

# Implementation of Collaborative Activities on **Roll Back Malaria** in the South-East Asia Region

---

*Report of an Intercountry Meeting  
New Delhi, 4-6 May 1999*

---



World Health Organization  
Regional Office for South-East Asia  
New Delhi  
June 2000

# **Implementation of Collaborative Activities on Roll Back Malaria in the South-East Asia Region**

---

*Report of an Intercountry Meeting  
New Delhi, 4-6 May 1999*

---



**World Health Organization**  
Regional Office for South-East Asia  
New Delhi  
June 2000

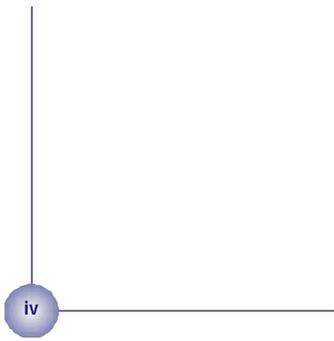
© World Health Organization (2000)

This document is not a formal publication of the World Health Organization (WHO), and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced or translated, in part or in whole, but not for sale or for use in conjunction with commercial purposes.

The views expressed in documents by named authors are solely the responsibility of those authors.

## CONTENTS

	<i>Page</i>
<i>Executive Summary</i> .....	v
1. INTRODUCTION .....	1
2. BACKGROUND .....	2
2.1 Global Malaria Control Strategy.....	3
2.2 Roll Back Malaria Initiative.....	3
2.3 Relevance of RBM to SEAR Countries .....	3
3. OBJECTIVES OF THE MEETING .....	4
4. PRINCIPLES OF FORMULATION OF COUNTRY RBM .....	4
5. OPERATIONALIZATION OF RBM .....	5
5.1 Partnerships (Global and Country Level) .....	6
5.2 Enhanced Diagnosis and Treatment of Malaria.....	8
5.3 Transmission Risk Management .....	11
5.4 Health Sector Development .....	14
5.5 Strategic investments .....	15
6. REGIONAL SUPPORT NETWORKS .....	16
7. ROLL BACK MALARIA ACTION PLAN .....	16
7.1 Preparatory Phase (the end of December 1999) .....	16
7.2 Piloting Phase (1999-2001) .....	17
7.3 Operational Phase (2001-2006).....	17
8. RECOMMENDATIONS .....	17
Annex: List of Participants .....	21



## EXECUTIVE SUMMARY

Countries of the South-East Asia Region experienced a resurgence of malaria in the 1970s and, over the decades, switched over to the control concept by decentralizing programmes through the primary health care system. The new scheme not only allowed flexibility in intervention methods but also allowed a good deal of community involvement. This approach achieved good results and the rising trends of malaria was halted and stabilized at around 3 million cases annually during the last decade. The strategy, however, failed to arrest the rising trend of *P. falciparum* infection. The *P. falciparum* ratio rose from 19.5% of the total cases in 1970 to 41.3% after 20 years and reached 38.7% in 1997.

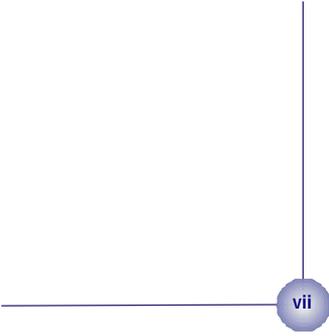
The Roll Back Malaria initiative aims to utilize the existing infrastructure and available resources for malaria control. The meeting endorsed the six elements of RBM in the SEA Region:

- (1) Enhanced diagnosis and treatment of malaria (e.g. antibody detection test, artemisinin, combination drugs)
- (2) Transmission risk management (cost-effective integration of vector control tools, e.g. insecticide treated nets, selective vector control, bio-environmental methods)
- (3) Health system development (e.g. decentralization, empowerment of communities, health equity)
- (4) Strategic investments (e.g. mapping, drugs and vaccines)
- (5) Regional support networks (e.g. drug policy, surveillance, transmission reduction, advocacy)

The RBM Action Plan envisages political commitment at all levels starting at the highest level of governance. RBM functions through partnerships from the central to the local level and works in synergy based on an action plan developed and owned by all partners. RBM aims at health sector reform, community empowerment and human development to achieve sustainable reduction of malaria as a means of alleviating suffering, especially among the poor.

