were seen as follows:

1) Administrative management

MOHP acknowledged that its managerial structures and systems were weak. Decentralisation has meant that the management of health facilities and health services are under the authority of operational managers at the district level including administrative functions.

2) Financial management

MOHP is looking at ways to finance the delivery of health services. MOHP emphasised in the draft of the District Guidelines that it continues to explore alternatives to the current "free" system at the district level. More specific information on this issue is presented in section I. Health Financing.

3) Human resources development and management

The Salima DHO plans to conduct a situation analysis of personnel requirements, distribution and utilisation patterns. It also plans to develop an in-service annual training plan for all personnel. More specific information on these plans is presented in Section H. Human Resources.

4) Information management

MOHP recognises that data collected at the district level does not help managerial decision-making processes, and that it needs to focus on the integration of all existing management information systems (MOHP, CHAM, NGOs, etc.) into a comprehensive health management information system. More information on MIS is presented in 3.10 Health Information System.

3.1.4 District Health Management

1) District Health Office (DHO)

The administration of the health care system is done through the District Health Office, located in the district hospital building. DHO directs and supervises MOHP health facilities within Salima District and Dedza East, an area that administratively belongs to Dedza District.

2) The District Health Management Team (DHMT)

The DHMT is a leadership and decision making structure within the DHO. The District Health Officer is the chairman of the DHMT. They meet every two weeks to discuss financial and management matters.

3) Cooperation and coordination between MOHP and CHAM

Although CHAM facilities are not under the jurisdiction of MOHP, those located in the Salima District are technically supervised by DHO, while MOHP facilities in Dedza East are technically supervised by Mua Mission Hospital, a CHAM health facility in Dedza East.

3.1.5 Supervision

1) Supervision of district health facilities by DHO

The DHMT conducts routine general supervisory visits and clinical support visits. The former are scheduled once a month and include the nine MOHP health centres in Salima District and Dedza East. Each health centre receives one clinical supervisory visit every three months.

2) Supervision of DHO

A general supervisory visit of DHO by the Regional Health Management Team (RHMT) is scheduled three times a year. However, due to budget constraints, supervisory visits are actually held only twice a year. Apart from the general supervisory visit, supervision is also provided by the regional level to the district level by whoever is in charge of vertical programs such as the safe-motherhood coordinator, the family planning coordinator, and the TB coordinator.

3.1.6 District Decentralisation

The District Executive Committee (DEC) was established in Salima to give technical guidance and support to the District Development Committee (DDC). Development priorities are

determined by DDC and DEC, and health issues are also considered within the overall district priorities. More specific information on decentralisation is presented in Vol.4, Part 1, 9.3.

3.2 HEALTH STATUS, DISEASE PATTERN AND TREATMENT

3.2.1 Nutritional Status of Children

1) Background

Recent data from the 1992 Malawi Demographic and Health Survey (DHS) show the nutritional status of children in Malawi to be one of the worst among sub-Saharan African countries.

2) Situation in the study area

An anthropometric survey conducted in Pemba village, Salima, revealed that underweight children were more prevalent among the growth monitoring programme (GMP) absentees than among the attendants. Thus, it is estimated that the GMP covers only about a third of the total number of underweight children. The survey also found that over 80 percent of underweight children are less than two years old. These findings coupled with information from the focus group discussions suggest that the conventional GMPs may not be reaching the group at highest risk for malnutrition. Also, GMP derived statistics may not reflect the actual nutritional status.

From the viewpoint of GMP attendants, children in Pemba village are less nourished than those in the township of Salima.

3.2.2 Morbidity Pattern Among Outpatients in Salima and Dedza East (1997)

1) Under five clinics

The common diseases recorded at U5 clinics were malaria (30.3%), LRI (14.4%; pneumonia 9.2% and other LRI 5.2%), URI (13.4%), diarrhoeal diseases (8.6%), diseases of the eye (5.8%), malnutrition (4.0%), scabies (3.9%), other skin disorders (3.0%), and trauma (2.2%). This pattern of leading diseases among U5 outpatients in the study area was similar to that in the Central Region in 1994. Malaria is generally diagnosed at the clinical level at OPDs and, therefore, its prevalence may be over estimated. On the other hand, malnutrition is apparently under estimated because many malnourished children are followed up at GMPs rather than at U5 clinics.

2) General outpatient clinics

Common diagnoses at general OPDs were malaria (30.2%), LRI (10.4%; pneumonia 6.1% and other LRI 4.3%), URI (9.9%), diarrhoeal diseases (7.1%), trauma (3.6%), abdominal complaints (3.5%), diseases of the eye (3.2%), muscular/skeletal disorders (3.0%), and dental decay (2.9%). The prevalence of Bilharzia (schistosomiasis) is estimated at between 40 percent and 50 percent in Malawi, nevertheless it accounts for only 2.4 percent at OPDs. Last year's leading

diagnoses in the study area were not much different from those of the Central Region in 1994.

