

UNITED REPUBLIC OF TANZANIA



MINISTRY OF HEALTH AND SOCIAL WELFARE
NATIONAL MALARIA CONTROL PROGRAMME

MEDIUM TERM MALARIA STRATEGIC PLAN
2008 - 2013

February, 2008

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FOREWORD

The first Malaria Medium Term Strategic Plan (2002-2007) ends in the fiscal year 2007/08. The Ministry of Health and Social Welfare naturally, had to come up with this the second Plan (2008-2013). However, this is a plan with a difference. It is about “malaria elimination” in line with the Global initiative, that advocates for a rapid scaling of interventions to achieve Roll Back Malaria targets of universal coverage of 80% by 2010 and the Millennium Development Goals by 2015.

Malaria is still the number one killer disease in children aged less than five years and a significant contributor to maternal mortality. It is also the leading disease in terms of health facility attendance, thereby contributing to the heavy work load of the scarce and overstretched human resource for health. In economic terms, the losses incurred by the country as a result of malaria can be translated into billions of shillings which otherwise would have gone into development investment.

It is mandatory that we come up with an ambitious strategic plan for the elimination of malaria. Without an ambitious plan, we cannot come to grips with a ruthless enemy which malaria, indeed is. There is no doubt that with a combination of our efforts and the efforts of our partners malaria elimination should be around the corner.

The question to be asked is whether we have the will and the tools for waging a protracted war against a clever enemy. The answer is affirmative. Tanzania has the political will and it is imperative to bear in mind that, the tools available today – the nets, insecticides and anti-malarial drugs, when used in combination and to scale, it is quite possible to make a significant reductions in malaria transmission, cases and deaths.

There is no doubt that we face a lot of challenges for reaching high coverage rates as envisaged in this plan. The challenges include scarcity of health workers, the high cost ACT drugs, Long Lasting Insecticide Treated Nets and costs of implementation. The government has put up a Primary Health Sector Development Plan to address the human resource and health infrastructure shortcomings.

We call upon all our partners to come forward to support us financially so that the ambitious but realistic targets that are in this plan come to fulfilment. It is possible to eliminate malaria in the foreseeable future if all of us can play our part.

Hon. Prof. David H. Mwakysa, MP
Minister for Health and Social Welfare
March 2008

ACKNOWLEDGEMENTS

The Ministry of Health and Social Welfare extends sincere appreciation and gratitude to all who have contributed in one way or another, in finalizing the National Malaria Medium Term Strategic Plan 2008-2013. The following individuals participated in making this document a success:

1. Prof Zul Premji Muhimbili University of Health and Allied Sciences
2. Dr. Steven Nsimba Muhimbili University of Health and Allied Sciences
3. Dr. RBM. Kalinga Epidemiology section, MOHSW
4. Dr. Alex Mwitwa Manager, National Malaria Control Programme
5. Dr. Renata Mandike National Malaria Control Programme
6. Ms. Ritha Njau National officer, Malaria, WHO Tanzania
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25. Ms. Linda Nakara National Malaria Control Program
26. Jubilate Minja National Malaria Control Program
27. Leah Ndekuka National Malaria Control Program
28. Theresia Shirima National Malaria Control Program
29. Frank Chacky National Malaria Control Program

The Ministry also commends the following individuals who reviewed the document: Dr. Fabrizio Molteni, Mr. Rene Salgado, Dr. Pasiens Mapunda (CEEMI), Romanus Mtung'e, Dr. Sam Agbo, Mr. Nick Brown (ITN Cell Team leader, NMCP).

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LIST OF ABBREVIATIONS

ACTs	- Artemisinin-based Combination Therapy
ADDO	- Accredited Drug Dispensing Outlet
AMANET	- African Malaria Network Trust
ANC	- Ante Natal Clinic
BCC	- Behaviour Change Communication
CBHC	- Community Based Health Care
CHMT	- Council Health Management Team
CNO	- Chief Nursing Officer
CORPS	- Community Owned Resource Persons
DHMT	- District Health Management Team
DHS	- Director for Hospital Services
DLDB	- Duka la Dawa Baridi
DMO	- District Medical Officer
DSS	- District Sentinel Surveillance
ED	- Early Detection
EHS	- Environmental Health Section
GoT	- Government of Tanzania
HES	- Health Education Section
HF s	- Health Facilities
HMIS	- Health Management Information System
IEC	- Information Education and Communication
IHRDC	- Ifakara Health Research and Development Centre
IMCI	- Integrated Management of Childhood Illnesses
IMVC	- Integrated Malaria Vector Control
IPT	- Intermittent Presumptive Treatment
IPTp	- Intermittent Presumptive Treatment in Pregnancy
IPTp1	- Intermittent Presumptive Treatment in Pregnancy, First dose
IPTp2	- Intermittent Presumptive Treatment in Pregnancy, Second dose
IRS	- Indoor Residual Spraying
ITNs	- Insecticide Treated Nets
LLINs	- Long Lasting Insecticide Treated Nets

M&E	- Monitoring and Evaluation
MCM	- Malaria Case Management
MDGs	- Millennium Development Goals
MEEWS	- Malaria Epidemic Early Warning System
MIP	- Malaria in Pregnancy
MKUKUTA	- Mkakati wa Kukuza Uchumi na Kupunguza Umaskini
MoHSW	- Ministry of Health and Social Welfare
MSD	- Medical Stores Department
MTEF	- Medium Term Expenditure Framework
MUHAS	- Muhimbili University of Health and Allied Sciences
NGOs	- Non-Governmental Organizations
NMAC	- National Malaria Advisory Committee
NMCP	- National Malaria Control Programme
NMMTSP	- National Malaria Medium Term Strategic Plan
NSGRP	- National Strategy for Growth and Reduction of Poverty
OPD	- Out Patient Department
PHSDP	- Primary Health Sector Development Programme
PMORALG	- Prime Minister's Office Regional Administration and Local Government
PSU	- Pharmaceutical Supplies Unit
RAS	- Regional Administrative Secretary
RBM	- Roll Back Malaria
RCHS	- Reproductive and Child Health Section
RDTs	- Rapid Diagnostic Tests
RHMTs	- Regional Health Management Teams
RMIFP	- Regional Malaria and IMCI Focal Person
SP	- Sulphadoxine/Pyrimethamine
TAMISEMI	- Tawala za Mikoa na Serikali za Mitaa
TBAs	- Traditional Birth Attendant
TFDA	- Tanzania Food and Drug Authority
TMA	- Tanzania Meteorological Agency
TPRI	- Tanzania Pesticide Research Institute
NMCP	

UDSM - University of Dar es Salaam

VHWs - Village Health Workers

EXECUTIVE SUMMARY

Thirty percent (30%) of the disease burden borne by the people of Tanzania is from acute febrile illness, predominantly caused by malaria. The groups most vulnerable to malaria are young children and pregnant women.

Renewed concern about the impact of malaria in Tanzania and concerted efforts in resource mobilisation by the government and international donor community encouraged the development of a more ambitious second National Malaria Medium Term Strategic Plan (NMMTSP). The first 2002-07 NMMTSP was developed with the goal of reducing malaria mortality and morbidity in all 20 regions by 25% by 2007 and by 50% by 2010.

The 2nd NMMTSP builds on the previous successes and a new paradigm of phased malaria elimination: to reduce the burden of malaria by 80% by the end of 2013 from 2007 levels.

There are two key technical Strategies/Components in this Plan: (1) Malaria Diagnosis and Treatment and (2) Integrated Malaria Vector Control. There are three Supportive strategies. (1) Monitoring, Evaluation and Surveillance is a supportive strategy dealing with data management, malaria sentinel sites, malaria operational research and malaria epidemic early detection and response. (2) Community Mobilization focuses on community-based malaria control and BCC activities; and, (3) The supportive strategy on Regional/ District support and capacity building will facilitate planning and training in the regions and districts.

Expected outcomes

1. Appropriate malaria diagnosis and treatment provided throughout the country.
2. Reduced malaria transmission through effective implementation of integrated malaria vector control (IMVC) strategy.
3. Reduction of vulnerability to malaria infection and its complications in pregnancy achieved.
4. Effective early detection and rapid response to malaria epidemics.
5. Positive behaviour change activities which promote appropriate malaria prevention and treatment.
6. An effective and efficient monitoring, evaluation and surveillance system to improve programme management.
7. Improved coordination of operational research through network and its contribution to monitoring and evaluation.

Financial Resources

The breakdown of the financial resources required to implement this plan is shown in **Chapter 6 and Annexes 1-3**. The funds are expected to come from the government budget and from bilateral and multilateral partners. It is estimated that this strategy will cost **US\$ 693,372,026** to implement over the next five years. The funding assured over the time is **US\$245,566,814** and there therefore is a financing gap of **US\$ 447,805,212**.

INTRODUCTION

The second National Malaria Medium Term Strategic Plan 2008 – 2013 (NMMTSP) builds on the achievements, challenges and lessons learnt during the implementation of the first NMMTSP 2002 – 2007. The achievements of the NMMTSP 2002-2007 were discussed during evaluation meeting held in Arusha on 22-26 January 2007, and at the NMCP strategic planning meeting also held in Arusha on 5-16 March 2007.

In late 2007, the United Republic of Tanzania found itself at an unprecedented juncture of a renewed global interest to move beyond malaria control towards phased malaria elimination. **Malaria elimination demands the achievement of the targets agreed to in Abuja and Roll Back Malaria (RBM) by 2010 as the first step. Malaria elimination aims to achieve universal coverage of recommended interventions at a minimum level of 80%. This remarkable challenge of rapid and high coverage will require mobilization of human and financial resources to a level never previously directed toward a single infectious disease in recent history.**

The new global initiative for a phased approach towards malaria elimination and its implications in Tanzania were discussed in two meetings held in Morogoro on 12th -15th and 20th-24th November 2007. These inputs together with our own evaluation of the 2002-2007 NMMTSP have influenced the preparation of the 2008-2013 plan.

A. Major changes in the second plan

1. Rapid and high coverage of Long-lasting Insecticide Treated Nets

Coverage of Insecticide Treated Nets shall be rapidly expanded by directly providing free LLINs initially to children between 1 and 5 years of age through a single “catch-up” campaign alongside established channels. The scaling up of LLINs will later involve distribution of free nets to all household sleeping spaces in the country, if resources will be available. It is also envisaged to have a one off campaign in 2008 for treating the existing crop of polyester nets with a longer lasting insecticide and to work with the net manufacturers to ensure that all polyester nets produced in the country are factory pre-treated. Implementation of these measures shall guarantee that most of the nets used in Tanzania are treated and that a high coverage rate of treated nets is reached.

2. Introduction of Indoor Residual Spraying

Indoor Residual Spraying (IRS) will be implemented in epidemic-prone and high-burden areas as part of an integrated malaria vector control (IMVC) strategy. The IMVC strategy will also explore, and if possible, scale up best practices of environmental control of malaria breeding sites including larviciding.

3. Access to Artemisinin-based Combination Therapy

This strategy aims to increase access to Artemisinin-based combination therapy (ACT) in the private sector. Since the introduction of ACT in the public sector in December 2006, private sector access to ACTs has been limited due to the high price of the drugs and local regulatory issues.

4. Increasing uptake for Intermittent Preventative Treatment

Uptake of SP for Intermittent preventative treatment (IPT) of malaria in pregnancy, especially of second dose of IPTp will be raised.

5. Implementation of Behavioural Change Communication (BCC) strategy

The malaria communication strategy which had not been well implemented in the previous plan due to shortage of funding shall be operationalized.

6. Monitoring and Evaluation strengthened

Monitoring and evaluation shall be strengthened. A framework for monitoring and evaluation is important for tracking progress in implementation and for coordinating partners to align to the national needs.

7. Leadership and Programme Management

Strengthened leadership and programme management will provide the overall coordination of implementation. The NMCP organizational structure has been modified to improve its performance. The changes have been reflected in a new organogram.

B. Strategic Components

This plan has two key technical Components/ Strategies:

1. Malaria Diagnosis and Treatment
2. Integrated Malaria Vector Control (IMVC)

And there are three supportive strategies:

1. Monitoring, evaluation and surveillance
2. Behaviour Change Communication
3. Regional / district support and capacity building

C. Operational Period

The Plan aims to rapidly scale up to reach high levels of coverage for all main interventions, by adopting cost-effective and sustainable approaches. This five year strategy will be operational from July 2008 up to June 2013, in line with the Government of Tanzania's (GoT) financial year periods. The plan provides a comprehensive array of activities that will guide the fight against malaria in Tanzania.

CHAPTER ONE: COUNTRY PROFILE

1.1 Geographical features

The United Republic of Tanzania is located between longitudes 28°E and 40°E; latitudes 1°S and 12°S, and has a total area of 947,480 km² of which 883,349 km² constitute land and the remainder is water bodies. Tanzania has largely savannah climatic pattern, with two rainy seasons. The short rains are in November/December and the long rains from March to May

There are four distinct topographical zones. The Coastal Lowlands extend from the seashore for about 150 kms. inland to an altitude of about 300m. This zone is humid and has temperature variations from 20⁰ C to 30⁰ C. The Central Plateau has more marked diurnal temperature variations, being warm to hot during the day, and cool at night. The Basins around Lakes Victoria and Tanganyika have relatively high temperatures and humidity, and heavier rainfall. The highland areas surrounding Mount Kilimanjaro and the Southern Highlands have cooler temperatures and medium to heavy rainfalls.

1.2 Administrative Structure

The United Republic of Tanzania is composed of the Tanzania mainland and the island of Zanzibar. Mainland Tanzania has 21 regions (Fig. 1) and 132 councils. Each council is divided into four to five divisions, which in turn are composed of three to four wards. Five to seven villages form a ward. There are a total of about 10,045 villages. Since 1972, the government administration has been decentralised in order to promote people's participation in planning processes as well as to facilitate local decision-making.

The council is the most important administrative and implementation authority for public services. For this reason, the Ministry of Health and Social Welfare

(MoHSW) is currently strengthening the district health services, making the district the focus for health development¹.

1.3 Demographic and Socioeconomic Indicators

Tanzania has an estimated population of 38,710,723 million (2002 census with projection for 2007), with an annual growth rate of 2.8%. Seventy-six percent of the people live in rural communities. Twenty percent of the population are children under five years of age, 27% are 5 to 15 years olds, and 20% are women of reproductive age (between 15 to 49 years).

The latest per capita income is US\$ 260, (Bank of Tanzania 2002 report) and increased aid dependency per capita from US\$ 29(1996) to US\$ 36 (2001) makes Tanzania a low income country. However, since the adoption of the economic recovery program in 1985, the country has experienced strong progress in terms of economic growth. An average growth rate of 4.0% was recorded between 1992 and 1998 compared to 2.5% in the prior period.

About 27% of the population are poor, defined as spending less than \$0.50 per day. Approximately 48% are basic need poor, spending less than \$ 0.65 per day (HMIS 1999).

Health indicators shows that life expectancy at birth for Tanzanians is 51 years (2002 census) compared with 50 years (1988 census), likely due to the effects of HIV/AIDS. Under Five childhood mortality is on a declining trend from 147 per 1000 in 1999 to 112 per 1000 in 2005 and the infant mortality rate has declined from 99 per 1000 to 68 respectively (DHS 2004/2005). However, the maternal mortality rate has remained high. In 1996, maternal mortality was 529 per 100,000 live births while in 2005 it rose to 578.

¹ Policy Paper on Local Government Reforms 1998

With regard to the nutritional status of children, there is marked improvement since 1999. Stunting has decreased from 44% to 38% while wasting from 5% to 3% and underweight from 29% to 22%.

The current situation has been shaped by socio-economic reforms, launched in 1986, focusing on developing a market economy and encouraging the participation of the private sector and civil society (NGOs, research and training institutes and faith based initiatives).

Map of the Republic of Tanzania



CHAPTER TWO: THE NATIONAL HEALTH POLICY

This strategy has been built to be part of the wider government policies and strategies elaborated as follows:

2.1 The Health Policy

The National Health Policy has been amended since its inception in 1990 to incorporate the on-going health sector reform process in the country (MOHSW 2005).

In line with Government Development Vision 2025 goals, the Ministry of Health and Social Welfare will contribute towards the improvement of the health status and life expectancy of the people in Tanzania. This will entail ensuring the delivery of effective, efficient and high-quality curative and preventive health services for all citizens at every level. Success in achieving the objectives of the present health policy will require tangible solutions to the current systematic problems that affect the delivery of health services.

2.1.1 Policy Vision

The vision of the Health Policy in Tanzania is to improve the health and well being of all Tanzanians with a focus on those most at risk, and to encourage the health system to be more responsive to the needs of the people.

2.1.2 Mission

To facilitate the provision of equitable, high-quality and affordable basic health services, which are gender sensitive and sustainable, delivered for the achievement of improved health status.