*The meeting endorsed the following outline for the action plan for Roll Back Malaria in the SEA Region:*

- *A preparatory phase of six months (ending 1999) for advocacy, establishment of partnerships and resource networks, health system reform, and selection of endemic districts representing important malaria paradigms.*
- *A two-year (2000-01) period of piloting of RBM in selected districts and towns.*
- *Adoption of a countrywide RBM plan by all countries as a means to improve and reduce malaria-related mortality by half by 2010 and reduce it further in succeeding years.*



## 1. INTRODUCTION

The meeting on the Implementation of collaborative activities on Roll Back Malaria was opened by Dr S.P. Agarwal, Director-General Health Services, Government of India. In his inaugural address, Dr S.P. Agarwal traced the history of malaria control in India and emphasized the need to apply new concepts and technologies. The meeting was addressed by Sri G.V.R. Prasada Rao, Additional Secretary (Health), Government of India. He underscored the importance of malaria control as a horizontal activity under the primary health care system and highlighted the achievements of the national antimalaria programme since the launching of the National Malaria Control Programme in 1953. Dr David Nabarro, Project Manager, Roll Back Malaria, WHO/HQ, in his address, said that there had been extraordinary progress towards greater health in this region. However, malaria had resurged with substantial challenges, such as border malaria, multidrug-resistant malaria, population migration, urban malaria etc. Malaria was a developmental issue and perpetuated poverty. He elaborated on RBM and the partnership concept in malaria control in the overall improvement of health and the need for health system reform.

Dr Uton Muchtar Rafei, Regional Director, WHO/SEARO, addressed the participants and provided direction for the three-days meeting. Dr Rafei stated that malaria constituted a major threat to almost half of the world's population and blocked the path to economic betterment of the society. In the SEA Region, the malaria situation had remained almost static. The Distribution of malaria had been uneven and about 10% of the population was exposed to the risk of drug-resistant malaria. Further, the success of action taken by the governments would require political commitment to control malaria, establishment of a sound legislative foundation to control malaria, optimal use of available resources, establishment of intersectoral linkages, community empowerment, private sector/NGO involvement and Healthy Cities programme. The district health system approach and decentralization of decision-making should form the strength of malaria control. Border malaria and multidrug resistant malaria might thwart our efforts at malaria control and become obstacles to socioeconomic development. This needed strong networking of treatment services, enhanced surveillance and intercountry collaboration.

## 2. BACKGROUND

Freedom from malaria is the basic right of humankind, yet malaria is among the top 10 killer diseases in the world. Annual estimates vary between 300 to 500 million clinical episodes of malaria and 1.5 to 2.7 million deaths worldwide, 90% of which occur in tropical Africa. Outside Africa, some two-thirds of the remaining cases occur in just three countries: Brazil, India and Sri Lanka, although malaria is endemic in some 100 countries. The malaria situation in the SEA Region is reflected in the following Table. In this region, India contributes 80% of cases while more than 65% of deaths occur in Myanmar.

**Table. Malaria incidence in the SEA Region, 1997<sup>1</sup>**

Country	Malaria cases Reported	Malaria cases estimated	Malaria deaths reported	Malaria deaths estimated
Bangladesh	68 594	900 000	469	2 000
Bhutan	9 029	15 000	14	25
India	2 457 127	15 000 000	711	19 500
Indonesia <sup>2</sup>	161 285	6 000 000	148	700
Maldives	10	10	0	0
Myanmar	112 500	3 500 000	2 928	5 000
Nepal	6 559	30 000	0	15
Sri Lanka	218 550	225 000	61	100
Thailand	97 540	140 000	760	850
Total	3 131 194	25 810 010	4 963	27 490

<sup>1</sup>provisional <sup>2</sup>1996 data.

