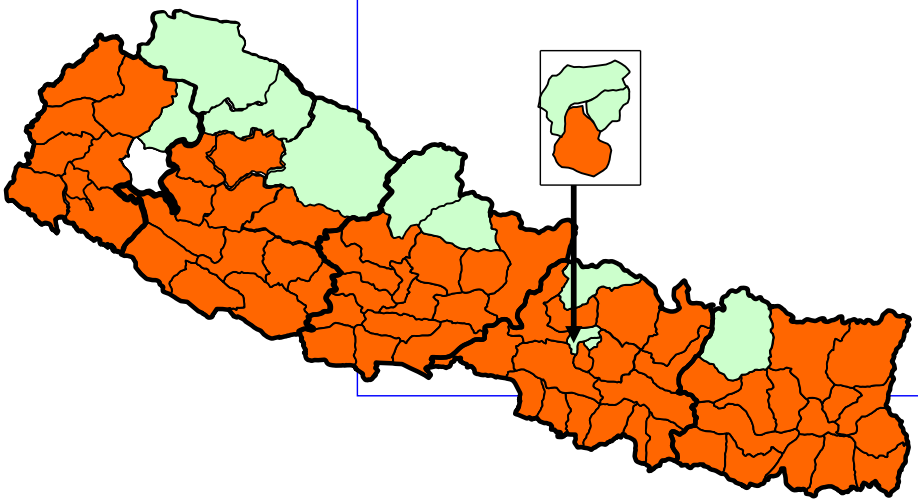
Draft

Internal assessment of the

National Malaria Control Program-Nepal 2009

Districts with Malaria Control Activities



Government of Nepal
Ministry of Health and Population
Department of Health Services
Epidemiology & Disease Control Division
Teku, Kathmandu, Nepal
2009

Dr. Garib Das Thakur
Dr. Prakash Ghimire
Mr. Rakesh Thakur
Dr. Ranjana Gupta
Dr. Yadu Chandra Ghimire
Mr. Arjun Kumar Bhattarai
Mr Purushottam Gautam
Mr. Tek Raj Pathak
Mr. Kumar Pokharel
Mr Chandeshwar Yadav

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National Malaria Control Program - 2009

Dr. Garib Das Thakur
Director, Epidemiology and Disease Control Division

Dr. Prakash Ghimire
Associate Professor, Microbiology, Tribhuvan University

Mr. Rakesh Thakur
Sr. Public Health Adminstrator, Epidemiology and Disease Control Division

Dr. Ranjana Gupta
Program Officer, GFATM/PMU, Epidemiology and Disease Control Division

Dr Yadu Chandra Ghimire
Senior Integrated Medical Officer, Epidemiology and Disease Control Division

Mr. Arjun Kumar Bhattarai
Program Officer, GFATM/PMU, Epidemiology and Disease Control Division

Mr Purushottam Gautam
Entomologist, Epidemiology and Disease Control Division

Mr. Tek Raj Pathak
Program Officer, GFATM/PMU, Epidemiology and Disease Control Division

Mr. Kumar Pokharel
Vector Control Officer, Epidemiology and Disease Control Division

Mr Chandeshwar Yadav
Vector Control Officer, Epidemiology and Disease Control Division

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+Ref No. :

Pachali, Teku
Kathmandu Nepal

Date _____

Foreword

It gives me an immense pleasure to express a few words in the publication of "The Internal Assessment of National Malaria Control Program-2009".

In this publication, malaria situation in the year 2009 is presented with the background information on malariogenic potentials such as climate, topography, prevalence of different types of vectors and malaria parasites in various parts of the country. Similarly, malaria control objectives, strategies, and activities are presented for the year -2009 along with comparable data for the last five years.

I believe, that once malaria control interventions are scaled up and coverage is increased with effective services it will reduce malaria disease burden and will be prepared to meet the global target of halving the malaria burden by the end of 2010. I thank all the external development partners especially WHO, GFATM for their continued support for Malaria control program implementation in Nepal. Lastly, I would like to extend sincere thank to those who have contributed their efforts and suggestion to prepare and publish this report.

_____
Dr. Garib Das Thakur
Director
Epidemiology and Disease Control Division

Acronyms

ACT : Artemisinin Combination Treatment
AMDA : Association of Medical Doctors of Asia
API : Annual Parasite Index
DHO : District Health Office
DPHO : District Public Health Office
EDCD : Epidemiology and Disease Control Division
EWARS : Early Warning and Reporting System
FCHVs : Female Community Health Volunteers
GFATM : Global Fund to Fight Aids, Tuberculosis and Malaria
HMCs : Health Management Committees
LLINs : Long Lasting Insecticide Treated Nets
M&E : Monitoring and Evaluation Plan
MoHP : Ministry of Health and Population
MToT : Master Training of Trainers
PbHPs : Public Health Providers
PMU : Program Management Unit
PR : Principal Recipient
PSI : Population Service Nepal
RDTs : Rapid Diagnostic Tests
TGF : The Global Fund
TOTs : Training of Trainers
TWC : Technical Working Committee
USAID : United Stated Aid
VBDRTC : Vector Born Disease Research and Training Centre
VDCs : Village Development Committees
WHO : World Health Organization

Executive Summary

1. Introduction

The renewed effort to control malaria worldwide and move towards elimination in some countries is considered as the latest generation of effective tools and methods for prevention and treatment. Increasing use of long-lasting insecticide nets (LLINs) for protection against mosquito bite; early and accurate diagnosis with the introduction of RDTs, prompt treatment and case management with the introduction of artemisinin-based combination therapies (ACTs) and indoor residual spraying (IRS) of insecticide provides an unprecedented opportunity to control and in selected countries, eliminate malaria.

To accelerate progress in malaria control, the 2005 World Health Assembly advanced the Roll Back Malaria (RBM) targets defined in 2000 and set a coverage target of 80% or more for 4 key interventions:

a. Insecticide-treated nets (ITNs) for people at risk;

b. Appropriate antimalarial drugs for patients with probable or confirmed malaria;

c. IRS for households at risk, and

d. Intermittent preventive treatment in pregnancy (in high-transmission areas).

The WHO assembly specified that, because of these interventions, the numbers of malaria cases and deaths per capita should be reduced by 50% or more between 2000-2010, and by 75% or more between 2000 and 2015.

Nepal is a landlocked country, situated on the southern slopes of the Himalayas between China and India. It is located between 26º 22' and 30º 27' north latitudes and 80º40' and 88º 12' east longitudes, with a total surface area of approximately 147,181 sq. km; east-to-west length of ~ 885 km; the north-south width ~193 (145-241) km.

Ecologically the country is divided into three regions: Mountain, Hills and Terai (Plains). About 77% of land area of its northern portion consists of mountains, hills including river basins, and elevated flat lands. The remaining 23% land area on the southern side is low and flat. Three mountain/hill ranges—the Siwalik range (south), Mahabharat range (middle) and Himalayan range (north) roughly divide the country into four major physical divisions. From south to north, these are the Outer terai, Inner terai, Hilly and the Himalayan regions.

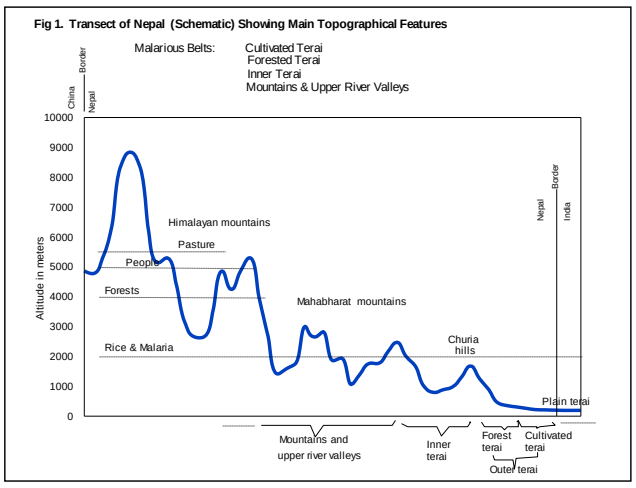
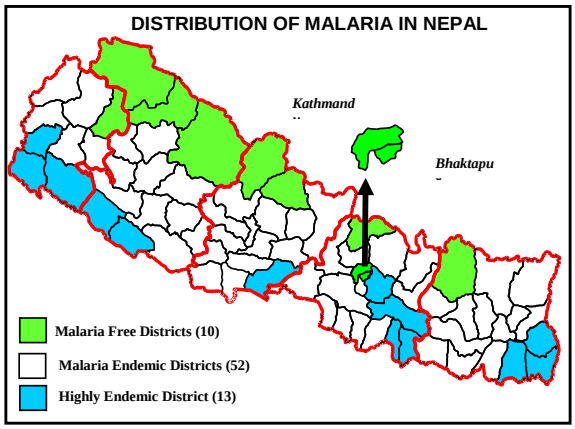


Fig 1. Transect of Nepal (Schematic) Showing Main Topographical Features

The first attempt to control malaria in Nepal was initiated in 1954 through the Insect Borne Disease Control Programme, supported by USAID. In 1958, the malaria eradication programme was launched—the first national public health programme in the country—with the objective of eradicating

malaria from the country within a limited time period. Because of various constraints, this objective could not be achieved and consequently the programme reverted to malaria control in 1978. Prevailing ecological, epidemiological and socioeconomic factors required changes in the malaria control strategy, and as a result it was revised in accordance with the Global Malaria Control Strategy 1992 of WHO. Currently, Malaria control services are provided to approximately 22.8 million people in areas at risk of malaria in 65 districts of the country.



