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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 3 SUMMARY

December 1999

ST. MARY'S HOSPITAL
GLOBAL LINK MANAGEMENT, Inc

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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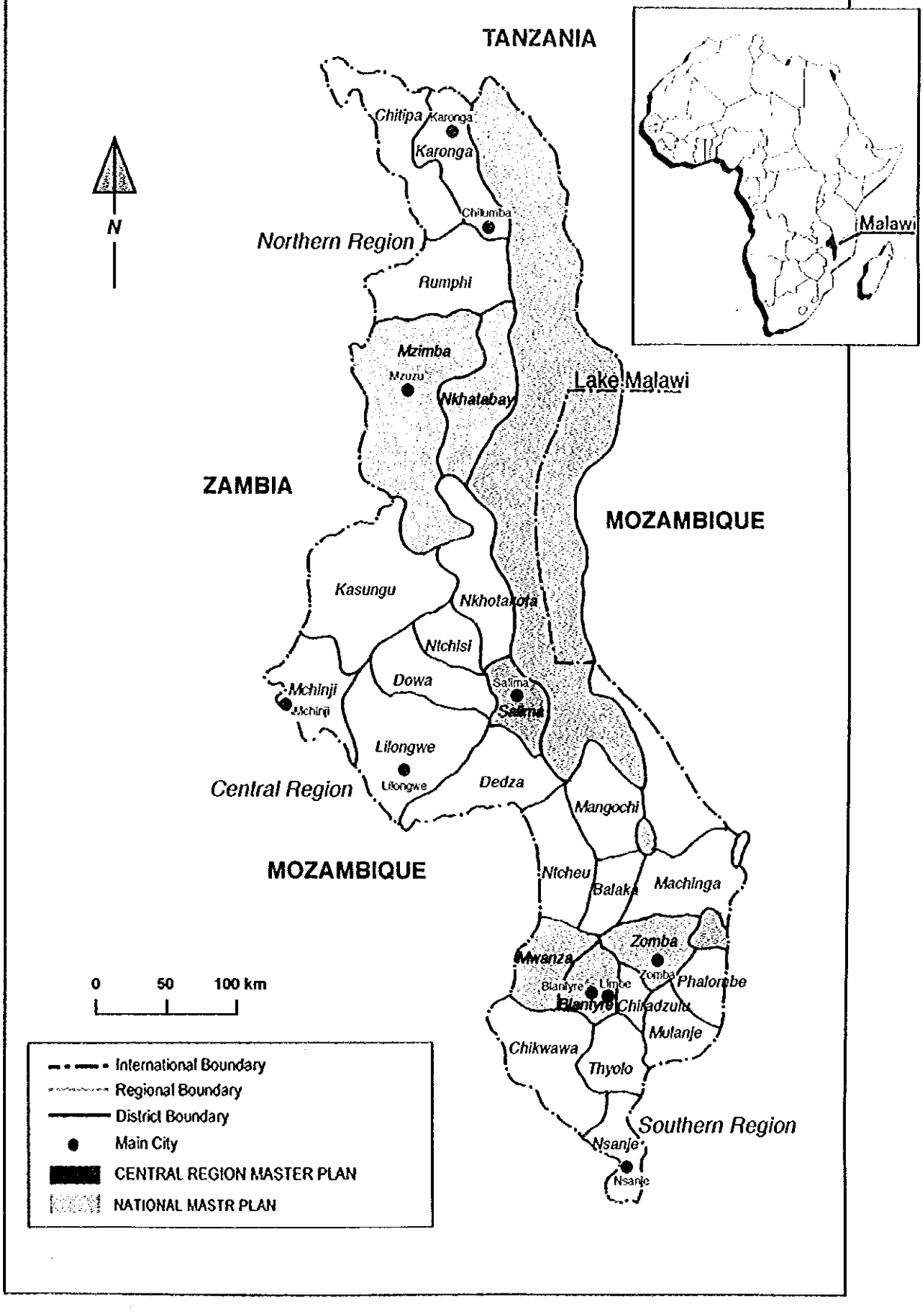
In this Report, project cost is estimated at August 1999 price and at an exchange rate of US$1.00 = 45 Malawi Kwacha (MK).

Malawi - Administrative Regions and Districts



PREFACE

In response to a request from the Government of the Republic of Malawi, the Government of Japan decided to conduct a master plan study on strengthening primary health care services in the Republic of Malawi and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team headed by Dr. Hiroyuki Nakano of St. Mary's Hospital and consisted of St. Mary's Hospital and Global Link Management, Inc. to Malawi, six times between June, 1998 and November, 1999. In addition, JICA set up an advisory committee headed by Dr. Takatoshi Kobayakawa, Professor of Tokyo Women's College of Medicine between June, 1998 and November, 1999, which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned of the Government of Malawi and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Malawi for their close cooperation extended to the Team.

December, 1999

Kimio Fujita
President
Japan International Cooperation Agency

December, 1999

Mr. Kimio Fujita
President
Japan International Cooperation Agency (JICA)

LETTER OF TRANSMITTAL

Dear Sir,

We have pleasure to submit you the final report entitled "The Master Plan Study on Strengthening Primary Health Care Services in the Republic of Malawi".

The main outputs from the Study are broadly grouped into two components. One is to develop the Regional Master Plan for the improvement of primary health care services in the central region of Malawi. The other is the formulation of the National Master Plan for the strengthening of primary health care system in the entire country for the target year 2007.

The report consists of the Summary Report, Main Report, Supporting Report and Data Book. The Summary Report summarizes the results of all the studies. The Main Report contains the results of study and the Master Plan including prioritized projects. The Supporting Report includes details of investigations and the Data Book contains the data gained by analyses in the field study.

All members of the Study Team wish to express grateful acknowledgment to the personnel of your Agency, Ministry of Foreign Affairs, Ministry of Health and Welfare and Embassy of Japan in Zambia for all assistance extended to the Study Team. The Study Team sincerely hopes that the results of the study will contribute to the future health project in particular and to socioeconomic development of Malawi.

Sincerely,

H. Nakano

Dr. Hiroyuki Nakano
Team Leader

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EXECUTIVE SUMMARY

INTRODUCTION

The Master Plan Study on Strengthening Primary Health Care Services in the Republic of Malawi was carried out between June 1998 and October 1999 in response to a request by the Government of Malawi. The JICA study team worked closely with Ministry of Health and Population (MOHP) counterparts in Malawi to conduct research, analyse the salient issues, and develop the master plans including detailed project proposals.

The JICA PHC Study was divided into two cycles. In the first cycle, research was carried out in Salima District in the Central Region and findings were considered in the context of the national health situation (indicators, financing, service provision, etc.). The resulting report became the Central Region Master Plan (FR Volume 2) which includes outlines for five prioritised projects.

The second cycle of the study was carried out in the Northern Region districts of Mzimba and Nkhata Bay and the Southern Region districts of Zomba, Blantyre and Mwanza. The first cycle study findings and framework provided the foundation from which the second cycle study was launched. Again, research findings were analysed in a series of workshops taking into consideration the core health issues, current health sector policies and plans, and socioeconomic trends in the country. The second cycle of the study culminated in three parallel master plans of operations that focus on 1) reducing childhood malnutrition, 2) reducing maternal mortality, and 3) improving the role of drug sellers in community-based health care. Six detailed project proposals are included in the national master plan.

COUNTRY OVERVIEW

Malawi is a small, landlocked country in Southeastern Africa that achieved independence in 1964. It is host to Lake Malawi, which occupies a large part of the land. Malawi is located in the southern hemisphere and has a tropical climate, but temperatures and rainfall vary widely according to altitude and seasons. There are significant differences between the north and south of the country in terms of geography, demographic trends, socio-cultural characteristics, the economy, and infrastructure.

Malawi is one of the most densely populated countries in Africa with a total population of about 10.9 million or approximately 200 persons per square kilometre of arable land. About 85 percent of the population live in the rural areas and nearly half are children under 15 years of age. The standard of living is low, with an estimated annual per capita income of less than US$200. More than 60 percent of the population live below the poverty line. Agriculture is the backbone of the economy, accounting for the majority of exports and employing 80 percent of the population.

Literacy rates are currently estimated at 48 percent for females and 69 percent for males. Free primary education (8 years) is provided, but is not compulsory. Education achievement is low due to overcrowded classrooms, scarce resources, and a high dropout rate. Just over 10 percent of students make it to secondary school.

Malawi is culturally diverse and has close to 20 tribes each with its own unique culture and language. However, most people conform to the Bantu culture of East, Central and Southern Africa that is characterised by belief in ancestral powers and spirits and total respect for elders. Traditional beliefs are still strong and provide widely accepted explanations for most life events in the

community including sickness and death. Both patriarchal and matriarchal family systems exist. Islam and Christianity are the dominant religions.

HEALTH SITUATION

The health situation in Malawi is generally poor. Life expectancy is low at just 44 years, while the fertility rate is high at 6.7 births per woman. Infant and maternal mortality are both high, even in relation to other least developed countries. HIV/AIDS, malaria, malnutrition, and poor access to safe drinking water and sanitation all contribute to poor health indicators.

Although Malawi has a well developed network of health facilities, they are under-resourced in terms of both staff and equipment and supplies. Many people also have difficulty reaching health centres due to limited transport and the time and expense involved.

OUTLINE OF THE JICA PHC STUDY

The Study covers the following:

Central District Master Plan

- Profile of the study area and national overview
- Health care delivery services: supply and demand, referral system, human resources, health financing, health information system, logistics of drugs and supplies, and health facilities and equipment
- Donor activities
- District health policy, organisation and management
- Health status, disease pattern and treatment
- Water and sanitation
- Medical anthropology
- Community, gender and participation
- Problems analyses of 1) malnutrition in children under five and 2) high maternal mortality
- Possible interventions
- Prioritised projects (5)

National Master Plan

- General situation analysis: geography, climate, land use, demography, socio-cultural characteristics, politics and government, the economy, agriculture, transport, and education
- Health situation analysis: delivery structure, providers, administration, status of children's health, status of women's health, general trend for selected diseases, health sector policy and strategic direction
- Summary of study findings: childhood malnutrition, maternal mortality and morbidity, and self-medication using drugs from groceries
- Planning framework: national health plan, PHC activities, Bakili Muluzi Health Initiative, goals
- Master plan of operations for 1) reducing childhood malnutrition, 2) reducing maternal mortality, and 3) improving the role of informal drug sellers in community-based health care (see further details below)
- Pilot study on the referral system
- Proposals of prioritised projects (6)

FINDINGS AND PROBLEMS IDENTIFICATION

Although the study explored a wide range of issues, the focus from the outset was on investigating possible ways to strengthen PHC with an emphasis on the target populations of children under five and women of childbearing age.

The high infant and under five mortality rates are a result of many complex factors. The study confirmed that the nutritional status of Malawian children is very poor with more than half suffering from undernutrition. The main causes of malnutrition include improper introduction of weaning foods, poor quality of meals, and insufficient quantity of food. The high morbidity of childhood diseases is caused by poor nutrition, insufficient childcare, poor hygiene, poor housing and low immunisation coverage.

Factors contributing to the high maternal mortality rate are closely related to those discussed above. The high incidence of obstetric complications is caused by the high prevalence of anaemia and poor nutritional status among pregnant women, women's poor physical growth and pregnancy at young and advanced ages, and deliveries in unhygienic places. High MMR is also a result of inadequate treatment of maternal complications, which highlights the many shortcomings of the current health services system including inability to detect high risk cases, nonfunctioning emergency referral system, and poor postnatal care.

FOCUS OF THE CENTRAL REGION MASTER PLAN

- Strengthening the management of the health care system
- Human resources development
- Improving access to health services
- Project development
- Promotion of community-based activities

The following are the titles of the prioritised projects proposed for the Central Region:
1) Capacity Building for Health Services Planning
2) An Integrated Approach to Improve Childhood Nutrition and Health
3) Comprehensive Maternal Care
4) Improvement of Physical Health Care Facilities and Equipment
5) Improvement of Curative Care through Better Self-Treatment with Market Drugs

FOCUS OF THE NATIONAL MASTER PLANS

Master plan of operations for reducing childhood malnutrition

Overall goal: reduction in the prevalence of malnutrition among children under five years old from 50 to 25 percent by 2004.
Objectives:
1) More children prevented from developing or having a relapse of malnutrition through the Growth Monitoring Programme (GMP)
2) Increased ability by communities to secure sufficient and appropriate food for all children under five
3) Common childhood illness effectively managed at PHC facilities as well as in the communities

Master plan of operations for reducing maternal mortality

Overall goal: reduction in maternal mortality by 50 percent by the year 2004.
Objectives:
1) Increased access to improved ANC and obstetrics care
2) Greater utilisation of improved ANC and obstetrics care
3) Enhanced benefits of improved ANC and obstetrics care
4) Improved behaviour in society towards safe motherhood through better recognition and awareness by communities and policymakers.