3.2.3 Morbidity Pattern and Causes of Mortality Among Inpatients

1) Salima District Hospital

The ward admission logbooks were examined regarding the diagnosis and outcome of patients who were admitted to the paediatric, male, or female wards in January and July 1998. The number of paediatric inpatients was much larger in January than in July, chiefly because patients with malaria and malnutrition markedly increase during the rainy season. The top five common diseases at the paediatric ward were malaria, malaria with anaemia, pneumonia, malnutrition and trauma, in descending order. These are also the main causes of in-hospital mortality for paediatric patients.

The number of adult inpatients was steady for January and July. The top five common diseases (not including obstetrical/gynaecological disorders) at the adult wards were trauma, malaria, pneumonia, tuberculosis and diarrhoea. Another main cause of mortality besides these diseases was AIDS-related complex (ARC).

2) Mua Hospital

The morbidity pattern among paediatric inpatients of Mua Hospital was nearly identical to that of SDH. A major difference was that an independent category of "anaemia", rather than "malaria with anaemia", was ranked as the second most common cause of childhood admission.

The top five common diseases at the adult wards were pneumonia, ARC, malaria, tuberculosis and diseases of skin.

3.2.4 Selected Diseases to be Targeted

The study regards the following diseases as most important among others:

- 1) Malnutrition
- 2) Malaria
- 3) Pneumonia and other Lower Respiratory Infections
- 4) Diarrhoea
- 5) Communicable diseases
- 6) Bilharzia
- 7) AIDS-related complex
- 8) Anaemia

3.3 HEALTH CARE SERVICES

3.3.1 Maternal Child Health and Family Planning

1) Safe motherhood

Deliveries at health facilities are not high (55%). As a consequence, over 40 percent of deliveries are at home, with 33.8 percent of women being assisted by family members. No assistance was provided for the deliveries of 4.4 percent of women. The majority of women attend their first antenatal care session during the second trimester, although it is recommended to go during the first trimester in order to receive TTV immunisation, and so that high risk cases can be detected and managed. The use of TBAs is low in terms of antenatal care and delivery. At the national level, about 18 percent of women were assisted by TBAs while in Salima more women (27.9%) were assisted by trained TBAs. These figures indicate that the focus should be on promoting delivery and maternal care at health facilities. In terms of education, 45 percent of women with no formal education delivered at health facilities compared to over 91 percent of educated women. In addition to increasing the number of deliveries at health facilities, there is a need to create an awareness of the problem of maternal death and improve women's education level.

2) Family planning

Studies show a high awareness of family planning, but the rate of contraceptive use is low. About 40 percent of currently married women and 57 percent of men have used methods of family planning in the past. However, only 13 percent (7% modern methods, 6% traditional methods) reported that they were currently using a contraceptive at the time of the survey (MDHS,1992). The most popular modern methods are the pill, female sterilisation, condoms, and injections, each used by about 2 percent of women. Women in the rural areas are less likely to use family planning than women in the urban areas. Some of the reasons for low contraceptive use are the desire for many children, infertility, fear of side effects, partner opposed, and misconception about methods. Women and men in adolescence and over 40 years of age are least likely to understand the different methods of family planning, while those over 45 years of age were more likely to find the concept of family planning unacceptable. Family planning should be promoted in all age groups, but particularly to adolescents and those of elder reproductive age.

3) Breast-feeding

The proportion of children in Malawi exclusively breastfed until four months is low at 11 percent. The median period of exclusive Breast-feeding is less than one month. Breast-feeding needs to continue to be promoted through Baby Friendly Hospital Initiative (BFHI). Currently, seven hospitals implement BFHI with the support of the government and CHAM. Additional technical and financial support are needed for the provision of training materials; further training of health staff, production of IEC materials; promotion of Breast-feeding through traditional arts and culture and the media, and the development of Breast-feeding support groups. The Breast-feeding programme could be strengthened by working with close relatives such as grandmothers and other influential community members.

4) Outreach (mobile) clinics

In the JICA PHC study it was found that over 70 percent of respondents are aware of outreach clinics. Over 50 percent use growth monitoring and 49.7 percent use EPI services through the outreach services. Over 90 percent are satisfied with the outreach services because of the good advice provided (49.4%), easy access (33.6%), and as a source of drugs (25.6%). However, 8.8 percent of respondents were not satisfied with outreach services due to lack of medicine (47.3%) and long distance (16.4%). Most of the health facilities run by government and CHAM provide outreach clinics, but the number of clinics per month, the type of personnel involved, and the type of services vary according to the availability of staff, transport, materials and equipment. The current outreach programme could be improved by means of sufficient staff, equipment, vaccines, paraffin and other supplies such as health cards for antenatal and U5, as well as by extending transport to peripheral areas.