1.1. Progress, performance and challenges on malaria control

During early seventies due to various problems, the program suffered setbacks and the malaria situation deteriorated. During the decade, *An. annu*laris incriminated as a vector of malaria in southern terai belt (Parsa, Nawalparasi and Kapilvastu). A massive epidemic was observed in Kapilvastu, Rupandehi and Nawalparasi districts resulted in increase of cases to 9375 in 1973 and to 14647 in 1974 which was six fold increase compared to 2,787 cases in 1971. Due to the development of resistance in *An. annularis* against DDT, indoor residual spraying with DDT was not effective in controlling the epidemics. During late seventies concerted efforts like changing the insecticide from DDT to malathion (organo-phosphorous compound), Ficam (bendiocarb – carbamate compound) and larviciding with Abate were undertaken to control the epidemic in Western region and the cases were reduced to 10123 by 1976. By the time the epidemics were controlled the cases started increasing almost all over the country and by 1978 increased again up to 14148 and remained so up to 1980. However, during the first half of 1980's the percentage of Pf increased with the increase of cases but in the later half Pf decreased in spite of gradual increase in cases.

One of the major changes brought in the program during 70s was to gradually integrate malarious areas with API of 1‰ or below into the Primary Health Care Program. Another major change was the withdrawal of regular malaria control activities from 9 western hill districts. In addition, the review of the program objectives in 1978 was consequential to conversion of eradication program to control of malaria according to the WHO global strategy of malaria control.

The decade of 1980s was a set back for the malaria control program. An epidemic was observed in Far-western region in 1985 where the annual malaria cases exceeded 42,321, while in the central region limited focal outbreaks affected the communities, and continued up to 1988. All the years, the cases were well above 15,000 annually. Proportion of *P. falciparum* was also very high (up to 19%). With concerted efforts like changing of insecticide and anti-malaria drug against *P. falciparum*, the no. of cases was brought down to around 22,000 by the end of the decade.

During the beginning of 1980's the first attempt of stratification of malaria areas was done and stratified as follows:

High receptive: Originally hyper-endemic areas of forest and forest fringe terai and inner terai with *An. minimus* as vector. The situation does not exist because of virtual disappearance of the vector species.

Moderate receptive: Originally hyper-endemic areas of forest and forest fringe of terai and inner terai from where *An. minimus* and *An. fluviatilis* were incriminated. Nevertheless, in the absence of *An. minimus*, *An. fluviatilis* is responsible for transmission.

Low receptive terai (LT): Originally hypo-endemic areas of terai where forest has been cleared and villages are well settled. *An. fluviatilis* is not known to occur except a few occasional catches. *An. annularis* has been incriminated as a vector.

Low receptive hills (LH): Originally, hypo-endemic areas of hills lying above 2,500.ft. to 4000.ft. MSL of Mahabharat range where *An. fluviatilis* is a vector. *An. maculatus* may or may not be responsible for maintaining transmission.

Very low or no receptive: Areas of hill lying above 2,500.ft. MSL where *An. fluviatilis* is not a vector but *An. maculatus* complex is a suspected vector and areas where malaria transmission does not occur.

The beginning of 1990s experienced periodic malaria outbreaks and the cases went up to 29,000 in 1991. With continued indoor residual spraying with synthetic pyrethroid group Lamdacyhalothrin (ICON) in epidemic areas, the cases were brought down to 9700 by 1995.
Over the same period due to influx of refugees from Bhutan (during 1993) the country had to manage additional 1600 (51% Pf) and 1461 (43% Pf) malaria cases in 1994 and 1995 respectively.
From 1996 and onward, the number of confirmed malaria cases remained below 10,000 annually. Proportion of Pf in 1996 and 1997 was high because of the outbreak in Kanchanpur in 1996 and in Nawalparasi in 1997. Blood Examination Rate went down as low as 1 %. SPR was > 4 % all the years. SFR was > 0.3%. API was also >0.5 per thousand population. However, AFI remained < 0.1 per thousand people.
Following the WHO call to revamp the malaria control programmes in 1998, Roll Back Malaria (RBM) initiative was launched to address the perennial problem of malaria in hard-core forested, foot hills, inner Terai and valley areas of the hills, where more than 70 percent of the total malaria cases of the country prevail. The high risk of getting the disease is attributed to the abundance of vector mosquitoes, mobile and vulnerable population, relative inaccessibility of the area, suitable temperature, environmental and socio-economic factors. Currently malaria control activities are carried out in 65 districts at risk of malaria. The Global Fund is supporting malaria control program in the high endemic 13 districts as part of GFATM 2nd round support to Nepal. GFATM support is in the process of extension to 28 districts with the GFATM support of 7th round and RCC. 2nd round GFATM Support for NMCP has been received by Govt. of Nepal and PR while in 7th round PSI became PR2 for implementation of activities for LLIN procurement, distribution and BCC activities in close coordination with EDCD and following Govt. policies.

1.2 Current Objectives of the National Malaria Control Program

- Overall incidence of (probable and confirmed) malaria in 'population at risk' brought below 2 cases per 1,000 by 2011. (2005 baseline: 4.1 cases per 1,000)
- Hospital-based severe malaria case fatality rate reduced to below 15% by 2010.
- By 2010, weekly incidence of malaria (probable and confirmed) in all outbreak wards (smallest administrative unit in government administrative division) brought below outbreak threshold level within 6 weeks of detection.
- Community mobilization and community partnership in malaria control.

1.3. Targets

- 80% of people in high-risk areas (stratum 1 VDCs) sleeping under LLIN (last night) by 2011.
- By 2008, the annual routine IRS campaign will cover 80% of households in target VDCs.
- 80% of malaria cases reported by public sector health facilities in high risk areas (stratum 1) confirmed by microscopy or RDT by 2011.

- 80% of care providers at rural public sector health facilities providing appropriate treatment for malaria by 2011.

1.4. Indicators

Main Indicators	Numerator and Denominator	
1 Annual Blood Examination Rate (ABER)	Total no of slides examined	x 100
	Total population at risk of malaria	
2 Slide Positivity Rate (SPR)	Total no of positive slides	x 100
	Total slides examined	
3 Annual Parasite Incidence (API)	Total no of confirmed malaria cases	x 1000
	Population at risk of malaria	
4 Proportion of *P. falciparum* (PF percent)	Total PF cases	x 100
	Total confirmed positive cases	
5 Clinical Malaria Incidence (CMI)	Total no of clinical malaria cases	x 100
	Total population at risk of malaria	

1.5. Strategies adopted to achieve the objectives set as above

1.5.1. Vector Control and Personal Protection

- Two rounds of routine indoor residual spraying (IRS) will be carried out annually in each high risk VDCs unless LLIN population coverage in that VDC exceeds 80%
- In the event of limited insecticide stocks round 2 of the IRS campaign may be withheld and target VDCs will be prioritized according to malaria burden.
- Insecticides for IRS will be WHOPES approved and will be selected by the insecticide Technical Working Group (TWG) on the basis of likely cost effectiveness (insecticide resistance profiles for primary vectors will be taken into consideration).
- IRS operations will aim to cover at least 80% of households in target VDCs.
- WHOPES approved long-lasting insecticide treated bed nets (LLINs) will be provided free of charge to all people living in high risk VDCs (1 LLIN per 2 people every three years - assuming a three year life for the LLIN).
- LLIN delivery campaigns will take place in one third of targeted VDCs in each district each year so that total coverage of the target population is achieved by year 3 and maintained thereafter. Additional WHOPES approved LLINs will be provided to all pregnant women attending ANC check-ups in high risk VDCs (one LLIN per pregnancy).