Master plan of operations for improving the role of informal drug sellers in community-based health care

Overall goal: reduction in child mortality and morbidity from key diseases
Objectives:
1) Rural shopkeepers playing a more active role as primary health care providers by selling appropriate drugs and giving sound advice to mothers and other clients.
2) Communities empowered by being provided with information about correct self-medication for child illnesses with legal over-the-counter drugs, and identification and referral of serious cases

EXAMINATION OF THE ISSUES ADDRESSED

Childhood malnutrition
- Insufficient performance of current Growth Monitoring Programme (GMP)
- Frequent relapse of malnutrition in children once discharged from the Nutrition Rehabilitation Unit (NRU)
- Insufficient and improper food intake
- Frequent infections

Maternal mortality
- Complications associated with pregnancy are prevalent
- Complications during pregnancy are not controlled
- Many pregnant women do not receive essential obstetrics care (EOC) at a health facility
- Many women with complications do not receive proper emergency obstetrics care

Inappropriate drug usage
- Limited access to basic drugs
- Limited knowledge regarding proper treatment of common illnesses

MEASURES TO ADDRESS ISSUES

Childhood malnutrition
- Strengthening community-based GMP
- Operating community gardens
- Controlling relapse of malnutrition
- Improving food storage and preservation
- Controlling diarrhoea and worm infestation
- Controlling EPI (expanded programme on immunisation) diseases

- Expanding IMCI (integrated management of childhood illnesses)

Maternal mortality

- Developing the skills of health workers
- Implementing effective ANC
- Increasing physical access to EOC including emergency care
- Improving the obstetric referral system
- Improving basic infrastructure including communication systems
- Improving Information, Education and Communication (IEC) on maternal health
- Advocacy for maternal health
- Promoting research to broaden knowledge base on situation of maternal mortality and morbidity

Inappropriate drug usage

- Public education through mass media
- Shopkeeper training

PROPOSED PROJECTS UNDER THE NATIONAL MASTER PLAN (IN ORDER OF PRIORITY)

Project 1: Improvement of health facilities for provision of essential obstetrics care

The project involves equipping health facilities with a standardised radio system, reliable water supply, electrical power system, autoclaves/sterilisers and solar hot water system. Maintenance and repair skills will also be improved.

Project 2: Comprehensive maternal health

The project includes human resource development, improving the obstetrics referral system and health information system, IEC and advocacy.

Project 3: Promoting community-based management of childhood illnesses (CBMCI)

The project focuses on IEC and strengthening linkages.

Project 4: Improving the role of drug sellers in primary health care

The project plans to educate shopkeepers and the general public with the aims of reducing the risk of accelerated resistance to antibiotics and reducing the illegal sales of antibiotics and other drugs not authorized for general sale.

Project 5: Integrated maternal and child health care

The project focus in on enhanced community participation. Human resource development and improvements to the referral system are also included.

Project 6: Community-based nutrition management project (CONMAP)

The project aims to strengthen GMP, establish community gardens, and support nutrition education at all levels from community to central level officials.

EVALUATION AND OPERATIONAL PLANS

The master plans attempt to strengthen existing resources in the country and complement the National Health Plan. Research was conducted to further analyse the core health issues, and

determine appropriate interventions. Very broadly, the operational plans include:

- Promoting community participation (prevention, diagnosis and treatment)
- Human resource development
- Improving facilities, equipment and supplies
- Strengthening existing health services (management, referral system, emergency care, HIS)

CONCLUSION AND RECOMMENDATIONS

The Malawi health sector requires substantial outside resources in order to meet the needs and improve the health status of the population. Each of the prioritised projects proposed is critical in addressing the full range of issues needing attention. But it is also important that all donor-funded projects are implemented within the existing capacity of MOHP so that a sustainable health system is developed. Careful planning is required for resources to be used most effectively and efficiently. At present, there are limitations to the human, financial and organisational resources available. Therefore, it is recommended that projects be phased allowing the greatest opportunity for capacity building within the country.

PART I

CENTRAL REGION MASTER PLAN

PART I CENTRAL REGION MASTER PLAN

INTRODUCTION

Based on an agreement between the Government of Malawi and the Government of Japan, a Development Study (JICA PHC Study) to improve the health service delivery system was started in early June 1998 and completed in October 1999, a total duration of 17 months. The scope of the Study was to investigate possible ways to strengthen PHC with an emphasis on the target populations of children under five and women of childbearing age.

The first cycle of the Study took place in Malawi from June 13, 1998, to October 4, 1998, from a base camp in Salima District in the Central Region, and was followed by work in Japan to formulate the regional master plan. Volume 1 presented here includes a discussion of the major findings of the first cycle study, and how they provided direction for the second cycle of the Study.

STUDY FOCUS AND STRATEGIES DURING THE FIRST CYCLE

The design of the Study was based on the understanding that an effective district health system comprises the following three components: clients (demand side), service providers (supply side) and the institutional framework that links the first two. All three components are influenced by socio-economic conditions, culture, customs and the natural environment of the respective area, and are interrelated in a complex manner. An effective district health system can be attained by balancing supply and demand and strengthening the institutional framework. The Study focused on the following five aspects of PHC to understand the present situation of the district health system and to formulate strategies that would improve PHC overall:

- Referral System
- Human Resources
- Financial Resources
- Health Management Information System
- Community Involvement

MAJOR FINDINGS

Malawi faces daunting challenges in meeting the health care needs of its growing population. The health system in the country largely relies on government and donors for its financing.

Donor support is mainly channelled through various projects, which are often difficult for MOHP to properly manage due to limited capacity.

Eighty percent of the population of the Central Region reside within eight kilometres of the nearest health care facility. Despite the relatively high physical access and high utilisation of health facilities in comparison to other sub-Saharan African countries, the health indicators in the country are among the worst. A better indicator of access is that to effective health services, which in Malawi is quite low as facilities are under-resourced: they lack trained human resources, essential equipment and supplies, and operational funds.

The nutritional status of children in the study area as well as in the whole of Malawi is one of the worst among sub-Saharan African countries. Prevailing gross undernutrition combined with deficiencies of some micronutrients seems to be the primary factor precipitating vulnerability to various infectious diseases.

For every 100,000 live births in Malawi, 620 women die in the delivery process. Although the use of antenatal care among pregnant women is indeed very high, this supposed preventive activity has not resulted in a reduction of MMR. Two possible reasons for this discrepancy were explored: one is the low prevalence of facility deliveries and the other is the quality of care provided to save the lives of women at risk.

The significant role of informal drug sellers including groceries in providing health care to the public has been largely neglected in the past, despite studies that show that a large proportion of the population goes to drug sellers first for medication. The household surveys and exit interviews carried out for the Study confirmed this trend.

PROBLEMS ANALYSIS

The above findings were then analysed in relation to two critical health issues in Malawi: the high prevalence of childhood malnutrition and maternal mortality. These two problems were selected because they contribute most heavily to the poor health status of the target populations for the Study: children under five and women of childbearing age. The problems analysis revealed that both problems were a manifestation of complex and interrelated factors ranging from socio-cultural issues to the weak management of the health system in the country. Both problems are also the products of underlying factors such as poverty, low education status, (women in particular), ineffective health delivery system, lack of availability of essential drugs, and limited skills of health workers.

FORMULATION OF THE REGIONAL MASTER PLAN

The overall goal of the regional master plan is to strengthen PHC activities in order to improve the health condition of people residing in the Central Region of Malawi through an effective and sustainable mobilisation of available resources targeted to health care. Following the problems analysis and taking the Strategic Health Plan (circulated draft of *To*

the Year 2020: A Vision for the Health Sector in Malawi) into consideration, a number of possible interventions to improve heath status (with a focus on reduction of maternal mortality and improvement of childhood nutrition and health) were discussed. It was decided that efforts should focus on improving the health management system, human resource development, improving access to health services and strengthening community-based activities.

PRIORITISED PROJECTS

As both high maternal mortality and widespread undernutrition in children are a manifestation of a complex mixture of factors, interventions that focus on single factors will have little impact. Rather, comprehensive and integrated projects addressing the full range of problems are necessary. The following projects were formulated following the first cycle study and analysis; however, discussions revealed that further study will be necessary before solid proposals can be developed.

Project 1: Capacity Building for Health Services Planning

Project 1 addresses the need for improved health services planning at national, district and local levels. The principle objective of the project is to strengthen the planning capacity of MOHP staff by equipping them with the necessary skills and knowledge to conduct a situation analysis and to complete a health system services network development plan.

Project 2: An Integrated Approach to Improve Childhood Nutrition and Health

The project focuses on the main issue of malnutrition, but also covers many other problem areas including immunisation, water supply and sanitation, and the referral system. The main objectives of the project are: 1) improved children's diet at the household level, 2) improved detection and follow-up system for undernourished children at the community level, 3) improved diagnosis, management and prevention of childhood diseases at the community level, and 4) improved management of childhood diseases at health centres.

Project 3: Comprehensive Maternal Care

In order to contribute to the reduction of maternal mortality the project aims to improve the quality of antenatal care and the nutritional status of pregnant women, and to strengthen the emergency obstetrics care system. Health workers and TBAs will be re-trained to provide more effective ANC. Selected health centres will be upgraded to provide emergency obstetrics care and laboratory services to detect anaemia, malaria and STDs.

Project 4: Improvement of Physical Health Care Facilities and Equipment

Many health facilities lack basic infrastructure such as a safe water supply, electricity, and communications equipment, all necessary foundations for providing quality health care. The project aims to improve the basic infrastructure of health centres and to establish a functional health service network among the health facilities of the Central Region by providing necessary equipment along with routine maintenance and repairs.

Project 5: Improvement of Curative Care through Better Self-Treatment with Market Drugs

The main objective of the project is to increase the extent of appropriate self-treatment with readily available medicines from groceries. Customers of drug sellers will be better informed about appropriate drug selection and usage, and will change their drug purchasing and usage patterns accordingly. The grocery owners will be trained to correctly advise customers about treatment options for childhood fever, cough, and diarrhoea.

FROM THE FIRST CYCLE TO THE SECOND CYCLE

The first cycle Study attempted to cover as broad a range of health problems as possible in order to understand the current health status in Malawi as thoroughly as possible by carrying out general health surveys in a limited area. After the problems analysis based on the findings from the first cycle of the Study it was agreed that the second cycle Study aimed at the formulation of a National Master Plan should be directed to the same major health issues found in the first cycle Study: childhood malnutrition, maternal health and drug seller issues.

PART II

NATIONAL MASTER PLAN

PART II NATIONAL MASTER PLAN

CHAPTER 1: INTRODUCTION

The JICA PHC Study was divided into two cycles. The first cycle was the formulation of the Central Region Master Plan for strengthening primary health care (PHC) activities based on the study in the Central Region. An outline of the results is presented in the Final Report, Volume 2: Central Region Master Plan. In the second cycle, further health surveys were conducted in the Northern and Southern Regions, and then the National Master Plan was developed based on the results of both the first and second cycles. The Final Report, Volume 1: Main Report, presents the current health situation analysis, a summary of study findings, proposed prioritised projects, as well as the national master plan for the improvement of PHC services in Malawi.

Three major health issues—childhood malnutrition, high maternal mortality and the informal selling of drugs—were identified from the health surveys conducted in the first cycle. The five prioritised projects proposed for the Central Region were formulated based on these three core health issues. Although the proposed projects are basically geared towards the overall improvement of PHC in the country, further research and analysis was believed to be useful to complete the study. As a result, the focus on the second cycle was placed on the same health issues identified in the first cycle.

1.1 SELECTION OF THE CORE HEALTH ISSUES

1.1.1 Necessity to Select Core Health Issues

The scope of work for the current development study was broadly stated as strengthening PHC activities in Malawi. However, because of the variety of health services involved in PHC and in order to plan effective projects, the study had to be narrowed down to specific target populations, diseases and health issues.

1.1.2 Direction

The following factors gave further direction to the study:

1) The significant gap between the current situation of the health services delivery system and the actual health needs from the demand side
2) The recognition by the Government of Malawi that a sector wide and integrated approach was needed
3) The fact that PHC has many components such as water and sanitation, EPI and human resources development further supported the need for a comprehensive approach.

1.1.3 Grounds for the Selection of the Core Health Issues

The following circumstances supported the selection of the major health issues:

1) The JICA PHC study targets the most vulnerable populations, namely, under five children and pregnant women. The main health issues for U5 children are malnutrition and infectious diseases, and that of pregnant women is high maternal mortality.
2) Current health statistics show a gap between the relatively favourable situation of health provision and yet poor health indicators. U5 mortality and maternal death are major contributors to this gap.
3) Based on the first cycle study, it became clear that childhood malnutrition is undoubtedly one of the most serious health problems in Malawi.
4) The first cycle study also showed that the referral system plays a key role in the health services delivery system, and particularly impacts maternal health.
5) The common practice of many villagers of purchasing drugs from informal sellers who lack medical training was thought to be significant, and therefore an avenue through which improvement to PHC could be made.

1.2 FROM THE FIRST CYCLE TO THE SECOND CYCLE

1.2.1 Evaluation of the Issues and Proposed Projects

Based on the results of the first cycle study, five prioritised projects were proposed along the framework of the regional master plan. The situation analysis of the Malawi health sector and the proposed regional master plan were basically accepted at the meeting on the interim report with the MOHP, but further investigations and refinement of the proposed prioritised projects were recommended.

JICA and MOHP agreed that the second cycle activities aimed at the formulation of a national master plan should focus on the same major health issues selected during the first cycle study. The second cycle study therefore focused on maternal health in the Northern Region and childhood malnutrition in the Southern Region, and possible solutions conceived from the study results were then incorporated into the national master plan. This process in essence meant that the first and second cycles were not separate, but rather a series of study activities.

1.2.2 Flow of Work

The flow of work for the JICA PHC study as a whole was divided into three phases. Phase 1 is the period of the first cycle study conducted mainly in Salima District. This field study was broad and comprehensive, covering as many health issues as possible. In phase 2, the major prioritised issues resulting from phase 1 were targeted. In-depth studies for phase 2 were conducted in five selected districts in the northern and southern regions with a focus on childhood malnutrition, maternal health and drug-sellers issues. Phase 3 was the formulation of a national master plan including prioritised projects based on the second cycle study.

CHAPTER 2: SCOPE OF THE STUDY

2.1 BACKGROUND

Although the Government of Malawi has made efforts to improve the health situation through the third National Health Plan 1986-1995, the morbidity and mortality rates are still very high. Because progress has been slow, MOHP has developed a new national health plan to strengthen health care services with a focus on community-based 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.