Malaria continues to afflict the poor nations and the poor most. The severe form of the disease results in neurological sequelae and disability that has a significant impact on cognitive learning, especially among children. The malaria situation is worsening: malaria has been re-introduced where it had been eradicated in the 1950s and 1960s, and is now found in areas previously free of the disease. The numbers of epidemics are increasing in Africa, South-East Asia and South America. The estimated direct and indirect annual cost of malaria was more than US\$ 2000 million in 1995 in Africa alone. Contributions to help countries tackle the malaria burden from external sources totalled US\$ 287.5 million

in 1997. The epidemiological impact of malaria differs widely in the continents of Africa and Asia. Whereas in Africa, malaria is stable and kills children below 5 years and the general population has a low morbidity, in Asia, malaria is unstable and causes high morbidity. Deaths are few in comparison to Africa but affect all age groups.

## 2.1 Global Malaria Control Strategy

Appreciating the global concern about the deteriorating malaria situation, a Ministerial Conference on Malaria, held in Amsterdam in 1992, endorsed WHO's Global Malaria Control Strategy (GMCS). GMCS was subsequently endorsed by the Economic and Social Council (ECOSOC) of the United Nations in 1995, and adopted by the Member Countries of WHO.

## 2.2 Roll Back Malaria Initiative

As a progressive development in the improvement of health, Dr Gro Harlem Brundtland, Director-General, WHO, initiated a new effort in May 1998 to Roll Back Malaria (RBM). RBM envisages better access to malaria interventions to millions of women, children and men, who suffer from poor health equity. Several interventions are relevant to RBM in attaining substantial reduction in malaria-related morbidity and mortality, *inter alia*, early warning systems for detection of epidemics, early case detection and prompt treatment, insecticide treated nets, intermittent treatment during pregnancy, home treatment of malaria, improved diagnostics and antimalaria combination therapy. Further, RBM draws its strength from past experience with emphasis on partnership, research groups, evidence-based action, political support and civil society organizations.

## 2.3 Relevance of RBM to SEAR Countries

Countries in the South-East Asia Region spend large sums of money in malaria control. RBM builds on this infrastructure in rolling back malaria and encourages national authorities in seeking partnership at all levels in accelerating the process of reduction of transmission risk on a sustained basis. Commitment for RBM comes from the top, thus strengthening community involvement within the PHC system and looks at improvement in health while achieving malaria control.

RBM is expected to halve the mortality due to malaria by the year 2010 and reduce the burden of disease associated with malaria on a sustained basis in succeeding years. A regional support network is expected to address the core issue, review, monitor and act as a channel of information on currently identified priority issues such as drug policy and monitoring; monitoring and evaluation of surveillance systems and epidemics; transmission risk management; and advocacy, media communications and country partnerships. RBM should strengthen the delivery of malaria control through health system reforms and human resources development. RBM would introduce dynamism in the system to respond rapidly at the local level, mobilize resources and expertise where the need arises. This is particularly relevant to epidemic-prone areas in the SEA Region.

### 3. OBJECTIVES OF THE MEETING

- (1) To identify priority needs for action in order to achieve a sustainable reduction in malaria burden;
- (2) To identify the main constraints to strengthening of malaria control in the context of health system's development in the areas affected by malaria;
- (3) To identify the main technical resources in relation to Roll Back Malaria and health sector reform, and
- (4) To formulate a timetable for the draft plan for the implementation of RBM.

### 4. PRINCIPLES OF FORMULATION OF COUNTRY RBM

- National governments determine the goals, strategy, organization and operating procedures for RBM. National malaria control programmes assume the role of regulators and coordinators instead of being sole implementers.
- A country partnership to RBM is usually set up at the invitation of a country's head of the state.

- RBM involves a situation assessment and strategy development process led by national authorities and involves national partners.
- Action against malaria mainstreamed into the health system. Partners' support to RBM provided, where possible, within the context of the sectorwide approach to health development.
- Partners work for common objectives, using agreed strategies, in a transparent manner. Focus is on where the problem is with emphasis on local solutions to local problems.
- Within the context of these principles, attempts are made to ensure that partners have sufficient flexibility and autonomy to make the fullest possible contribution to RBM.
- Working in partnership at national, regional and global levels with civil society, NGOs, private sector, sectors beyond health and collaboration among international partners.