2.1.3 Objectives

- a) Reduce the burden of disease, maternal and infant mortality and increase life expectancy through the provision of adequate and equitable maternal and child health services, facilitate the promotion of environmental health and sanitation, promote adequate nutrition, control of communicable diseases and treatment of common conditions;
- b) Ensure the availability of drugs, reagents and medical supplies and infrastructures;
- c) Ensure that the health services are available and accessible to all the people in the country (urban and rural areas);
- d) Train and make available competent and adequate number of health staff to manage health services with gender perspective at all levels. Capacity building of human resource at all levels in management and health services provision will be addressed;
- e) Sensitize the community on common preventable health problems, and improve the capabilities at all levels of society to assess and analyse problems and design appropriate action through genuine community involvement;
- f) Promote awareness among Government employees and the community at large that health problems can only be adequately solved through multisectoral cooperation involving sectors such as education, water, agriculture, the private sector, including Non Governmental organisations, Civil Society and Central Ministries such as Regional Administration and Local Government, community development, Gender and Children;

- g) Create awareness through family health promotion that the responsibility for one's health rests in the individuals as an integral part of family, community and nation;
- h) Promote and sustain public-private partnerships in the delivery of health services; and
- i) Promote traditional medicine and alternative healing system and regulate the practice.

2.2 Strategic Government Policies

2.2.1 Vision 2025

In the Tanzania Development Vision 2025, the main objective is achievement of high-quality livelihood for all Tanzanians. This is expected to be attained through strategies which will ensure the realization of the following health services goals:

- (i) Access to high-quality primary health care for all;
- (ii) Access to high-quality reproductive health service for all individuals of appropriate ages;
- (iii) Reduction in infant and maternal mortality rates by three quarters from current levels;
- (iv) Universal access to clean and safe water;
- (v) Life expectancy comparable to the level attained by typical middle-income countries;
- (vi) Food self-sufficiency and food security;
- (vii) Gender equality and empowerment of women in all health parameters; and
- (viii) Encourage the participation of community in the delivery of health services.

2.2.2 Millennium Development Goals

Tanzania is signatory to UN Millennium Development Goals (MDGs). Malaria is closely linked to the goals linked with the reduction of child mortality by two-thirds, reduction of maternal mortality by three-quarters and to combating HIV/AIDS, malaria and other diseases by controlling them by 2015 and thereafter reversing their spread.

2.2.3 The National Strategy for Growth and Reduction of Poverty

Under the National Vision 2025, the health sector has been given higher status through cluster two of the National Strategy for Growth and Poverty Reduction (NSGRP) as a key factor in economic development, with the ultimate goal being improved quality of life and social well-being.

The health sector is challenged to meet the health-related Millennium Development Goals. NSGRP places these goals within Cluster II which addresses improvement of the quality of life and social well-being. The MOHSW will use a greater proportion of the health budget to target cost-effective interventions such as immunization of children aged less than 3 years of age, Reproductive and Child Health including family planning and control of malaria, HIV & AIDS, tuberculosis and leprosy. These interventions are largely covered by PHSDP.

The majority of the poor, and specifically the rural poor, suffer from the above and other preventable conditions. The MOHSW will continue to advocate for an increase in resource allocation to implement cost-effective interventions, while at the same time join hands with other stakeholders, communities and development partners to reorient the services to be more responsive to the needs of the population, and specifically targeting indigent and vulnerable groups.

2.2.4 Health Sector Strategic Plan

The Strategic Plan of 2007 – 2010 aims at enabling the MoHSW to critically examine and identify areas which are core to MoHSW as stipulated by its mandate, and strategically allocate the limited available resources to priority areas where most impact is realized in line with MKUKUTA and other national policy frameworks. This plan is therefore in line with the proposal to strengthen primary health services.

2.2.5 Public Service Reforms

The programme aims at transforming the public service into a service that has the capacity, systems and culture for the continuous improvement of services. The main issues on which the programme focuses are: weak capacity of the public services and poor delivery of public services. In order to meet the goals of the public service reform, each sector is executing sectoral reforms. This includes the provision of adequate staff in government health facilities.

2.2.6 Health Sector Reforms

Health sector reform aims to improve the health sector's provision of quality health services for communities. Health sector reforms are a sustainable process of fundamental change in national health policy and institutional arrangement that are evidence based. The reform has nine strategies as follows:

- District health services;
- Secondary and tertiary level referral hospital services;
- Role of the central MOHSW;
- Human resource development;
- Central support systems;
- Health care financing;
- Public and private mix;
- Donor coordination; and
- HIV/AIDS.

2.2.7 Local Government Reform Policy Paper

The local government reform emphasises devolution of power and the establishment of a holistic local government system, in order to achieve a democratic and autonomous institution. Within this context, primary health services are also managed and administered by Local Government authorities.

2.2.8 The Primary Health Service Development Programme (PHSDP) – 2007 - 2017

The aim of this policy is the delivery of health services to ensure fair, equitable and quality services to the community. Furthermore, the policy aims at empowering communities and involving them in health services provision.

2.3 Organization of Health Services

The National Health System is based on a central-district government structure. The MOHSW and President's Office Regional Administration and Local Government (PORALG) are jointly responsible for the delivery of public health services. The central MOHSW is responsible for policy formulation and the development of guidelines to facilitate policy implementation. Regional Health Management Teams (RHMTs) interpret these policies and monitor their implementation in the districts they supervise. The Council Health Management Team (CHMT) is responsible for Council health services, including dispensaries, health centres and hospitals in a given district. The District Medical Officer (DMO) heads the DHMT as in charge of all Council Health Services. The DHMT follows guidelines for planning and management of district health issued jointly by MOHSW and PORALG. The DMO is accountable to the Council Director on administrative and managerial matters, and responsible to the Regional Medical Officer (RMO) heads the RHMT and reports directly to the Ministry of Health and Social Welfare on issues related to medical management and PORALG through

the Regional Administration Secretary (RAS) on issues related to health administration and management.

Table No 1: Health facilities in Tanzania Mainland according to Ownership

Facility type	Type of ownership				
	Government	Voluntary	Parastatal	Private	Total
Consultancy/Specialized Hospitals	6	2	0	0	8
Regional Hospitals	17	0	0	0	17
District Hospitals	61	14	1	0	76
Other Hospitals	0	74	8	34	116
Health Centres	300	82	5	47	434
Dispensaries	2,788	613	164	843	4,408
Total	3,172	785	181	924	5,059

Source: HMIS- MOHSW

A dispensary serves a population of six to ten thousand people, a health centre, 50–80,000 and a district hospital, 250,000+. The regional hospital serves as a referral centre to four to eight district hospitals and the four consultant hospitals serve several regional hospitals.

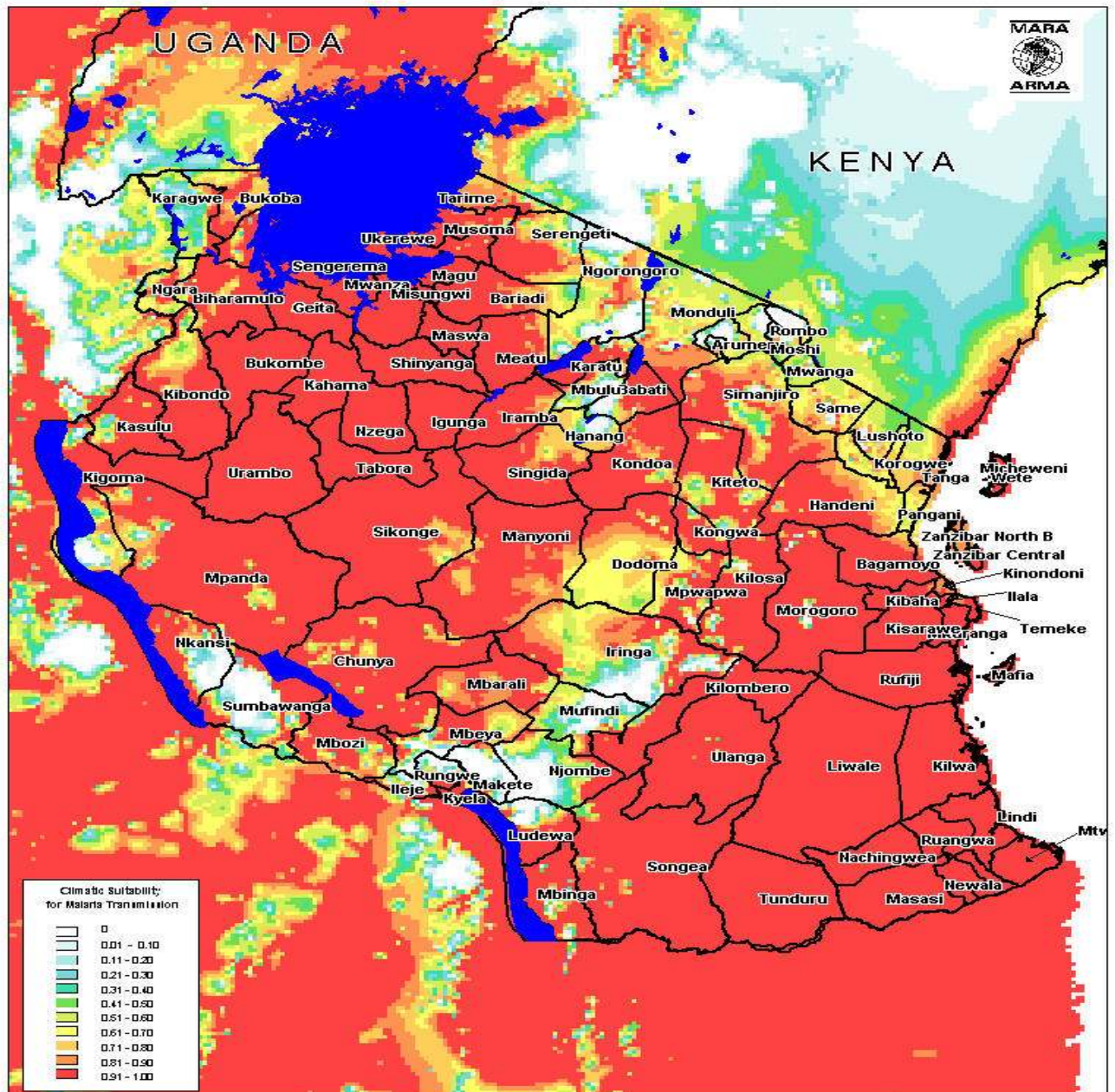
CHAPTER THREE: THE BURDEN OF MALARIA AND STRATEGIC ACTIONS

3.1 Malaria Situation

Malaria is the single most significant disease in Tanzania affecting the health and welfare of its 38.6 million mainland inhabitants. The climatic conditions are favourable to mosquito breeding almost the entire country. Tanzania has the third largest population at risk of stable malaria in Africa after Nigeria and the Democratic Republic of Congo. The transmission is stable perennial to stable seasonal in over 80% of the country and about 20% of the population live in

unstable malaria transmission areas prone to malaria epidemics. Below is a map depicting malaria seasonality in Tanzania.

TANZANIA: Climatic Suitability Model for Malaria Transmission



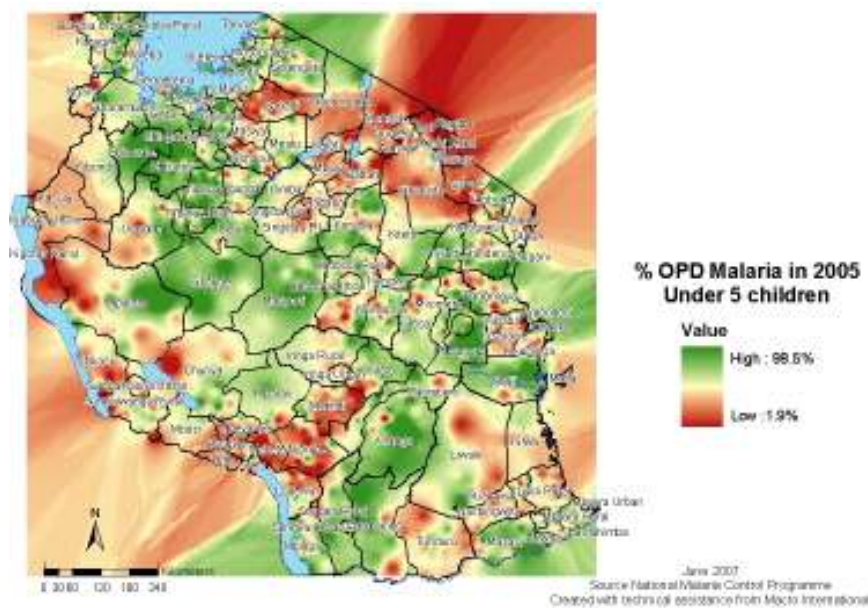
The Climatic Malaria Distribution Model, showing fuzzy climate suitability for malaria transmission, where 0 = unsuitable (transmission is most unlikely), 1 = Suitable (Stable transmission is highly likely), 0 <> 1 = Increasing climatic suitability

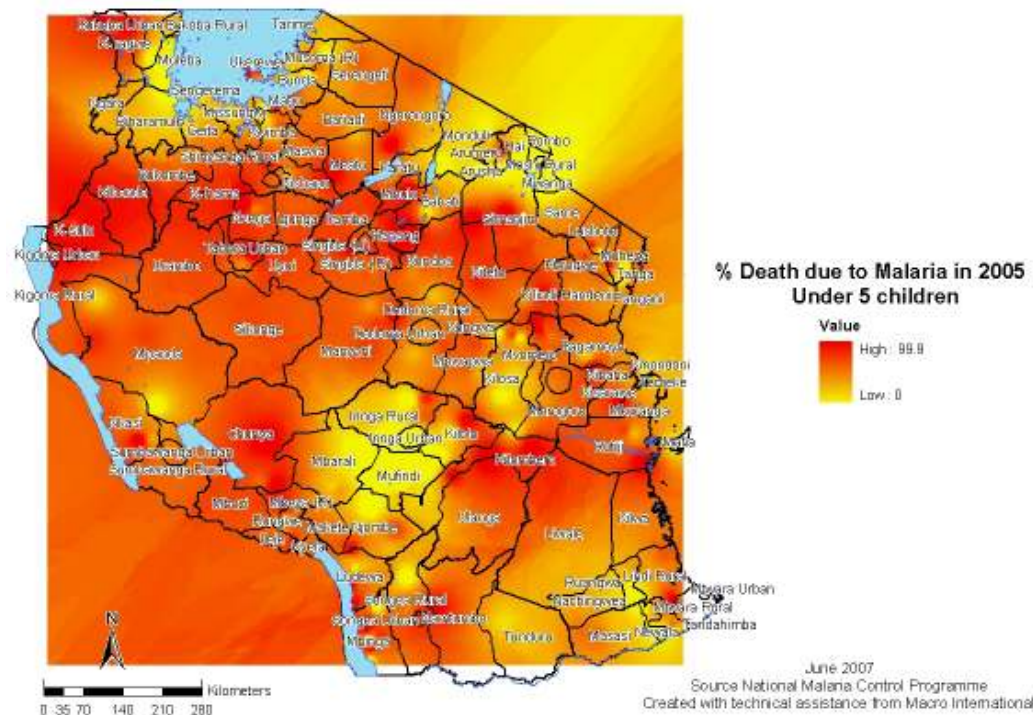
The number of clinical malaria cases per year is estimated to be 17 – 20 million resulting in approximately 80,000 deaths. It is estimated that malaria contributes to about 36% of all deaths in Tanzanian children aged less than five years (IHRDC-DSS, 2005). Children under five years of age and pregnant women are especially vulnerable to malaria due to their low malaria immunity status.

Reports of disease statistics from health facilities (HMIS) indicate that malaria is the leading cause of outpatient and inpatient health care visits and of deaths among children. Over 40% of all outpatient attendances are attributable to malaria.

The species *Plasmodium falciparum* is responsible for over 95% of malaria infections in Tanzania. The parasite has developed resistance to the most commonly used antimalarial drugs in the country i.e. chloroquine and Sulfadoxine /Pyrimethamine (SP). The principal malaria vectors are *Anopheles gambiae* and *Anopheles funestus*

Map No 1: Malaria OPD cases for children aged less than five years





Map No 2: Deaths attributable to malaria in children aged less than five years

3.2 Evaluation of the first Medium Plan (2002-2007)

The first plan had pegged targets at 60%, in line with RBM's Abuja targets. Evaluation indicated that most of the targets were not attained as follows:

3.2.1 Malaria diagnosis and home management of febrile episodes

- Community access to prompt antimalarial treatment within 24 hours was very low.
 - More than half of caretakers of children under five did not take any action within 24 hours from the onset of febrile illness.
 - There were wrong actions taken by caretakers in the home management of fevers in children
- Less than one third of total clinical cases of malaria in the country were confirmed

- Operational research showed a very large magnitude of malaria over - diagnosis and inaccuracy of malaria microscopic diagnosis

3.2.2 Malaria prevention

The National Voucher Scheme steadily raised ITN coverage for the target groups of under five years of age and pregnant women but coverage for ITNs was below 60%. At the end of 2007:

- Household coverage of at least one net (treated/untreated) was 65%
- ITNs use for currently pregnant women reached 23%
- ITNs use for under five years reached 26 %
- IRS was implemented in one epidemic prone district
- Larviciding was done in trial projects

3.2.3 Intermittent Prevention of Malaria in Pregnancy (IPTp)

- Coverage for IPTp1 reached 65% but IPTp2 only reached 31%

The weaknesses identified include late booking, hiccups in the SP supply chain and the verticalization of district capacity training whereby training of providers was done from central level.