It was in this setting that the government of Malawi requested Japan to conduct a development study in April 1996. In response to the request, the Government of Japan sent a preparatory mission in January 1998 to initiate a study on improving 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 childbearing age.

2.2 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.

2.3 STUDY AREAS

According to the scope of work, Salima District in the Central Region was selected as the base camp for the first cycle. Similarly, Mzimba and Zomba districts in the Northern and

Southern Regions respectively were set up as base camps for the second cycle with the intention of focusing study activities on those two districts. However, in a meeting with MOHP at the end of the first cycle, it was suggested that the study area be expanded to include more than one district in each region.

Therefore, in the second cycle, Nkhata Bay District in the north and Blantyre and Mwanza Districts in the south were included in the study areas in addition to Mzimba and Zomba Districts. These districts were selected on the basis that they are representative of the food and economic situation in each region, and also considering factors such as access and other donors' activities.

2.4 IMPLEMENTING ORGANISATION

The Ministry of Health and Population acted as the counterpart body to the JICA PHC study team. A steering committee on the Malawian side was organised in June 1998, consisting of representatives from MOHP and other related organisations. A total of seven counterparts were enlisted to support data collection, field activities and interviews throughout the study.

The JICA PHC study team consisted of 10 members from various fields and was headed by a team leader who was responsible for maintaining close liaison with MOHP, JICA and the other agencies concerned. An advisory committee on the Japanese side supervised the work throughout the study.

2.5 STUDY DESIGN

2.5.1 Study Focus

As mentioned previously, the second cycle study focused on the two core health issues of childhood malnutrition and high maternal mortality and the other important issue of selling drugs through village groceries. The national master plan including prioritised projects was developed following a thorough analysis of these issues. For the second cycle study, maternal health was given emphasis in the Northern Region and childhood malnutrition in the Southern Region. One of the reasons behind this focus is the fact that the malnutrition "index" is generally higher in the south than in the north, and particularly outstanding in Zomba and Mwanza Districts. Moreover, it was important to avoid duplicating a similar study in the Southern Region where the Safe Motherhood Programme has energetically conducted a maternal health project supported by DFID.

2.5.2 Study Methodologies

The study methodologies adopted in the second cycle were basically the same as the ones used in the first cycle. Household surveys, client exit interviews at health facilities, in-depth interviews with health staff, and observation of PHC project activities were all completed for the supply side of health services, while qualitative research such as focus group discussions and key informant interviews were conducted for the demand side of health services. In addition, a new methodology was employed, that is, the simulated patient survey for the study on shopkeepers who sell drugs.

2.6 STUDY SCHEDULE AND ACTIVITIES

2.6.1 Timing of the Study

The second cycle study was carried out for two months, from January 15 to March 25, 1999. After completing the study, a meeting was held with MOHP on the preliminary report of activities in the second cycle, and at the same time implementation plans for the next fiscal year were discussed.

2.6.2 Workshop on the Second Cycle Study

On January 29 and 30, 1999, a workshop for MOHP staff and the health management teams in the study districts was held. In the workshop, implementation plans for the health study were discussed and it was proposed that the study be conducted in co-operation with district counterparts. The health management teams decided on sampling sites for the household surveys following the guidelines regarding sampling methods proposed by the JICA PHC study team.

2.6.3 Implementation of the Second Cycle Study

Following the workshop, the second cycle study was initiated. Detailed arrangements were made with research assistants for most of the scheduled studies, and comprehensive training and trial tests were conducted to ensure the smooth implementation of the study. Qualitative research started on February 1, and household surveys were carried out from February 12. The final study was observing the nutrition project in Dedza District, and all of the scheduled studies were completed by March 19.

2.6.4 Meeting on the Preliminary Report on the Second Cycle Study

On March 18, a meeting was held at MOHP on the course of the second cycle study and preliminary results. It was agreed that a national master plan for strengthening PHC should be formulated based on the results of the study and through discussions with counterparts.

2.6.5 Study Plan for Fiscal Year 1999

The major decision regarding study activities for the new fiscal year from April 1999 was to develop a national master plan including prioritised projects, which were compiled into progress report (2). The third period of activity in Malawi for the JICA PHC study was three months between June 23 and September 20, 1999. During this time, progress report (2) was discussed, the workshops for developing projects were held, and the proposed projects were compiled into progress report (3). A pilot study was also conducted focusing on maternal health in terms of the emergency referral system using radio communication equipment with GIS and epidemiological methodology.

2.6.6 Meeting on Progress Report (2)

Progress report (2) in which the study results of the second cycle and the formulation of the national master plan for strengthening PHC services are major components was submitted to MOHP on June 30, 1999. A meeting on progress report (2) was then held on July 7 with 26 participants. In this meeting, the process for formulating a master plan was first introduced, and the second cycle study results were discussed along the lines of the major issues of childhood malnutrition, maternal health and drug sellers. After receiving acceptance on the framework of the master plan at the meeting, it was agreed to develop prioritised projects following further discussions with counterparts and related experts based on the concept of the master plan.

2.6.7 Group Meeting for Development of Prioritised Projects

The development of the prioritised projects was one of the most important aspects of the JICA PHC study as the projects form the major component of the national master plan. Therefore, it was considered essential to formulate the projects in collaboration with Malawian counterparts as well as related people from other organisations concerned with the targeted health problems. To this end, group meetings on the two major health issues were planned and held from July 19 to 23 at Club Makokola in Mangochi District. The group meeting on drug sellers took place on July 23 at PMPB in Lilongwe with nine participants.

2.6.8 Additional Studies for the Second Cycle

For the maternal health group, two additional studies for the second cycle were conducted in Mzimba District from July 15 to 30. The objective of the first study was to check the functional status and problems of basic infrastructure such as water supply, electricity and radio communication system in the health facilities. The second study was carried out to estimate the rate of deliveries in district hospitals and health centres in relation to accessibility of health facilities. In addition, a pilot study was conducted regarding the emergency referral system.

2.6.9 Formulation of the National Master Plan

The prioritised projects developed through discussion at the group meetings were compiled into progress report (3), and they were further considered at a meeting with MOHP. Based on the results of these discussions, the final national master plan was further elaborated and compiled into the draft final report. Finally, after review and comments from the Malawian side, the final report was revised and completed.

CHAPTER 3: HEALTH SITUATION ANALYSIS

The Malawi health system has been continuously changing since the nation was founded more than thirty-five years ago, in response to changes in culture, politics and economics. Medical knowledge also continues to develop, and new health issues emerge, bringing changes to international health goals and themes. All such changes have had a great influence on Malawi's health sector policies. In the sixties, the focus was on promotion of hospital care. In the late seventies there was a shift to Primary Health Care, and in the nineties, health sector reforms have received attention.

This report presents some information on the cultural, social, political and economic circumstances in Malawi that might indirectly contribute to the poor health indicators. It concludes with a concise description of the Malawi health sector and health status of the population.

Section 1 provides an overview of the geography and climate of Malawi.

Section 2 describes land use and ownership in the country, highlighting the extent to which people depend on the land for their livelihood. More detailed information on land use is provided in Section 7 along with details on the agricultural sector.

Sections 3 and 4 are devoted to the country's demographic trends, origin of the people, social settings and religion. These two sections provide a basis for understanding population pressures in different parts of the country and future population growth prospects. The socio-cultural beliefs that bind the Malawi people and hold great influence over daily lives are explored in section 4.

Section 5 covers politics and government. The political and government organisational structures are shown in order to illustrate the relationship between the health sector, government and national leaders. The party system is also described along with the three pillars of government (executive, judiciary and legislature) and their share of power. The changes that will come about with the recent move towards decentralisation of authority from the central to the local level are detailed, as well as the links between the modern and traditional administration systems.

Section 6 presents an overview of the economy, and includes information on government expenditures and donor contributions to the health sector. The section includes several

graphs and is quite lengthy in the attempt to show the various economic forces affecting Malawi since its independence in 1964. Future growth prospects are presented in the attempt to predict what resources are likely to be available for the health sector.

Section 7 describes the status of the agricultural sector in Malawi. It logically follows the section on economy since agriculture is Malawi's main economic earner. This account focuses on the set-up of the sector especially the differences between smallholder and estate agriculture. It also touches on the future of tobacco as the main foreign currency earner and current government agricultural development programmes/policies.

Section 8 is a brief summary of the transport sector. Transport was considered relevant to the health sector because of how it impacts the agricultural economy and because the shortage of reliable transport infrastructure is a main obstacle to creating an effective patient referral system. The high morbidity and mortality rates are somewhat attributed to the difficulties in transferring emergency cases.

Section 9 presents some statistics on the living environment including housing type and access to water and sanitation. This backdrop largely explains the high prevalence of diarrhoea, tuberculosis, and other transmittable diseases.

Section 10 covers education, including the formal system, literacy levels, and accessibility for various social groups at primary, secondary and tertiary education levels. Contributing factors to the poor educational status are mentioned.

The last part of the report, **sections 11 to 18,** discuss the health sector in particular including delivery structure, administration, women's and children's health status, disease patterns, and health policy.

Section 11,12,13 are an overview of the health services delivery structure and the main players in service provision. The relationship between the various levels of health care delivery, including the referral system, are explained. This is followed by a brief presentation on the current composition of health personnel and facilities where health services are provided. Finally, the health administration structure is spelled out with a brief reference to the Local Government decentralisation initiative, which should aid in understanding the likely change in relationships among various health stakeholders at the different levels.

Section 14,15,16 are focused on children's and women's health status and the general trend of diseases in the country. The first two parts highlight how risky it is to be a child or an expectant mother in Malawi and the many factors that underlie the high morbidity and mortality rates in the two social groups. Further emphasis is put on the service utilisation level, projected orphanage mainly due to HIV/AIDS, and community health initiatives for the provision of maternal health services. In the final paragraphs describing the situation surrounding women and children, a brief synopsis of the strategies proposed in the fourth National Health Plan are mentioned. Part 6 discusses the general trend of selected health problems—those which currently cause most of the morbidity and mortality among all age

groups. A brief epidemiological profile of each of the chosen conditions including current control strategies and activities is included.

Section 17 provides an overview of the health sector reform strategies that have been planned along the framework of the 4th National Health Plan for implementation in the coming five years. A brief mention is made of what will be done in each reform area. Understanding the health sector reforms is key to knowing the future orientation of the Malawi health sector.

Section 18 is a brief recap of the issues covered in the previous sections on health which present the major challenges to the health sector.

CHAPTER 4: SUMMARY OF STUDY FINDINGS

4.1 CHILDHOOD MALNUTRITION

4.1.1 Situation of Infant Mortality and Under Five Mortality

In Malawi, IMR and U5MR are extremely high: 134 and 234 per 1000 live births respectively in 1992—among the highest in the world. The government plans to improve the situation, with the aim to reduce them to 100 and 150 respectively by the year 2004. The direct causes of child deaths are diverse, but infectious diseases are predominant.

4.1.2 Findings on Mortality and Morbidity in the First Cycle Study

The top five common diseases at the paediatric ward were malaria, malaria with anaemia, pneumonia, malnutrition and trauma, in that order. These are also the main causes of in-hospital mortality for children. The most common diseases among U5 outpatients were malaria, lower respiratory tract infection including pneumonia, upper respiratory tract infection, and diarrhoea.

4.1.3 Nutrition and High Childhood Mortality

Good nutrition is key to maintaining good health. WHO remarks that more than half of the child deaths in the developing world are related to undernutrition. The high prevalence of undernutrition in Malawi probably has the most influence on frequent child deaths than any other single disease such as malaria, anaemia, or ARI. Therefore, it is doubtful to reduce mortality rates until there is a dramatic improvement in nutritional status.

In order to control childhood malnutrition, a clinic-based and community-based growth monitoring programme (GMP) was started. WFP provided food assistance to malnourished children through the GMP channel for more than 25 years. The food support to GMP had little impact on the prevalence of malnutrition, and WFP stopped the aid in October 1998. This change has created a big challenge to MOHP to continue running GMP, because the food support provided was an important incentive for participation.

4.1.4 Focus of the Childhood Nutrition Study

In the village where an anthropometric survey was conducted in the first cycle, more than half of the children under five were stunted, one in four were underweight, and the coverage by GMP was less than half. In the second cycle, the extent of undernutrition during pre-harvest period was examined on a much larger scale and the precipitating factors for undernutrition were investigated. The focus of the study was placed on prevention and management of mild to moderate cases through PHC channels.

4.1.5 Objectives of the Childhood Nutrition Study

The objectives of the childhood nutrition study were to investigate childhood nutrition in the pre-harvest period, food consumption of children and the type of foods available in the local markets. Also, the study attempted to explore possible further activities of active GMPs and self-help nutritional programmes.

4.1.6 Methodologies Employed in the Second Cycle

Quantitative research: Anthropometry of children under five, household survey and market food availability survey

Qualitative research: Observation of childhood nutrition projects, in-depth key informant interviews with the people implementing the nutrition projects, and FGDs with villagers

4.1.7 Summary of Findings

Results of anthropometry: The survey in the Northern Region revealed the prevalence of undernutrition as follows: 39.0 percent of the studied population was underweight for age, 64.2 percent was stunted, and 5.7 percent was wasted. The results of the survey in the Southern Region are as follows: 44.9 percent was underweight, 64.2 percent was stunted and 14.6 percent was wasted. Wasting and underweight were much more common in the Southern Region than in the Northern Region at the time of the study (during the rainy season).

Importance of breast feeding: The survey in the Southern Region showed that the late introduction of complementary foods has helped protect against becoming underweight, stunted or wasted. Prolonged breast feeding for more than 24 months remarkably protects against wasting and becoming underweight. Pregnancy or birth of the next child after is a major reason for the short duration of breastfeeding.

Food intake: Both the frequency and variety of food fed to the studied children is very limited.