1.5.2. Early Diagnosis and Appropriate Treatment

- Diagnostic services for malaria will be provided free of charge at all public sector health facilities.
- Microscopy will form the diagnostic method of choice at hospital and primary health care centre level and some selected health posts and sub-health posts.
- Below primary health care centre level *falciparum* specific and RDTs will form the diagnostic method of choice in high and moderate risk areas. To minimize wastage, use of RDTs will be strictly limited to diagnosing clinically suspected cases only.
- EDCD will implement a comprehensive quality assurance system for malaria microscopy and RDTs through the referral laboratory network (District, Regional and Central). This will be linked to needs-based refresher training.
- Anti-malarial drugs will be provided free of charge from all public sector health facilities.

- Anti-malarial drugs will be provided free of charge through the Female Community Health Volunteer (FCHV) network in high risk area according to national treatment guidelines.
- Artemisinin-based combination therapy (ACT) will be provided for confirmed *falciparum* malaria cases throughout the country as per national treatment guidelines.
- Chloroquine will be provided for confirmed *vivax* cases and suspected malaria cases as per national treatment guidelines.
- Primaquine will be provided for the radical cure of confirmed *vivax* cases as per national treatment guidelines.
- National malaria treatment guidelines will be reviewed regularly and revised as appropriate based on the findings of drug resistance surveillance.
- National malaria treatment guidelines (and any revisions to them) will be implemented at all public sector health facilities throughout the country within one year of ratification by the Regional Technical Advisory Group on Malaria (RTAG-M). Recommended anti-malarials, including ACT, will be incorporated into the essential drug list.

1.5.3. Malaria Surveillance and Epidemic Preparedness

- A simple malaria outbreak early warning system will be established in selected public health facilities (one sentinel site/endemic district). This will be complimentary to existing surveillance networks.
- Technical and operational linkages between EDCD and epidemic prone districts will be strengthened for an effective coordinated action in response to outbreaks.
- In the event of an outbreak, focal IRS will be carried out in the ward(s) where the outbreak was detected and in all adjacent wards.
- In the event of an outbreak, district-level teams will carry out RDT-based active case detection in the outbreak ward(s) and in all adjacent wards. Confirmed cases will be treated according to national treatment guidelines.

1.5.4. Behaviour Change Communication (BCC)

- Carefully tailored locally appropriate malaria related IEC/BCC will be delivered through 5 methodologies: interpersonal communication (health workers, religious and community members); primary and secondary education (malaria incorporated into vector borne disease control module); mass media (electronic and print); special events (malaria day); and, high level advocacy.
- Final development and production of BCC materials will be outsourced to private/INGO/NGO sector specialists.
- Maximum use will be made of free promotional opportunities such as articles in newspapers, and news bulletins, and dramas on television and radio.

1.5.5. Program Management

- Capacity building: A holistic package of carefully tailored technical and management training will be developed and will be implemented through central and district level staff in order to strengthen the functionality of service provision in the periphery.
- Planning: Technical Working Groups (TWGs) will be established and maintained for all key technical areas including: diagnostics; case management; vector control; IEC/BCC; monitoring & evaluation; and operational research.
- Existing technical guidelines, including guidelines on case management, vector control, epidemic preparedness and control, monitoring drug and insecticide resistance will be updated by the TWGs/TA and disseminated.

- Policies, strategies and guidelines will be reviewed regularly by TWGs in light of findings from periodic evaluations and in view of recommendations resulting from surveillance and operational research activities.
- To ensure equitable and evidence-based distribution of services, allocation of all program commodities will be carried out by the relevant TWG.
- A National Technical Advisory Group for Malaria (NTAG-M) will be established. The group will have representation from MoHP, EDCD, NPHL, NHEIC, VBDRTC, DHOs, the INGO/NGO sector and WHO (and other key agencies as appropriate). This committee will meet annually in order to review programmatic progress and to ratify any policy/strategy changes.

1.5.6. Operational research

- The program will implement a modest needs-based package of operational research in association with implementing partners and national and international research institutes.
- Research priorities will be reviewed annually by a TWG and the resulting research agenda will be ratified by the NTAG Malaria.

1.5.7. Enhance community participation and partnership

- Enhance community participation and partnership building in malaria control through the progressive expansion of Roll Back Malaria (RBM) initiative

. 1.6. National Malaria Control Program performence assessements:

Internal assessments of the Nepal's Malaria Control program had been regularly done in the past at least once in every 3 years with the involvement of independent malaria experts and officials of the NMCP following agreed indicators for assessment, which are also the Key indicators of the Revised Malaria Control Strategy during 2006-2010 that are adopted by Member Countries in 2006, some of which were

- No. and rates of confirmed malaria cases
- No. and rates of confirmed malaria deaths
- Falciparum case fatality rates
- No. of households covered with ITNs/LLINs
- Coverage of malaria prevention (ITNs/LLINs/IRS) among population at risk of malaria
- No. and coverage of fever cases timely diagnosed and treated with effective treatment
- Proportion of malaria epidemics timely detected and appropriately controlled.
- No. of countries adopted and implemented integrated vector management as a part of Healthy Public Policies

(ITN=insecticide-treated net, LLIN= Long lasting insecticidal net, IRS = Indoor residual spraying)

The last internal assessment of the National Malaria Control Program activities for years 2004-2006 was done during early months of 2007, indicated that Malaria in Nepal is under control except few focal outbreaks of falciparum which were contained with the appropriate use of effective measures.

2. Objectives of the assessment

Main /General objective

- Assessment of the National Malaria Control Program (NMCP)

Specific Objectives:

- Review of the current national malaria control strategy
- Review of current epidemiological trends in malaria
- Review of program structure and functions
- Review current program activities (with emphasis on GFATM supported districts)

Activities expected to be assessed:

- To review the present status of National Malaria Control Program and Program Strategies with its achievements
- To evaluate present program specific (round 2 and round 7) malariometric indicators, epidemiological trend of malaria in TGF supported districts and of the nation as a whole
- To review the resource mobilization status of the national malaria control program
- To list out the malaria studies conducted in the 13 TFG supported districts and their significance in the national program.
- To review the present situation and coverage of LLINs distribution through ANC clinics to the pregnant women
- Review the activities of the partner organization (PSI-Nepal, WHO etc.)

3. Assesement Methodology

- Formation of the assessment team at the central level
- Desk review of the guideline/protocols/documents, data components followed by NMCP/EDCD.
- Development of checklist for assessment in central and district level program implementation organizations.
- Team visit to selected districts for assessment as per the developed checklist.
- Assessment of the central level program activities implemented by Nepal Govt. PSI and partners as per developed check list
- Collection of the check list data from each team
- Analysis of the collected data
- Preparation of draft report for comment from NMCP officials
- Submission of the final report.

3.1. Formation of the internal assessment team

NMCP Program Manager and EDCD Director formed an internal assessment team. The team members were Dr G D Thakur, Mr Rakesh Thakur, Dr Yadu Chandra Ghimire; Dr Nihal Singh and Dr Sushil Dev Pant (WHO Nepal); Dr Ranjana Gupta, Mr Arjun Kumar Bhattarai, Mr Tek Raj Pathak Mr Chandeshwor Yadav, Mr Kumar Pokhrel of EDCD and PMU GFATM for the internal assessment activities.

Dr Prakash Ghimire, Associate Professor Microbiology, Tribhuwan University was appointed as an independent consultant to guide/help EDCD in the assessment process.