3.3.2 Expanded Programme on Immunisation

The JICA PHC study found some constraints on EPI activities. Paraffin and several vaccines (BCG, Measles and TTV) had been out of stock for the previous 6 months and most health facilities did not have spare parts for their refrigerator. In 1997, all vaccines were out of stock during the month of November. Staff also reported a continuous shortage of U5 cards. Funding for operational costs has been declining since 1990. MSIS reports the following vaccination rates: 91 percent of children had BCG by 12 months of age, 92 percent for DPT1, 86 percent for DPT2, 76 percent for DPT3 and 70 percent for measles (1995). These figures indicate that the majority of children have access to EPI services, but inappropriate management and insufficient understanding of EPI by mothers still exist. Many children are vaccinated after their first birthday. Immunisation records were incomplete at some health centres, making it difficult to know the real immunisation coverage rate for the target population. The disease surveillance system was not fully functioning due to a shortage of staff and funding (for training HSAs). The low literacy levels of mothers and caretakers is also a factor, as literacy has a direct influence on the level of timely childhood immunisation. To improve EPI activities, adequate EPI materials, equipment, training of staff, and health education about EPI are needed.

3.3.3 Information, Education and Communication

A survey assessing IEC was carried out by MOHP in 1991. The main findings were a shortage of trained staff, supplies of IEC materials, and storerooms for IEC materials.

3.3.4 Food Supply and Nutrition

Malnutrition levels have changed little since 1992. The Lilongwe urban area shows a higher rate of malnutrition than other urban areas. The malnutrition rates in rural areas remain high but have not worsened. Many factors contribute to malnutrition, including the high rate of AIDS,

leading to frequent infections and an insufficient intake of micronutrients, and a lack of vitamin A in the diet. Intake of Vitamin A rich foods (groundnuts) and supplements is low for both mothers and children. Both poverty and mother's education level have a significant impact on malnutrition. Also, some important foods are only available seasonally. At present, 58 percent of the salt consumed in Malawi is iodised. The Nutrition Rehabilitation Unit (NRU) targets U5 children who are underweight, low weight pregnant women and Breast-feeding mothers, mothers with tuberculosis, and HIV positive mothers. NRU admits underweight children and teaches their mothers what to feed them and how to cook. Mildly malnourished children are cared for at the nutrition clinic while severely malnourished children are referred to Salima District Hospital (SDH) for further investigation and treatment.

Nutritional status can be improved through strengthening existing programmes, increasing the practice of exclusive Breast-feeding, and taking an integrated approach with the Poverty Alleviation Framework and the Agriculture and Livestock Strategy. Greater commitment by the government and improved health education for mothers would also make a difference.

3.3.5 Community Health Care with Community Involvement

In Malawi, a total of 361 drug revolving funds (DRFs) are operating, but only seven are located in Salima District. Out of those seven DRF programmes, Mphele and Funsani are villages with PHC facilities. Mphele villagers sell only two drugs, and occasionally others when necessary. Some health committee members in Funsani village received training about the signs and treatment of acute respiratory infection, malaria and diarrhoea provided by health staff from Salima District Hospital, but the training was not continued due to a shortage of staff and funding. Health Surveillance Assistants play an important role in health care activities in the community, but their number is limited with most posted in health facilities. MOHP is also supporting the construction of U5 and TBA shelters with village people providing labour, bricks and sand. Salima does not have any TBA shelters and villagers need to be better informed about how and what the government can assist. Village volunteers include growth monitoring volunteers (GMVs) and community based distributors (CBDs). Nearly half of the villages have a village health committee (VHC) and over 80 percent of those villages have village volunteers. About 30 percent of the VHCs are supervised by health facility personnel, and 80 percent of those VHCs claim that supervision is done every month (JICA, PHC study). Salima has an NGO for HIV/AIDS called Salima HIV/AIDS Support organisation (SASO). Unfortunately, even with highly motivated people SASO was not fully functioning due to factors such as resistance from villagers, a lack of understanding regarding their activities, and the lack of supplies, trained members, transport and training funds.

3.4 WATER AND SANITATION

3.4.1 Access to Safe Water

Safe drinking water is defined as "water piped into the dwelling unit, a public tap, a borehole, a protected well or spring located either on the premises or less than one-half kilometre away". Just over one-third (37%) of all individuals in Malawi have convenient access to safe water at a distance of less than half a kilometre. Urban residents have significantly better access to safe water than the rural population. The most common sources of water in Malawi are unprotected wells and springs with coverage varying according to district. In Rumphi District, 67 percent of the population have convenient access to safe water within half a kilometre while less than 5 percent of people in Ntchisi and Mwanza Districts do. In Salima, about 45 percent of respondents get their water from a borehole and 33.6 percent from an unprotected shallow well or spring (JICA PHC study). Nearly 50 percent of respondents travel 100-500m away from their dwelling for water and over 50 percent of families fetch water more than four times a day. However, the frequency that family members fetch water depends on several factors such as family size, availability of water storage facilities, proximity of water source, and family lifestyle. According to the HSAs surveyed for the JICA PHC study, about 30 percent of the 1,927 water sources in Salima District are unprotected shallow wells and another 30 percent are boreholes. Rivers account for another 18 percent, indicating that water sources in Salima are not at all satisfactory.