Effect of recurrent episodes of infectious diseases: Recurrent diarrhoeal or febrile episodes are strongly correlated with childhood undernutrition. Therefore, prevention and proper management of infectious diseases is also essential to reduce the undernourished population.

People's understanding on causes of childhood malnutrition: The causes of childhood malnutrition are complex, including both immediate and underlying causes. What the villagers suggested as the causes of childhood malnutrition during FGDs in the study is probably fairly accurate.

Community leaders' interest and prioritisation: Some village leaders referred to "hunger" or "food shortages" as either the biggest or the second biggest concern in their community.

Family planning: Many villagers realise that family planning is important to sustain the nutritional status of their children. The problem is that many husbands won't allow their wives to practice family planning. This situation implies that men need to be targeted in both nutrition and family planning programmes, and that it will be difficult to improve childhood malnutrition without improving women's status in the family.

Women's responsibility: Both male and female FGD participants stated that women are fully responsible for childcare. Men are conspicuously absent from the childcare role. Therefore, mothers are the ones who feel the shame and guilt of having malnourished children. Although GMPs have fairly good attendance rates, some children are not brought for care because their mothers are concerned about what others think: an unhealthy child reflects poorly on the mother.

Projects directly or indirectly related to childhood nutrition: In volume 3 a table is presented that shows several projects that are related to childhood nutrition. Generally, the strategies of these projects have been developed in view of the actual situation, and to use the available resources in the most efficient way. In some projects, participants are the key actors rather than just the passive beneficiaries of services.

4.1.8 Conclusion

Precipitating factors for the poor nutritional status among Malawian children are multiple:

- the failure of GMPs to effectively prevent the mildly undernourished from manifest malnutrition despite their covering a reasonable proportion of the under five population
- early timing of introduction of complementary food
- insufficient quantity and improper quality of oral food intake
- frequent bouts of infectious diseases which rob the appetite and obstruct the absorption of nutrients

MOHP introduced the communal gardening programme when food to GMPs was phased out, but further development and training is needed for the programme to expand and be successful.

4.2 MATERNAL MORTALITY AND MORBIDITY

4.2.1 Situation of Maternal Mortality and Morbidity in Malawi

The Maternal Mortality Rate (MMR) that MOHP uses is based on the Demographic and Health Survey of 1992: 620 per 100,000 live births. Maternal factors are the major cause of death for females aged 15 to 49, accounting for 21 percent of all deaths in this group. Malawi's MMR is one of the highest in the world, but close to the average of other sub-Saharan African countries. It is estimated that about 10 percent of pregnancies end with some type of morbidity.

4.2.2 Why Maternal Mortality Matters

Death of a mother has an enormous impact on the well being of the surviving family. Also, many of the same factors that cause maternal mortality also influence maternal morbidity and mortality among all age groups.

4.2.3 Focus of the Maternal Health Study

Two hypotheses on the causes of high MMR were considered for this study: 1) high maternal mortality is due to the low rate of facility delivery, and 2) high maternal mortality is due to the sub-standard quality of care provided at health facilities. The focus of study was therefore to test these two hypotheses.

4.2.4 Objectives of the Study

- Identify causes of high maternal mortality with an emphasis on the use of antenatal care (ANC), facility delivery, and the quality of care provided to pregnant women and women in labour
- Describe relationship between choice of delivery place and antenatal care
- Based on the findings, draft a master plan of operations to reduce maternal mortality in Malawi

4.2.5 Methodologies Employed

In order to fully comprehend the maternal mortality situation and collect different types of information, a wide range of methodologies were employed: household surveys, exit interviews with ANC clients, qualitative research including focus group discussions and key informants interviews, observation of the actual care provided at ANC and delivery, health facility assessment, maternal deaths review, accessibility analysis and referral system assessment.

4.2.6 Summary of Findings

The findings related to maternal mortality were divided into two groups: pre-pregnancy factors and post-pregnancy factors.

1) Pre-pregnancy factors

- Women are very young at the time of their first pregnancy, have too many pregnancies at too short of intervals, and continue becoming pregnant until their later years.
- TFR stands at 6.7 (MDHS 1992).
- Women are at risk for each pregnancy, which the majority of women realise.
- Health status of the majority of women is below standard.
- Of women attending ANC, 56 percent were anaemic, and many were also deficient in iodine and Vitamin A.
- There is a high prevalence of HIV/AIDS among women of reproductive age.

2) Post-pregnancy factors

2-a) Findings related to ANC

- 99 percent of women attended ANC at least once during their last pregnancy.
- Use of outreach services for ANC was low: only 2.6 percent in the Northern Region.
- Use of TBA for ANC was low: 2.2 percent in the Northern Region and 3.6 percent in the Southern Region.
- 65 percent of ANC was provided at MOHP facilities.
- The number of ANC visits varied from woman to woman, but 8 percent visited only once during their pregnancy.
- Women over 35 years old with more than 5 children are less likely to attend ANC.
- 40 percent of women in the South and 60 percent in the North traveled more than one hour to reach ANC.
- The Northern Region has worse access than the Southern Region.
- Physical access is the main factor for women in deciding where to seek ANC.
- ANC overlooked the risk factors of many women, including grand multigravida, history of caesarean section, history of vaginal bleeding and STDs, and twin pregnancies.
- Average waiting time at ANC was 104 minutes.
- Group health education took 14 minutes and individual counseling lasted 4 minutes on average.
- Pelvic examinations and measuring height were often omitted from ANC.

- Blood and urine exams were not provided in many cases.
- Women had limited expectations regarding ANC: many were satisfied with being told the condition of fetus and due date. Not delivering on the due date brings mistrust and disappointment of ANC.

2-b) Findings related to delivery

- In Salima District, 40.3 percent of women delivered at a health facility.
- 67.2 percent in the North and 73.6 percent in the South delivered at a health facility.
- 15 percent in both the North and South delivered at home or friend/relative's house.
- 9 percent in the North and 15 percent in the South delivered at TBA.
- About half of deliveries took place at MOHP facilities.
- Majority of women had to walk more than one hour to delivery place.
- Factors such as proximity, reputation of facility, perceived quality of care, transport availability, concern over care of small children, cultural beliefs and financial situation were found to influence decisions regarding delivery place.
- Women who did not know their age, were without any formal education, and received ANC at outreach services, TBA, or MOHP facilities were found to be more likely to conduct their delivery outside of a health facility.
- Quality of delivery care was often found to be below standard at health facilities.
- Large majority of health workers were not provided with opportunities to refresh their skills and knowledge on maternal care.
- Water systems at more than half of health facilities visited were not functioning as designed. About 90 percent of climax pumps were found to be inoperative.
- 70 percent of facilities lacked electrical power supply.

2-c) Findings related to emergency care

- In Salima district, 80 percent of women were living more than 10 kilometres from a health facility that has the capability to provide emergency care.
- Three quarters of villages in Salima district were considered to have difficult access during the rainy season by local health workers.
- Emergency communication between villages and health facilities often depends on messengers on foot or bicycle.
- Emergency communication between health centers and referral hospitals was done by radio.
- At the time of the survey, seven districts had no radio system for their health facilities.
- A large percentage of maternal deaths can be attributed to the lack of blood banks at referral facilities.
- Very few workers are skilled to handle the basic procedures of emergency obstetrics care (EOC).

4.2.7 Conclusion

The factors that contribute to the high rate of maternal mortality are complex and interrelated. Interventions that address single factors would not have a large impact on the rate. Therefore, comprehensive interventions are required to reduce MMR in Malawi.

4.3 FINDINGS OF CYCLE 2 STUDY ON SELF-MEDICATION USING DRUGS FROM GROCERIES

4.3.1 Results of Household Survey (Drug Seller Module)

Utilisation of groceries: Nearly 60 percent of all households had bought some type of medicine for a child under five years in the two-month recall period at a village grocery. Of the entire random sample, 495 households (49.5%) had purchased one or more drugs from a grocery within the recall period. The use of groceries as a source did *not* depend on the presence or absence of a health facility in the village.

Advice received: Of those mothers who purchased drugs, 27.1 percent said that they had received advice from the shopkeeper. Of those who received advice, 90.3 percent said they trusted the shopkeeper's advice completely and 9 percent said they trusted it only a little or not at all.

Causes for purchasing drugs: Of the 495 households that bought drugs from a grocery for a child, 200 had a child with two or more symptoms, and 36 with three or more distinct symptoms. Normally a different drug was purchased for each symptom. Of the 495 households, 223 (45.0%) purchased two or more drugs, 41 (8.2%) purchased three or more drugs, five households purchased four drugs, and one purchased five items.

Forty-five and a half percent of all drug purchases was for a child with fever. Another 21.5 percent gave malaria as the main symptom and another 4.2 percent claimed fever plus another symptom (stomachache, malaria, cough). Cough/pneumonia was the reason for drug purchase in 14.3 percent of cases, with another 4.7 percent giving stomach pain or diarrhoea as the reason. The remaining 9.9 percent was due to a variety of symptoms. Thus, over 70 percent of all cases bought drugs because their child had a fever or presumed malaria.

Drugs purchased: The drugs most commonly purchased were analgesics/antipyretics, by 97.2 percent of households, either alone or together with another drug.

Of all households purchasing drugs, 27.4 percent bought at least one antibiotic. The most common were penicillin (17.0%) and Bactrim (8.4%). Antibiotics were bought in 51.7 percent of cases when fever and another symptom were both present, in 44.9 percent of cases of cough or pneumonia, in 42.9 percent of cases of stomachache or diarrhoea, in 27.3 percent of cases of headache, in 26.8 percent of cases of malaria, and in 23.9 percent of cases of fever. Antibiotic purchases were highest in Mzimba and Zomba Districts.

The rate of purchase of Sulfadoxine/Pyrimethamine (SP) was much less than the use of antibiotics. Fansidar was purchased from shops by only 11.5 percent of households: in 17.6 percent of cases reported to be malaria, in 10.3 percent of cases reported as fever plus another symptom, in 6.6 percent of cases which were reported as "fever", and in 3.0 percent of cases of cough or pneumonia.

Amount spent on drugs: The average amount spent on grocery drugs was MK6.0[1], which was less than the average purchase from peddlers or health centres. Considerably more was spent on drugs purchased at hospitals or private clinics. Because antibiotics were used much more frequently than Fansidar for malaria and fever episodes, the possibility that the high price of SP is inhibiting purchase is being considered in this design.

4.3.2 Results of Focus Group Discussions and In-depth Interviews

Reasons for choosing a shopkeeper as a drug provider: Most people indicated a preference for going to a health centre or hospital, where they trust providers and receive drugs free of charge. The main reason why informal providers are used is that the distance to formal health facilities is too great. While some villages have no grocery, in general one or more shops are located closer than a health facility.

Where DRFs have been established, they are favoured over groceries because of lower prices and, perhaps, greater respect for the knowledge of the VHVs. In addition, the DRFs sell Bactrim, and sometimes eye ointment, both popular medicines.

Information about the medicines sold: Most people said that shopkeepers never gave advice. Instead, customers request certain drugs and shopkeepers simply sell the medicine. People understand that children require smaller doses, but otherwise there seemed to be a great deal of misinformation regarding dosage. In most cases it appears that the amount of the drug purchased depends on the amount of money available to spend.

Choice of medicine: When individuals decide on their own which medicine to buy in the event of illness, rather than relying on a shopkeeper's advice, the choice is based on past experience with the same illness or on what drug was given at the health facility.

Price acceptability: Grocery drugs are considered expensive and unaffordable by poor people. Prices at DRFs are thought to be less, even if the differences are rather small, such as 30t vs. 50t per tablet. A drug with a price of more than K1.5 was described as expensive.

In summary, the focus group discussions generally confirmed that groceries are a widely used source of medicines, but that many people are not satisfied with them in terms of the product, price, or the service received. People buy from groceries as a second choice when a health facility or DRF are not within close proximity.

4.3.3 Results of In-depth Interviews with Shopkeepers

Type of store and ownership: Of 30 shops visited, 23 were groceries and 7 were kiosks. In 90 percent of cases, the person interviewed was the owner of the shop, who were equally

[1] MK45 = $US 1.00

men and women. Most (90%) of the interviewees reported that other people also worked in the shop at times.

Medicines sold: Groceries sold from 2 to 22 different medicines, with an average number of 9.9. Kiosks generally sold fewer, ranging from one to 15 items, with an average number of 5.7. By far the most common medicines sold were analgesics/antipyretics, with a total of 9 different brand names identified for sale. Every shop visited sold at least one product in this class. Consumption is high: the average number of analgesic/antipyretic tablets sold in the previous month was about 700.

Cough remedies are the second largest class of medicines sold by groceries and kiosks: 77 percent of shops sold at least one of these products. Stomach remedies are the third largest class, with 60 percent of shops selling at least one product.

Demand for antimalarials is low, and only 30 percent of shops sell them. This is divided almost equally between the strip-packed Novidar and bulk SP. At MK21 for three tablets, the retail price of Novidar is high which is probably a deterrent to stocking by retailers.

Finally, many shops sold antibiotics though it is illegal. Eight out of ten shops in Mzimba and five out of ten in Zomba carried them, including Bactrim, penicillin, chloramphenicol, and tetracycline. In fact, large quantities of these were sold, with four shops reporting selling more than 1,000 tablets or capsules in the last month.

Packaging and labelling: Nearly all drugs found in the shops were distributed in point-of-sale containers and strip-packaged. Identification and dosage information was found printed on the strips.

Source of medicines: Nearly all retailers obtained their (legal) medicines from local wholesalers. The most common source of antibiotics was private clinics, but some admitted getting drugs from "government" or a vendor from town.

Storage: Most shops were selling strip-packed medicines in point-of-sale cartons displayed on shelves. In about 10 instances, open bottles were also seen on shelves by interviewers.