## 5. OPERATIONALIZATION OF RBM

The SEA Region has a strong infrastructure available for the implementation of RBM, as for example:

- (1) indigenous production of insecticides, drugs, mosquito nets, equipment, transport etc.;
- (2) training facilities for all categories of health staff and other functionaries;
- (3) advanced centres of basic, applied and field research;
- (4) well-developed grass root health infrastructure;
- (5) a network of educational and research institutions, colleges and universities;
- (6) experience in malaria control and related areas;
- (7) experienced technical personnel;
- (8) WHO collaborating centres;

(9) well-developed infrastructures, particularly in sectors for RBM partnership, and

(10) indigenous resources to sustain the RBM initiative.

The operationalization of RBM is based on the six elements: early diagnosis, prompt treatment, transmission risk management, health system development, strategic research and regional support network. The health sector and national partners assume the responsibility for carrying out situation analysis and to prepare RBM action plans at district provincial and national levels, as appropriate. In the implementation process, values of RBM should be incorporated with equal emphasis on each element (Box I).

**Box I: Ten Values for RBM**

1. RBM is a social movement supported by many partners
2. RBM is owned by all the partners
3. Decisions are made by consensus
4. Country priorities drive RBM
5. Partners function independently, but in concert
6. Partners contribute where they have a comparative advantage – or interest
7. Action plans are clear, evidence based, prioritized and adapted to local realities
8. RBM is about broadening and strengthening the capacity of health sectors to fight all diseases
9. RBM *is not* a new agency of any funding institution
10. The ultimate objective is to reduce poverty and promote development

### 5.1 Partnerships (Global and Country Level)

WHO will establish a functioning partnership with a range of organizations at global, regional and country levels, which will result in the development of a sustained capacity to address malaria (and other priority health problems). WHO partners in RBM will include malaria-endemic countries, UNDP, UNICEF and World Bank, bilateral development agencies,

nongovernment organizations (NGO) and the private sector. At the country level, the head of government should endorse the RBM initiative. RBM should be seen as the cornerstone of planning and implementation of malaria control through partnerships. RBM rolls towards building joint advocacy, resource mobilization, community empowerment and development of local initiatives. RBM action should lead to alleviation of human suffering among the poor and promoting human development.

### ***Salient Elements of RBM Partnership***

- Assessment of the nature and magnitude of problems at the local level
- Identification of the most appropriate local solutions
- Identification of research institutes and universities that can provide technical support in further development of local solutions, wherever needed
- Identification of agencies that can significantly contribute to the implementation of local solutions
- Identification of agencies that can provide financial support
- Ensure a coordinating or regulatory role for the health sector
- Potential partners:
  - Environment (EIA/HIA, EMVC, monitoring environmental determinants of health)
  - Agriculture (irrigation management, pesticide policies/IPM, land use patterns)
  - Public works (road construction, urban development)
  - Local government (regulatory functions)
  - Irrigation (water management, impoundments, hydraulic systems)
  - Planning (economic assessments, EIS, appraisal)
  - Financial institutions: private sector and development Banks (credits)
  - Industry (occupational health)
  - Civil society and more to be identified locally

A dialogue with partners on their respective roles in achieving the above elements based on comparative advantages and interests would be in harmony with the strategic planning for RBM. Further, although partnerships should be established at all levels, it is at the local level that special care is needed so as to ensure that partnerships are fully functioning. This should be done by ensuring that clear instructions down to the lowest level are agreed among partners and clearly spelt out in the RBM joint action plan, along with an adequate level of advocacy, exchange of information and transparency.

## **5.2 Enhanced Diagnosis and Treatment of Malaria**

### ***(1) Early case detection and prompt treatment (EDPT)***

To enhance the national capability for effective diagnosis, rapid antigen diagnostic tests should be introduced on an operational scale in certain epidemiological settings. Priority is to be given to universal access to early diagnosis and prompt treatment, especially in remote areas. This is likely to be achieved through microscopy and/or rapid antigen detection tests. There is a need to considerably reduce the price of these techniques to an affordable and cost-effective level through interaction with the industries, governments, UN agencies, research community, NGOs etc.

### ***(2) Improving access to health care***

In the SEA Region, the quality of public sector facilities is poor and lacks public confidence. As a consequence, the private sector takes a dominant role in treatment, where antimalaria treatment guidelines are frequently not followed. To improve the situation would require strengthening of early case detection and prompt treatment, easy availability of drugs, dissemination of treatment guidelines as widely as possible through partnership with the private sector and encouraging home treatment of malaria.