3.2.4 Epidemic detection and response

The weaknesses identified were:

- Lack of district maps for the stratification of malaria transmission patterns to facilitate the management of the early detection (ED) system
- Lack of proper and timely data for early epidemic detection
- Failure to verify of suspected malaria epidemics at district level
- Weaknesses in rapid response to malaria epidemics
- Non availability of contingent stocks of medicines and insecticides

- Difficulties interpreting early malaria early warning systems (MEEWS) that were introduced in some districts
- Human resource constraints at regional and district level

3.2.5 Behaviour Change Communication

The following shortcomings were noted:

- The Malaria Communication strategy had not been implemented due lack of funding
- Low technical capacity at NMCP's IEC and Mass Mobilization unit
- Non- functional IEC technical sub committee
- Low community and partner engagement on community based malaria control activities

3.2.6 Monitoring, Evaluation and Operational Research

The weaknesses evident were:

- Lack of a plan for harmonization of M&E activities
- Weak M&E network to capture malaria related Operational Research
- Limited capacity of M&E cell at NMCP
- Poor quality HMIS data to accurately reflect malaria related morbidity & mortality trends
- Failure to capture the magnitude of malaria in pregnancy through routine HMIS data
- Lack of a model for estimating country malaria burden
- Weak implementation of Pharmacovigilance
- Weak prioritization of malaria in the research agenda

CHAPTER FOUR: MEDIUM TERM STRATEGIC PLAN 2008-2013

4.1 Strategic Framework

4.1.1 The Vision of NMCP:

Tanzania becomes a society where malaria is no longer a threat to the health of its citizens regardless of gender, religious or socio-economic status.

4.1.2 The Mission of NMCP

Tanzanians have universal access to malaria interventions through the effective and sustainable collaborative efforts with partners and stakeholders at all levels.

4.1.3 Goal

To reduce the burden of malaria by 80%, by the end of 2013, from current levels (currently: mortality of estimated at 80,000 death per year and a morbidity of 18,000,000 cases per year).

The goal shall be attained through implementation of five strategies; which two are core strategies and three are supportive strategies.

Main/core strategies are:

1. Malaria Diagnosis and Treatment
2. Malaria Prevention

The supportive strategies:

3. Monitoring, Evaluation and Surveillance
4. BCC/IEC and Community Based Malaria Control
5. Regional/District support and capacity building

4.1.4 Strategies, Outcomes and Outputs

Strategy 1: Malaria Diagnosis and Treatment

Outcomes

1. Appropriate Malaria Diagnosis and treatment provided throughout the country
2. Reduced vulnerability to malaria infection and its complications in pregnancy

Outputs for outcome No 1:

- Improvement of anti-malarial drug supply management
- Appropriate malaria case management provided at health facility level
- Access to appropriate home-based care in place, with access to early diagnosis and prompt treatment improved at home
- Improvement of access to early malaria confirmatory diagnosis to facilitate rational use of ACTs

Outputs for outcome No 2:

In collaboration with RCHS

- Attendance Improvement in the attendance of pregnant women to ANC services
- Quality ANC services provided at all levels
- Uptake of IPTp-1 and in particular IPTp-2 enhanced

Strategy 2: Malaria Prevention

Outcome:

Reduced malaria transmission through effective implementation of IMVC

Outputs

- Increased coverage and use of ITNs
- IRS re-introduced and expanded
- Scaled up best practices of environmental management for malaria vector breeding sites
- Scaled up best practices of larviciding for malaria vector control

Strategy 3: Behaviour Change Communication

Outcome:

Enhancement of positive behaviour changes which promote appropriate malaria prevention and treatment

Outputs:

- Institutionalization of Operational National Communication Strategy
- Expansion of effective BCC/IEC for positive malaria health practices
- Enhancement of communities' and partners' engagement in community-based malaria control activities

Strategy 4: Regional/district support and capacity building

Outcome:

NMCP adopts an improved approach on trainings and capacity strengthening for service improvement.

Outputs for Strategy 4

- NMCP to adopt improved approach to training
- Strengthening capacity towards service improvement

Strategy 5: Monitoring, evaluation and surveillance and operational research

Outcomes

1. Malaria control activities and their outcomes effectively monitored
2. Malaria cases and deaths caused by epidemics reduced

Outputs:

- Improved quality of routine HMIS malaria data through MoHSW approved sentinel HFs
- Enhanced EDS through malaria epidemic hot spots
- Functional MEEWS established and implemented in all epidemic prone districts
- Improved coordination network for malaria operational research
- Strengthened Monitoring and Evaluation of the MTMSP

4.2 Targets

4.2.1 Strategy 1: Malaria Diagnosis and Treatment

Targets for Strategy 1

1. The proportion of HFs with no reported stock out of recommended anti-malaria drugs ACTs at anytime of the year shall be increased from 80% in 2007 to 100% by 2013
2. The proportion of drug outlets selling anti-malaria drugs according to the national guideline shall be increased to 80% from the current level by 2013
3. The proportion of children under 5 years of age diagnosed with uncomplicated malaria in HFs who are appropriately managed shall be increased from 64% in 2007 to 80% by 2013.
4. The proportion of children under five years admitted with Severe Malaria receiving appropriate treatment according to National Guidelines shall be increased from 66% in 2007 to 85% by 2013
5. The proportion of children under 5 years of age with fever receiving appropriate treatment within 24 hours of onset of fever shall be increased from 28% in 2007 to 80% by 2013
6. The proportion of laboratory confirmed malaria cases shall be increased from 20% in 2007 to 80% by 2013

7. **The proportion of health facilities with functional malaria diagnostic tools will be increased from 12% in 2007 to 80% by 2013**
8. **The 80% of pregnant women shall attend their first ANC visit at an average 13 weeks of gestation by 2013**
9. **In collaboration with RCHS The Focused Ante Natal Care (FANC) package shall be provided at all levels of health care by 2013**

Outputs for Strategy 1

Malaria diagnosis and treatment and Malaria in Pregnancy will be achieved through six outputs:

Output 1: Anti-malarial drug supply improved

- Improving access to ACTs in both the public and private and public sector by:
 - Specifically investing in anti-malarial drug supply and management at all levels of the storage and distribution system to ensure uninterrupted supply and efficient re-deployment of stocks according to needs
 - Supporting a progressive expansion of the network of ADDOs and training of Duka la Dawa Baridi (DLDB) proprietors
 - Subsidizing quality ACTs to children under five years of age and gradually to other age groups in the private sector

Output 2: Appropriate malaria case management provided at health facility level

- Capacity building of health workers in malaria case management will be supported through training and follow up supervision.
 - Primary health facility health workers will be trained on management of uncomplicated malaria, referral and pre-referral treatment of severe malaria cases.
- Management of severe malaria at primary health facilities and at hospital level will be strengthened with a focus on most vulnerable groups, especially children under five years of age through:
 - Improving availability of pre-referral anti malarial drugs and essential supplies for pre-referral treatment of severe malaria will be assured
 - In close collaboration with the IMCI and the hospital management team, support will be provided in strengthening the emergency units of all hospitals and health centres.

Output 3: Appropriate home-based care in place, and access to prompt anti-malarial treatment improved

This output addresses the introduction and scaling-up of home base-management of malaria through:

- Promotion of behaviour change on early care seeking and compliance with treatment and referrals
- Specific pilot projects will be implemented to evaluate the possibility of involving community owned resourceful persons (CORPS) in pre-referral

treatment with rectal artesunate given to children with severe febrile illness who are unable to take oral medication.

- In-country demonstration projects in selected districts of deployment of both ACTs and RDTs at community level will provide knowledge on operational feasibility

Output 4: Access to early malaria confirmatory diagnosis to facilitate rational use of ACTs improved

The proportion of malaria treatments dispensed to patients without malaria infection is high in Tanzania. This is due to a combination of very high transmission and limited availability of quality-controlled laboratory services. Consequently this leads to malaria misdiagnosis. The sustained use of high-cost ACTs as first-line treatment of malaria in Tanzania requires better targeting of expensive life-saving medicines. Increased specificity of malaria diagnosis allows health providers to better focus on the clinical management of other possible causes of febrile illness in the health facility.

Moreover, increasing the coverage, performance and use of parasitological diagnosis of malaria improves the quality of patient management and will enable the tracking of confirmed cases of malaria. It also allows better targeting of vector control interventions in the country.

This output will be achieved through:

- The Introduction of malaria Rapid Diagnostic Tests (RDTs) and wide use of RDTs by medical personnel in all health facilities without microscopy
- Setting-up a quality assurance system for both malaria microscopy and RDTs
- Upgrading skills of laboratory personnel in diagnostic techniques (through training, supervision and enrolment in quality control schemes) and in diagnostic algorithms

- Behaviour change communication to health professionals and to the general public to trust results especially when RDTs are introduced

Output 5: Attendance of pregnant women to ANC services improved

The aim of the NMMTSP 2008 - 2013 is to more aggressively the three key interventions for pregnant women attending ANC services:

- Higher levels of IPT uptake;
- Use of LLINs; and
- Access to comprehensive quality care during ANC visits.

To effectively these interventions, the pre-requisite is to increase the utilization rates and access to ANC services especially during the early period of pregnancy. Four main areas of focus have been therefore defined in the NMMTSP 2008 - 2013: 1) Earlier booking and at least four visits of pregnant women to ANC services attained; 2) Provision of quality malaria control services during pregnancy at all levels; 3) LLIN ownership and use among pregnant women increased; 4) uptake of IPTp-1 and especially IPTp-2 to be enhanced.

Output 6: Quality ANC services provided at all levels

The NMCP in collaboration with Reproductive Health Partners and trained health workers on the a comprehensive package of reproductive health care including malaria in pregnancy (MIP) , syphilis in pregnancy, management of anaemia and Prevention of Mother-to-Child Transmission of HIV/AIDS. The MIP training is an integral part in Reproductive and Child Health Section, and together conduct training sessions. Collaborative activities with CHMTs will be established to ensure correct implementation of cascade training on the comprehensive package of reproductive health care including MIP at district level.

4.2.2 Strategy 2: Malaria Prevention

Targets for Strategy 2:

The main targets set for this plan aim to reduce malaria transmission through effective implementation of Integrated Malaria Vector Control (IMVC) and also of malaria prevention during pregnancy. The targets are:

1. IPTp1 uptake for pregnant women in Tanzania to be raised from 65% in 2007 to 80% by 2013
2. IPTp2 uptake for pregnant women in Tanzania to be raised from 31% in 2007 to 80% by 2013
3. The proportion of currently pregnant women sleeping under ITNs shall be raised from 23% in 2007 to 80% by 2013
4. The proportion of children under five sleeping under ITNs to be raised from 26 % in 2007 to 80% by 2013
5. The proportion of households owning at least one ITN to be raised from 36% in 2007 to 80% by 2013,
6. 80% of households to own at least two ITNs by 2013

7. **The proportion of households owning at least one ITN to be raised from 36% in 2007 to 80% by 2013,**
8. **By 2013, all malaria epidemic-prone districts will implement effective and timely IRS in response or to prevent malaria outbreaks**
9. **By 2013, effective environmental management for malaria control will be scaled up and implemented in 15 out of 25 urban councils**
10. **By 2013, Larviciding for malaria control will be scaled up in 5 city councils in the country**

Outputs for Strategy 2:

Output 1: uptake of IPTp-1 and IPTp-2 enhanced

TNVS surveys have shown that the IPT1 uptake for pregnant women was at 65% in 2007 while the rate of IPT2 uptake for the same year was at 31%, still far below the national agreed target of 60% (set in the NMMTSP 2002 – 2007).

In improving the uptake of IPT the following will needs to be enhanced:

- The procurement and distribution of SP for IPT in ANC clinics

- Regular monitoring of its availability at ANC outlets throughout the country. Availability of SP, iron supplements and micronutrients will be assessed during regular supervision visits.
- Mechanisms to promote ANC attendance will be revised to promote full adherence to IPT
- Evaluation the effectiveness of IPT with SP in the country, through sentinel sites monitoring and comparing the prevalence of placental malaria infection in women who have fully complied to IPT-2 with those who receive IPT.

Output 2: LLIN ownership and use among pregnant women increased

The coverage of mosquito nets has increased progressively in Tanzania since 2004, with high rates of mosquito net ownership especially in urban areas. Yet the ownership of ITNs and their use by the most vulnerable groups remains moderate to low, partly because of late attendance, low voucher coverage of 70% or less and low net re-treatment rates. In order to increase coverage and to achieve the higher outcome targets for 2013, the value of the current voucher will be increased to permit the purchase of an LLIN with only a 500 Tanzanian shilling top up amount. Other measures to be taken are:

- Investments in the communication strategy to promote early attendance, demand for and correct use of LLINs by pregnant women and the public in general
- Ensuring that all pregnant women attending RCH facilities receive a voucher at their first ANC visit

Output 3: Increased coverage and use ITNs in children under five years

The 2007 TNVS Household Survey reports that 36% of households have at least one (1) ITN and 65% have at least one net (any net) whether recently treated or not; 26% of children under 5 years sleep under an ITN (46% under any net) and 23% of pregnant women slept under an ITN. Coverage of children under one was 34% sleeping under an ITN and 55% under any net.

The ITN coverage rates did not reach the set target for the 2002-07 NMMTSP.

Therefore, to increase these levels of coverage, the new Strategic Plan 2008 – 2013 aims to:

- Expand coverage by directly providing free Long Lasting Nets (LLINs) to children aged between one and five.
- Give free LLINs to other household members if financial resources become available
- Deliver ITNs to vulnerable groups i.e. pregnant women and children under five, based on targeted subsidies through the voucher scheme
- Implement a “replacement campaign” three to five years after the first “front load” campaign to replace worn out ITNs distributed in 2008

Output 4: Indoor Residual Spraying (IRS) re-introduced and expanded

Indoor residual spraying will be conducted in both epidemic and endemic malaria transmission areas where indoor resting vectors (endophilic species) are predominant, houses have sprayable surfaces (walls, eaves, ceilings), the community is not nomadic and community outdoor sleeping is uncommon.

The risk of insecticide resistance will be mitigated by a proactive resistance management programme.

Output 5: Scale up best practices of environmental management for malaria vector breeding sites

Environmental management (EM) aims to reduce the density of malaria vectors by decreasing the number of potential breeding sites through the cleaning and maintenance of drains. In the 2008-13 NMMTSP, the best practises will be scaled up in targeted urban areas

Output 6: Scale up best practices of Larviciding for malaria vector control

Larviciding aims to reduce the density of malaria vectors if. There is an ongoing community-based programme of larviciding taking place in Dar-es-salaam. This pilot programme has provided evidence that larviciding using *Bacillus sphaericus* (Bs,) and *Bacillus thuringiensis israelensis* (Bti) is effective against mosquito breeding sites at closed and open habitats respectively, and can be scaled up to a wider area. Programme key findings and best practices are progressively documented.

Key documented practices were:

- Collaboration with different stake holders, using the existing local administrative structure is essential
- Community involvement and participation is key to affordability and success
- Larviciding must start in advance of rains
- Operational challenges can be learned and overcome through experience

The Strategic Plan 2008 – 2013 aims to scale up implementation of larviciding in five city councils.

4.2.3. Strategy 3: Behaviour Change Communication (BCC)

BCC/IEC is essential in effective implementation of the NMCP technical strategies, as it cuts across all strategies by promoting positive behaviour for the prevention and control of malaria. It also entails demand creation, whereby communities can start to make choices that will result in better health and increased overall demand for effective services

Targets for Strategy 3

1. The revised 5 years Communication Strategy will be institutionalized and operationalized to effectively guide all BCC/IEC activities by 2013
2. Continuous IEC/BCC messages on malaria interventions are given to the public by 2013
3. Malaria interventions on prevention and treatment are known by 80% of the population by 2013
4. At least 30% of villages in Tanzania have VHWs delivering malaria preventive services and by 2013

Outputs for Strategy 3

Output 1: Operational National Communication Strategy institutionalized

The output recognizes the importance of having a clear communication strategy that serves as a guide to ensure that dissemination of information on malaria to various target audiences and stakeholders is done in a more systematic and coordinated way. At a more operational level, the communication strategy aims

at getting the right messages to the right audience segments using the right channels and promoting those behaviours that help to reduce the incidences of malaria in Tanzania. The messages are:

- Recognition of signs and symptoms of malaria, encouragement of early treatment seeking behaviour and compliance with therapies and recommendations.
- Use of ITNs/LLINs in the household all the time
- Improved sanitation to reduce mosquito breeding
- Early reporting to ANC clinics
- Understanding the importance of using IPT for pregnant women
- Support to community initiatives for malaria control interventions

Output 2: Effective BCC/IEC for positive malaria health practices expanded

Advocacy, sensitisation and the use of information for behaviour change all aim to improve the health status of all Tanzanians. Specific to malaria, they will promote positive health behaviour towards malaria prevention and treatment. The campaign of subsidized free distribution of ITNs, scaling up of subsidized ACTs to the private sector and the introduction and expansion of IRS shall benefit from such a campaign.