Overall profitability of medicine sales: Of the 27 shop owners interviewed, 17 said that they earn a lot of money selling medicines, 9 said that they did not, and one did not know.

Shopkeepers' self-statements on recommended treatments for children:
Fever: The most frequent "prescription" (14/30) was an analgesic/antipyretic only. Five shopkeepers said they would recommend Fansidar (SP) alone and another said he would if he had it in stock, and four said they would sell the patient an antipyretic and SP. The advice to take the child to a health facility if there was no improvement was offered in only one case. Many shopkeepers said that they do not give any advice unless specifically asked for it.

Diarrhoea: Fifteen out of 30 shopkeepers said they could not offer any medicine for diarrhoea and recommended an antibiotic. Only four recommended that the child be taken to a clinic if the diarrhoea did not stop.

Cough (for several days): The most common 'prescription' (23/30) was cough lozenges or cough syrup, followed by three recommendations for an antibiotic, with one shopkeeper suggesting the child be taken to a hospital if there were no improvement.

Stomach pains: Fifteen out of 30 said that they would suggest an antacid or similar compound such as Liver Salts. None had no recommendation, and three suggested an antibiotic. Half of those who did not have any drugs to recommend suggested instead that the patient should visit the hospital.

Other medicine-related knowledge:

- The majority (23/30) of shopkeepers were aware that people sometimes buy the wrong medicine for their sickness.
- The majority of shopkeepers (24/30) were aware that people sometimes take the wrong amounts of the right medicine, although those in Mwanza District were found to be less aware.
- Less than half (12/30) of shopkeepers were aware that some illnesses do not require medicine. Those in Mzimba made comments suggesting awareness that many illnesses are self-limiting or due to fatigue or poor diet.

All 30 shopkeepers interviewed expressed an interest in learning more about the correct use of the common medicines that they sell in order to be more useful to their customers. Few informational materials were displayed, save for a handful of advertisements.

4.3.4 Results of Simulated Patient Survey

Welcome received in grocery: In about 90 percent (26/30) of simulated patient visits, the "patient" was greeted with respect, and only 10 percent described the shopkeeper as "indifferent or not interested".

Any questions asked or advice given: At least one drug was recommended and sold in 96 percent (29/30) of visits, and two drugs were sold in 46 percent (14/30) of visits. In 23 percent (7/30) of visits the shopkeeper asked questions about the condition of the customer's child, such as the child's age or the duration of the fever or cough. After the purchase was made, the shopkeepers gave instructions for 41 out of the 43 drugs sold (after the patient asked) on how often to give the drug.

Drug sold for child with fever/malaria: Fifteen out of 16 cases were sold at least one analgesic/antipyretic for a child with fever or malaria. In four cases, two antipyretics were sold. SP was sold in only 12 percent of cases (2/16) and the dosage was incorrect both times.

Drug sold for child with cough: All 14 cases of a child with a cough were sold at least one drug. In two cases, only analgesics were sold, seven sold an antibiotic alone (penicillin or Bactrim) or in combination with a cough medicine or analgesic/antipyretic, and five were sold only a cough medicine alone or in combination with an analgesic/antipyretic.

Amount spent: The total price paid for drugs bought by the simulated patients ranged from K1.50 to K48.55. The mean amount spent was K.7.0.

Comparison between shopkeeper's knowledge and actual practice: Comparing what the shopkeeper had told the interviewer he/she would recommend and the recommendations and sale actually made, in only 12 of 30 cases was the actual practice (drugs sold) consistent with the statement. The rate of consistency was higher for cough/ARI "patients" (7/14) than for malaria "patients" (5/15).

4.3.5 Study Conclusions and Implications

1) All four research components verified that a large majority of rural Malawians rely on groceries as a primary source of medicines. The main reason for this is their proximity. In addition, it may also be true that there is less social distance between villagers and shopkeepers than between villagers and health facility staff. The range of drugs groceries can sell is fairly limited by law, but nonetheless is probably in line with the current demand patterns (i.e., for analgesics).

2) Revolving drug funds are preferred to groceries where they have been established, in large part because of lower prices for popular items like aspirin, and also because some antibiotics are sold. However, the long-term viability of DRFs has not yet been demonstrated.

3) Shopkeepers are generally trusted by the majority of ordinary patients. However, there is a negative bias toward them among Village Health Committees and other people who are involved with the DRFs, which are in competition with them.

4) Both the knowledge and practice of shopkeepers with respect to appropriate treatment of childhood malaria and ARI (and also diarrhoea although this was not a focus of the study) leaves much to be desired. IEC printed material is almost non-existent at shops, and in any event low literacy levels would limit their effectiveness. Most shopkeepers will sell whichever drugs the caretaker/customer requests, but the caretakers' knowledge is often inadequate as well. Most shopkeepers are aware of the common childhood diseases, at least to the extent to be able to recommend a drug.

5) Antibiotics are extremely popular and widely available in groceries even though it is illegal to sell them commercially. It is certain that most of the time, the usage of antibiotics sold through groceries is inappropriate and perhaps dangerous, but it cannot be definitively stated that the availability of antibiotics does more harm than good. On the other hand, Fansidar (SP) which can be legally sold, is not widely available.

6) Regardless of the MOHP policy that shopkeepers do not "prescribe" medicines, in fact they fill the gap between the caretaker's knowledge and the end purchase of medicines for many, if not most, sick children. Shopkeepers expressed a willingness to receive training that would make them more effective in this role.

7) The training of shopkeepers would initially concentrate knowledge in a relatively few community members, much as training VHVs and HSAs has done, but this knowledge could be effectively disseminated to the community each time a purchase is made. Improving community awareness of the dangers of malaria, diarrhoea and ARI, and their correct modes of treatment is another important ingredient in improving community-level disease control. This should complement shopkeeper training.

CHAPTER 5: PLANNING FRAMEWORK FOR THE MASTER PLAN

5.1 PROCESS OF FORMULATING THE MASTER PLAN

In order to develop a master plan, the basic strategies for reaching goals need to be drawn up. The strategy framework includes an outline of policies and programmes that address the root causes of the salient health issues. The first cycle study demonstrated that a considerable number of Malawians have relatively favourable access to health facilities, whereas health indicators tend to be among the poorest in the world. Accordingly, the basic strategy for developing a master plan was directed towards bridging this gap. At the same time, the future situation of the major issues such as population, the economy, and disease conditions needs to be projected for the target year. More importantly, the basic strategy for the formulation of a master plan must be consistent with the national health development plan, as well as be in accordance with the basic concepts of PHC.

In the first cycle study, two major health issues were identified: childhood malnutrition and poor maternal health. The next step was to come up with a list of specific health problems related to these two core issues, and then determine cause and effect relationships by drawing up two separate problem trees. The problem tree exercise aided in proposing interventions to the health problems (long list), which were viewed as effective solutions. Subsequently, each proposed intervention was considered in detail, and integrated into comprehensive projects (short list). The process of integration and prioritisation of projects was considered in the light of the basic strategy concept described above. Finally, concrete prioritised projects were proposed taking into account aspects of priority, feasibility, cost-effectiveness and efficiency.

5.2 BASIC STRATEGY

Physical access to health facilities in Malawi has been reported to be better than that of other sub-Saharan African countries and low-income countries in other regions. According to UNICEF, since the late 1980s, about 80 percent of Malawi's population live within one hour's travelling time to a health facility. In addition, the Demographic and Health Survey 1992, reported that 82 percent of sample communities are located within 10 kilometres from the closest health facility.

Despite these relatively favourable indicators of health service provision, the country's health outcome indicators are among the poorest in the world. The factors behind the high infant and under five mortality rates might begin to explain this gap between the quantitative indicators on health access and utilisation and adverse health status. These factors will be key in developing the basic strategy for strengthening PHC in Malawi. The gap is not caused by a single major factor, but rather by a combination of multi-level factors ranging from socio-cultural issues to the management of the health system. Thus, the key issue addressed in this report is the improvement in the quality of health care, which includes health system management, human resources development, and access to health services. Physical access to health facilities was not a focus, however, improvements in this area would also have a positive impact on health outcomes.

5.3 CURRENT HEALTH POLICY

5.3.1 National Health Plan

1) Background

Since the completion of the Third National Health Plan 1986-1995, MOHP has been engaged in the process of developing the Fourth National Health Plan. In the Policy Framework Paper published in September 1995, government expressed a commitment to embark on health policy reforms that would eventually transform the health care delivery system by placing a greater emphasis on under-served remote rural areas and on women and children. Following several nation-wide consultations and workshops, MOHP identified six priority issues. Six team members were selected from within the core team to establish committees to explore each of the six priority issues, and the recommendations and findings from the respective studies were passed on to the districts in the form of District Planning Guidelines. The Malawi National Health Plan 1999-2004 was finalised in May 1999.

2) National development goals and objectives

The Government of Malawi has committed itself to poverty alleviation under its Vision 2020 Programme, and announced a national policy to decentralise management authority to District Assemblies. These mandates serve as the guiding directives for MOHP's approach to improving the health status of all Malawians by the year 2004.

3) Focus of national health goals and objectives

The current overall policy goal of the health sector as set out in the previous National Health Plan, and which remains the goal of the current five year-plan, is to raise the health status of all Malawians by reducing the incidence of illness and occurrence of death in the population. The goal will be accomplished through the development of a sound delivery system capable of promoting health, preventing, reducing and curing disease, protecting life and fostering general well being and increased productivity. Eight medium-term objectives have been developed to support the improvement of health status over the next five-year period (1999-2004).

4) Key strategies

To achieve the range of broad-based reforms that must be intrinsically linked to the improvement of health status, MOHP will undertake the following strategies:

- Strengthening PHC
- Sector-wide approach
- Decentralisation of health care management
- Cost recovery and user fees
- Policy formulation and regulation
- Strengthening the health management information system
- Human resource strengthening

5) Tasks and activities for the planning period 1999-2004

Health plan targets, strategies and activities were set in line with the health policies, objectives and priorities included in the five-year Health Plan. Under eight objectives, 22 strategies, 60 tasks, as well as 240 main activities were outlined.

5.3.2 Primary Health Care Activities

1) Concept of PHC in Malawi

The main objective of the health policy of the Ministry is "to reduce the high morbidity and mortality rates". To achieve this, MOHP has identified a number of specific programmes aimed at tackling specific health problems. One such programme is PHC, the main objective of which is to strengthen community-based activities through the introduction of an Essential Health Package.

2) Target activities of PHC programmes

The long-term goal of the PHC programme is to have in each of the forty-six thousand villages a fully functioning Village Health Committee which will be able to:

- Disseminate IEC messages on various health issues
- Conduct community nutrition education, and communicate messages on related issues
- Construct, protect, and repair shallow wells
- Encourage of the use of modern methods of family planning
- Request the nearest health worker to come to the village and immunise children against all immunisable diseases
- Disseminate information on the prevention of all locally endemic diseases
- Start and maintain DRFs, and keep in stock all essential drugs at all times

3) Bakili Muluzi Health Initiative (BMHI)

In line with WHO's strategic direction of "Health for All" in the 21st century, President Bakili Muluzi has proposed a Health Initiative. The initiative seeks to make essential drugs available to communities within walking distance of their homes in order to reduce the burden of disease due to common illnesses. It also aims to implement focused community-based feeding programmes to combat childhood malnutrition, and to employ retired health

personnel to render health services within the community where they live. BMHI will be at the core of the Essential Health Package, providing a pivotal base for improving the nutritional status of Malawi's children.

5.4 FUTURE PROJECTIONS FOR PLANNING

5.4.1 Social Frame

1) Demographic situation

The fourth census since independence started in September 1998, and preliminary results were reported recently. The total of population in Malawi was 9,838,486 with an overall sex ratio of 96. The annual rate of increase in the population was estimated to be 1.9 percent on average between 1987-1998, as compared to 3.7 percent between the 1977 and 1987 intercensal period. Given this rate of population increase, the total estimated population will be approximately 11 million in 2004 and 11.65 million by 2007. The census data also shows that 49.5 percent of the total population is under 15 years of age, which indicates a high dependency ratio.

2) Influence of AIDS on demographic situation

It is roughly estimated that with the high prevalence of AIDS, an additional 120,000 Malawians will die each year over the number of deaths if there were no AIDS. Using this estimate, the additional deaths from AIDS will reach 620,000 by 2005. One significant result of the AIDS pandemic is a change in the age composition of the Malawian population, or more specifically the loss of many in the skilled working population. While the mortality rate of those aged 15 to 49 was 10.8 percent from 1980 to 1985 prior to the spread of AIDS, it stood at 14.7 percent between 1990 and 1995, and is estimated to become 21.2 percent between 2000 and 2005.

3) Economic growth

Malawi is a remarkably low-income country with GNP per capita of 170 dollars in 1995. During the first half of the 1990s, Malawi faced substantial economic instability; however, an economic growth rate of 9.5 percent was attained during 1996 and 5.2 percent during 1997. Although the government has predicted that the medium-term projection for economic growth will be around 4 percent per annum, this will depend on factors such as sufficient rainfall for agricultural production and continued implementation of measures to stabilise economic growth.

4) Summary of major issues

Although many health projects such as EPI, food supplementation programme and PHC activities have been implemented to combat the main health issues, progress has been slow. In fact, health conditions have actually deteriorated as demonstrated by the recent outbreak of measles in many districts, which had markedly decreased until the beginning of the 1990s due to vaccination. Therefore, the future for the health sector will not be bright unless the current health system is improved.