Three different ministries (Health, Water and Irrigation, and Local Government) are active in the field of water supply. However, most water projects are implemented through the Ministry of Water and Irrigation through five regional Water Boards.

3.4.2 Access to Sanitation Facilities

A safe sanitation facility is defined as "a toilet that flushes to a sewage system or a septic tank, a ventilated improved pit (VIP) latrine, or a latrine with a concrete sanitation platform ("sanplat") located less than 50 metres from the user's dwelling". Surprisingly, only 5.5 percent of the population have access to adequate sanitary facilities located within a convenient distance of their home. The principal reason for this extremely low figure is the high use of traditional pit latrines, which do not meet the definition of a safe sanitary facility.

There is also a significant difference in the coverage of sanitation facilities in urban and rural areas. Nearly one-quarter (23%) of the urban population has access to adequate sanitation facilities located within a convenient distance compared to only 4 percent of rural people. Over half of the population in Chikwawa district, and over one-third of the population in Salima, Mwanza, Mzimba and Nsanje districts have no sanitary facilities according to national statistics. Notably, where facilities exist they tend to be pit latrines. In the JICA PHC study conducted in Salima, 54.6 percent of respondents had no sanitary facilities, 32.4 percent had an uncovered pit latrine, and only 1.3 percent had a latrine with a "sanplat". These figures reveal that the actual sanitation situation may be far more unsatisfactory than that reflected in official statistics.

The major constraints to achieving universal access to water and sanitation have been limited funding and the lack of government capacity to maintain existing facilities. Other constraints include the lack of policy and work plans, bureaucracy, political interference, and persistent droughts. There has yet to be a national database for water and sanitation to improve planning and targeting.

Hygiene education and sanitation promotion (HESP) is a central element of all water and sanitation projects. Only providing water sources and sanitation facilities is not a solution—the hardware should be accompanied by health education about the dangers of unsafe water, the correct handling of water, the maintenance of water sources, and safe sanitation facilities. Training programmes should be designed keeping in mind the fact that women play a significant role in water and sanitation. An evaluation of the water quality in areas where diarrhoea is prevalent would be useful. Government capacity at the district level also needs to be strengthened to facilitate the management of water and sanitation facilities by communities who must take a leading role in this sector.

3.5 REFERRAL SYSTEM ASSESSMENT

3.5.1 Referral System in the Central Region

1) Findings

Physical access to health services between villages and health facilities in the Central Region:

- Physical access to health services is a priority problem expressed by villagers.
- Utilisation of health services at the health centre level is strongly influenced by physical access, i.e., the majority of patients travel a distance of five kilometres or less. Hospital utilisation, however, is less influenced by distance.
- Eighty percent of the population reside within an eight kilometre radius of government or CHAM operated health facilities.
- Fifty percent reside within a five kilometre radius.
- When road access is considered, the percentage within a five kilometre radius drops to 37 percent in Salima District.
- Physical access drops severely during the wet season: 76 percent of villages in Salima are considered difficult to reach during the wet season compared to 36 percent during the dry season.

Access and communication between primary and secondary level health facilities:

- Since the majority of deliveries are at health centres, improved access and communication between the primary and secondary levels is crucial to reducing maternal mortality.
- The average travel time between the primary level and Salima District Hospital is 56 minutes, but only 22 minutes between the primary level and Mua Hospital, reflecting the

larger coverage area by SDH.

- Ambulances are commonly used for staff transfer which can delay the transfer of emergency patients.
- Less than half of health centres have emergency communication equipment.

Routine referral system:

- Among 80 guardians of U5 patients who attended hospital outpatient clinics, none mentioned that they were referred by a lower level medical institution.
- Fifty percent of the 80 patients listed grocery or pharmacy as their first contact.
- Only 18 percent listed government or CHAM operated health facilities as their first contact.

Routine obstetrics referral:

- Most pregnant women residing outside Salima township but using SDA for their delivery reported they were referred by health staff.
- Many referred women did not know the exact reason for their referral.
- The most frequently mentioned advantages of hospital delivery were the availability of blood transfusion equipment and the option of operation in case of difficult delivery.
- High expense is the most frequently mentioned disadvantage of hospital delivery.
- Hospitals lack accommodation facilities (antenatal wards) for pregnant women and their guardians waiting for delivery.
- There is a lack of bilateral communication between the referred and referring health facilities regarding the outcome of pregnancy.
- Referring health centres lack a mechanism to follow up on their referral advice.