Output 3: Community and partners' engagement in Community based Malaria Control activities enhanced.

With rapid expected scale up of malaria interventions and intensification of BCC at community level there is a need to explore further better ways of using VHWs/CHW for delivering comprehensive community health package including of Malaria related interventions package, into targeted geographical areas. This move will complement the existing community outlets such as ADDO for ACTs treatment and private shop retailers for ITNs

NMCP in collaboration with implementing partners and researchers will create a forum for discussion on main challenges, and to build up on what already exists.

4.2.4 Strategy 4: Regional/District Support and Capacity Building

In this plan there will be a new approach to training and capacity strengthening towards service improvement at regional and district level.

Target for Strategy 4

NMCP approach to training shall henceforth incorporate a pre intervention assessment, follow up and impact assessments to improve the quality and effectiveness of training interventions

Outputs for Strategy 4

Output 1: Improved approach to training adopted

All training activities shall incorporate a pre intervention assessment, follow up and impact assessment to improve the quality and effectiveness of training interventions

The approach for technical training of health workers all along had been conventional. That means the contents of the training are obtained directly from generic manuals and experienced professionals. The quality and coverage of topics depended on facilitators. Field monitoring and follow-up was not an integral part of the training and formal direct assessment on training impact was done. This plan shall ensure that this approach is changed.

Output 2: Capacity for service delivery strengthened

In this plan, capacity strengthening for regions and districts will be strengthened. District Malaria and IMCI Focal persons will undergo refresher and replacement trainings. Regional Malaria and IMCI Focal persons will be trained. NMCP staff will be trained in programme management skills.

4.2.5 Strategy 5: Monitoring, Evaluation, Surveillance and Operational Research

Monitoring and Evaluation (M& E) is an integral part of any plan. It is aimed at measuring progress made towards the impact, outcomes and the process of implementation and ensures accountability. M&E in this plan will be achieved through addressing the following key areas:

- The development of a comprehensive monitoring and evaluation plan
- Strengthening data management capacity of the monitoring and evaluation unit
- Strengthening data collection and reporting systems to ensure quality and timely reporting through approved health facility sentinel sites
- Enhancement and harmonisation of operational research of the different malaria activities, surveys and related initiatives at the National and International levels

Targets for Strategy 5

1. By 2013, quality, reliable and timely HMIS data will be available for assessment of malaria morbidity and mortality trends from approved sentinel health facilities
2. By the year 2013 all malaria epidemic prone districts have stratified maps on epidemic hot spots and have capacity for early detection and district initiated rapid response.
3. By 2013, all epidemic-prone districts will have functional Malaria Epidemic Early Warning System (MEEWS) in place
4. By 2013 A Functional Malaria Operational Research network in place as a part of M&E network

Outputs for Strategy 5

Output 1: Improved quality of HMIS malaria data through sentinel reporting

Routine information collected through the HMIS includes malaria impact indicators such as morbidity and mortality disaggregated by age, as well as some outcome indicators. However HMIS has a number of limitations: incompleteness and unreliable data, delayed reporting, and reports on malaria cases and deaths are inaccurate. Over 80% of malaria cases are not confirmed; where definitive diagnosis is done, there is no quality assurance system in place. To address these shortcomings, sentinel health facilities will be used to track trends of malaria morbidity and mortality every month. Within the catchments area of the sentinel health facilities, coverage indicators including malaria prevalence and anaemia in the community will also be collected every two years.

Strengthening the capacity of the monitoring and evaluation unit will be a prerequisite for achieving the above output.

Output 2: Enhanced Early Detection System (EDS) and Rapid Response

A system for early detection (ED) and rapid response is important to quickly reduce malaria burden in the event of a malaria epidemic in a district. In reality, there are only a few areas -- the “hot spots” -- within an epidemic prone district where epidemics occur. These areas will be mapped out. Presently, the Early Detection System (EDS) has been established in all epidemic prone districts. The essential component for functional EDS is proper and timely routine HMIS data management plotted to detect an epidemic. This procedure, however, is often not done properly and the new approach of identifying the hot spots by stratification mapping and focusing early detection at the hot spots rather than the whole district.

Rapid response is a second step after if an epidemic is detected. The response has three essential field components:

- Verification of the epidemic mainly by using Rapid Tests (RDTs)
- Initiating treatment once the epidemic is confirmed
- Vector control by possible use of Indoor Residual Spraying to reduce ongoing transmission

Capacity building for Early Detection and Rapid response in the epidemic prone districts shall be strengthened.

Output 3: Functional MEEWS system established in all epidemic prone districts

Malaria MEEWS has not been established. MEEWS has the added benefit of malaria epidemic detection. All epidemic-prone districts currently have a potential to collect meteorological data. The MEEWS system development will involve

data collection from districts and collaboration with Tanzania Meteorological Agency (TMA).

Output 4: Improved coordination and networking for malaria operation research

Priority operational research areas in order to improve malaria control activities will be directed in the following areas:

Case Management

- Look for a suitable chemoprophylactic drug for sicklers
- Pharmacovigilance for ACTs (safety of ALU)
- Home management of malaria (mechanism of delivery)
- Therapeutic efficacy of new and old ACTs
- Therapeutic efficacy for quinine
- To assess laboratory quality assurance at HF level
- the assessment of different combination therapy drug options;
- perceptions of community on new treatment (ACT)
- assessment on the process of implementation and impact of the new anti-malarial treatment policy (ACT first line);
- assessment of ADDO and DLDB performance in the delivery of ACT
- assessment of performance and cost effectiveness of RDTs
- assessment of adherence to RDT results by clinicians

Malaria in Pregnancy

- Factors influencing low uptake especially on IPT-2
- Investigate alternative anti malarial drugs for IPT
- efficacy of drug options for Intermittent preventive treatment in pregnancy;

Vector Control

- Effectiveness of biological control
- Monitoring resistance to insecticides
- Mapping of transmission intensity and its relation to change in morbidity and mortality
- Testing the efficacy of new preventive product including LLNs
- Mapping of type and distribution of malaria Vectors
- Testing of the efficacy of new preventive products including long-lasting nets and treatment
- Efficacy testing of insecticides for IRS
- Perceptions of the community on IRS and use of ITNs
- Assessment of novel ways for vector control e.g. aerial spraying

Epidemics

- Assessment of determinants of malaria epidemics

Others

- Assessment of household expenditure on malaria control
- Assessment of effectiveness of BCC for promotion of malaria control at all levels

Output 5: Monitoring and Evaluation

Progress toward achieving 2008-13 NMMTSP goals and targets will be measured through appropriate indicators. Outcome and impact indicators will be used to measure mid-term and final evaluation.

5.1 The Impact Indicators

Table No 2: Core impact indicators

Indicator	Source	Description
All-cause child mortality	Representative household surveys such as DHS or MICS	Retrospective, ideally measured every 5 years, to be integrated alongside trends in intervention coverage
Malaria (confirmed) incidence rate	Approved sentinel health facilities and special studies	Number of confirmed outpatient malaria diagnoses reported from MOH approved sentinel health facilities
Malaria-specific mortality in children admitted to hospital	Approved sentinel health facilities and special studies	The number of admissions and deaths due to confirmed malaria in children under the age of 5 years in sentinel hospitals
Malaria anaemia in children <5 years of age	Representative household surveys such as DHS or Malaria Indicator Survey	Cross-sectional, ideally measured every 2 years with impact detectable within 1-2 years, haemoglobin below 11 g/dl or 8 g/dl
Malaria parasite prevalence in children <5 years	Representative household surveys such as DHS or Malaria Indicator Survey	Cross-sectional, ideally measured every 2 years with impact detectable within 1-2 years, survey to be conducted during the transmission season
Prevalence of low birth weight	Approved sentinel health facilities and special studies	Number of Birth weight (<2500 g) in children delivered in sentinel district hospitals

5.2 The Outcome Indicators

Table No 3: The Core Outcome Indicators
(To be determined by Population surveys)

Technical Strategies	Outcome Indicator
Insecticide-treated nets (ITNs)	Proportion of households with at least 2 ITNs. Proportion of children under 5 years old who slept under an ITN the previous night. Proportion of pregnant women using an ITN the previous night
IRS	Proportion of households protected with IRS in target areas Proportion of population protected with IRS in target areas
Prompt access to effective treatment	Proportion of children under 5 years old with fever in last 2 weeks who received ACTs according to national policy within 24 hours from onset of fever. Proportion of children under the age of 5 with uncomplicated malaria correctly treated according to National Guidelines Proportion of children under the age of 5 with complicated malaria correctly treated according to National Guidelines
Prevention of malaria in pregnancy with IPTp	Proportion of women who received at least 2 doses of IPTp during their last pregnancy.
BCC	Proportion of population with awareness on malaria preventive measures

CHAPTER FIVE: IMPLEMENTATION ARRANGEMENTS

5.1 Institutional Framework

Implementation of the five-year NMMTSP will be in line with Health Sector and Local Government reforms. Core funding of the activities will be provided through the Sector Wide Approach to funding (SWAP), agreed between the Ministry of Health and Social Welfare and donor agencies contributing to the Health Sector basket funds against the annual Medium Term Expenditure Framework (MTEF).

The Ministry of Health and Social Welfare's organisational structure comprises the Minister for Health and Social Welfare, the Deputy Minister for Health and Social Welfare, the Permanent Secretary and the Chief Medical Officer with five directorates. Those directorates include: Preventative Services, Hospital Services, Human Resource Development, Policy and Planning, Administration and Personnel. Government owned health facilities at regional and district levels are administered through the Prime Minister's Office for Regional Administration and Local Government.

5.2 NMCP Management and Coordination

A strengthened NMCP is required to deliver this plan and meet the demand from central government and districts for action in planning, budgeting, capacity building, monitoring and evaluation.

Through this strategic plan NMCP will strengthen results-based management, coordination structures and internal process organization effectiveness. The strategic direction that came out of the stakeholder consultative exercise provides a clear orientation for moving towards a more effective facilitator role in supporting the nation to implement the national strategy for growth and reduction of poverty.

The strategic direction set an output-based management at central part. It puts output-oriented approaches in human resources, partnership coordination, and

financial management, which should be effectively institutionalized, into the program system and processes

(i) National Level

The National Malaria Control Programme Manager is responsible for implementation and coordination of the NMMTSP. The Manager is answerable to the Director of Preventive Services, through the head of the Epidemiology and Disease Surveillance Unit, for the provision of the programme outputs.

Leadership

The NMCP operates under the Epidemiology unit of the Preventive department of the Ministry of Health and Social Welfare. It is headed by a Programme Manager/Director. The manager is assisted by heads of units.

5.3 NMCP Role and Responsibility

The National Malaria Control Programme (NMCP) coordinates the implementation of all Malaria Control activities in the mainland.

NMCP's organization consists of two major strategic units: 1) Malaria Case Management; and, 2) Malaria Prevention. There are two supportive units which are the Programme Administration Unit and Regional and District Malaria Services Coordination Unit. There are 4 Sub Units and 15 cells as depicted in the organogram on the next page.

Organogram of the National Malaria Control Programme



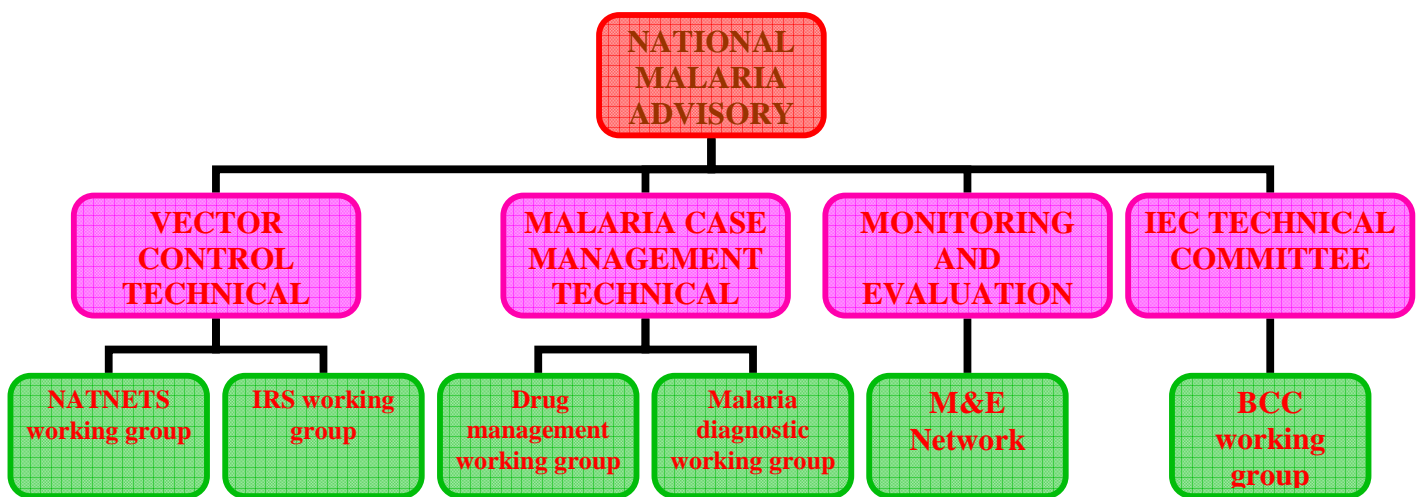
5.4 NMCP Reporting Line

Unit and sub-unit heads report to the Programme Manager. They are fully responsible for the performance of their units.

5.5 NMCP Operational Arrangements

Based on experience from the previous strategic plan, both National Malaria Advisory Committee and Technical sub-committees were not able to sit regularly and had no defined terms of reference. The inter-agency coordination committee for malaria was not established and also members of these committees were not officially appointed.

The following is the organisational arrangement through which the National Malaria Advisory Committee and its sub-committees will now operate.



5.5.1 The National Malaria Advisory Committee (NMAC)

Terms of Reference

1. To advise and make recommendations to the MoHSW on all matters related to policies and strategies of National Malaria Control
2. To receive and discuss reports and approve recommendations from sub-committees on malaria control policies, strategies and interventions

3. To receive and approve recommendations from the project steering committee related to malaria control
4. To advise on and support resource mobilization efforts of the MOHSW for National Malaria Control
5. Any other assignments prescribed by the Director for Preventive Services

Composition

The NMAC is a Multisectoral body whose membership is drawn from organizations involved directly or have a bearing on malaria and malaria control.

Permanent Members:

- a) Health Sector
 - Assistant Director - EHS
 - Assistant Director - PSU
 - Assistant Director - RCHS
 - National Malaria Control Programme (Secretary)
 - Epidemiology and Disease Control Department (member 1)
 - Agencies and Regulatory Authorities of MoHSW: MSD & TFDA (member 2)
 - Research and Academic Institutions
 - AMANET
 - Ifakara Centre
 - UDSM
 - MUHAS
 - Sokoine University (Zoology)

- b) Agriculture
 - Irrigation Department (member 1)
 - TPRI (member 1)

- c) Environment (Member 1)
- d) Multi-lateral Organizations
 - WHO (1 member)
 - UNICEF (1 member)
- e) Local Government (3 members)
 - Representative form TAMISEMI
 - Representative from Regional Medical Officer
 - Representative from District Medical Officer
- f) Chairmen of Sub-Committees of the Advisory Committee
(4 Members)

Co-opted members

- Donor Agencies
- Bilateral Agencies

The NMAC will therefore have 20 members. The actual number should not be less than 15 and not more than 20. Co-opted members can attend as observers but shall have no voting powers.

Meeting procedures

- meetings shall be called by the secretary after consultation with the chairperson

Frequency of meetings

There should be two ordinary meetings of the national malaria advisory committee per year

Appointing authority

The Chairperson of the NMAC shall be appointed by the Principal Secretary and members by the Chief Medical Officer following recommendations of the Director for Preventive Services.

Answerability

The NMAC is answerable to the Director of Preventive Services.

5.5.2 Malaria Case Management Technical /Sub-committee

Terms of Reference

1. To keep under review the status of drug resistance and make recommendations
2. To keep under review the quality of antimalarial drugs and manufacturing practices and recommend action as necessary to deal with substandard products and practices.
3. To advise on government policy on antimalarial drugs
4. Review and revise, or develop as necessary, clinical guidelines for case management and laboratory diagnosis for various cadres of health worker and for use in the community.
5. To review pre-service and in-service training needs for case management and laboratory diagnosis and recommend changes to curricula or training packages needed to meet these needs.
6. To review needs and stocks of supplementary supplies for treatment and diagnosis of malaria.
7. To submit resolutions pertaining to MCM to the National Malaria Advisory Committee for endorsement
8. To monitor the implementation of current drug policy, identify problems and recommended solutions to NMAC.

Composition

1. Paediatrician from consultant hospital
2. Obstetrician/Gynaecologist
3. Representative from PSU
4. Representative from TFDA
5. Laboratory Technologist from Hospital Services
6. Physician from the Consultant Hospital
7. Clinical Nurse from the CNO Office
8. Programme Manager

9. MUHAS
10. Muhimbili National Hospital

Appointing Authority

The chairman is appointed by the Chief Medical Officer and members will be appointed by the Director of Preventive Services.