5.4.2 Quantitative Targets

The Malawi National Health Plan has established a set of outcome indicators over the next five years as the quantitative targets for the objectives. The following are the main targets to achieve the first objective (to expand the range and quality of health services focused on maternal health and children under the age of 5 years):

1) Maternal mortality reduced from 620 to 310 per 100,000
2) Infant mortality reduced from 134 to 100 per 1000
3) Under five mortality rate reduced from 234 per 1000 births to 150
4) Neonatal mortality rate reduced from 55 to 40 per 1000 births
5) HIV seroprevalence rate reduced from 13% to 7%
6) Average diarrhoeal episodes in U5s reduced from 6 to 3 per child
7) Immunisation coverage up from 80% to 95%
8) 90% of women delivering in health facilities
9) Childhood malnutrition in U5s reduced from 50% to 25%
10) Underweight rate in U5s reduced from 30% to 15%
11) Wasting in U5s reduced from 7% to 1%
12) Exclusive breastfeeding increased from 11% to 60%
13) IMCI implemented in four districts by 1999 and in all 26 by 2004

5.5 PLANNING OBJECTIVES AND STRATEGIES

5.5.1 Goal for National Master Plan

The overall goal for the national master plan is to strengthen PHC activities in order to improve the health condition of all Malawians through an effective and sustainable mobilisation of available resources targeted to health care.

5.5.2 Basic Principles for Achieving Goal

Based on the overall strategy for formulating the master plan, the basic principles for achieving the above goal are as follows:

1) To place emphasis on the quality of health care through strengthening the management of the health care system, human resources development, and improving access to the health services
2) To prioritise projects based on the major issues identified by MOHP such as decentralisation, human resources development, health finance reform, self-management by the hospitals, provision of an essential health package, and capacity building of local management staff within the framework of the national health care policy
3) To make plans based on the basic principles and PHC activities in Malawi, particularly taking into account the improvement of community-based activities

CHAPTER 6: NATIONAL MASTER PLAN

6.1 DEVELOPMENT OF THE NATIONAL MASTER PLAN

In order to develop the master plan, it was necessary to identify and analyse the main health problems as well as the overall health situation in the country to determine effective strategies. To this aim, in-depth health studies were conducted in both the first and second cycles. The next step was to carry out a problem analysis for each core health issue, based on the study results. Following this, objectives were analysed and possible interventions to address the problems were considered. Finally, the master plan including prioritised projects was developed along with the framework of the new National Health Plan.

The basic strategies and framework of the national health policy from which the core health issues were selected are key components of the master plan. As mentioned in chapter 5, the focus of the master plan was not only on access to health facilities but more importantly on access to health care services. Moreover, community-based activities were concentrated on for project planning. The JICA PHC study benefited from the fact that the national health plan was being developed by MOHP during the same period. The national master plan was also able to incorporate the concept of the Bakili Muluzi Health Initiative issued in January 1999.

All the work involved with formulating the master plan including project development has been conducted through continuous discussion and consultation with Malawian counterparts and related experts. In locales where the health studies were carried out, meetings and workshops with local counterparts were held. The contributions of those who participated in the workshops geared towards project development and prioritisation were especially meaningful and fruitful.

6.2 RELATIONSHIP BETWEEN NATIONAL HEALTH PLAN AND MASTER PLANS

6.2.1 Basic Concept

The purpose of the JICA PHC study was not to develop a parallel plan to the national health plan or a vertical health project. Instead, the intention was to interpret the existing national

health policy and health initiatives based on the results of the JICA PHC study and from there propose a national master plan to improve the health situation, particularly for children under five and women of reproductive age. Therefore, the three master plans of operations were developed within the framework of the national health policy.

6.2.2 National Health Plan and Master Plans

The relationship between the national health plan and each proposed master plan was considered as follows:

1) Master plan of operations for reducing childhood malnutrition

This component of the master plan addresses the issue of malnutrition in children under five, one of the most critical health problems in Malawi. The target population and health problems in the master plan are in accordance with those in the national health plan where they are listed as top priorities. The underlying concept of the master plan is based on strengthening community-based activities with the intention to improve the primary health care system in Malawi.

The objectives of this master plan are also along the lines of the health sector policies of MOHP. Although the plans for free medicine and community feeding programmes of the Bakili Muluzi Health Initiative are not identical to those of the master plan, both place focus on community-based activities.

The issue of food security in the community is not directly addressed in the national health plan. However, since the food supplementation programme has recently been phased out, ensuring food production and security is a critical issue for improving childhood nutrition. In this master plan, an integrated nutrition project with linkage to other related ministries such as agriculture and national economic council is proposed.

2) Master plan of operations for reducing maternal mortality

The national health plan for 1999 – 2004 identifies high maternal mortality and morbidity as a main problem in the country. This master plan focused on post-pregnancy issues aims to reduce maternal mortality through the improvement of activities such as strengthening EOC and ANC, provision of basic infrastructure, establishment of an obstetrics referral system and promotion of IEC. The concept of this master plan is in accordance with the priority health and population services of the national health plan.

The master plan is also closely related to some of the supporting health policies adopted to guide the operations of the health sector. In particular, safe motherhood is included in the introduction of the essential health package. In addition, the establishment of a referral system, which is thought to be an important factor in reducing maternal mortality, and community-based activities focused on IEC promotion are included in this master plan.
Although the master plan does not include the construction of new health facilities, rearrangement and improvement of health facilities including the upgrading of selected rural hospitals to community hospitals, and of some health dispensaries to health centres is

proposed. The provision of basic infrastructure such as safe water, electric power supply and radio communication systems is also planned for all health facilities in selected districts. The improvement of health facilities is a crucial factor in providing better quality health care at all health facilities, a key component of the national health plan.

3) Master plan of operations for improving the role of informal drug sellers in community-based health care

This component of the master plan is distinct from the others in that it focuses on the private sector. The role of the private sector is not prominent in the national health plan, but it is referred to in the objective "to strengthen collaboration and partnership between the health sector, communities, other sectors, and private providers". The target population included in this master plan is mainly the shopkeepers (grocery and kiosk) who earn a living by selling medicines to village people. They are recognised to play a vital role in the PHC systems in communities. The project activities in which drug sellers are trained to better inform the public about the appropriate use of drugs should have a great impact on PHC services. Therefore, the basic concept of the plan follows the national health policy for strengthening PHC activities in the community.

The proposed activities in this master plan are closely related to the drug revolving fund (DRF) programme. Drug availability will be improved when the DRF system is expanded and well managed, however, the number of functioning DRFs is actually much more limited compared to the number of groceries and kiosks. Thus, considering where people get their drugs, it is important to educate informal drug sellers in addition to strengthening the DRF programme.

6.3 MASTER PLAN OF OPERATIONS FOR REDUCING CHILDHOOD MALNUTRITION

6.3.1 Situation Analysis

Previous studies have found that the nutritional status of Malawian children is dire, even among the sub-Saharan African countries. The present study confirmed the often-sited state that more than 50 percent of under five children can be classified as undernourished.

6.3.2 Relationship to National Health Plan 1999-2004

This master plan is along the same lines as the National Health Plan, as it focuses on nutritionally vulnerable children under five and puts special emphasis on community-based activities.

6.3.3 Problem Analysis

The major reasons for the poor nutritional status of Malawian children are:

1) Failure of the growth monitoring programme (GMP) to effectively prevent the mildly undernourished from manifest malnutrition
2) Inadequate measures to prevent a relapse in children who have been discharged from NRUs following the treatment of severe malnutrition
3) Insufficient quantity and improper quality of oral food intake
4) Frequent bouts of infectious diseases which rob the appetite and obstruct the absorption of nutrients

6.3.4 Objectives Analysis

1) Possible objectives to strengthen GMP so as to prevent malnutrition more effectively

- Communities are able to independently operate GMP
- Children of target age attend GMP without fail
- House visits to children who do not turn up at GMP are made and follow-up observation done
- Children with one or more risk factors for malnutrition are closely monitored and preventive measures offered
- Supplementary foods are secured by each community independent of WFP
- Distributed foods are consumed only by the targeted children

2) Possible objectives to prevent the relapse of malnutrition once discharged from NRUs

- Proper foods and basic health care are given to a child at home after being discharged from a NRU
- Parents promptly take a child showing signs of relapse or superimposed infection to a health facility
- Nutritional rehabilitation is continued in communities where community-based feeding programmes are established
- Responsibility for patient observation is handed over to community health workers (CHWs) through the feedback referral system

3) Possible objectives for improving quality and quantity of meals fed to children

- Young infants are free of diarrhoea by exclusive breast feeding and well-cooked complementary foods
- Children receive sufficient protein by the combination of prolonged continuation of breast feeding and protein-rich foods, sufficient calories throughout the year, and enough trace elements from a variety of foods

4) Possible objectives to reduce the high morbidity of infectious diseases

- Outbreaks of vaccine-preventable diseases are controlled by immunisation
- Diarrhoeal diseases and parasite infestations are reduced by means of securing safe water, boiling drinking water, cooking well, and other hygienic practices
- Malaria is reduced among under five children by having them sleep under bed nets

- Severe malaria is prevented by early detection and treatment
- Low birth weight babies are reduced by increased usage of malaria prophylaxis among pregnant women
- Severe ARI cases are decreased by early diagnosis and proper treatment of mild cases
- Common childhood diseases can be managed at standardised quality in any area

6.3.5 Framework of the Master Plan of Operations (for Reducing Childhood Malnutrition)

1) Overall goal of the Master Plan

The overall goal is a reduction in the prevalence of malnutrition among children under five years old from 50 to 25 percent by 2004.

2) Objectives of the Master Plan

- More children are prevented from developing or having a relapse of malnutrition by GMP
- Communities are able to secure sufficient and appropriate food for all children under five
- Common childhood illnesses are effectively managed at PHC facilities as well as in the communities

3) Components of the Master Plan

To attain the overall goal the study team proposed the following three project components after thorough discussion with government experts:

Component 1: Strengthening community-based GMP to prevent development and relapse of malnutrition
Component 2: Promoting community food security, dietary diversification and modification
Component 3: Expanding IMCI nation-wide and promoting community-based management of childhood illnesses

6.3.6 Miscellaneous Considerations

1) The range of beneficiaries should be as broad as possible.
2) Communities will gain the knowledge and skills to detect underweight children at the community level.
3) People must understand the importance of good nutrition for children, and then take ownership of the activities to control malnutrition.
4) There is an obvious lack of supplementary foods available.
5) Community management skills to operate nutritional supplementation will be needed.
6) Feeding centres and warehouses will likely be needed at some point in the future.
7) Expansion of IMCI and promotion of community-based management of childhood illnesses (CBMCI) should aim for geographic equity.

6.3.7 Possible Constraints

1) Shortage of national budget for implementing the Master Plan
2) Further spread of HIV/AIDS among adults
3) Limited success in promoting family planning
4) Weak drug supply and delivery system

6.3.8 Targets by Year

1) Targets by the second year

IMCI/CBMCI:

- Training materials and trainers will be prepared for expanding IMCI/CBMCI.
- Training of IMCI practitioners will start nation-wide based on the new textbooks, taking one year to complete.
- In a few pilot districts, training of CBMCI practitioners will start based on the new textbooks, and the scheme will be introduced to 5 to10 villages.
- Feedback referral system from NRU to CHWs will be introduced.
- GMVs will be trained on how to register underweight and high risk group children.
- CHWs will start compiling data on their own.

Community gardening programme:

- In a pilot district, prioritised areas/villages will be targeted for introducing community gardening, and community ownership will be fostered through the targeting process.
- Trainers for management capacity building will be recruited and trained.
- Community gardening programme will be initiated in prioritised villages.

2) Targets by the fifth year

IMCI/CBMCI:

- IMCI will be successfully operated at every health facility in all districts.
- Training of CBMCI practitioners will be expanded nation-wide, and the scheme will be introduced to 10 to 30 underserved villages in each district.
- Feedback referral system from NRU to CHWs will be established.
- Registration and follow-up home visits of underweight and high risk group children will be implemented nation-wide.

Community gardening programme:

- In the pilot district, community gardening programme will be introduced on a larger scale.
- The programme will be re-introduced to the villages where the initial trial failed.
- Community-based feeding programme will be operating in many villages.
- Integrated health posts will be built in most successful villages.
- Wrap-up review of the whole programme will be completed, and expansion to other districts will be considered.

6.3.9 General Evaluation

1) Social change is expected and community participation will be promoted.
2) The project can be viewed as an investment in future human resources. Project funds should be sought through a variety of means.
3) The master plan addresses a top health priority: improving nutrition and overall health status of U5 children.
4) The master plan is fully consistent with the National Health Plan.

6.4 MASTER PLAN OF OPERATIONS FOR REDUCING MATERNAL MORTALITY

6.4.1 Status of Maternal Mortality

Maternal mortality in Malawi is 620 per 100,000 live births, which is one of the highest rates in the world. There are approximately 2,700 maternal deaths each year in the country. In response to this high MMR, the government started the National Safe Motherhood Initiative in 1993 and, since then, it has been the core of all activities aimed at reduction of maternal mortality. Factors influencing maternal mortality range from medical causes to education, and socio-cultural issues.

6.4.2 Review of National Policy Framework

The National Health Plan for 1999 – 2004 recognises high maternal mortality and morbidity as a main problem in the country and places priority on the provision of safe delivery services. This master plan is not a parallel health plan to the NHP, but rather it should be seen as an interpretation of proposed strategies in the NHP.

6.4.3 Problem Analysis

Factors influencing high maternal mortality in Malawi were classified into four groups: 1) complications associated with pregnancy are prevalent, 2) most of complications during pregnancy are not controlled, 3) many pregnant women do not receive EOC at health facility, 4) many women with complications do not receive proper emergency care. For each factor, the underlying causes are discussed.

1) Complications associated with pregnancy are prevalent
Under this factor are issues related to frequent pregnancy, family planning and the general health status of women in Malawi.

2) Complications during pregnancy are not controlled
Problems related to ANC are grouped under this factor: irregular use of ANC by pregnant women, quality of ANC, and perception of ANC among pregnant women.