3.2. Desk review of the guideline/policy documents, data components available in NMCP/EDCD.

Review team assessed the currently available guideline/policy documents developed and in use by NMCP for malaria control program implementation. Documents used by PSI (a partner of EDCD for 2nd round of GFATM malaria control grant) were also reviewed. A list of the documents reviewed includes:

- ***Demographic Health Survey*** 2006 consisting information on
    - Background of the country,
    - Demographic and health profile of the country,
    - Socio economic and development status,
    - Health infrastructure in government, NGO and private sector at different levels , pattern of utilization of health services in the urban and rural areas
- ***Annual reports for malaria control programme*** for the past 10 years consisting of
    - Key epidemiological statistics of malaria for the past 20 years and detailed statistics for the past 5 years.
- ***National five-year health development plans***

- National Health Policy, 1991 MoHP, Govt. of Nepal
- Second Long Term Health Plan 1997-2017. Perspective Plan for Health Sector Development MoHP, Govt. of Nepal
- Tenth Plan of Govt of Nepal with emphasis on Millennium Development Goals (MDGs)-centred Poverty Reduction Strategy Paper
- Three-Year Interim Plan Approach Paper (2064/65-2066/67) – National Planning Commission, Govt. of Nepal 2007
- Nepal Health Sector Programme Implementation Plan (NHSP-IP)- 2004-2009, MoHP, Govt. of Nepal
- Health Sector Strategy: an agenda for reform- 2004 MoHP, Govt. of Nepal
- Health Sector Information System- National Strategy-2005 MoHP, Govt. of Nepal

- ***Current national policy and strategy documents*** for malaria control
  - National Malaria Control Strategic Plan 2007-2011
  - National Malaria Treatment protocol-2009
  - Indoor Residual insecticide spraying guideline-2009
  - LLIN distribution guideline- EDCD- 2009
  - Monitoring and Evaluation plan for Malaria Control activities-
- ***Procurement and Supply Management Plan*** for Organization chart and staff pattern
- ***Guidelines for malaria diagnosis and treatment*** used by public and private sector
  - Report of the National Workshop on Prevention and Control of Vector Borne Diseases in Nepal, 8-10 May 2002, Kathmandu
- ***Guidelines for vector control and entomological surveillance activities***
  - Assignment report for the Technical assistance for the preparation and guidance of re-fresher medical entomology training and scaling up of seasonal longitudinal entomological surveillance;
- ***Guidelines/manual for social mobilization***
  - Formative Research on BCC/IEC programmes in Health published by National Health Education Information and Communication Center under DoHS, MoHP.
- ***Reports on drug efficacy studies and summary of key operational research***
  - Report on Malaria Prevalence Survey in Jhapa 2008 with Preliminary Results
  - Reports of the Drug efficacy studies carried out in Jhapa, Dhabusha, Kanchanpur at different times were referred
  - Malaria Social Marketing TRaC and Net Coverage Survey in Six Districts of Nepal: Phase I of the Malaria Prevention Program, PSI 2006
  - Malaria TRaC and Net Coverage Survey in Five Districts of Nepal: Phase II of the Malaria Prevention Program, PSI 2007

- Malaria TRaC and Net Coverage Survey in Five Districts of Nepal: Phase III of the Malaria Prevention Program, PSI 2008

- ***Budget for malaria control in comparison with national health budget and government budget***
  - Nepal Government budget (red book) for the years 2005-2009
- ***Report templates***
  - HMIS 1,2,16,17,18a,19,24,29,30,31,**32**,33,34 and other related HMIS forms and formats
  - Form for Monthly Progress Report Update (GFATM supported districts) to be filled by SHP/HP/PHC
  - Form for Monthly Progress Report Update (GFATM supported districts) to be filled by Districts
  - HMIS raw data entry for annual reporting at the central level

- ***Training courses, supervision, monitoring and evaluation***
  - National Malaria Control Program Monitoring and Evaluation Plan 2009-2012, EDCD, DoHS, MoHP
  - Training Manuals developed by EDCD/GFATM PMU for health workers of different levels
  - Cross-border Control of AIDS, TB Malaria and Kala-azar in Pilot Districts of India and Nepal A Joint Plan of Action, WHO 2002
  - Monitoring templates for LLIN distribution and use, radio message monitoring, school based program monitoring, training monitoring, GPS log book for LLIN use monitoring,

- ***GFATM proposals and progress report***
  - Agreement between Nepal Govt and GFATM
  - Agreement between PSI and GFATM
  - Global Fund Program in Nepal: Technical Assistance Report 2006
  - Private sector malaria training report, PSI 2008
  - Social Marketing of Malaria Prevention and Control in Nepal implemented by PSI Nepal-2008
  - GFATM round 7 year 1 annual report- Scaling-up Coverage and Quality of Malaria Prevention and Control in Targeted High Risk Districts in Nepal, PSI Nepal- 2009

3.3. Assessment of the implementation in filed stations/districts

3.3.1. Development of checklist for assessment in central and district level program implementation organizations

The team developed draft checklists for assessment of the program at central and district level. The checklist was finalized incorporating the inputs {provided by the stakeholders representing different areas of the malaria control program (vector biology, epidemiology, data management, laboratory diagnosis, program management)}. The team leader then conducted an orientation to the team members on collection of information as per the checklist. The team then visited the districts as assigned below to collect information as per checklist. Some members of the team assessed the program activities at NMCP / EDCD following the checklist developed for central level.

Checklist could be accessed in Annex-

3.3.2. Collection of information from the selected districts as per checklist

The assessment team visited the districts as mentioned below during 20-30 May 2010 and collected information on the activities carried out in the course of implementation of Malaria Control Program at all level of the health system. The composition of the field/district assessment team was as follows:

- Jhapa & Ilam: Tek Raj Pathak and Deepak Achami
- Dhanusha & Mahottari: Dr GD Tahkur, Rakesh Thakur, Chandeshwar Yadav and Ajay Thakur
- Makawanpur & Chitwan: Dr Prakash Ghimire, Dr Sushil Pant and Kumar Pokhrel
- Kailali & Kanchanpur: Dr Ranjana Gupta, Arjun Kumar Bhattarai and Sandip Gaur

3.3.3. *Assessment of the central level program activities as per check list*

Team leader and members of the team assessed the malaria control program activities carried out at the central/national level using the checklist.

Team leader and members of the team also contacted PSI and obtained information's on implementation of the activities by PSI and partner organizations supported through GFATM Malaria Control Grant. LLIN and BCC/IEC activities were the major responsibility of PSI for implementation in the GFATM supported districts.

3.3.4. Collection of the check list data

The data collected by the field/district team and central team were entered in the database; the data was the analyzed suing the appropriate tool for concluding and making specific recommendations based on the assessment findings.

4. Results and Conclusion of the current internal assessment

4.1. Desk review of the guidelines/policy documents, data components available in NMCP/EDCD.

A good numbers of guideline / policy documents and protocols have been developed and in use by the different levels of NMCP. Some of the mentionable are as follows:

- National Malaria Control Strategic Plan 2007-2011
- National Malaria Treatment protocol-2009
- Indoor Residual insecticide spraying guideline-2009
- LLIN distribution guideline- EDCD- 2009
- Monitoring and Evaluation plan for Malaria Control activities-
- Procurement and Supply Management Plan
- Guidelines for malaria diagnosis and treatment -Report of the National Workshop on Prevention and Control of Vector Borne Diseases in Nepal, 8-10 May 2002, Kathmandu
- Annual reports for malaria control programme till 2006
- Demographic Health Survey 2006
- National Health Policy, 1991 MoHP, Govt. of Nepal
- Second Long Term Health Plan 1997-2017. Perspective Plan for Health Sector Development MoHP, Govt. of Nepal
- Nepal Health Sector Programme Implementation Plan (NHSP-IP)- 2004-2009, MoHP, Govt. of Nepal
- Report templates: HMIS 24,29,31,32,33,34

The guidelines are developed, updated regularly (~5 yrs interval) based on need and scientific evidence are aligned with current WHO guidelines, and have been able to address the current needs of the different stakeholders involved in malaria control.

Policy documents are developed based on the inputs provided by the experts from public, private, academic sectors and stakeholders during a workshop usually organised by the respective division of the DoHS, MoHP. Malaria has a priority health problem (priority one program) of the GON outlined in the budget statement of the govt and national policies developed by the National planning commission.

The guidelines and protocols are updated timely and also as per need in line with the globally practiced protocols with the involvement of the experts available within the country as well as the experts hired from outside through WHO support.