Answerability of the Committee

- Answerable to the National Malaria Advisory Committee

5.5.3. Malaria Vector Control Technical/Subcommittee

Terms of Reference

1. To advise on implementation plans and progress reports related to Malaria Vector Control.
2. To review vector control activities in the country and advise the NMAC accordingly.
3. To review policies, legislation, regulations and procedures and advise the NMAC on their enforcement and application.
4. To review various malaria vector control activities carried out by other stakeholders and give on-the-spot advice on the appropriate technical aspects.
5. To identify potential areas for research and suggest ways and mechanisms towards obtaining appropriate solutions.
6. To advise on the appropriateness of IEC materials that would disseminate correct and effective information in regard to malaria vector prevention and control.
7. Any other assignment prescribed by the NMAC.

Composition of Malaria Vector Control Sub-Committee

One Member each shall come from the following institutions:

- i. Vector Control Unit, MOHSW
- ii. Tropical Pesticides Research Institute (TPRI)
- iii. Ifakara Health Research and Development Centre
- iv. Sokoine University/ UDSM (Zoology Dept)
- v. Ministry of Agriculture and Food Security
- vi. Prime Ministers Office for Regional Administration and Local Government (PORALG)
- vii. WHO
- viii. School of Environmental Health (MUHAS)
- ix. AMANET
- x. UDSM (Zoology)
- xi. MUHAS

Appointing Authority

The chairman is appointed by the Chief Medical Officer and members by the Director of Preventive Services.

Answerability of the Committee

The committee is answerable to the National Malaria Advisory Committee

5.5.4. Malaria IEC Subcommittee

Terms of Reference

1. To review and advise on the best modalities of publicizing policies, policy guidelines and communication strategies on IEC related to malaria
2. To advise on innovative and cost-effective approaches for implementation of IEC on malaria to reach people at all levels.

3. To advise on maximum utilization of appropriate communication channels available locally i.e. zonal, regional, district and community
4. To advise on collaboration, linkages and networking with other stakeholders/partners and implementers on IEC related to malaria at various levels
5. To provide technical input in proposal development for sourcing of resources for IEC on malaria.
6. To advise on best mechanisms for raising malaria as a public health agenda item at all levels, e.g., through commemoration on Africa Malaria Day.
7. To advise advocacy strategies for malaria control to reach the underserved areas/ the most vulnerable groups (under five, orphans, children living in difficult conditions, the poorest of the poor, chronically ill people – TB & HIV/AIDS)
8. Any other assignment prescribed by the NMAC

Composition

The Committee shall be comprised of the following members

1. National Malaria Control Programme (NMCP)
2. Health Education Section (HES)
3. Media representatives
4. Bagamoyo College of Arts
5. World Health Organisation (WHO)
6. Community Based Health Care (CBHC)
7. UNICEF
8. One member from private sector on promotional/advocacy issues.
9. NGOs
10. Teaching Institutions

Appointing Authority

The chairman is appointed by the Chief Medical Officer and members will be appointed by the Director of Preventive Services

Answerability of the Committee

The Committee shall be answerable to the National Malaria Advisory Committee.

5.5.5 Annual Malaria Conference

A malaria /IMCI conference will be held each year to promote malaria awareness prior to the district planning cycle. The conference will provide a forum where all actors, MOH/NMCP, regions, districts and other stakeholders will share information on progress towards implementation of respective malaria plans, actions being taken to address the challenges that have been encountered and the way forward.

5.6. Regional/ District Coordination

At Regional and District Levels, a coordinator (Regional/District Malaria/IMCI Focal Person) shall be appointed to coordinate malaria control activities.

5.6.1 Roles of the RMIFP

1. To coordinate the Districts/councils Malaria/IMCI Focal person in the region
2. To liaise with NGOs and other partners in malaria control activities/interventions in the region.
3. To amalgamate and consolidate district/council quarterly reports into a single regional quarterly report and reporting to NMCP in a timely manner.
4. To advise the RHMT on better implementation of malaria control activities/interventions

5. Any other standing or periodic assignment prescribed by RMO/RHMT.

5.6.2 Roles of the DMIFP

1. To coordinate the malaria control interventions in the district/council
2. To liaise with NGOs and other partners in malaria control activities/interventions in the district.
3. To amalgamate and consolidate health facilities' quarterly reports into a single quarterly report and submit to region/NMCP timely, in collaboration with district pharmacist.
4. Preparation and submission of an annual technical implementation report to RMIFP/NMCP
5. To advise the CHMT on better implementation of malaria control activities/interventions
6. Any other standing or periodic assignment prescribed by DMO/CHMT.

5.6.3 District PHC Committee

The committee, chaired by the District Commissioner, is the health advisory board at district level. The committee membership includes all key actors at district level, development partners, and representatives of the private sector, NGOs and voluntary agencies. The PHC committee will include malaria control issues as a permanent activity on its agenda.

5.6.4 CHMT

The CHMT, chaired by the DMO, is the technical body at district level and will deal with all MMTSP implementation details including advocacy and resource mobilisation for malaria control. It will be responsible for the support of health facilities and communities in the implementation of malaria control activities. The CHMT is responsible for supervision, monitoring and evaluation of the Health Plan in the district.

5.6.5 Community Level

The core to successful National Malaria Control Programme activities lies in building the knowledge, skills, and institutional capacity at the village/street, ward, council, and district levels. Moreover, different disciplines and management skills contribute to malaria control. The strategy focuses on strengthening the capacity of the malaria control workforce by building the knowledge and skills levels of the core malaria control workforce and various other stakeholders involved in the delivery of malaria control and elimination services.

Village councils, PHC committees and ward development committees are the institutions responsible for implementation of community based malaria control activities. They should coordinate, with the technical assistance of the local health staff, the different actors involved in the delivery of interventions at household level: development projects, CORPs, TBAs, opinion leaders, leaders of Faith Based Organisations, extension workers, teachers, and private providers of drugs and ITN commodities.

In this plan, partners' engagement will be increased to facilitate the coordination of VHWs in the implementation of the home-based malaria intervention package. The implementation of the package will progressively increase the access of appropriate malaria treatment within recommended 24 hours

5.7 Strengthening knowledge and skills of the malaria control workforce countrywide

While traditionally the role and functions of malaria control officers were mainly case management, control of malaria in pregnancy and monitoring of malaria epidemics, their roles have expanded to include integrated malaria vector control activities that are necessary for the cadre to anticipate, recognise and respond to current and emerging malaria transmission threats. It is envisaged that the future roles of malaria control and elimination practitioners will include, among others, the following:

- Epidemiology
- Entomology;
- Source reduction;
- Environmental management and modification;
- Effective monitoring and evaluation;
- Risk assessment and communication;
- Public information on use of pesticide;
- Pesticide use and resistance;
- Education, consultation, community networking and public information;
- Problem prioritization and policy development;
- Plan and design review and approval;
- Operational research;
- Programme management; and
- Behaviour change.

Specialised education or certification is a requirement for entry into the malaria control and pre-elimination workforce/profession. The qualifications for the malaria control and elimination workforce will need to be upgraded and strengthened for the professionals to face the challenges of their expanded scope of work. In addition, professions in those sectors contributing to malaria control and elimination will need to be trained to ensure they have a strong understanding of

the philosophy and practice of malaria control and elimination issues. Such an understanding would result in malaria control and elimination issues being introduced early in the development of plans, proposals, and actions of a wide range of agencies and at levels of government. The specific activities are to:

1. Re- orient malaria control staff on Focused Malaria Elimination.
2. Provide support to develop the malaria control and elimination workforce by recruiting qualified staff and training existing staff to attain required qualifications including operational research Diploma, Masters and PhDs specific to malaria control and elimination.
3. Provide training and continuing education to the malaria control and elimination workforce through access to tailor-made courses
4. Develop a costed action plan for addressing the training needs of malaria control and elimination staff
5. Conduct ongoing malaria control and elimination capacity needs assessments as part of the mandated assessment of malaria control and elimination needs

For malaria to be eliminated, the capacity of NMCP need to be improved to be able to deliver malaria elimination services effectively. Various courses are hereby proposed to serve the intended purposes.

1. MSc – Environmental Engineering
2. MSc – Environmental Health Science and Health Promotion
3. B.A & M.A. - Communication and Mass Mobilization
4. M.A. Medical Psychology
5. MSc – Epidemiology
6. MSc - Vector Biology
7. MSc – Infectious Disease Biology
8. M.A. – Management and Planning
9. B.A. - Sociology
10. MSc - Social work

11. MSc – Medical research
12. MSc- Pharmacology
13. MSc – Patient care

Areas for Short Courses

1. Environmental and Strategic Impact Assessment
2. Counselling
3. Disease epidemiology
4. Vector Control
5. Primary Health Care
6. Health Education and Information
7. Community mobilization and social responsibility
8. Public Health
9. Programme / Project Management and Planning
10. Information Technology

The following capacity building targets have been identified:

1. **By 2012, 12 NMCP staff trained at MSc. level**
2. **By 2012, 3 NMCP staff trained at operation-based Ph. D level**
3. **By 2012, 145 staff trained in different tailor made short courses**

CHAPTER SIX: FINANCIAL RESOURCE IMPLICATIONS

Table No 4 indicates funding needs, available resources and gaps from 2008 to 2013. Whereas the financial needs have been forecasted to reflect a more or less true financial requirement, the available resource picture is liable to change (increase/decrease) over the period. It is anticipated that applications to subsequent Global Fund rounds, could avail more resources. The funding from government over the years is subject to variation- depending on the prevailing economic situation and other government priorities.

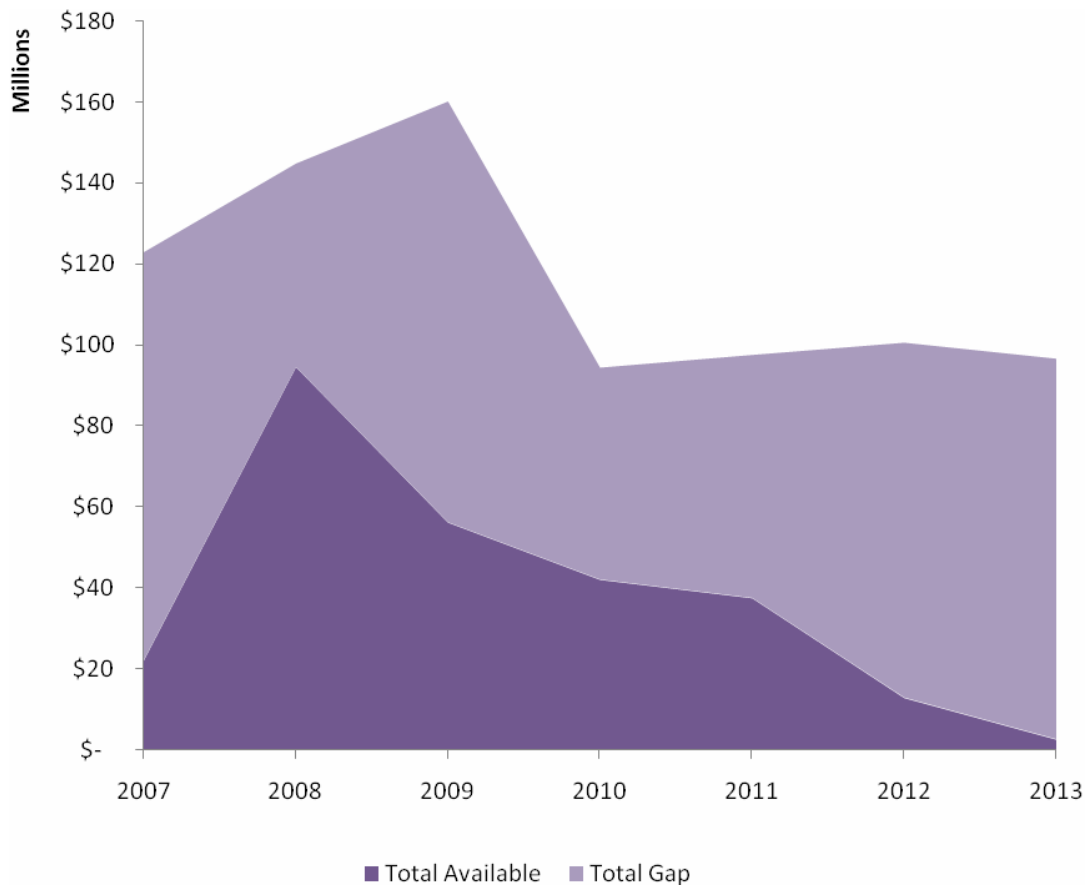
Table No 4: Summary of the available financial resources and Gaps (in U\$)

	2008-09	2010-2013	2008-2013
Total Needs	304,674,933	388,697,093	693,372,026
Total Available	150,579,772	94,987,042	245,566,814
Total Gap	154,095,161	293,710,051	447,805,212

Annex 1: Detailed financial analysis

Resources needed, anticipated and expected financial gaps for the implementation of the Malaria Medium Term Strategic Plan 2008-2013

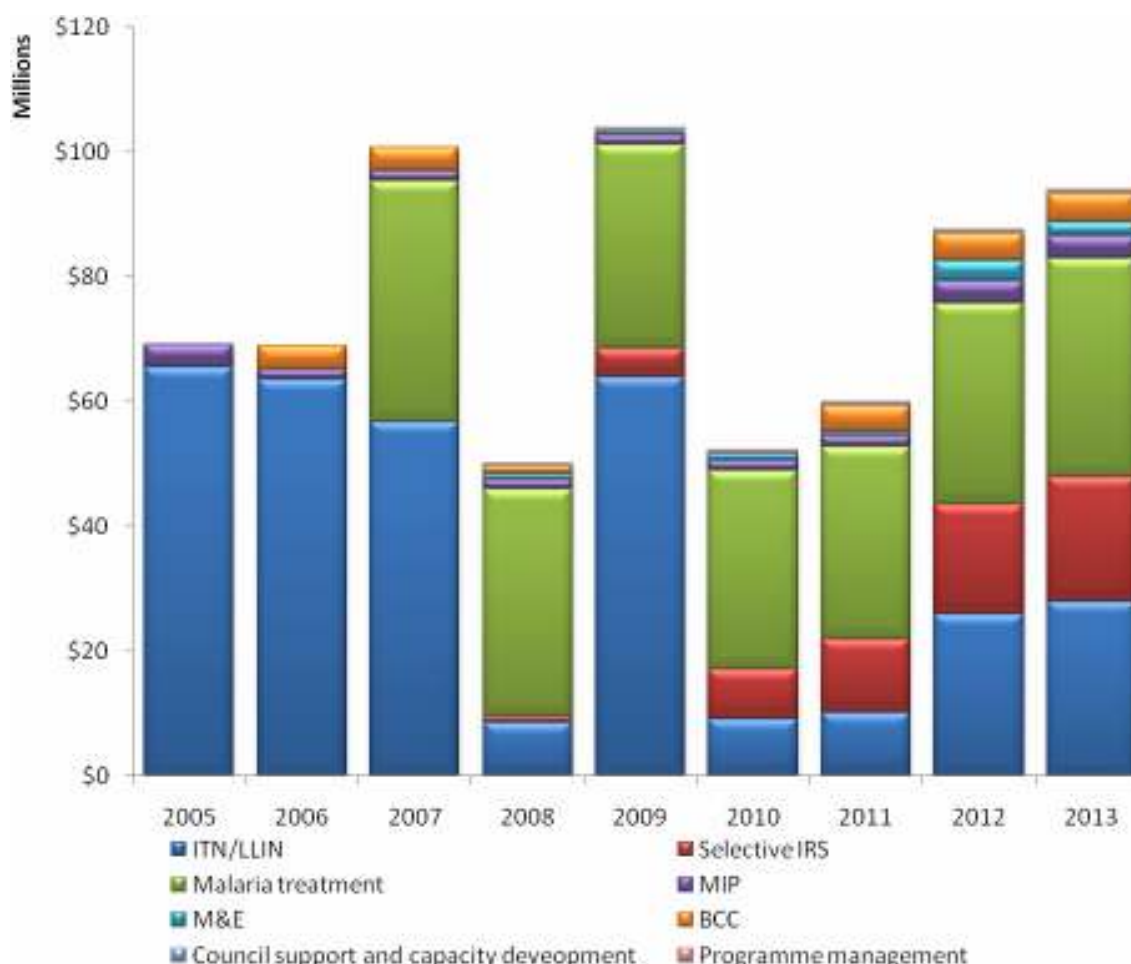
	2008-09	2010-2013	2008-2013
Total Needs	\$ 304,674,933	\$ 388,697,093	\$ 693,372,026
Total Available	\$ 150,579,772	\$ 94,987,042	\$ 245,566,814
Total Gap	\$ 154,095,161	\$ 293,710,051	\$ 447,805,212



Resources needed, anticipated and expected financial gaps by year for the implementation of the Malaria Medium Term Strategic Plan 2008-2013