Emergency obstetrics referral:

- The lack of communication and transportation between primary and secondary health facilities hampers the rapid transfer of patients.
- For emergencies at the village level, patients must travel directly to a hospital for treatment which normally requires both time and money.
- The lack of bilateral communication between referred and referring health facilities leads to a lack of information regarding outcome at the health facility level.

2) Situation analysis

- At the eight kilometre cut-off distance, 80 percent of the population in the Central Region have physical access to a health facility, which is better than average compared to other sub-Saharan African countries. At the five kilometre cut-off radius, the coverage drops to 50 percent, which is a more realistic picture of physical access considering actual utilisation rates. Most people walk on roads to reach the nearest health facility, which may not be the shortest or most economic route. Therefore, when road networks are considered, a mere 37 percent reside within an access distance of five kilometres.
- Despite the relatively high physical access and utilisation of health facilities in comparison to other sub-Saharan African countries, the health indicators in the country are among the worst in the region. The inaccurate measurement of physical access described above partly contributes to this somewhat contradicting situation. Also, physical access to health

facilities is distinct from access to health services. In Malawi, access to health facilities appears to be better than other countries at the same or higher level of economic development, yet access to quality health services is very limited. One example is the poor access to emergency obstetric care.

- Since emergency care including blood transfusions and operations is provided only at the hospitals, access to emergency obstetric services is severely limited. The communication and transportation mechanisms between villages and primary level health facilities, as well as between primary and secondary level facilities are far from adequate. Considering that the majority of deliveries are at health facilities in the Central Region, improvement of communication and transportation systems between primary and secondary level facilities should be the priority.
- As for improving the linkage between villages and primary level facilities in terms of emergency obstetric care, the provision of a waiting antenatal home or ward for women with identified risks would help. In addition, enabling health centres to provide blood transfusions and emergency obstetric care would reduce maternal mortalities.
- The poor referral system, including both communication and transportation, is partly a result of the weak management of the District Health System. For both emergency and routine referrals in the region there is a lack of bilateral communication on outcome between referred and referring facilities, which leads to a lack of follow up on referred patients on both ends. The physical availability of ambulances is also important. Prohibiting the use of ambulances for staff transfer is one step that can improve the actual availability of vehicles for emergencies.
- The Government of Malawi is committed to improving access to health services at the five kilometre level. Considering the severe financial situation of the country, improving planning capacity at the national and district levels to establish a rational infrastructure development plan is critical for achieving success.

3.6 LOGISTICS SYSTEM OF DRUGS AND MEDICAL SUPPLIES

3.6.1 Background

Malawi has had difficulty obtaining an adequate and cost effective supply of drugs, as well as arranging for safe storage and efficient delivery. Approximately 90 percent of drugs used in Malawi are imported, meaning that changes in the dollar/kwacha exchange rate greatly influence the real value of the budget allocated to drugs.

3.6.2 General Logistics System

The Malawi Essential Drug Programme (MEDP) was introduced in 1987 with the co-operation of World Bank, WHO and the Government of the Netherlands. The Malawi National Drug List, revised in 1995 for its third edition, is now being used to categorise drugs according to the level of institution (health centre, district hospital or central hospital) at which they would normally be

used.

The main agency responsible for pharmaceutical and medical supplies is the Central Medical Store (CMS), which is funded by government to purchase and supply of drugs and medical supplies mainly for government hospitals. As stocks at CMS are usually 75 percent of what is required, it cannot meet the demands of the user units (central and district hospitals).

In principle, supplies are distributed by CMS's three regional medical stores (RMSs) to user units quarterly. However, as the delivery schedule is irregular and subject to delays, the user units often have to collect their orders at RMS.

3.6.3 Logistics of Drugs and Medical Supplies at the District Level

1) Centralised drug budget

In 1996, MOHP transferred the Ministry's drug budget to CMS to avoid overspending on drugs, and also to avoid using the drug budget for other items. Hence, drug funds are released directly to CMS to procure items, instead of being released to user units. MOHP's central hospitals and DHOs are informed of the total annual budget for drugs allocated to them, and they send orders to CMS through RMS within the budgetary limitations.

2) Procurement of drugs at the district level

In principle, on a quarterly basis, DHOs prepare orders for drugs and medical supplies for all MOHP facilities in the district based on consumption patterns in the previous year. When districts prepare requisitions for drugs and medical supplies they do not calculate the total value of the order, since the ability of CMS to fill an order is not known at that time.

According to the established system, drugs and medical supplies are to be delivered by RMS to DHO. However, in actuality, DHO often must send its own vehicle and personnel to RMS to collect an order. Some DHO staff complained about this situation, as the 12.5 percent commission charged by CMS is intended to cover transportation expenses.