3) Many pregnant women do not receive EOC at health facilities
Three reasons why women do not receive EOC were considered under this factor. The first is women's decision for home or TBA delivery, the second is delay in deciding to go to health facility and accessibility to it, and the last, but not the least, is the availability and quality of care provided at health facilities.

4) Many women with complications do not receive proper emergency care
The different stages at which delay in obtaining emergency care occur were explored here: delay at home in making the decision to seek care, delay in getting to a health facility (communication and transportation), and delay in getting proper care at a health facility.

6.4.4 Framework of the Master Plan of Operations (for Reducing Maternal Mortality)

1) Overall goal of the Master Plan
Overall goal of the Master Plan is reduction in maternal mortality by 50 percent by the year 2004.

2) Objectives of the Master Plan
The objectives are:
(1) Increased access to improved ANC and obstetrics care
(2) Greater utilisation of improved ANC and obstetrics care
(3) Enhanced benefits of improved ANC and obstetrics care
(4) Improved behaviour in society towards safe motherhood through better recognition and awareness by communities and policy makers.

3) Components of the Master Plan
The focus of the plan was placed on interventions related to post-pregnancy factors. Interventions were grouped into five components:
(1) Improvement of quality and availability of EOC at health facilities
(2) Implementation of effective antenatal care
(3) Improvement of basic Infrastructure at health facilities and increased number of facilities with EOC
(4) Improvement of the obstetrics referral system
(5) Improvement of Information, Communication, and Education activities on maternal health

Component 1, "Improvement of quality and availability of EOC at health facilities", intends to build the capacity of health workers through in-service training and specialised OB/GYN training. Issues of retention of health workers, incentives, and the performance of new health workers are also considered. In addition, the plan attempts to strengthen the

knowledge base on maternal mortality in the country by promoting research and a maternal deaths audit scheme.

Component 2, "Implementation of effective ANC", tries to take advantage of the high ANC attendance rate in the country. By improving the capacity of ANC to detect and control complications during pregnancy, it is expected that maternal mortality would be reduced. The component also touches on the improvement of community awareness on the importance of ANC and improvement of communication skills of health workers.

Component 3, "Improvement of basic infrastructure at health facilities and increased number of facilities with EOC", deals with infrastructure at facilities and access to EOC. It seeks to rapidly improve water, electrical power supply and radio communication systems for emergency referral. It aims to improve access to EOC by upgrading a select number of rural hospitals to the level of community hospital, at which women can receive emergency obstetrics care including caesarean sections.

Component 4, "Improvement of the obstetrics referral system", is concerned with the emergency referral system, so it is therefore related to the provision of radio equipment in component 3. Improvement of ambulance management, establishment of alternative modes of transfer from community to health facility, and revitalisation of the referral feedback system were recommended. The obstetrics referral system is not only for emergency cases—the component also proposes to strengthen the routine referral system to ensure health facility delivery.

Component 5, "Improvement of IEC activities on maternal health" addresses the lack of awareness among women, family members, community members and policy makers regarding the importance of EOC. Studies have repeatedly pointed out the importance of removing socio-cultural and economical constraints to ensure women's access to EOC. Therefore, this component recommends interventions to alter the social surroundings of women and maternal health through education.

6.4.5 General Evaluation

The Master Plan recognises the fact that social changes are required in order for more women to receive appropriate health services. The Master Plan attempts to bring about this social change by strengthening IEC for women's health and raising awareness on gender issues.

Mothers are the backbone of Malawi society, providing the bulk of childcare and also major producers of food and income for the family. Improving maternal health and reducing maternal deaths will have significant economic impact in the country.

The three major cost components of the Master Plan, development of skills of health workers, improvement of health infrastructure, and strengthening of IEC, are all investments in the established health system. The activities proposed are designed to address health

sector priorities, and will be carried out in close collaboration with existing programmes and within the health system framework.

6.5 MASTER PLAN OF OPERATIONS FOR IMPROVING THE ROLE OF INFORMAL DRUG SELLERS IN COMMUNITY-BASED HEALTH CARE

6.5.1 Overall Goal of the Master Plan

The overall goal of this master plan is a reduction in child mortality and morbidity due to key diseases.

6.5.2 Objectives of the Master Plan

1) Rural shopkeepers trained so that they can play a more active role as primary health care providers by selling appropriate drugs and giving advice to mothers and other clients
2) Communities empowered by being provided with information about correct self-medication for child illnesses with legal over-the-counter drugs, and identification and referral of serious cases

6.5.3 Important Advantages of Groceries over DRFs

1) Groceries already exist in most villages (46,000), whereas there are only 250 DRFs now, perhaps 1,000 after two years.
2) Shopowners earn a living from their activity but the DRF scheme depends on volunteers.
3) Groceries have a stable supply network of many distributors and wholesalers, but DRFs depend on CMS for resupply.

DRF drug prices are very cheap. Grocery prices include profit margins for retailers and distributors, but are still affordable. The pattern of drug sales through both sources are similar, with the greatest demand for analgesics.

6.5.4 Geographical Coverage

1) Public education through mass media will be nation wide through AM broadcasting on Malawi Broadcasting Company.
2) Storekeeper training will be conducted in targeted areas only.
3) Monitoring of activities and results will be completed in selected areas of all districts.

6.5.5 Main Activities of the Master Plan

1) Public education through mass media
2) Storekeeper training
3) Monitoring activities and results

6.5.6 Summary

Self-medication by use of over-the-counter medicines purchased in small shops (village groceries) is the most common choice of treatment by households for common childhood illnesses in Malawi. While many of the medicines sold at these stores and the advice provided do not result in optimal home case management, the system does have some important advantages, especially for rural areas which do not have good access to health facilities and where the local health committees are not active.

This Master Plan builds on the stability, the accessibility, and the reliability of supplies which are characteristic of the commercial network, to support improvements in community-based management of common childhood illnesses. The two main approaches are to improve the level of shopkeepers' knowledge about malaria, diarrhoea and respiratory illnesses and their appropriate drug therapy, and to increase the public's knowledge about childhood diseases and corresponding appropriate use of medicines.

The deficiencies in knowledge, attitude and practices of storekeepers that have been identified in the Development Study are used to formulate the training programme for the shopkeepers. This is being done in several other countries and their experience can help guide this activity.

Public knowledge will be improved through the use of mass media and local informational activities. Radio broadcasting has been shown to be the most cost-effective medium in Malawi. Other modes of communication may also be used. The required key messages are few and simple, relating to the three illnesses, the appropriate treatment including when the child should be referred to a health worker, and will also stress reduction in the use of antibiotics.

Results of both the shopkeeper training and the media campaign will be actively monitored so the direction or emphasis of the programme can be altered in a timely manner.

The strategies underlying this Master Plan are to improve the performance of the health providers that are closest to the household; to use existing resources and organisations; to empower communities through free knowledge; voluntary compliance rather than enforcement for storekeepers; sustainability through cost-sharing for training; and to reinforce the social marketing programme and Malaria Control Programme.

CHAPTER 7: PROPOSALS OF PRIORITISED PROJECTS

7.1 PROJECT 1 IMPROVEMENT OF HEALTH FACILITIES FOR PROVISION OF ESSENTIAL OBSTETRICS CARE

The PHC Study found that difficult physical access to health facilities was the major reason for women to deliver at home or at TBA. Difficult access is also one of the major factors contributing to maternal mortality. Lack of basic infrastructure such as water, electricity, and radio communication at health centres further aggravates the situation. This project aims at improvement of women's access to essential obstetrics care by providing basic infrastructure and upgrading selected health facilities.

7.1.1 Overall Goal

Reduction in maternal mortality by 50 percent by the year 2004

7.1.2 Project Purpose

Increased access to, usage of, and benefits from improved Essential Obstetrics Care

7.1.3 Specific Objectives

1) All health facilities (including MOHP, other ministries, and CHAM) in five districts equipped with:
   - standardised radio system
   - reliable water supply
   - electrical power system
   - autoclaves/sterilisers
   - solar hot water system
2) Maintenance and repair skills are in place for all five districts in collaboration with the Physical Assets Management Programme
3) Select key rural hospitals upgraded to provide Essential Obstetrics Care
4) All MOHP-owned dispensaries in the five districts upgraded to full health centre to provide maternity care
5) (Optional) Effective radio communication system established for emergency referral in all districts

7.1.4 Strategies

Five target districts were selected by estimating greatest need through calculation of the health facility index: Kasungu, Dedza, Dowa, Karonga, and Mzimba. Health facilities in these districts will be provided with infrastructure from the list above that is currently lacking. In addition, health facilities that were identified in the National Health Plan for upgrade were included in this project. They include Kaluuma, Mtunthuma, Mponela, Kaphuka, and Kaporo for upgrade to community hospital, and Bua, Chamwabvi, Dzeleka, and Mlangali for upgrade to full health centre.

Based on the evaluation of infrastructure, more durable and sustainable systems were selected for water, electric (solar) power, and radio communication. Other strategies include prevention of bat infestation, use of environmentally friendly construction materials, and increased cultural acceptability. Close collaboration with the Physical Assets Management Programme of MOHP is proposed to ensure proper maintenance of provided equipment and facilities.

7.1.5 Beneficiary Groups

The primary beneficiaries are women of reproductive age in the five districts. The estimated population is close to 440,000. The secondary beneficiaries are the remainder of the population in these districts.

7.1.6 Main Activities

- Preparation of Project: establishment of Project Steering Committee and the Project Implementation Unit, and development of detailed plans and designs
- Equipping all health facilities (including MOHP, other ministries, and CHAM) with radio system, functional water supply, electric power supply, autoclaves/ sterilisers, and solar hot water system
- Development of maintenance skills in all five districts in collaboration with the Physical Assets Management Programme
- Upgrading selected key rural hospitals and dispensaries
- Providing radio communication to selected ambulances

7.1.7 Budget

The total estimated budget for the project is US$7,194,730.63.

7.2 PROJECT 2 COMPREHENSIVE MATERNAL HEALTH

The relationships between the factors that contribute to maternal mortality are complicated, and addressing one or two only would not have a significant impact on reducing maternal mortality. Therefore, the project proposed here deals with many of the inter-related factors such as quality of health care service, effectiveness of health delivery system, and awareness of maternal health issues by community members and policy makers.

7.2.1 Overall Goal

Maternal mortality reduced from 620 to 310 per 100,000 live births by 2004

7.2.2 Project Purpose

More women receive improved essential obstetrics care (EOC)

7.2.3 Specific Objectives

1) Capacity for programme management is built
2) Quality and availability of essential obstetric care (EOC) at health facilities is improved
3) Routine obstetrics referral system is improved
4) Delays in obtaining emergency obstetrics care are reduced
5) Reproductive Health Information System is strengthened
6) Research on maternal mortality and morbidity in Malawi is strengthened
7) Understanding of safe motherhood, gender and women's rights issues among women, family members, and community members is increased
8) Understanding of women's health, their rights, and gender issues by policy makers is increased

7.2.4 Strategies

1) Integrated approach

The proposed project will take an integrated approach and focus on the following: skills development of reproductive health workers; strengthening of the referral system; and Information, Education, and Communication (IEC) for communities and policy makers.

2) Information and communication for better planning and decision-making at all levels

The proposed project aims at providing technical support at different levels: national, district, and community. The extensive information obtained from the baseline studies and evaluation will be used not only to develop the training programmes and IEC activities, but also to assist decision makers and planners at all levels concerning safe motherhood and gender issues.

7.2.5 Main Activities

A project support group (PSG) will be established within the framework of the National Safe Motherhood Programme office. Under the guidance of the Project Management Committee, the PSG and district project units will implement the following project activities:

1) Capacity building of health workers

- In-service training on Essential Obstetric Care and Life Saving Skills (for all nurse/midwives, clinical officers (COs), and medical assistants (MAs) working in the area of reproductive health)
- Interpersonal communication and counselling (IPCC) skills (for all nurse/midwives, COs, MAs, district medical officers working in the area of reproductive health)
- Obstetrics and gynaecology skills enhancement training (for 10 clinical officers)

2) Strengthening the referral system

- Ambulance dispatch management for emergency care
- Studies on alternative models of referral
- Support to Reproductive Health Information System

3) IEC and advocacy

- IEC activities to increase understanding of safe motherhood and gender issues among community members and policy makers
- Community Maternal Death Audit Programme
- Advocacy meetings and workshops with policy makers

4) Other activities

- Provision of equipment, drugs and supplies
- Research activities on maternal mortality and morbidity
- Overseas training for programme management (Master's level)

7.2.6 Target Areas

Five districts (Dedza, Dowa, Kasungu, Kronga, and Mzimba) have been selected based on an analysis of four indicators: 1) health facility basic infrastructure, 2) Infant Mortality Rate, 3) population, and 4) access to health facilities.

7.2.7 Project Duration

The duration of the project will be five years with possible extension for another five years.

7.2.8 Budget

US$ 3,126,570.

7.3 PROJECT 3 PROMOTING COMMUNITY-BASED MANAGEMENT OF CHILDHOOD ILLNESSES (CBMCI)

7.3.1 Overall Goal
Improved nutrition status of U5 children

7.3.2 Project Purpose
More effective community-based management of common childhood illnesses

7.3.3 Specific Objectives
1) Enhanced knowledge and skills regarding common childhood illnesses among community health workers/volunteers and informal drug sellers
2) Effective IMCI provided at health facilities
3) Strong co-ordination established between CBMCI and IMBI
4) Drug sellers role in CBMCI recognised and developed

7.3.4 Strategies
The project will cover all districts except for the four that are covered by UNICEF, WHO, UNDP and other organisations by the end of five years (the project life). The project is based on the belief that the integration and standardisation of health care services will contribute greatly to improving efficiency at primary- and secondary-level health facilities (IMCI). However, because less than half of the population in Malawi live within a five kilometre radius of a health facility, the project intends to mobilise community-based health workers and volunteers into this approach in order to offer a basic health service for the under-served population (CBMCI). Mobilising shopkeepers for CBMCI is important because a large majority of rural Malawians rely on groceries as a primary source of medicines.