	Total Needs	Total Available	Total Gap
2005	\$ 73,806,854	\$ 4,729,332	\$ 69,077,522
2006	\$ 80,910,742	\$ 11,912,749	\$ 68,997,993
2007	\$ 122,813,198	\$ 22,131,346	\$ 100,681,852
2008	\$ 144,674,592	\$ 94,443,041	\$ 50,231,551
2009	\$ 160,000,341	\$ 56,136,731	\$ 103,863,610
2010	\$ 94,294,567	\$ 42,023,713	\$ 52,270,854
2011	\$ 97,431,893	\$ 37,472,916	\$ 59,958,976
2012	\$ 100,454,670	\$ 12,870,548	\$ 87,584,123
2013	\$ 96,515,963	\$ 2,619,865	\$ 93,896,098

Expected financial gaps by year and strategy for the implementation of the Malaria Medium Term Strategic Plan 2008-2013



Resources needed by strategy for the implementation of the Malaria Medium Term Strategic Plan 2008--2013 (in \$)

	2006	2007	2008	2009	2010	2011	2012	2013
ITN/LLIN	70,005,414	73,258,211	74,734,737	87,257,354	98,665,266	28,928,662	29,112,517	29,344,890
Selective IRS	-	-	1,530,812	3,910,838	7,850,567	11,330,467	15,692,815	17,638,829
Malaria treatment	-	-	38,928,993	41,338,326	42,242,332	41,468,239	40,983,518	40,502,065
MIP	3,801,441	3,827,439	3,789,535	3,812,666	3,834,636	3,860,714	3,874,433	3,891,772
M&E	-	-	-	3,362,942	2,241,961	3,362,942	2,241,961	3,362,942
BCC	-	3,825,093	3,829,122	3,947,467	4,068,329	4,191,431	4,316,931	4,443,968
Council support and capacity development	-	-	-	650,000.00	682,500.00	716,625.00	752,456.25	790,079.06
Programme management	-	-	-	395,000.00	414,750.00	435,487.50	457,261.88	480,124.97
Total Needs	73,806,854	80,910,742	122,813,198	144,674,592	160,000,341	94,294,567	97,431,893	100,454,670

Available Resources for the implementation of the Malaria Medium Term Strategic Plan 2008--2013 (in \$)

	2006	2007	2008	2009	2010	2011	2012	2013
ITN/LLIN	4,532,392	9,713,370	17,904,711	78,593,751	34,670,560	19,739,790	18,953,425	3,383,277
Selective IRS	-	-	1,530,812	2,922,771	3,196,517	3,275,191	3,884,288	-
Malaria treatment	-	-	500,000	5,130,193	9,841,670	9,746,654	10,139,179	8,450,091
MIP	196,940	2,199,379	2,195,823	2,197,993	2,200,054	2,202,501	2,203,788	205,414
ME	-	-	-	2,400,833	1,600,556	2,400,833	1,600,556	105,500
BCC	-	-	-	2,600,000	4,000,000	4,000,000	-	-
Council support and capacity development	-	-	-	400,000	420,000	441,000	463,050	486,203
Programme management	-	-	-	197,500	207,375	217,744	228,631	240,062
Total Available	4,729,332	11,912,749	22,131,346	94,443,041	56,136,731	42,023,713	37,472,916	12,870,548

Expected Gap by strategy for the implementation of the Malaria Medium Term Strategic Plan -2013 (in \$)

Gap	2006	2007	2008	2009	2010	2011	2012	2013
ITN/LLIN	65,473,022	63,544,841	56,830,026	8,663,603	63,994,706	9,188,872	10,159,092	25,961,613
Selective IRS	-	-	-	988,067	4,654,050	8,055,275	11,808,527	17,638,829
Malaria treatment	-	-	38,428,993	36,208,134	32,400,662	31,721,585	30,844,339	32,051,974
MIP	3,604,501	1,628,060	1,593,711	1,614,673	1,634,582	1,658,213	1,670,645	3,686,358
M&E	-	-	-	962,108	641,406	962,108	641,406	3,257,442
BCC	-	3,825,093	3,829,122	1,347,467	68,329	191,431	4,316,931	4,443,968
Council support and capacity development	-	-	-	250,000	262,500	275,625	289,406	303,877
Programme management	-	-	-	197,500	207,375	217,744	228,631	240,062
Total Gap	69,077,522	68,997,993	100,681,852	50,231,551	103,863,610	52,270,854	59,958,976	87,584,123

ITN PROGRAMMATIC AND FINANCIAL GAP ANALYSIS

LLI Net for Pregnant Women: needed, anticipated and gap

	Actual						Targeted		
	2005	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	1,654,959	1,675,454	1,645,573	1,663,808	1,681,128	1,701,686	1,712,501	1,726,170	1,738,474
Available resources (PMI and other sources)	-	-	-	-	-	-	-	-	-
Available resources (GF)	649,571	1,553,226	1,291,723	1,253,846	1,346,079	1,442,690	-	-	-
Expected annual deficit	1,005,388	122,228	353,850	409,962	335,049	258,996	1,712,501	1,726,170	1,738,474

LLI Net for Children aged 1- 4: needed, anticipated and gap

	Actual					Targeted			
	2005	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	4,926,013	5,267,705	5,501,176	5,659,601	-	-	-	-	-
Available resources (PMI and other sources)	-	-	-	2,377,032	-	-	-	-	-
Available resources (GF)	-	-	-	3,282,569	-	-	-	-	-
Expected annual deficit	4,926,013	5,267,705	5,501,176	-	-	-	-	-	-

LLI Net for Infants: needed, anticipated and gap

	Actual						Targeted		
	2005	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	1,654,959	1,675,454	1,645,573	1,663,808	1,681,128	1,701,686	1,712,501	1,726,170	1,738,474
Available resources (PMI)	-	-	-	1,663,808	1,681,128	1,701,686	1,712,501	-	-
Available resources (GF)	-	-	-	-	-	-	-	-	-
Expected annual deficit	1,654,959	1,675,454	1,645,573	-	-	-	-	1,726,170	1,738,474

Total LLI Nets for vulnerable group, needed, anticipated and gap

	Actual						Targeted			
	2005	2006	2007	2008	2009	2010	2011	2012	2013	
People in need of key services	8,235,931	8,618,613	8,792,322	8,987,217	3,362,256	3,403,372	3,425,002	3,452,340	3,476,948	
Available resources (PMI)	-	-	-	4,040,840	1,681,128	1,701,686	1,712,501	-	-	
Available resources (GF)	649,571	1,553,226	1,291,723	4,536,415	1,346,079	1,442,690	-	-	-	
Expected annual deficit	7,586,360	7,065,387	7,500,599	409,962	335,049	258,996	1,712,501	3,452,340	3,476,948	

LLI Nets needed for Universal coverage (1 net per sleeping place)

	Targeted						
-	2007	2008	2009	2010	2011	2012	2013
People in need of key services (*)			24,908,137				
Available resources (PMI and other sources)			15,162,715				
Available resources (GF)							
Expected annual deficit			8,245,422	-	-	-	-

(*) # of sleeping places

Re-pre-treatment of conventional nets

	Targeted						
-	2008	2009	2010	2011	2012	2013	
People in need of key services (*)	6,585,460	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	
Available resources (PMI and other sources)		1,500,000	1,500,000	1,500,000			
Available resources (WB)	6,585,460						
Available resources (GF)							
Expected annual deficit	-	-	-	-	1,500,000	1,500,000	

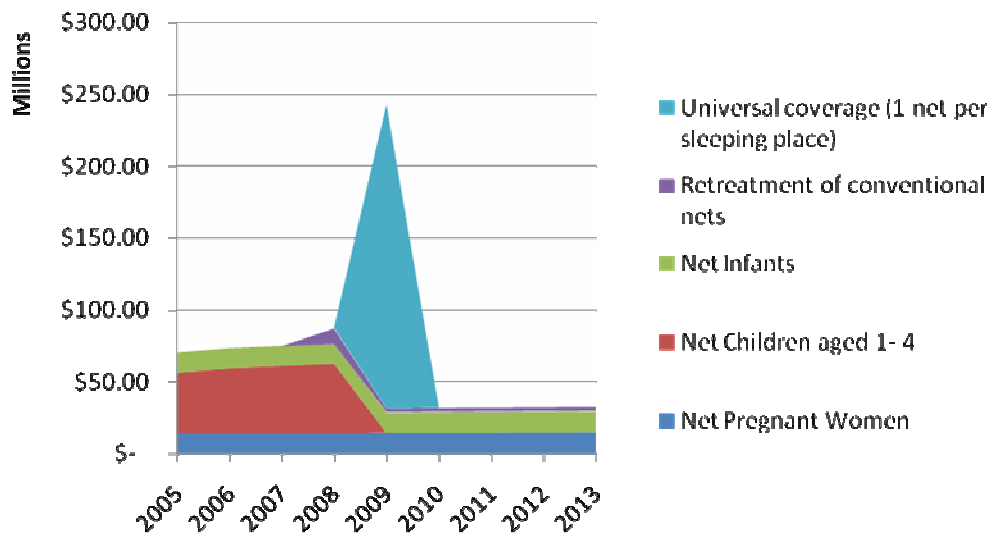
(*) estimated number of conventional nets to be retreated once per year

FINANCIAL GAP ANALYSYS (IN \$)

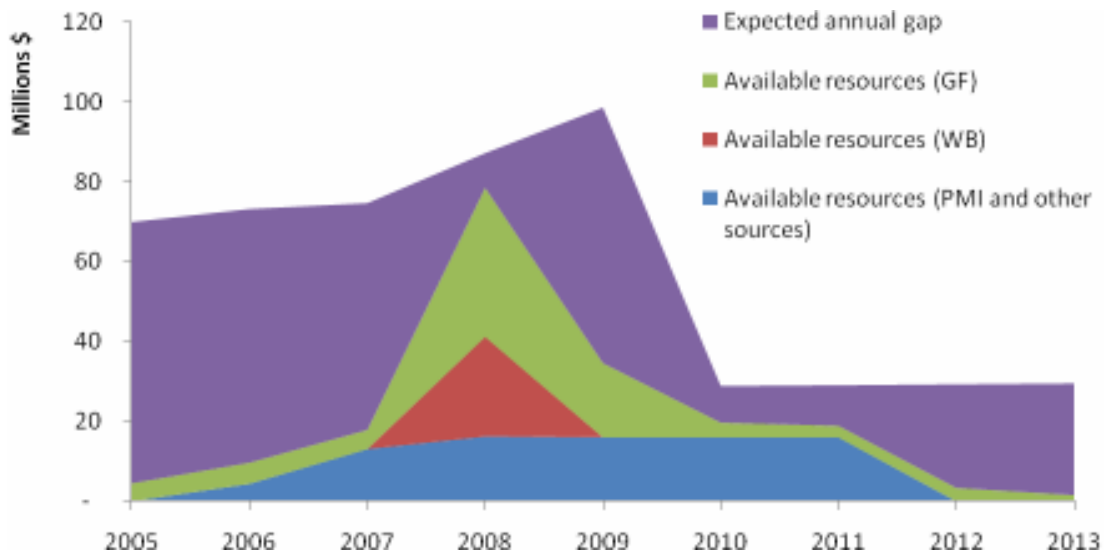
Cost Assumptions

Cost of LLIN including procurement, distribution, promotion, training and monitoring	\$8.50
Cost of long lasting re-treatment including procurement training and distribution	\$1.65

Needs in million \$ for universal LLIN coverage



Needs, Available Resources and Gaps (in million \$)



Needs, Available Resources and Gaps (in \$)

	Actual				Targeted			
	2006	2007	2008	2009	2010	2011	2012	2013
Total needs	73,258,211	74,734,737	87,257,354	98,665,266	28,928,662	29,112,517	29,344,890	29,554,058
Available resources (PMI and other)	4,395,306	13,055,306	16,185,000	16,000,000	16,000,000	16,000,000	-	-
Available resources (WB)			25,000,000					
Available resources (GF)	5,318,064	4,849,405	37,408,751	18,670,560	3,739,790	2,953,425	3,383,277	1,580,075
Expected annual gap	63,544,841	56,830,026	8,663,603	63,994,706	9,188,872	10,159,092	25,961,613	27,973,983

IRS PROGRAMMATIC AND FINANCIAL ANALYSIS

Targeted Households

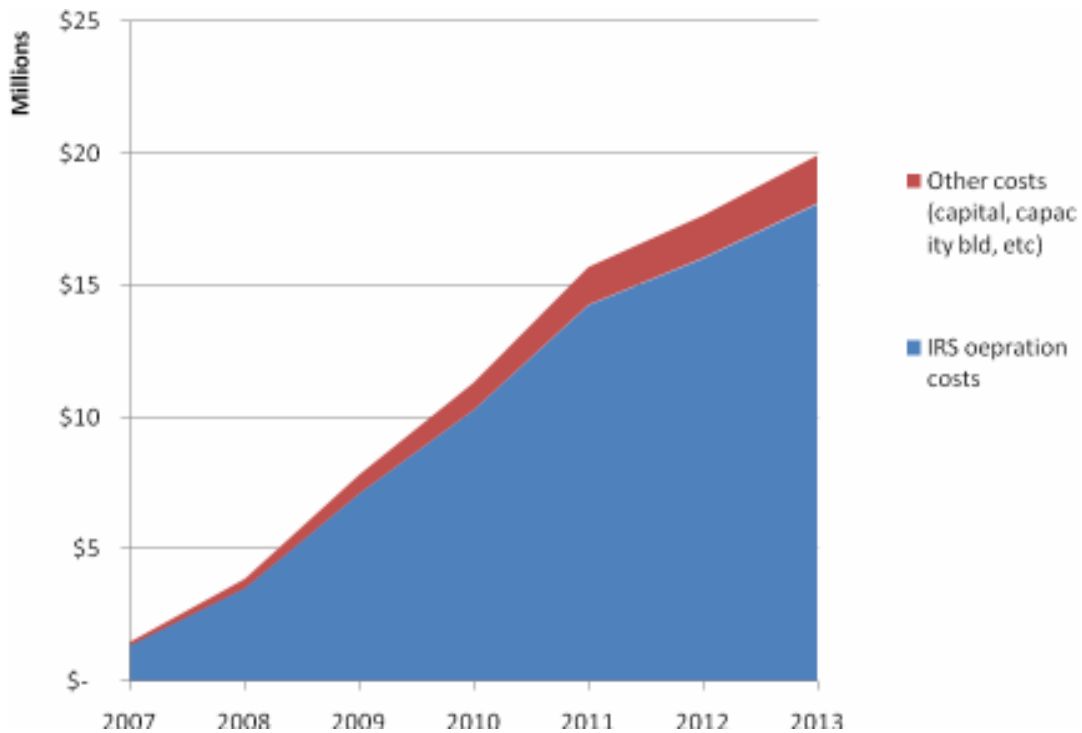
	Actual				Targeted		
	2007	2008	2009	2010	2011	2012	2013
New Targeted Households	95,113	373,207	514,070	574,377	463,271	315,865	375,444
Cumulative targeted households	95,113	468,320	982,390	1,556,767	2,020,038	2,335,902	2,711,346
Available resources (PMI and other sources)	95,113	350,000	400,000	450,000	500,000		
Expected annual deficit	0	118,320	582,390	1,106,767	1,520,038	2,335,902	2,711,346

FINANCIAL GAPS (IN \$)

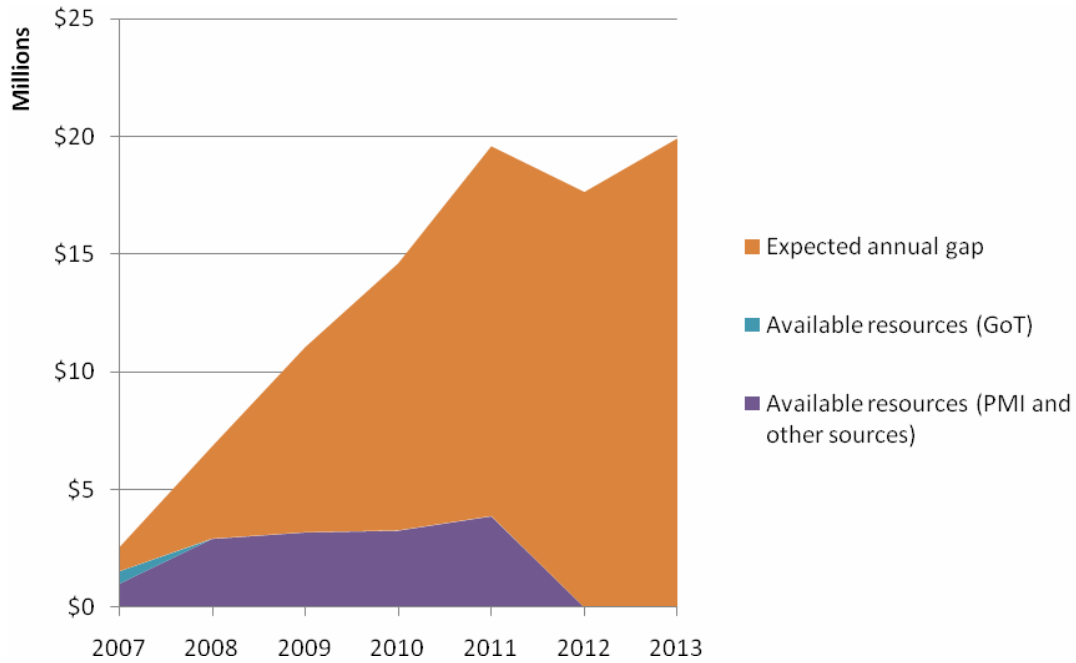
Costs Assumptions (in \$)