Health centre orders are received monthly by the district hospitals, and monthly deliveries using DHO vehicles are made using a box with lock and key for each health centre.

3) Availability of drugs and medical supplies at health facilities

The drug inventory survey conducted for the study found that seven out of nine MOHP health centres had run out of stock of some drugs for more than one week during the past six months, while CHAM facilities had all retained supplies during the same period. As for family planning, most health facilities offering FP services had sufficient stocks of the standard methods available.

3.6.4 Problems of the Logistics System

- Districts cannot spend their entire drug budget allocated because the drugs and medical supplies needed are not available from CMS.
- CMS runs out of stock of some items for relatively long periods.
- DHOs must use their own limited resources to collect drugs from CMS through RMS due to irregular and delayed deliveries.
- The amount and type of drugs in stock varied facility to facility suggesting uneven supplies or unequal distributions.
- The drug and medical supplies information system is weak, affecting the planning of orders and distribution.

3.6.5 Current Efforts Towards Improvement

CMS reform has been a concern for years, and DFID plans to address the issue. The proposed three-year project aims to create an efficient drug supply organisation, with support specifically provided for management reform, procurement, warehousing and supply systems.

3.7 HEALTH FACILITIES AND EQUIPMENT

3.7.1 Introduction

A survey of health facilities was carried out in selected areas of the Central Region to ascertain the distribution and condition of physical facilities and equipment. An inventory form was completed for every health facility in Salima District and Dedza East. The total number of health facilities surveyed was 30: MOHP (10), CHAM (8), NGO (1), Military (2), Police (1) and private practitioners (8).

3.7.2 Review and Study

1) Distribution of health facilities

Malawi had a total of 1,571 health facilities in 1992, including 51 hospitals, 233 health centres and 243 dispensaries. In the Central Region, there are eight district hospitals and one central hospital. The number of hospitals per 100,000 people is 0.35 for the Central Region, while the average for Malawi is 0.42.

Health Centres are unevenly distributed in the Central Region. In terms of the number of HCs per 100,000 people, Salima has the highest ratio of 4.41 while Mchinji has the lowest ratio of 1.94. The average for Malawi is 2.02 HCs per 100,000 people.

The dispensaries seem to be more unevenly distributed than the health centres. Nkhotakota has the highest facility-population ratio of 4.82, while Dowa has the lowest ratio of 1.08. The

average for Malawi is 2.02 dispensaries per 100,000 people.

2) Condition of buildings and infrastructure

The Salima District Hospital main theatre is in very poor condition. The roof and solar hot water system are in need of repair.

Most facilities have problems with their water supply—either an unsteady source or lack of maintenance of pipes, pumps or other equipment.

3) Condition of medical equipment

Much of the medical equipment was in poor condition. Even essential items were found to be damaged or inadequately maintained.

4) Maintenance system for infrastructure

In the surveyed area, government maintenance staff consisted of a plumber and his assistant, an electrician, a builder and his assistant, a carpenter and a painter—all based at Salima District Hospital. The health facilities have no maintenance staff of their own and must rely on those based at SDH. Medical equipment repairs are carried out by the electro-medical engineering department based at Lilongwe Central Hospital.

Therefore, due to the limited number of maintenance staff and the distances they are required to travel, problems are often not attended to for long periods of time.

3.8 HUMAN RESOURCES

3.8.1 Human Resources for Health

There is a critical shortage of trained workers in all cadres of the health sector. The current training outputs are too low to meet demand. In addition to the overall shortfall, there is maldistribution of staff. The health sector is also losing trained workers due to HIV/AIDS.

Based on the number of registered health professionals in the country, the current level for the population is far below the internationally accepted norms developed by WHO in 1985. As the major provider of health services, MOHP has the largest number of health professionals followed by CHAM. The number working in the private sector is said to be increasing, but the actual number is not known.

In MOHP, all 20 medical specialists are located in the central hospitals. Twenty of 81 medical officers serve as district health officers (DHOs), who must lead the district health management. At district hospitals, clinical officers (COs) play the central role in curative care. At peripheral health facilities such as health centres, curative care is provided mainly by enrolled nurse/midwives and medical assistants. The Health Surveillance Assistant (HSA) training programme was introduced as a measure to provide PHC to all. The HSAs are front-line health

workers who are deployed at a ratio of one HSA per 2,000 population, and serve as a link between fixed district health services and the community.

3.8.2 Training Institutions

In Malawi, pre-service and post-basic training of health care workers is conducted primarily by three institutions: the University of Malawi, MOPH, and CHAM. HSAs are trained regularly at three regional training centres (Mzimba, Mponela and Mwanda) and courses are held in an ad-hoc manner at another 18 centres.