The training of health workers/volunteers and shopkeepers is the primary measure to promote both IMCI and CBMCI. It is especially important for CBMCI health workers and shopkeepers to be trained in their own (local) language.

7.3.5 Main Activities

1) Preparation of training materials and trainers
- Preparatory activities started in one district selected as pilot area
- Preparation of textbooks, trainer's guides, supervisor's manuals, etc.
- Training of trainers for IMCI/CBMCI workers
- Preparatory activities for shopkeepers' training
- Training of trainers for shopkeepers
- Equipping/maintenance of regional/district training sites
- Capacity building in programme management

2) Implementation of IMCI at health facilities in all districts
- Facility-based health workers trained in IMCI (as basis and means of support of CBMCI)

- Training of hospital staff on feedback referral system
- IMCI supervisory visits to health centres
- Pre-service training of MAs/HAs in IMCI

3) Introduction of CBMCI in close co-ordination with IMCI

- Selection of villages (those not covered by health facilities targeted)
- Establishing or resensitising VHCs
- Training of VHC members
- Initial evaluation of CBMCI
- Training of GMVs on new GMP techniques
- Training of HSAs on supervision of CBMCI activities
- Regular supervisory visits to villages
- Introduction of DRFs to CBMCI villages

4) Shopkeepers (drug sellers) trained to provide CBMCI services

- Training of shopkeepers
- Initial evaluation of shopkeepers' performance
- Media dissemination
- Monitoring of shopkeepers

7.3.6 Monitoring and Evaluation

Monitoring and evaluation will be built into all routine project activities, but a formal evaluation will also be required to determine the effectiveness of the project as a whole. A preliminary list of indicators has been developed.

7.3.7 Project Duration

Five years.

7.3.8 Budget

US$5,325,000 (including 15% contingencies and inflation)

7.4 PROJECT 4 IMPROVING THE ROLE OF DRUG-SELLERS IN PRIMARY HEALTH CARE

7.4.1 Overall Goal

Reduction in child mortality and morbidity due to key diseases through more effective self-medication

7.4.2 Project Purpose

Improvement of the availability and appropriate use of GSL (OTC) drugs from groceries in villages without a DRF

7.4.3 Specific Objectives

1) Shopkeepers' role in PHC developed
2) Improved access to correct information and appropriate medicines for some of the most common potentially fatal childhood illnesses, specifically malaria, diarrhoea, and acute respiratory infection among mothers/caretakers
3) Risk of accelerated resistance to antibiotics reduced
4) Reduced illegal sales of antibiotics and other drugs not authorised for general sale

7.4.4 Strategies

Key primary health care services will be made more available closer to communities. Physical access has been shown in Malawi and other countries to be the most important determinant of the choice of first treatment. The Cycle 2 study found that mothers bought drugs at village groceries 50% of the time when a child was ill.

Existing resources and organisations will be utilised, primarily the small grocery shops and kiosks which already exist in most of Malawi's 46,000 villages.

Communities will be empowered through additional knowledge and awareness about buying correct drugs at affordable prices.

Antibiotics usage will also be reduced by an increased awareness of the dangers through civic education. Shopkeepers who are trained will be under an obligation not to sell antibiotics and other illegal drugs. This is the only feasible alternative to active enforcement which is beyond the ability of MOPH at this time.

The program will be partially self-sustaining by requiring shopkeepers to pay part of the training costs.

7.4.5 Main Activities

1) Preparatory Activities

- Selection of initial pilot area and NGO for project implementation

- Selection of trainers with previous health service training experience (initially five trainers will be trained and evaluated)
- Adaptation of training materials (shopkeeper training levels determined and curriculum materials from VHW and KEMRI shopkeeper training programmes adapted accordingly)
- Coordination with ORS (*Thanzi*) and Impregnated Bednets Social Marketing Programme (for media messages and training content)
- Development of media messages (packaging design for child SP in local languages, posters, and radio messages)
- Negotiations with SP suppliers (possibility of developing special child package for SP with local language or pictorial instructions)
- Baseline study (pre-project pattern of first-line treatment for child fever, diarrhoea, and cough, and antibiotic use will be assessed through a household survey similar to that done in Cycle 2 of the study)

2) Training of Trainers

Approximately five trainers for the initial pilot district will be trained. Training curriculum will include the project philosophy and design, didactic methods, and the actual training material.

3) Initial training of shop owners

The training sessions will last four days in order to include malaria, ORT and cough. The willingness of shopkeepers to pay for training will also be explored during this initial training period.

4) Media dissemination

Posters, radio messages, community discussions, and other media will be tested.

5) Initial evaluation

An intensive evaluation will be carried out several months after the initial training. Problems regarding the effectiveness of the training, community reaction, and sustainability issues will be evaluated and solutions devised.

6) Large-scale training

The revised training programme will continue through the final year of the project. Depending on the number of NGOs and target districts, training could occur simultaneously in several districts. Continued for 3.5 years, this would allow training of 600+ shopkeepers, out of an estimated average of 900 per district.

7) Continuous site monitoring and coordination with linkages

NGO staff and the IDH Taskforce will make random visits to trained shopkeepers to check on training, discuss problems, and ensure that no prohibited drugs are on the premises. A system will be established for comparing the changes in drug usage and morbidity/mortality in project districts and control districts.

7.4.6 Budget

Total: US$129,400 for one district.

Since there is a fixed national component (the media campaign) and a local component (the training component), the average cost per district becomes less as it is implemented in more districts.

Breakdown of estimated costs in local currency:	
National media campaign	MK1,451,000
Local media (per district)	MK500,000
Direct personnel costs	MK1,560,000
Shopkeeper training	MK1,750,000
Transportation	MK33,000
Total costs	MK5,294,000
Inflation and contingency	MK529,000
Total for one district	MK5,823,000

7.5 PROJECT 5 INTEGRATED MATERNAL AND CHILD HEALTH CARE

This project is proposed to address problems of capacity of existing health workers to provide quality care for both mothers and children. The JICA PHC Study found that sub-standard quality of care at health facilities is one factor that influences the health and nutrition status of children and women of reproductive age. The Study also found weaknesses in the existing health system at the community level and capacity at MOHP to handle community-based projects. This project also addresses this issue by providing an opportunity for MOHP to build capacity through a pilot community-based project.

7.5.1 Overall Goals

1) Reduction in prevalence of malnutrition among children under five years old from 50 to 25 percent by 2004
2) Reduction in maternal mortality by 50 percent by 2004

7.5.2 Project Purpose

Quality care provided to all children and women at all health facilities and at the community level

7.5.3 Specific Objectives

The main three objectives are:

1) Increased access to, use of, and benefits from health services provided at health facilities
2) Increased access to, use of, and benefits from community level health services including drug revolving funds
3) MOHP's capacity to plan and implement activities for community participation and empowerment strengthened

7.5.4 Strategies

The project will cover four districts during the project life of five years. The project is based on the belief that primary health care requires concerted effort at all levels of the health system, from the communities to the tertiary care level. By adopting Integrated Management of Childhood Illnesses and Essential Obstetrics Care as core activities, the project will build the capacity of health workers at both district level health facilities (health centres, rural hospitals, and district hospitals) and tertiary care hospitals in Lilongwe.

The major aim of the community related component of the project is to strengthen the capacity of MOHP to plan and implement community related projects. This component will not cover all four districts but will be limited to one pilot district. Through Community Based Management of Common Illnesses (CBMCI), it will test several community participation models. Models to be tested include an incentive scheme for community volunteers and a new drug supply mechanism for DRF.

Finally, the project will establish an MCH Centre, which will serve as a knowledge base for Maternal and Child Health in the country and as a project secretariat.

7.5.5 Main Activities

Under the guidance of Project Management Committee with technical assistance provided by the Project Support Group, the project will implement four groups of activities.

1) Establishment of MCH centre

MCH centre will be established in Lilongwe.

2) Capacity building of health workers

The following training will be offered to health workers of target districts:

- Life Saving Skills and Essential Obstetrics Care (Nurse/Midwives)
- Interpersonal Communication and Counselling Skills (Nurse/Midwives, COs, and MAs)
- Integrated Management of Childhood Illnesses (COs and MAs)
- Obstetrics and Gynecology specialised course (COs)

3) Strengthening of tertiary care hospital

The revitalisation of the Neonatal Care Unit at Bottom Hospital and capacity building for ICU care to paediatric and obstetrics cases are included as part of the project.

- Specialised training of medical doctors in Paediatrics and Obstetrics
- Training of staff at ICU and neonatal care units
- Provision of equipment for ICU and neonatal care units

4) Pilot project on Community Based Management of Common Illnesses

- Formulation of Project Management Team at District level
- Training of HSAs and community volunteers
- Operational research on community incentives for volunteers and drug supply mechanisms.

7.5.6 Monitoring and Evaluation

In order to determine the effectiveness of some project activities, a formal evaluation will be necessary. Under the guidance of the Project Management Committee, the project will evaluate activities, and findings will be circulated through the proposed MCH centre.

7.5.7 Budget

US$3,494,000

7.6 PROJECT 6 COMMUNITY-BASED NUTRITION MANAGEMENT PROJECT (CONMAP)

In the course of formulating the Master Plan for Reducing Childhood Malnutrition, it was found that frequent cancellations of GMP clinics due to HSA's unavailability and GMV's lack of knowledge had undermined mothers' motivation to participate in this programme. The JICA PHC Study also found that a lack of food security at the community and household levels is one of the causes of villagers failing to feed their children properly. Therefore, this project addresses these issues by strengthening community-based GMP and expanding the MOHP Community Gardening Programme.

7.6.1 Overall Goal

Nutrition status of children under five years old is improved in Malawi.

7.6.2 Project Purpose

Nutrition status of children under five years old is improved in target area.

7.6.3 Specific Objectives

1) Central officials gain capacity in managing malnutrition
2) Community-based Growth Monitoring Programme strengthened
3) Community Gardens for food security established
4) Improved understanding of nutrition and proper childcare among villagers

7.6.4 Strategies

The project will focus on prevention of malnutrition and management of mild to moderate cases by implementing community-based activities. The project will also promote a consolidated approach among MOHP, MOA, MOWYCS and other relevant institutions for the effective implementation of the planned activities. The community-based and integrated project, however, must be implemented with care and continuously monitored. Therefore, at the beginning, the project will concentrate all inputs and efforts in one district to establish a sustainable and replicable mechanism for project activities. The project will disseminate the information and lessons learnt to other districts by organising a national workshop at the end of the project.

The project will establish the National Nutrition Training Centre (NNTC) in Lilongwe or its suburb. NNTC will serve as the national-level focal point for the training on nutrition and proper childcare. In this project, a gender sensitive approach is stressed to enhance men's awareness of the importance of childhood nutrition and to enable women to manage nutrition problems of their children. Women will be given priority in the selection of all training programmes since women usually have less access to information and technology in spite of being the key agricultural producers.

Incentives will be provided to communities and volunteers to encourage active participation. They include building materials for U5 shelters, training opportunities, and shoulder bags.

7.6.5 Main Activities

1) Improved capacity for programme management at central level

Three candidates will be selected and sent abroad for graduate level training in programme management.

2) Establishment of National Nutrition Training Centre (NNTC)

NNTC will be established in Lilongwe or its suburbs as a national-level focal point for the training on nutrition and proper childcare.

3) Strengthening of Community-based Growth Monitoring Programme

- Train GMVs in management of GMP, public health and communication skills
- Train HSAs in supervision of GMVs, data analysis and report writing
- Produce and distribute Child Health Cards to GMVs
- Provide other necessary equipment including weighing scales

4) Expansion of MOHP Community Gardening Programme

- Establish Nutrition Management Committee (NMC)
- Train NMC members in updated agriculture, nutrition, communication skills
- Train HSAs, FAs and CDAs in supervision of Community Gardening Programme
- Provide farm inputs such as seeds and fertiliser in the first year of activities

5) Improved understanding of proper nutrition and childcare among villagers

- Identify nutrition problems through participatory meetings with villagers
- Train villagers in Child Health Cards, nutrition, proper childcare, and sanitation
- Develop appropriate IEC materials
- Introduce cooking demonstrations at GMP as a means of educating mothers

7.6.6 Target Area

One district will be selected as a target district for the community-based activities. The selection criteria will include percentage of malnourished children, availability of land for the community gardens, access to the NNTC, commitment of the district office, progress of decentralisation, and the number of development activities assisted by donors.

7.6.7 Project Duration

Five years.

7.6.8 Budget

US$1,149,310.

7.7 EVALUATION OF PROJECTS

The six projects were evaluated according to a set of established criteria in order to rank them in order of priority. This was done because it is unlikely that all projects can be implemented simultaneously due to limited resources. The five main criteria used include: 1) Appropriateness, 2) Effectiveness, 3) Project inputs, 4) Efficiency, and 5) Urgency. Based on the views of seven Study team members, the order of priority is as follows:

Project 1: Improvement of health facilities for provision of essential obstetrics care
Project 2: Comprehensive maternal health
Project 3: Promoting community-based management of childhood illnesses (CBMCI)
Project 4: Improving the role of drug-sellers in primary health care
Project 5: Integrated maternal and child health care
Project 6: Community-based nutrition management project (CONMAP)

This ranking, however, is not final as it requires endorsement by MOHP. The numerical scores and "grades" for each project are shown in Tables 7.1 and 7.2 (FR Volume 3, Chapter 7).