	2008	2009	2010	2011	2012	2013
Cost of house sprayed per year including training, procurement, logistics, advocacy, capacity building, IEC	8.35	7.99	7.28	7.77	7.55	7.34

Needs in \$ for IRS master plan implementation



Indoor Residual Spray Needs, Available Resources and Gaps (in million \$)



Indoor Residual Spray Needs, Available Resources and Gaps (in \$)

	Actual				Targeted			
	2007	2008	2009	2010	2011	2012	2013	
IRS operation costs	1,391,647	3,555,308	7,136,879	10,300,424	14,266,195	16,035,299	18,100,958	
Other costs (capital, capacity bld, etc)	139,165	355,531	713,688	1,030,042	1,426,620	1,603,530	1,810,096	
Total needs	1,530,812	3,910,838	7,850,567	11,330,467	15,692,815	17,638,829	19,911,054	
Available resources (PMI and other sources)	1,000,000	2,922,771	3,196,517	3,275,191	3,884,288			
Available resources (GoT)	530,812							
Expected annual gap	1,000,000	3,910,838	7,850,567	11,330,467	15,692,815	17,638,829	19,911,054	

MALARIA CASE MANAGEMENT PROGRAMMATIC AND FINANCIAL ANALYSIS

Treatment of uncomplicated malaria using ACT in public facilities: treatment needs, available and deficit

	Actual					Targeted		
	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	17,387,648	17,180,541	17,125,119	16,590,082	15,343,133	14,270,144	13,083,179	9,935,546
Available resources (PMI and other)								
Available resources (GF)		17,180,541	17,125,119	16,590,082	-	-	-	-
Expected annual deficit	17,387,648	-	-	-	15,343,133	14,270,144	13,083,179	9,935,546

Treatment of uncomplicated malaria using ACT in private outlets: treatment needs, available and deficit

	Actual					Targeted		
	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	9,362,580	9,251,061	9,221,218	8,546,406	7,557,065	6,715,362	5,877,950	4,463,796
Available resources (PMI and other)		500,000	500,000	500,000	-	-	-	-
Available resources (GF)		-	4,674,165	4,298,512	3,919,765	3,538,716	3,156,226	-
Expected annual deficit	9,362,580	8,751,061	4,047,053	3,747,894	3,637,301	3,176,646	2,721,724	4,463,796

Treatment of severe malaria: treatment needs, available and deficit

	Actual					Targeted		
	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	668,756	660,790	658,658	628,412	572,505	524,638	474,028	359,984
Available resources (PMI and other)								
Available resources (GoT)	668,756	660,790	658,658	628,412	572,505	524,638	474,028	359,984
Expected annual deficit	-	-	-	-	-	-	-	-

Malaria diagnosis by using RDT: needs, available and deficit

	Actual					Targeted		
	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services		500,000	2,305,592	3,876,911	5,174,153	6,690,006	8,726,409	10,000,000
Available resources (PMI and other)		500,000	560,224	560,224	560,224	560,224		

Available resources (GoT)		213,122	638,482	828,423	1,038,572	1,296,839	1,500,000
Available resources (GF)		1,532,246	2,678,205	3,785,506	5,091,210	6,869,346	
Expected annual deficit	-	-	(0)	-	-	560,224	8,500,000

Calculation Table for treatment needed in Children Under 5

	2006	2007	2008	2009	2010	2011	2012	2013
	6,943,159	7,146,749	7,323,409	7,702,529	7,640,703	7,786,016	7,932,372	8,077,363
Number of febrile episodes treated with antimalarial per year	2.5	2.5	2.5	2.3	2.1	1.9	1.7	1.2
Presumed malaria episodes treated among children under five	17,357,898	17,866,873	18,308,523	17,715,817	16,045,476	14,793,430	13,485,032	9,692,836
Proportion of cases treated at public HF level (%)	65	65	65	66	67	68	69	69
Malaria treatment in public health sector (GoT and VA)	11,282,633	11,613,467	11,900,540	11,692,439	10,750,469	10,059,533	9,304,672	6,688,057
Malaria treatment in private outlets	6,075,264	6,253,405	6,407,983	6,023,378	5,295,007	4,733,898	4,180,360	3,004,779
Children under five expected to comply with ACT (80%)		5,002,724	5,126,386	4,818,702	4,236,006	3,787,118	3,344,288	2,403,823
Treatment available GF			4,674,165	4,298,512	3,919,765	3,538,716	3,156,226	
Treatment available PMI		350,000	350,000	350,000				
Gap private outlets		4,652,724	102,221	170,190	316,241	248,402	188,062	2,403,823
Anticipated ACT available for public sector (<5)		11,613,467	11,900,540	11,692,439				
Anticipated ACT gap for public sector (<5)			0	0	10,750,469	10,059,533	9,304,672	6,688,057

Calculation Table for treatment needed in people 5 years and above

	2006	2007	2008	2009	2010	2011	2012	2013
	31,307,768	31,144,470	32,151,258	32,980,762	34,273,608	35,383,289	36,507,311	37,652,051
Number of episodes treated with antimalarial per year	0.3	0.275	0.25	0.225	0.2	0.175	0.15	0.125
Need: malaria episodes treated	9,392,330	8,564,729	8,037,815	7,420,671	6,854,722	6,192,076	5,476,097	4,706,506
proportion of cases treated at public HF level (%)	65	65	65	66	67	68	69	69
Delivery: Any malaria treatment in public health sector (GoT and VA)	6,105,015	5,567,074	5,224,579	4,897,643	4,592,663	4,210,611	3,778,507	3,247,489
Gap: need of appropriate treatment in private sector	3,287,316	2,997,655	2,813,235	2,523,028	2,262,058	1,981,464	1,697,590	1,459,017
Population 5+ years expected to comply (80%)	2,629,853	2,398,124	2,250,588	2,018,423	1,809,647	1,585,171	1,358,072	1,167,214
Treatment available GF								
Treatment available PMI		150,000	150,000	150,000				
Gap private outlets	2,629,853	2,248,124	2,100,588	1,868,423	1,809,647	1,585,171	1,358,072	1,167,214
Anticipated ACT available for public sector (5+ years)		5,567,074	5,224,579	4,897,643				
Anticipated ACT gap for public sector (<5)			0	0	4,592,663	4,210,611	3,778,507	3,247,489
Total antimalarial treatment	26,750,228	26,431,602	26,346,337	25,136,488	22,900,198	20,985,506	18,961,129	14,399,342
Treatment in public facilities	17,387,648	17,180,541	17,125,119	16,590,082	15,343,133	14,270,144	13,083,179	9,935,546
treatment in private outlets	9,362,580	9,251,061	9,221,218	8,546,406	7,557,065	6,715,362	5,877,950	4,463,796

Total antimalarial treatment needed in Public health facilities

	2007	2008	2009	2010	2011	2012	2013
Children clinical diagnosis and treatment	9,290,774	8,330,378	7,015,463	5,375,235	4,023,813	2,791,402	1,337,611
Children definitive diagnosis and treatment	2,322,693	3,570,162	4,676,976	5,375,235	6,035,720	6,513,271	5,350,445
Children Expected treatments	11,613,467	11,900,540	11,692,439	10,750,469	10,059,533	9,304,672	6,688,057
Adults clinical diagnosis and treatment	4,453,659	3,657,206	2,938,586	2,296,332	1,684,245	1,133,552	649,498
Adults definitive diagnosis and treatment	1,113,415	1,567,374	1,959,057	2,296,332	2,526,367	2,644,955	2,597,992
Adults Expected treatments	5,567,074	5,224,579	4,897,643	4,592,663	4,210,611	3,778,507	3,247,489

Expected proportion of clinical and definitive malaria diagnosis

	2007	2008	2009	2010	2011	2012	2013
clinical diagnosis + treatment (%)	80%	70%	60%	50%	40%	30%	20%
definitive diagn and treatment (%)	20%	30%	40%	50%	60%	70%	80%

Total antimalarial treatment Private Outlets

	2007	2008	2009	2010	2011	2012	2013
Children treated in private outlets with public subsidies	5,002,724	5,126,386	4,818,702	4,236,006	3,787,118	3,344,288	2,403,823
Adults treated in private outlets with public subsidies	2,398,124	2,250,588	2,018,423	1,809,647	1,585,171	1,358,072	1,167,214

FINANCIAL GAPS

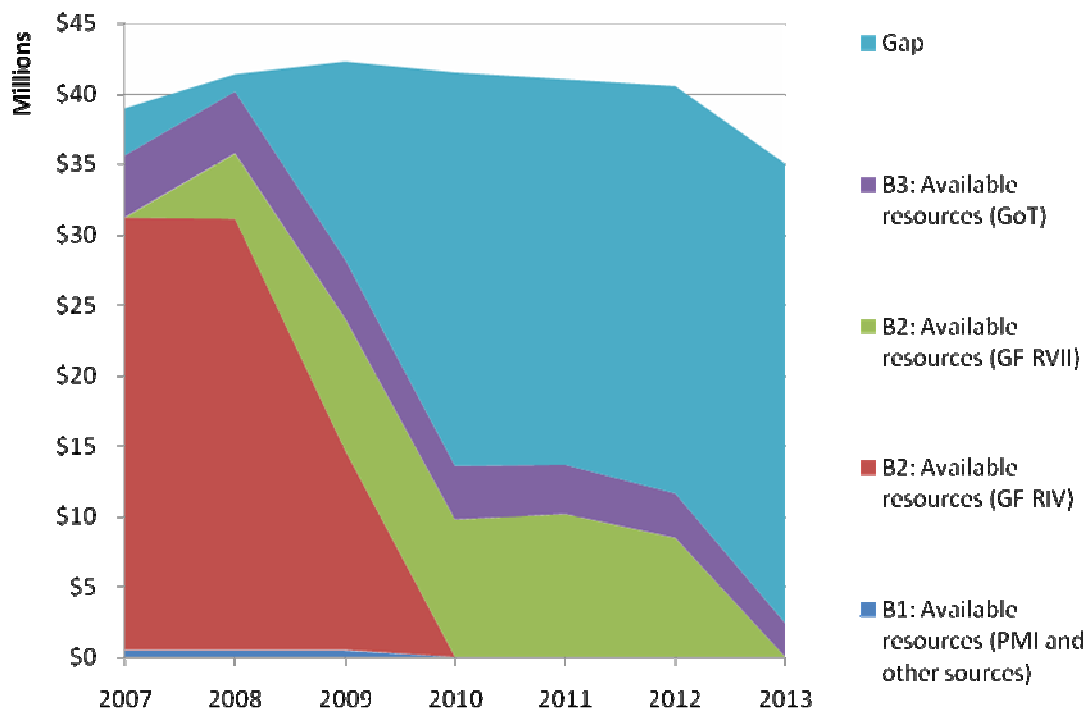
Needs (in \$)

	2007	2008	2009	2010	2011	2012	2013
Children clinical diagnosis and treatment	8,826,235	7,913,859	6,664,690	5,106,473	3,822,622	2,651,832	1,270,731
Children definitive diagnosis and treatment	4,180,848	6,426,291	8,418,556	9,675,422	10,864,295	11,723,887	9,630,801
Adults clinical diagnosis and treatment	10,020,733	8,228,713	6,611,818	5,166,746	3,789,550	2,550,492	1,461,370
Adults definitive diagnosis and treatment	3,451,586	4,858,859	6,073,078	7,118,628	7,831,737	8,199,360	8,053,774
Children treated in private outlets with public subsidies	4,752,588	4,870,067	4,577,767	4,024,205	3,597,762	3,177,074	2,283,632
Adults treated in private outlets with public subsidies	2,877,749	2,700,706	2,422,107	2,171,576	1,902,206	1,629,686	1,400,656
Treatment of severe malaria in public health facilities	4,394,254	4,380,079	4,178,941	3,807,158	3,488,840	3,152,288	2,393,891
Malaria differential diagnosis by using RDT	425,000	1,959,754	3,295,374	4,398,030	5,686,505	7,417,447	8,500,000
Total needs for malaria case management	38,928,993	41,338,326	42,242,332	41,468,239	40,983,518	40,502,065	34,994,855

Assumptions

	cost per treatment uncomplicated						cost per treatment severe	
	definitive diagnosis and treatment		clinical diagnosis and treatment		public subsidies for private outlets			
	adult	children	adult	children	adult	children	Quinine	
1 RDT	\$0.85	\$0.85					Infusion	\$3.75
1 ACT	\$2.25	\$0.95	\$2.25	\$0.95	\$1.20	\$0.95	Laboratory	\$1.50
Total	\$3.10	\$1.80	\$2.25	\$0.95				\$6.65

Available resources and Gaps (in million \$)



Available resources and Gaps (in \$)

Financial gaps	Targeted						
	2007	2008	2009	2010	2011	2012	2013
Total needs	38,928,993	41,338,326	42,242,332	41,468,239	40,983,518	40,502,065	34,994,855
Available resources (PMI and other sources)	500,000	500,000	500,000				
Available resources (GF RIV)	30,690,533	30,600,312	14,178,117				
Available resources (GF RVII)		4,630,193	9,341,670	9,746,654	10,139,179	8,450,091	
Available resources (GoT)	4,394,254	4,380,079	4,178,941	3,807,158	3,488,840	3,152,288	2,393,891
Gap	3,344,206	1,227,743	14,043,604	27,914,427	27,355,499	28,899,686	32,600,965

MALARIA IN PREGNANCY PROGRAMMATIC AND FINANCIAL ANALYSIS

Women attending RCH clinic

	2005	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	1,654,959	1,675,454	1,645,573	1,663,808	1,681,128	1,701,686	1,712,501	1,726,170	1,738,474
Women attending RCH clinic at least once	1,572,211	1,591,681	1,563,294	1,580,618	1,597,072	1,616,602	1,626,876	1,639,862	1,651,550

Calculation Table for SP Needs

	2005	2006	2007	2008	2009	2010	2011	2012	2013
No. of pregnant women	1,654,959	1,675,454	1,645,573	1,663,808	1,681,128	1,701,686	1,712,501	1,726,170	1,738,474
1 attendance 95%	1,572,211	1,591,681	1,563,294	1,580,618	1,597,072	1,616,602	1,626,876	1,639,862	1,651,550
2 attendances 85%	1,406,715	1,424,136	1,398,737	1,414,237	1,428,959	1,446,433	1,455,626	1,467,245	1,477,703
SP tablets need									
IPT 1 90% uptake	4,468,389	4,523,726	4,443,047	4,492,282	4,539,046	4,594,552	4,623,753	4,660,659	4,693,880
IPT 1 80% uptake	4,468,389	4,523,726	4,443,047	4,492,282	4,539,046	4,594,552	4,623,753	4,660,659	4,693,880
IPT 1 70% uptake	4,468,389	4,523,726	4,443,047	4,492,282	4,539,046	4,594,552	4,623,753	4,660,659	4,693,880
IPT2 80% uptake	3,971,902	4,021,090	3,949,375	3,993,139	4,034,707	4,084,046	4,110,002	4,142,808	4,172,338
IPT2 70% uptake	3,475,414	3,518,453	3,455,703	3,493,997	3,530,369	3,573,541	3,596,252	3,624,957	3,650,795
IPT2 60% uptake	2,978,926	3,015,817	2,962,031	2,994,854	3,026,030	3,063,035	3,082,502	3,107,106	3,129,253

FINANCIAL ANALYSIS (IN \$)

Assumptions

Cost of 1 SP tab	0.023		RDT costs		0.71				
1 tin 500 tab	TZS 14,000	as per msd catalogue	Hb test costs		0.50				
1 tab	TZS 28		1.21						

SP costs (in \$)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
IPT 1 90% uptake	104,262	105,554	103,671	104,820	105,911	107,206	107,888	108,749	109,524
IPT 1 80% uptake	104,262	105,554	103,671	104,820	105,911	107,206	107,888	108,749	109,524
IPT 1 70% uptake	104,262	105,554	103,671	104,820	105,911	107,206	107,888	108,749	109,524
IPT2 80% uptake	92,678	93,825	92,152	93,173	94,143	95,294	95,900	96,666	97,355
IPT2 70% uptake	81,093	82,097	80,633	81,527	82,375	83,383	83,913	84,582	85,185
IPT2 60% uptake	69,508	70,369	69,114	69,880	70,607	71,471	71,925	72,499	73,016

Other costs (in \$)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 RDT and HB tests per pregnancy first attendance	1,902,375	1,925,934	1,891,586	1,912,547	1,932,457	1,956,088	1,968,520	1,984,232	1,998,376
1 RDT and HB tests per pregnancy re-attendance	1,702,125	1,702,125	1,702,125	1,702,125	1,702,125	1,702,125	1,702,125	1,702,125	1,702,125
Total package	3,604,501	3,628,060	3,593,711	3,614,673	3,634,582	3,658,213	3,670,645	3,686,358	3,700,501

Cost for Procurement of SP Needed resources for 80% IPT2 coverage (in \$)