DFID began supporting the Malawi College of Health Sciences (MCHS) in 1998, and is scheduled to continue until 2002. The aim is to establish an autonomous and efficient training institution capable of providing high quality professionals to staff the health services at the primary care level in particular. Although an assessment report recommended closing two campuses and centralising training for the sake of cost effectiveness, the government did not accept the proposal. Therefore, it was agreed to continue education at all three campuses, but with limited investment in infrastructure at Zomba and Blantyre.

3.8.3 Human Resources Management at the District Level

In principle, DHO staffing should be in line with the "establishment" level set for the district. An establishment is the number of each type of personnel that MOHP considers necessary to run the health facilities in the district. At the time of the study, the new establishment for the district hospital had just been released and the new establishment for health centres was planned to be released by the end of 1998.

"Staff return", which is used to determine who is to receive a salary in a district, is a computer printout that is updated monthly and sent from the district level to headquarters. All staff working in the district are listed by cadre and grade, but not by health facility. The new hospital administrator for Salima, who is in charge of human resources, admitted the need for re-examining existing personnel and updating the staff return, since it does not reflect all the recent changes in human resources of MOHP in the district.

3.8.4 Human Resources in the Study Area

Professionals such as medical officers and technologists for pharmacies, laboratories, dental care and radiography are especially scarce, which is common throughout the country. Gaps are filled in with personnel from various "attendant" categories such as ward attendant, patient attendant, x-ray attendant, pharmacy attendant, and dental attendant. However, their limited training makes it difficult for them to assume given responsibilities.

3.8.5 Training of Health Workers in the District

Salima District does not have a training institute for health professionals, nor a planned programme for continuing education. Some district staff attend courses or workshops held by various national vertical programmes such as EPI, FP, TB, or HIV/AIDS, but there were no records kept on who attended these courses.

Workshops with HSAs were held to determine their training needs. Most HSAs expressed the need for further training, as the eight-week formation course is too short to acquire all the necessary knowledge and skills to carry out the activities and responsibilities listed in their job description. Some expressed the need for on-the-job training in the villages, while others felt they needed better communication skills.

3.9 HEALTH FINANCING

3.9.1 National Health Financing

After a marked improvement over the period 1992-1996, the capacity of the Malawi Government to meet the increasing financing needs of the public health sector appears to have been severely diminished by adverse macroeconomic changes over the past two years. To a large extent, the shortfalls in government funds have been compensated by donors, and it is likely a continued high level of donor dependence will remain the norm in the near future. Compared to other countries in the region, however, cost sharing has not been seriously addressed as a health reform element for increasing the resources available to the health sector.

The allocation of resources has followed a generally desirable trend, with less going to the central hospitals and more to district health facilities. Personnel costs have been increasing faster than consumables, but much of the increase has been for Health Surveillance Assistants, who are viewed as the backbone of a reformed system of primary health care.

Estimates of the actual budgetary requirements for carrying out the planned district-level program of community-based health care have exceeded three times the actual budget. In addition to this large shortfall, the current system of budgeting, while new and decentralised, is nonetheless both irrational in that districts receive allocations related to their fixed facilities rather than population-based needs, and it is also unpredictable in terms of the actual amount of money they receive after the approved budgets have been prepared.

While it can be expected that the *process* can be improved as experience is gained with the MTEF, it is not reasonable that the large gaps can be filled unless there is a concerted effort by the donor community to coordinate assistance through an agreed package of interventions. This is now under discussion under the aegis of the Poverty Alleviation Programme and the Essential Health Package.

3.9.2 Regional and District Level Financing Issues

Under the reform policy of decentralised financial management, budget preparation is supposed to be a "bottom-up" process, where the DHO receives inputs from all community-level health committees concerning their needs and development plans. These are fed into a process of development planning which is still centralised. For the recurrent budget, no real decentralised budgeting power can be said to exist: budgets are still governed by previous years. Neither do the DHOs have any real discretionary power over expenditures.

Generating additional revenues for the government health services appear to be limited to charging user fees (cost sharing). The issue of policy toward user fees for health services is still unclear at this time. Fees are collected in government tertiary hospitals, in special outpatient clinics and inpatient amenity wards (but are returned to the treasury rather than being retained to make local improvements). However, (with some justification on the grounds of the extreme poverty in rural areas) most politicians are opposed to instituting general charges for treatment at health centres, dispensaries, or for district hospital outpatients and inpatients despite the worsening government budget and drug supply situation. However, at the village level, many NGOs and donor organisations have introduced community drug revolving funds. CHAM and local authority health facilities also operate on a fee basis.

It is generally accepted that equity and efficiency are both maximised when the fees charged are lowest at the community level and increase at the higher health facility levels, also subject to the requirement that exemptions are made for people who cannot afford to pay the charges. It is also considered desirable to have local retention of at least a part of the revenues collected, with community control in order to improve services locally. This encourages early treatment at nearby facilities, reinforces the referral system, and tends to reduce the workload at the hospitals where treatment of a given condition generally consumes more resources than at lower-level facilities. Harmonisation of fees between fixed facilities, CHAM/MOHP, and community financing initiatives, is therefore very important.