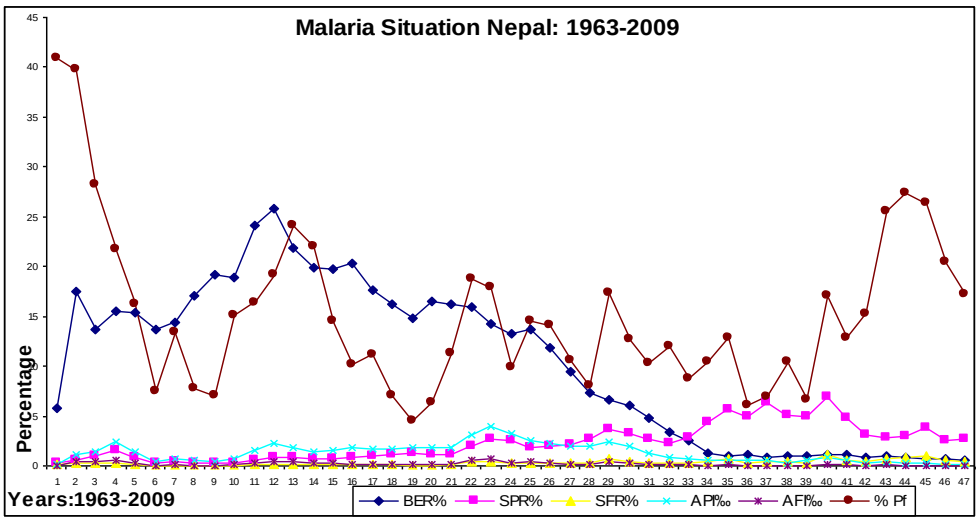
Observations for improvements:

- NMCP has introduced RDTs as one of the important tools in the diagnosis of malaria, which is beneficial in the areas where microscopy facility is not available. It is also beneficial in the microscopic centres during the off-hours. The RDTs have been deployed to the peripheral health facilities for the early diagnosis so that prompt treatment to the malaria cases can be done and hence prevent the mortality
- There is rampant use of antibody detecting RDTs (not supplied by NMCP) in the private sector as well as in some public health facilities. So, this could be addressed with the introduction of new diagnostic deployment guideline or a part of updated VBD prevention, control and treatment policy document.
- In National Malaria Control Strategic Plan, Malaria Microscopy has been recognised as an important tool for early diagnosis and effective treatment of malaria. But more matter should be included in the next revision to emphasise sufficiently like LLIN and IRS as one of the backbone for malaria diagnosis and control.
- One of the suggested statements, which may be included in the strategic document, is “Prompt parasitological confirmation by microscopy or alternatively by RDTs is recommended in all patients suspected of malaria before treatment is started. Treatment solely based on clinical suspicion should only be considered when a parasitological diagnosis is not accessible / not available/not possible/not supportive”.
- In National Malaria Control Strategic Plan, Concept of technical working groups (TWG) has been well mentioned; however, meetings and work plan of such TWG are not found to be frequent.
- Role of VBDRTC in research and training needs to be clearer in policy documents. This is particularly important to better utilize the country capacity of different institutions within the country in malaria control program.

4.2. Assessment of current epidemiological trends

In the history of malaria control in Nepal, malaria control project named Insect Borne Disease Control supported by USAID (then USOM) started in 1954 with the objective of controlling malaria mainly in southern Terai belt of central Nepal. In 1958, national malaria eradication programme, the first national public health programme in the country started with the objective of eradicating malaria from the country within a limited period. Due to various reasons, the eradication concept was reverted to control program in 1978. Following the call of WHO to revamp the malaria control programmes in 1998, Roll Back Malaria (RBM) initiative was launched to address the perennial problem of malaria in hard-core forested, foothills, inner Terai and valley areas of the hills, where more than 70 % of the total malaria cases of the country prevail. The high risk of getting the disease is attributed to the abundance of vector mosquitoes, mobile and vulnerable population, relative inaccessibility of the area, suitable temperature, environmental and socio-economic factors.
Currently malaria control activities are carried out in 65 districts at risk of malaria. The Global Fund is supporting malaria control program in the high endemic 13 districts.

During early seventies due to various problems, the program suffered setbacks and the malaria situation deteriorated. During the decade, *An. annu*laris was incriminated as a vector of malaria in southern terai belt (Parsa, Nawalparasi and Kapilvastu). A massive epidemic was observed in Kapilvastu, Rupandehi and Nawalparasi districts resulted in increase of cases to 9375 in 1973 and to 14647 in 1974 which was six fold increase compared to 2,787 cases in 1971. The cases were reduced to 10123 by 1976 due to changing the insecticide from DDT to malathion (organo-phosphorous compound), Ficam (bendiocarb – carbamate compound) and larviciding with Abate. The cases then started increasing again expanding its coverage area almost all over the country and by 1978 the no of malaria cases reached to 14148 and remained stable till 1980. An epidemic occurred in Far-western region in 1985, where the annual malaria cases exceeded 42,321, while in the central region limited focal outbreaks affected the communities. All the years, the cases were well above 15,000 annually. Proportion of *P. falciparum* was also very high (up to 19%).



The beginning of 1990s experienced periodic malaria outbreaks and the cases went up to 29,000 in 1991. With continued indoor residual spraying with synthetic pyrethroid group of insecticide {Lamdacyhalothrin (ICON)} in epidemic areas, the cases dropped down to 9700 by 1995.

Over the same period due to influx of refugees from Bhutan (during 1993) the country had to manage additional 1600 (51% Pf) and 1461 (43% Pf) malaria cases in 1994 and 1995 respectively.

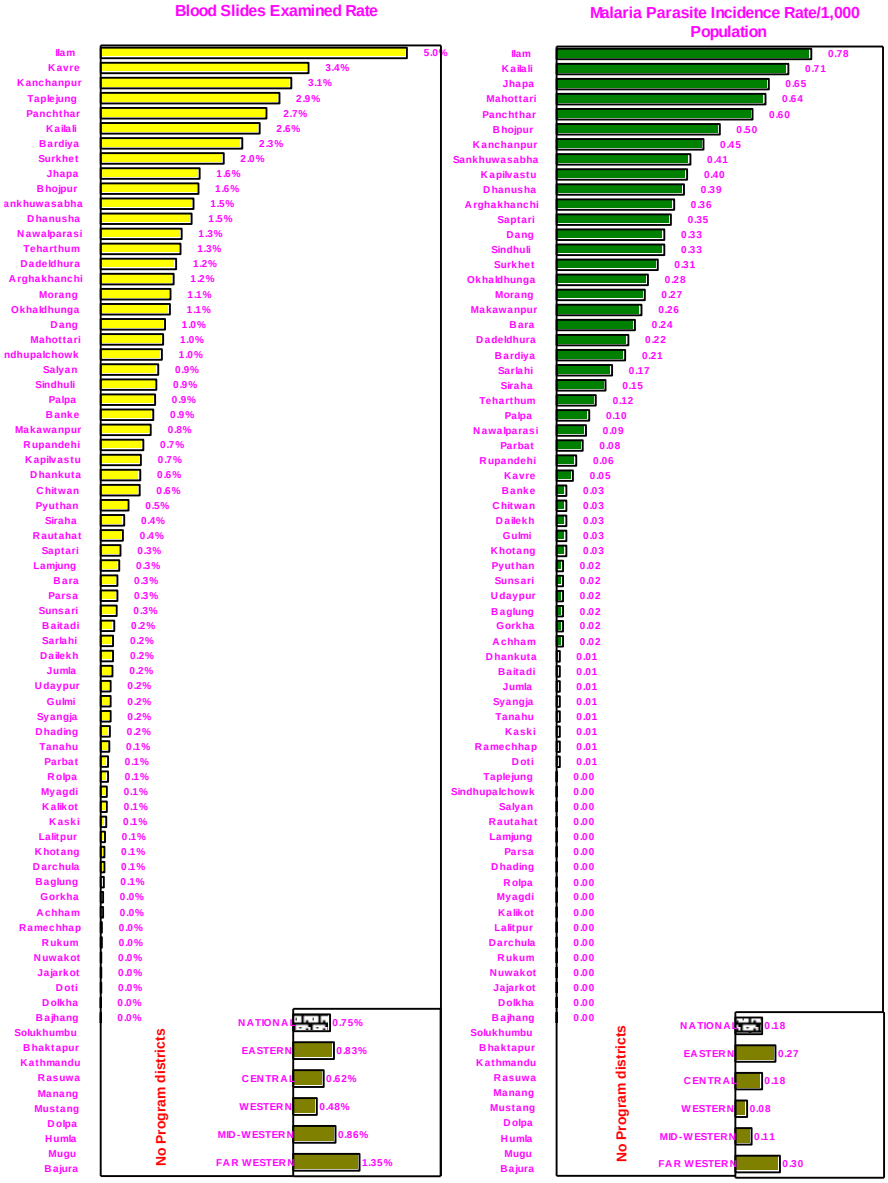
From 1996 to 2001, the number of confirmed malaria cases remained below 10,000 annually. Proportion of Pf in 1996 and 1997 was high because of the outbreak in Kanchanpur in 1996 and in Nawalparasi in 1997. The no of cases again increased in 2002 to reach 12750.