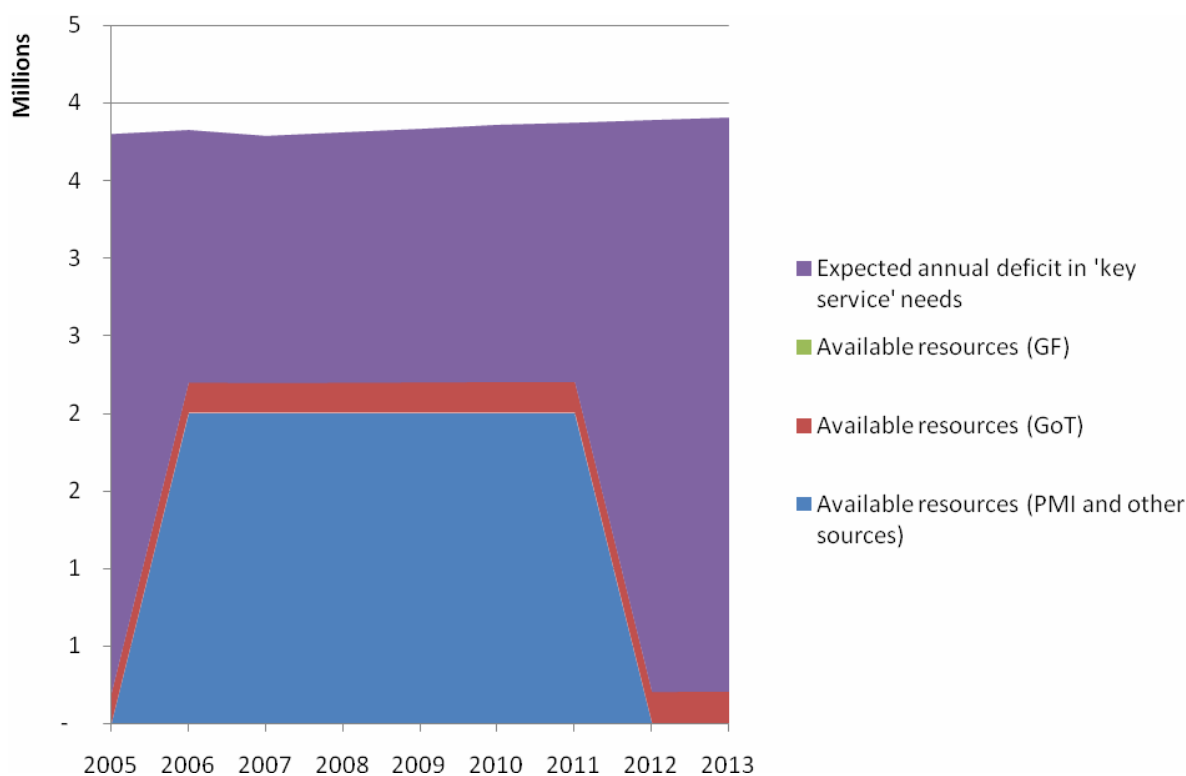
	Actual					Targeted				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Needed resources for 80% IPT2 coverage	196,940	199,379	195,823	197,993	200,054	202,501	203,788	205,414	206,878	

Cost MIP RCH package (*) in \$

	Actual					Targeted				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Needed resources for MIP operation	3,604,501	3,628,060	3,593,711	3,614,673	3,634,582	3,658,213	3,670,645	3,686,358	3,700,501	

(*) 2 RDT tests and Hb tests

Available resources and Gaps (in million \$)



Needs, Available resources and Gaps (in \$)

	Actual					Targeted				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Needed resources	3,801,441	3,827,439	3,789,535	3,812,666	3,834,636	3,860,714	3,874,433	3,891,772	3,907,380	
Available resources (PMI and other sources)	-	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	-	-	
Available resources (GoT)	196,940	199,379	195,823	197,993	200,054	202,501	203,788	205,414	206,878	

Available resources (GF)	-	-	-	-	-	-	-	-	-
Expected annual deficit in 'key service' needs	3,604,501	1,628,060	1,593,711	1,614,673	1,634,582	1,658,213	1,670,645	3,686,358	3,700,501

MONITORING AND EVALUATION

Needed Resources in \$

	2008	2009	2010	2011	2012	2013
Coordination and Guidance	142,833	95,222	142,833	95,222	142,833	95,222
Survey	1,227,458	818,306	1,227,458	818,306	1,227,458	818,306
Human resources	45,000	30,000	45,000	30,000	45,000	30,000
Training	821,317	547,544	821,317	547,544	821,317	547,544
HMIS strengthening	1,088,333	725,556	1,088,333	725,556	1,088,333	725,556
Technical Assistance	20,500	13,667	20,500	13,667	20,500	13,667
Dissemination	17,500	11,667	17,500	11,667	17,500	11,667
Total	3,362,942	2,241,961	3,362,942	2,241,961	3,362,942	2,241,961

Available Resources in \$

	2008	2009	2010	2011	2012	2013
Coordination and Guidance	73,500	49,000	73,500	49,000	73,500	49,000
Survey	1,207,000	804,667	1,207,000	804,667		
Human resources	30,000	20,000	30,000	20,000	30,000	20,000
Training	-	-	-	-	-	-
HMIS strengthening	1,088,333	725,556	1,088,333	725,556		
Technical Assistance	2,000	1,333	2,000	1,333	2,000	1,333
Dissemination	-	-	-	-	-	-
Total	2,400,833	1,600,556	2,400,833	1,600,556	105,500	70,333

Financial Gaps in \$

	2008	2009	2010	2011	2012	2013
Coordination and Guidance	69,333	46,222	69,333	46,222	69,333	46,222
Survey	20,458	13,639	20,458	13,639	1,227,458	818,306
Human resources	15,000	10,000	15,000	10,000	15,000	10,000
Training	821,317	547,544	821,317	547,544	821,317	547,544
HMIS strengthening	-	-	-	-	1,088,333	725,556
Technical Assistance	18,500	12,333	18,500	12,333	18,500	12,333
Dissemination	17,500	11,667	17,500	11,667	17,500	11,667
Total	962,108	641,406	962,108	641,406	3,257,442	2,171,628

BCC (Generic BCC excluding specific activities included in Nets and Treatment strategies)

Needed Resources in \$

	2006	2007	2008	2009	2010	2011	2012	2013
People in need of key services	7,650,185	7,658,244	7,894,933	8,136,658	8,382,862	8,633,861	8,887,937	9,145,883
Available resources (PMI and other)			5,200,000	8,000,000	8,000,000			
Expected annual deficit	7,650,185	7,658,244	2,694,933	136,658	382,862	8,633,861	8,887,937	9,145,883

Financial Needs in \$

	2006	2007	2008	2009	2010	2011	2012	2013
Total needs	3,825,093	3,829,122	3,947,467	4,068,329	4,191,431	4,316,931	4,443,968	4,572,941
Available resources (PMI and other)	-	-	2,600,000	4,000,000	4,000,000	-	-	-
Expected annual gap	3,825,093	3,829,122	1,347,467	68,329	191,431	4,316,931	4,443,968	4,572,941

Calculations

Target:	Women in reproductive age
\$ 0.50	(*) including mass media, interpersonal communication and other strategic IEC activities

PROGRAMME MANAGEMENT

Needed Resources in \$

	Targeted					
	2008	2009	2010	2011	2012	2013
Infrastructure development	70,000	73,500	77,175	81,034	85,085	89,340
Human resources development	100,000	105,000	110,250	115,763	121,551	127,628
NMCP office running costs	150,000	157,500	165,375	173,644	182,326	191,442
Equipment	75,000	78,750	82,688	86,822	91,163	95,721
Total	395,000	414,750	435,488	457,262	480,125	504,131

Available Resources in \$

	Targeted					
	2008	2009	2010	2011	2012	2013
Infrastructure development	35,000	36,750	38,588	40,517	42,543	44,670
Human resources development	50,000	52,500	55,125	57,881	60,775	63,814
NMCP office running costs	75,000	78,750	82,688	86,822	91,163	95,721
Equipment	37,500	39,375	41,344	43,411	45,581	47,861
Total	197,500	207,375	217,744	228,631	240,062	252,066

Financial Gap in \$

	Targeted					
	2008	2009	2010	2011	2012	2013
Infrastructure development	35,000	36,750	38,588	40,517	42,543	44,670
Human resources development	50,000	52,500	55,125	57,881	60,775	63,814
NMCP office running costs	75,000	78,750	82,688	86,822	91,163	95,721
Equipment	37,500	39,375	41,344	43,411	45,581	47,861
Total	197,500	207,375	217,744	228,631	240,062	252,066

DISTRICT COUNCIL CAPACITY DEVELOPMENT ON MALARIA CONTROL
Needed Resources in \$

	Targeted					
	2008	2009	2010	2011	2012	2013
District planning	150,000	157,500	165,375	173,644	182,326	191,442
Training	300,000	315,000	330,750	347,288	364,652	382,884
Supervision	100,000	105,000	110,250	115,763	121,551	127,628
Malaria IMCI conference	100,000	105,000	110,250	115,763	121,551	127,628
Total	650,000	682,500	716,625	752,456	790,079	829,583

Available from GOT in \$

	2008	2009	2010	2011	2012	2013
District planning	100,000	105,000	110,250	115,763	121,551	127,628
Training	100,000	105,000	110,250	115,763	121,551	127,628
Supervision	100,000	105,000	110,250	115,763	121,551	127,628
Malaria IMCI conference	100,000	105,000	110,250	115,763	121,551	127,628
Total	400,000	420,000	441,000	463,050	486,203	510,513

Financial Gaps in \$

	Targeted					
	2008	2009	2010	2011	2012	2013
District planning	50,000	52,500	55,125	57,881	60,775	63,814
Training	200,000	210,000	220,500	231,525	243,101	255,256
Supervision	-	-	-	-	-	-
Malaria IMCI conference	-	-	-	-	-	-
Total	250,000	262,500	275,625	289,406	303,877	319,070

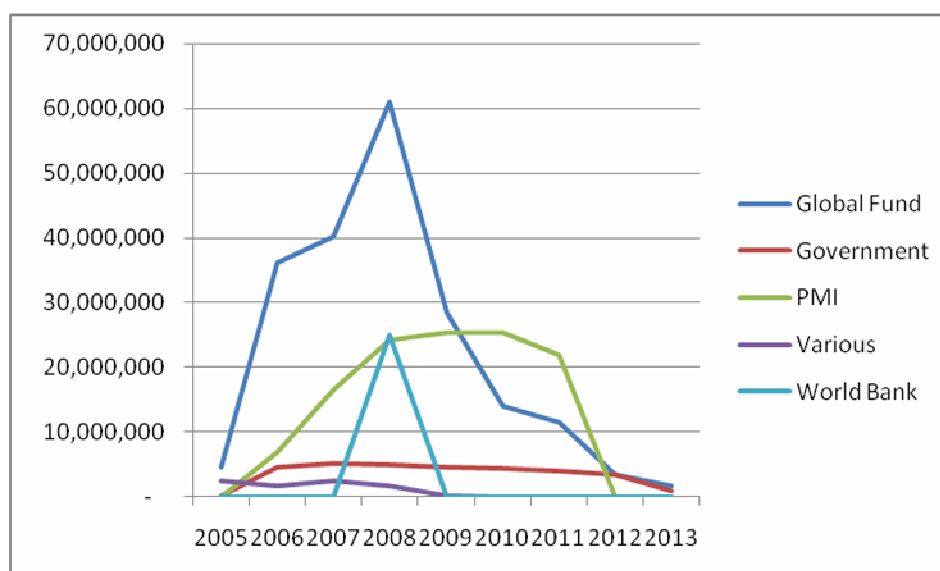
DEMOGRAPHIC INDICATORS

	2006	2007	2008	2009	2010	2011	2012	2013
Population growth rate			3.1%	3.1%	3.0%	3.0%	2.9%	2.9%
Population	38,250,927	38,291,219	39,474,667	40,683,291	41,914,311	43,169,305	44,439,683	45,729,414
Households	7,806,312	7,814,534	8,056,054	8,302,712	8,553,941	8,810,062	9,069,323	9,332,533
No. of sleeping places	23,418,935	23,443,603	24,168,163	24,908,137	25,661,823	26,430,187	27,207,969	27,997,600
No. of pregnant women	1,675,454	1,645,573	1,663,808	1,681,128	1,701,686	1,712,501	1,726,170	1,738,474
No. of children ages 1-4 years	5,267,705	5,501,176	5,659,601	-	-	-	-	-
No. of infants (less than 1 year)	1,540,352	1,529,901	1,562,570	1,596,426	1,628,587	1,663,322	1,690,929	1,722,213
Total vulnerable groups	8,483,511	8,676,650	8,885,979	3,277,554	3,330,273	3,375,823	3,417,099	3,460,687
No of women in bearing age	7,658,244	7,894,933	8,136,658	8,382,862	8,633,861	8,887,937	9,145,883	
Total 5+ years	31,144,470	32,151,258	32,980,762	34,273,608	35,383,289	36,507,311	37,652,051	
Family size	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
No of Sleeping places/household	3	3	3	3	3	3	3	3
No of structures/house	4	4	4	4	4	4	4	
No of house structures	31,225,247	31,258,138	32,224,218	33,210,850	34,215,764	35,240,249	36,277,292	37,330,134
Targeted houses for IRS	-	95,113	468,320	982,390	1,556,767	2,020,038	2,335,902	2,711,346
Estimated people Protected by IRS	-	466,056	2,294,770	4,813,712	7,628,158	9,898,184	11,445,922	13,285,595

Annex 2: Source of Funds

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Global Fund	4,532,392	36,008,597	40,079,910	60,928,538	28,417,214	13,878,969	11,403,516	3,383,277	1,580,075
Government	196,940	4,593,633	5,106,714	4,974,434	4,634,587	4,350,085	4,047,756	3,325,570	969,457
PMI	-	6,895,306	16,555,306	24,207,771	25,196,517	25,275,191	21,884,288	-	-
Various	2,400,833	1,600,556	2,400,833	1,600,556	105,500	70,333	-	-	-
World Bank	-	-	-	25,000,000	-	-	-	-	-

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Global Fund RCC				37,408,751	18,670,560	3,739,790	2,953,425	3,383,277	1,580,075
Global Fund Rd I	4,532,392	5,318,064	4,849,405						
Global Fund Rd IV	-	30,690,533	30,600,312	14,178,117	-	-	-	-	-
Global Fund Rd VII	-	-	4,630,193	9,341,670	9,746,654	10,139,179	8,450,091	-	-
Government	196,940	4,593,633	5,106,714	4,974,434	4,634,587	4,350,085	4,047,756	3,325,570	969,457
PMI	-	6,895,306	16,555,306	24,207,771	25,196,517	25,275,191	21,884,288	-	-
Various	2,400,833	1,600,556	2,400,833	1,600,556	105,500	70,333	-	-	-
World Bank	-	-	-	25,000,000	-	-	-	-	-
Grand Total	7,130,165	49,098,091	64,142,763	116,711,298	58,353,818	43,574,579	37,335,561	6,708,847	2,549,532



Annex 3: Strategic Areas of Focus

Strategy	Partner	2005	2006	2007	2008	2009	2010	2011	2012	2013
ITN/LLIN	PMI	-	4,395,306	13,055,306	16,185,000	16,000,000	16,000,000	16,000,000	-	-
ITN/LLIN	World Bank	-	-	-	25,000,000	-	-	-	-	-
ITN/LLIN	Global Fund Rd I	4,532,392	5,318,064	4,849,405						
ITN/LLIN	Global Fund RCC				37,408,751	18,670,560	3,739,790	2,953,425	3,383,277	1,580,075
IRS	PMI	-	-	1,000,000	2,922,771	3,196,517	3,275,191	3,884,288	-	-
IRS	Government	-	-	530,812	-	-	-	-	-	-
MCM	PMI	-	500,000	500,000	500,000	-	-	-	-	-
MCM	Global Fund Rd IV	-	30,690,533	30,600,312	14,178,117	-	-	-	-	-
MCM	Global Fund Rd VII	-	-	4,630,193	9,341,670	9,746,654	10,139,179	8,450,091	-	-
MCM	Government	-	4,394,254	4,380,079	4,178,941	3,807,158	3,488,840	3,152,288	2,393,891	-
MIP	PMI	-	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	-	-
MIP	Government	196,940	199,379	195,823	197,993	200,054	202,501	203,788	205,414	206,878
M&E	Various	2,400,833	1,600,556	2,400,833	1,600,556	105,500	70,333	-	-	-
BCC	PMI	-	-	-	2,600,000	4,000,000	4,000,000	-	-	-
Prog Mng	Government				197,500	207,375	217,744	228,631	240,062	252,066
Capacity Devlp	Government				400,000	420,000	441,000	463,050	486,203	510,513
		7,130,165	49,098,091	64,142,763	116,711,298	58,353,818	43,574,579	37,335,561	6,708,847	2,549,532

Legend

- BCC - Behavioural Change Communication
- IRS - Indoor Residual Spraying
- ITN/LLIN - Insecticide Treated Nets/Long Lasting Nets
- M&E - Monitoring and Evaluation
- MCM - Malaria Case Management
- MIP - Malaria in Pregnancy

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