Another important aspect of user fees, whether in fixed facilities or at the community level, is that of affordability, i.e., pricing and exemption policies. A 1995 study and the JPHC household survey in Salima District both show that while many people do not pay anything for treatment of acute disease episodes, there is also a minority who pay relatively high amounts at CHAM and private facilities. There is nearly equal willingness and ability to pay among different income groups, although the effect on the poor of making these payments is not yet known. The choice of providers is more strongly influenced by the distance to the nearest source of care, with health centres heavily utilised by nearby households and more distant households making relatively more use of MOHP district hospitals and self-treatment with market drugs.

3.9.3 Community Financing

Drug revolving funds (DRFs) have been tried with considerable success in Malawi, and are soon to be replicated on a nation scale with World Bank and other donor assistance. While

general DRF guidelines have been established, they can also be modified by local planning inputs from the village health committees and NGOs involved. A priority is to establish these DRFs in areas that are the most distant from existing health facilities in order to give these disadvantaged villages better access to minimal curative care. As the DRFs become established in Salima District, it will become more important to study the overall fee structure in the district, that is, the time and spatial relationships between villages, facilities, and the specific services for which fees are charged. Given the high degree of rural poverty in Malawi, it is not surprising that child malnutrition is also prevalent. Malnutrition is correlated with cash income, which in turn varies seasonally, and is also closely related to the amount of land a household cultivates.

Since the poverty data suggests that it will be necessary to offer a rather high percentage of exemptions to the population of the Central Region, it will be useful to establish some objective proxy for ability to pay, such as landholding status or distance from facilities.

3.10 HEALTH INFORMATION SYSTEM

3.10.1 Situation Analysis

The present status of the Health Information System can be described by one word: "stagnant". The problems observed in previous reviews still prevail: inadequate funding, an inadequate institutional framework, unclear mission and responsibilities, inappropriate design of data collection, and lack of material resources. Disillusionment with the system by management has led to a further lack of interest in the system and left the responsibility for revamping with the HIS unit. The weak linkage between the HIS unit and its parent body within MOHP, the Planning Section, further aggravates the situation.

1) Weak HIS structure and organisational capacity

- At the time of this assessment, the system was two years behind in publishing Basic Health Statistics, the basic report of compiled and analysed HIS generated data.
- Two professional staff who were seconded from the National Statistical Office manage the system.
- One of the professional staff has a background in demography, but neither have formal education or training in epidemiology.
- Lack of job descriptions for staff in the HIS unit has resulted in vague responsibilities and weak accountability.
- A revised HIS format was introduced in 1998 without training health facility staff on the proper completion of forms or data entry software.
- Data reported from health facilities are often incomplete.
- The central HIS unit is currently functioning as the data entry point and analytical unit.
- The last two Basic Health Statistics (1994 and 1995) only discuss the situation at the larger facility and administrative levels. The lowest analysis done is at the district level, which provides district managers with very little information to use for management at sub-district

level.

2) Isolation from health system management structure

- Non-availability of updated data and information on the health status of the country has reduced the reliance of the Ministry and regional/district health management teams on the Health Information System.
- Health managers including District Health Officers and program managers require further training in management skills. (Note: donors are already funding projects on health management capacity building in certain districts.)
- Linkages between HIS and disease control programs (except for EPI) are very weak.
- The current HIS is a facility based information system, which lacks a mechanism to obtain information at the community level.

3.10.2 Existing HIS Projects/Activities

Currently there are at least five independent projects or activities directly related to the Health Information System. These include (1) the Netherlands support programme to the Health Management Information System, (2) District Databank under the Local Governance and Development Management Programme, (3) Reproductive Health Information System, (4) Monitoring for Empowerment, and (5) Birth Registration.

3.10.3 Proposed Health Management Information System

The Ministry has proposed a Health Management Information System, which includes Health Information System (with information collection mechanism at the community level), Physical Facilities and Fixed Assets Information System, Financial Management Information System, Personnel Information System and Cancer Registry. Under the current decentralisation initiative by MOHP, the data analysis and utilisation points will shift down to the district level. The responsibility of the central unit would then shift to data analysis and management of the system, leaving data collection and entry to the districts.

The introduction of the proposed HMIS will be a huge organisational challenge for the Ministry. The overall mission of the system, its organisational structure, personnel, and job descriptions will all need to be revised, and a larger financial commitment will be required. The Planning Section will require additional support (personnel, finance and technical) to oversee the task.

Until the new HMIS materialises, the current HIS should focus on revitalising its current operations rather than expanding to new activities.