Blood Examination Rate went down below 1 % with SPR 3-7%. SFR <1% and API <0.5 respectively during these years with exception of >1 SFR during 2002 and 2007. AFI remained < 0.1 per thousand people while Pf % fluctuated between 7-27%. The details of malaria situation in Nepal during 1963-2009 as per the malariometric indicators are as follows in the table-1.

Table 1. Malariometric Indicator, Nepal 1963-2009										
Year	Population	Slides Examined	Positives Detected	*P.f.* Cases	BER%	SPR%	SFR%	API‰	AFI‰	% Pf
1963	1,174,324	67,761	159	65	5.77	0.23	0.10	0.14	0.055	40.88
1964	2,169,309	378,502	2,359	937	17.45	0.62	0.25	1.09	0.432	39.72
1965	3,325,641	454,448	4,616	1,304	13.66	1.02	0.29	1.39	0.392	28.25
1966	3,580,855	554,973	8,583	1,859	15.50	1.55	0.33	2.40	0.519	21.66
1967	4,393,519	678,401	6,041	983	15.44	0.89	0.14	1.38	0.224	16.27
1968	5,660,000	774,934	2,357	175	13.69	0.30	0.02	0.42	0.031	7.42
1969	6,118,500	882,604	3,897	522	14.43	0.44	0.06	0.64	0.085	13.39
1970	5,882,000	1,007,057	2,926	225	17.12	0.29	0.02	0.50	0.038	7.69
1971	5,932,000	1,138,803	2,787	197	19.20	0.24	0.02	0.47	0.033	7.07
1972	6,200,000	1,172,260	4,066	614	18.91	0.35	0.05	0.66	0.099	15.10
1973	6,259,000	1,506,248	9,375	1,540	24.07	0.62	0.10	1.50	0.246	16.43
1974	6,410,000	1,656,329	14,647	2,805	25.84	0.88	0.17	2.29	0.438	19.15
1975	6,776,000	1,482,327	12,372	2,980	21.88	0.83	0.20	1.83	0.440	24.09
1976	7,340,000	1,455,615	10,123	2,230	19.83	0.70	0.15	1.38	0.304	22.03
1977	7,638,000	1,505,836	11,615	1,680	19.72	0.77	0.11	1.52	0.220	14.46
1978	7,796,000	1,579,392	14,212	1,434	20.26	0.90	0.09	1.82	0.184	10.09
1979	8,100,000	1,432,633	14,014	1,567	17.69	0.98	0.11	1.73	0.193	11.18
1980	8,159,000	1,323,861	14,148	1,001	16.23	1.07	0.08	1.73	0.123	7.08
1981	8,682,000	1,290,579	16,087	716	14.86	1.25	0.06	1.85	0.082	4.45
1982	9,050,000	1,497,988	16,902	1,068	16.55	1.13	0.07	1.87	0.118	6.32
1983	9,273,000	1,504,544	16,719	1,885	16.22	1.11	0.13	1.80	0.203	11.27
1984	9,465,000	1,502,099	29,388	5,535	15.87	1.96	0.37	3.10	0.585	18.83
1985	10,758,000	1,539,300	42,321	7,581	14.31	2.75	0.49	3.93	0.705	17.91
1986	10,981,000	1,451,044	36,351	3,587	13.21	2.51	0.25	3.31	0.327	9.87
1987	10,605,651	1,453,250	26,866	3,890	13.70	1.85	0.27	2.53	0.367	14.48
1988	10,954,451	1,294,234	24,973	3,525	11.81	1.93	0.27	2.28	0.322	14.12
1989	11,300,223	1,069,099	22,366	2,374	9.46	2.09	0.22	1.98	0.210	10.61
1990	11,643,741	847,491	22,856	1,853	7.28	2.70	0.22	1.96	0.159	8.11
1991	11,871,917	781,543	29,135	5,068	6.58	3.73	0.65	2.45	0.427	17.39
1992	12,030,945	725,068	23,234	2,954	6.03	3.20	0.41	1.93	0.246	12.71
1993	12,355,314	596,689	16,380	1,689	4.83	2.75	0.28	1.33	0.137	10.31
1994	12,750,286	430,801	9,884	1,200	3.38	2.23	0.28	0.81	0.094	12.04
1995	12,298,141	338,189	9,718	844	2.57	2.87	0.25	0.77	0.100	8.68
1996	15,225,411	204,355	9,020	951	1.23	4.41	0.47	0.60	0.060	10.40
1997	15,619,053	160,293	8,957	1,150	1.03	5.59	0.72	0.57	0.073	12.84
1998	16,344,287	175,879	8,498	520	1.08	4.88	0.30	0.52	0.030	6.12
1999	15,961,989	132,044	8,959	642	0.83	6.31	0.47	0.56	0.038	6.94
2000	15,295,571	156,370	7,981	836	1.02	5.10	0.43	0.32	0.055	10.47
2001	13,215,972	126,962	6,396	428	0.96	5.00	0.30	0.50	0.032	6.70
2002	16,167,782	183,519	12,750	2,165	1.14	6.93	1.18	0.80	0.134	17.00
2003	17,004,436	196,223	9,506	1,195	1.15	4.85	0.62	0.56	0.072	12.87
2004	18,344,639	158,044	4,895	743	0.87	3.08	0.47	0.27	0.041	15.2
2005	18,917,813	188,930	5050	1,181	0.97	2.81	0.72	0.36	0.092	25.6
2006	19,447,631	166,476	4,969	1,358	0.86	2.98	0.82	0.26	0.070	27.3
2007	19883258	135809	5261	1391	0.68	3.87	1.02	0.26	0.07	26.4
2008	20328643	153,331	3,888	792	0.75	2.54	0.52	0.19	0.04	20.4
2009	20784005	123903	3335	575	0.60	2.69	0.46	0.16	0.03	17.2

Malaria Control

Fiscal Year 2065/66 (2008/2009)



Source: HMIS/MD, DoHS

Table: Brief overview district wise of malaria situation during the year 2008/9

4.3. Assessment of the implementation of the program in district and below district level of health care system

Information's/inputs collected from the district and below district assessment team will be included for making conclusion..

NMCP/GFATM staffs and consultant after a brief meeting on disease burden and program activities, selected 8 malaria endemic districts, namely Kailali and Kanchanpur in far western region, Makawanpur, Chitwan, Dhanusha and Mahottari in Central region, and Jhapa and Ilam in eastern region for assessment of the implementation of the activities.

A check list (annex-) was developed for assessment of the activities mainly concentrated on program management, organizational structure and human resources, vector control activities and impact, Standards for universal access with high-quality diagnosis and case management interventions, epidemic and emergency preparedness and response system, Behaviour change communication activities, Standards for surveillance, monitoring, evaluation and operational research.

The check list was filled during district level assessment visit by NMCP/GFATM staffs. The consolidated version of the response received from the visited 8 representative districts are as follows:

Strengths	Weakness
Program Management • There is a line item in budget for malaria • District level health coordination Committee (DHCC), LLIN Coordination mechanism • Monthly and quarterly meetings of DHCC with the involvement of stakeholders • Coordination with private hospitals • Presence of malaria focal persons (VCI and MIs) in the districts • Adequate office space • LMIS in place	Program Management: • DHCC is a broad mechanism for overall health program of the district, not concentrated on malaria. • LLIN coordination mechanism is not function in monitoring post LLIN distribution activities. • No specific coordination mechanism for including local drug vendors and practitioners • Post of VCIs and MIs has been abolished in some of the districts • Newer antimalarials and RDTs to be included in LMIS
Vector Control • Decrease in API and SPR • LLIN distributed in high risk areas of the	• No regular monitoring of vector bionomics in most of the districts

TGF supported districts • IRS spray plan and execution records available in the districts • Functional Hudson pumps available	• Spare parts for Hudson pumps are not available (3/7).
Standards for universal access with high-quality diagnosis and case management interventions • Population projection and malaria risk population estimation available • Decreasing trend of P falciparum observed • Availability of RDTs in TGF supported districts • Clinical diagnosis confirmed to a maximum by RDTs or microscopy • Quality control and Quality assurance system for cross checking of blood slides in place • District level staffs following National Malaria Treatment protocol- 2004 • National Malaria Treatment protocol-2009 reached to TGF supported districts	Standards for universal access with high-quality diagnosis and case management interventions • Limited availability of RDTs in non-TGF supported districts hindering confirmatory diagnosis. • QC/QA system for RDTs not available • Latest National Malaria Treatment Protocol have not reached to grass root level. • Orientation of the health staffs as per new treatment protocol • National Malaria Treatment protocol-2009 has not yet reached to non-TGF supported districts •
Functional epidemic and emergency preparedness and response system • District level risk mapping in place in TGF supported districts • RRT in place • Establishment of community based sentinel sites for early outbreak detection • Regular updating of monthly profile • No outbreaks detected in last 5 years	Functional epidemic and emergency preparedness and response system • Lack of emergency funds for response • Weak reporting from community based sentinel sites for early outbreak detection • ACD in case of severe malaria case, not in regular practice
Behaviour change communication activities • World Malaria Day celebrated with wide participation • Mass media campaign during malaria season observed	Behaviour change communication activities • Health education technicians not widely involved in designing malaria messages • Messages for prevention and control like bill boards in road junctions, diagnosis

• Involvement of community in malaria control activities observed in some of the districts.	and treatment algorithm charts in hospital not available • Message Boards in local medicine shops mentioning that malaria diagnosis and treatment are freely available in govt. health facilities are not seen.
Standards for Standards for surveillance, monitoring, evaluation and operational research • Mapping in place • Malaria M & E and surveillance in place • Surveillance reporting system in place • Annual malaria reports available in some of the districts • Monitoring & Supervision profile maintained • Supervisor check list available • Malaria prevalence survey carried out in 2 districts	Standards for surveillance, monitoring, evaluation and operational research. • Mapping is based on 1994 stratification • Timeliness of the reports needs improvement • Annual malaria reports not available in all the districts. • Prevalence survey for updating the current situation in other endemic districts

4.4. Assessment of the central level program activities as per check list

- **Organization structure and management**

NMCP is headed by Director EDCD, supported by a Malariologist, 1 Medical Officer, 2 Vector control officer at the centre mainly responsible for policy making, developing guidelines for malaria control, day to day monitoring of the implementation of the program by districts and other stakeholders including VBDRTC (a central level institute of Ministry of Health and Population located at hetauda mainly responsible for training and research activities related to Malaria and other vector borne diseases). EDCD and VBDRTC works in close collaboration in many activities of malaria control including training of laboratory personals for malaria microscopy, vector biology and control, EWARS etc.

GFATM Malaria Control Project Implementation Unit (PIU) staffed with a coordinator, Parasitologist, Training officer, Logistic and Financial Management Officer, driver and a peon, supports EDCD.

- **Collaboration, Cooperation and Partnership**

EDCD has maintained a strong collaboration and cooperation with the different divisions of the DoHS; VBDRTC; Academic Institutes including Tribhuvan University, BPKIHS; private sector

agencies including PSI in coordination of activities for malaria policy planning, prevention, control and case management in Nepal, wherever, which ever and what ever is necessary.

I see there are some gaps in coordination between NMCP/EDCD and PSI in GFATM program implementation, which needs further strengthening for better coordination.

Over all budgets and implementation status:

Funding	2007/8	2008/9	2009/10	Total	Implementation %
Total		144,038,000.00			
NG		37,400,000.00			
Int. Coop.		87,068,000.00			
GFATM/NG	76,109,000.00	19,570,000.00	69,468,000.00	US$ 2,738,773	87% (2004-20089)
GFATM/PSI				US$ 4,685,834	98% (2004-2008)
WHO Nepal	9,487,500.00	6,600,000.00	6,975,000		

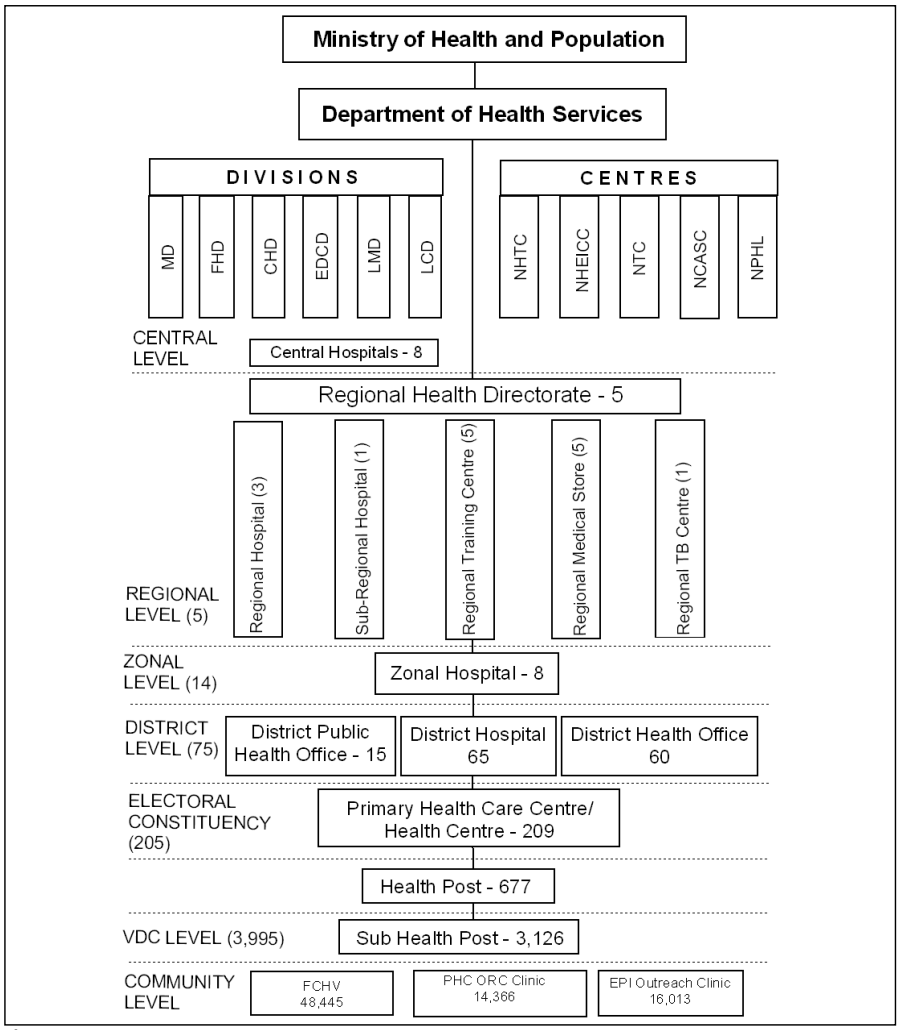
Note: budget of WHO is for the years **6/7, 7/8, 8/9**

Kommentiert [u1]: Could you provide me the source of these figures 2007/8, 2008/9, 2009/10.

Kommentiert [M2]: Pathak Ji, Please provide inputs?????

Organizational Structure of the Department of Health Services

figure 1b.1



Acronyms

MD	*Management Division*
FHD	*Family Health Division*
CHD	*Child Health Division*
EDCD	*Epidemiology and Disease Control Division*
LMD	*Logistics Management Division*
LCD	*Leprosy Control Division*
NHTC	*National Health Training Centre*
NHEICC	*National Health Education, Information and Communication Centre*
NTC	*National Tuberculosis Centre*
NCASC	*National Centre for AIDS and STD Control*
NPHL	*National Public Health Laboratory*
FCHV	*Female Community Health Volunteer*
TBA	*Traditional Birth Attendant*
PHC/ORC	*Primary Health Care Outreach Clinic*
EPI	*Expanded Programme on Immunisation*

Observations:

Over all implementation of the planned programmes are satisfactory. However, NMCP/EDCD is significantly understaffed, as EDCD staffs are also responsible for other VBD prevention /control activities, outbreak response, and policymaking activities for all infectious and emerging diseases until and unless the MoHP identifies other specified department for specific activities. EDCD needs to have additional posts including posts for Entomologist, Malaria Laboratory Scientist (Microbiologist/Parasitologist), Data Manager and a Surveillance Officer (with public health degree).

Currently the GFATM Project coordinator position is lying vacant for more than 6 months. Recruitment process is ongoing for more than 4 months.

4.5. Assessment of the GFATM supported malaria control program implementation by Nepal Government and PSI/Nepal

In the Second round of GFATM support to malaria control activities in Nepal run through 2004 ~~August~~ April - 200~~8~~9 ~~August~~September. Nepal received a total of US$ 7,424,607.00.

Govt. of Nepal received a grant amount of US$ 2,738,773 for implementation of the program during ~~Aug~~ April 2004 - 30 Sept 200~~8~~9.

The major responsibilities as mentioned in the proposals were as follows:

Prevention

- Behavioral Change Communication - Community Outreach

Other

- Monitoring of drug resistance
- Insecticide treated nets (ITN)
- Prompt and effective anti malaria treatment

The performance of Nepal Govt. implemented program based on the budget used for the implementation of the malaria control program was as follows:

Signed grant agreement amount = US$ 2,738,773
Total disbursement = US$ 2,459,501
Expenditure Rate = 87%

PSI/Nepal launched in 2002 with focus on HIV/AIDS prevention, child survival and family planning, expanded its area of operation in 2004 to include Malaria prevention and treatment.

PSI received a grant amount of US$ 4,685,834.00 for the implementation of malaria control program in Nepal during 1st Dec 2005- 30 Sept. 2008; with the major responsibilities for:

Prevention
- Behavioral Change Communication - Mass Media

Treatment
- Prompt, effective antimalarial treatment

Other
- Prevention: Insecticide-treated nets
- HSS: Information system and Operational research

The performance of PSI based on the budget used for the implementation of the malaria control program during 2nd round GFATM support period (2005-2008) is as follows:

Signed grant agreement amount = US$ 4,685,834
Total disbursement = US$ 4,544,691
Expenditure Rate = 98%

(Source: http://portfolio.theglobalfund.org/Grant/Index/NEP-202-G04-M-00?lang=en)

In seventh round of GFATM support to malaria control activities, Nepal received grant for Scaling up Coverage and Quality of Malaria Prevention and Control in Targeted High Risk Districts in Nepal. The total grant for the 7th round for malaria prevention and control for the duration of 16 September 2008 - 15 September 2010 is US$ 9,126,452.00.

PSI received US$ 7,024,844.00 as the grant to implement Malaria control program under the leadership and guidance of EDCD/MoHP, during 2nd round (Sept 2008-Sept 2010).

Govt. of Nepal received a grant amount of US$ 2,101,608 for implementation of the program mainly targeted towards

Prevention
- Malaria in pregnancy
- Vector control (other than ITNs)

Supportive Environment
- Monitoring drug resistance

Treatment
- Diagnosis

The performance of Nepal Govt. implemented program based on the budget used for the implementation of the malaria control program until date is as follows:

Signed grant agreement amount = US$ 2,101,608

Total disbursement = US$ 1,193,717 + $ **465,832.00 = $1,659,549**

Expenditure Rate = 46% ($ **1,159,747.48/ $ 2,101,608 = 55.17%)**

PSI received a grant amount of US$ 7,024,844.00 with the major responsibilities including:

Prevention
- Behavioral Change Communication - Mass Media
- Insecticide-treated nets (ITNs)

Supportive environment

- other - specify

The performance of PSI based on the budget used for the implementation of the malaria control program until date is as follows:

Signed grant agreement amount = US$ 7,024,844
Total disbursement = US$ 6,467,229
Expenditure Rate = 63%
(Source: http://portfolio.theglobalfund.org/Grant/Index/NEP-708-G06-M?lang=en)

Based on the implementation of the malaria control program in Nepal, Global fund has given a performance rating of B1 and A1 for Nepal's malaria control program implemented by NMCP/EDCD and PSI Nepal in close coordination and cooperation.

5. Assessment of the implementation of the program supported by WHO

WHO Nepal has supported NMCP/EDCD in following activities during the year 2006-2007. USD 126,500.00

- Access of populations at risk to effective treatment of malaria promoted and facilitated through guidance on treatment policy and implementation
    - Evidence based diagnosis and treatment of Malaria implemented in high endemic districts
        - 18 PHCs with laboratory capacity to diagnose malaria with all tools available
    - Model of effective use of preventive measures for malaria using community based communication and behavioral intervention developed and introduced at the district level.
- Application of effective preventive measures against malaria for populations at risk promoted in disease-endemic countries
- Malaria-surveillance systems and evaluation of control programme functioning at country, regional and global levels
    - Surveillance and monitoring system for malaria and core malaria indicators for use at peripheral, district and central level adapted, pilot tested and implemented at MoH and in 6 districts.

WHO Nepal has supported NMCP/EDCD in following activities during the year 2008-2009. USD 88,000.00

- Updating national policy and strategic plan of actions for effective control of malaria-
- . Delivery of prevention, treatment and care services for malaria expanded and decentralized with strengthened laboratory support-.
- Monitoring & analysis of Malaria outbreak and programme response through strengthened surveillance & M & E system-

WHO Nepal has planned to support NMCP/EDCD in following activities during the year 2010-2011 = USD 93,000 +572,000.

- Review of existing malaria guidelines, policy, and strategy documents with updates based on the current national context, which allow for the integration of international standards and targets.-
- Strengthening Case Management of Malaria through the effective transfer of knowledge on national treatment protocols and current confirmatory diagnostic options

- Providing an enabling environment for the re-integration of a strong entomological component within the national malaria control programme to facilitate the effective targeting of malaria prevention activities
- Strengthening support for effective delivery of Informational and educational sensitization campaigns to programme beneficiaries, and management of the national malaria control programme
- Creating an evidence base on which to enhance in-country mechanisms to maintain the quality of antimalarials and RDTs
- Utilization of an integrated approach to malaria related surveillance to effectively target national malaria control programme interventions
- Maintaining Advocacy and technical assistance through effective partnership with the national malaria control programme and associated national, regional, and global partners
- Advances in entomological operational research output with national/local collaboration

6. Recommendations

Based on the findings of the assessment, following are the recommendations put forward for consideration by NMCP for improvement in program implementation in future.

Infrastructure:

- NMCP/EDCD is significantly understaffed. It is recommended that EDCD create additional posts including posts for Entomologist, Malaria Laboratory Scientist (Microbiologist/Parasitologist), Monitoring and Evaluation officer, Training officer, Logistics officer, finance officer, Data Manager.
- Recruitment for GFATM Project ~~coordinator position~~staffs, lying vacant for more than 6 months needs to complete soon.

Kommentiert [Mr.3]: There are 12 positions to be filled.

Strategies

- Future strategy should be able to address mechanisms for tackling indigenous and imported malaria cases. The strategy should focus particularly on imported malaria case investigation, diagnosis and treatment approach differently than for indigenous malaria cases. In case of indigenous malaria case, the strategy may focus on containment of the focus in the particular area with ACD and treatment.
- IMCI protocol should be aligned with NMTP 2009, which may help in reducing the clinical malaria cases and might give good estimate of confirmed malaria cases.
- In the next revision of the National Malaria Control Strategic Plan laboratory diagnosis of malaria cases should be emphasized sufficiently like LLIN and IRS as one of the backbone for malaria diagnosis and control. One of the suggested statements, which may be included in the strategic document, is “Prompt parasitologic confirmation by microscopy or alternatively by RDTs is recommended in all patients suspected of malaria before treatment is started. Treatment solely based on clinical suspicion should only be considered when a parasitological diagnosis is not accessible”.
- Clear cut guideline should be in place on the deployment and use of RDTs at the public and private sector,

- Program Management

- Orientation on NMTP should be carried out at the earliest including private health care providers (medical colleges, nursing homes, private clinics, etc).
- The meeting work plan of the technical working groups (TWG) and the minutes should be documented.

- Role of VBDRTC in research and training needs to be clearer in policy documents. This is particularly important to better utilize the country capacity of different institutions within the country in malaria control program.
- Coordination between NMCP/EDCD and PSI should be improved for better implementation of the program. National Monitoring and Evaluation guideline needs to be implemented strongly in order to reach to illumination phase.
    - Malaria register HMIS 24 should be used in all health facilities
    - RDT test recording and reporting mechanism should be incorporated in HMIS
    - Malaria status and control strategies should be sufficiently addressed during district level coordination and review meetings.
- District and VDC level monitoring mechanisms should be effective throughout the year for monitoring LLINs post distribution..Quality of laboratory tests including RDT and Microscopy should be improved through regular refresher and on the job trainings. NPHL should also be brought into network for quality improvement.