Antimalaria drugs are widely distributed in the region to reduce morbidity and mortality due to malaria. For example, in India, fever treatment depots (FTDs) and drug distribution centres (DDCs) have been opened throughout the country to reduce morbidity due to malaria. Volunteers operate FTDs and DDCs. Over a period of time, some of these have become non-functioning and there have been problems in the replenishment of drugs. Particularly in this area, further efforts to educate the community and individuals in the home treatment of malaria while

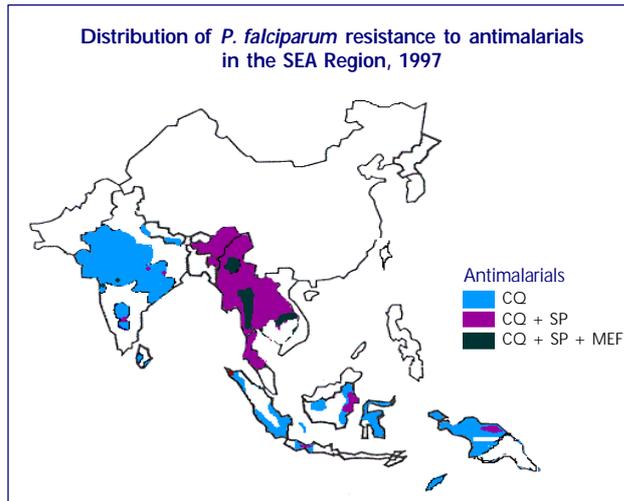
strengthening support and supervision of FDTs and DDCs is likely to be more rewarding and should be encouraged under the RBM initiative.

Multidrug-resistant falciparum that had developed in the frontier areas of the Region is spreading and challenging the concept of malaria control through EDPT. Programmes should ensure universal access of drugs to the populations at risk to appropriate and affordable first-line of antimalarial drugs, as close as possible to the community itself. Where there is resistance to the first line of drug, the effective second line treatment must be available at the periphery. In areas where IRS is not applicable in the control of malaria, there is an urgent need to apply alternative methods of vector control to reduce the risk of transmission of drug-resistant malaria e.g. environmental management, personnel protection methods, repellents and causal prophylaxis.

### (3) Drug resistance

Chloroquine resistance in *P. falciparum* was first detected in 1962 along the Thai-Cambodia border. Resistant *P. falciparum* strains moved outwards north and south and spread to all countries of the Region. Resistant parasites were treated with second (sulfalene or sulfadoxine pyrimethamine combinations) and third-line drugs (mefloquine, quinine.). *P. falciparum* gradually developed multiple resistance and the problem is at present more pronounced in Thailand and Myanmar along their international borders. These areas are the hot spots of multiple drug-resistant strains and a threat to the world as a potential source of resistant malaria. In the SEA Region, an estimated 10% population is exposed to the risk of drug-resistant malaria. The following map gives the current status of *P. falciparum* resistance to antimalarial drugs. Drug resistance is associated with increase in mortality and several fold increases in the treatment cost.

There is a progressive increase in the incidence of *P. falciparum* in the Region, and along with it the problem of mono and multiple drug-resistant strains spreading rapidly in stable malarious areas and regions with accelerated developmental activities and congregation of labour. Population migration also contributes to the dissemination of drug-resistant strains. Multiple drug-resistance of *P. falciparum* strains is a major obstacle in the treatment of malaria, particularly in Myanmar and Thailand. In the last decade, chloroquine-resistant *P. vivax* strains have been detected in increasing numbers in Indonesia and India, and this requires monitoring and liquidation of the emerging foci.



Note: Information for Bangladesh, Bhutan, Nepal and Sri Lanka relates to 1993.

*In vitro* susceptibility testing of antimalarial drugs is a useful tool to investigate specific issues, such as temporal and geographical trends in the susceptibility of the parasite, patterns of cross-resistance to antimalarial drugs and baseline data of parasite susceptibility to new drugs e.g. mefloquine, quinine and artemisinin. To replace the standard *in vivo* test, WHO introduced, in 1994, the monitoring of therapeutic efficacy of antimalarial drugs for the treatment of uncomplicated falciparum malaria. This is based on clinical evaluation of a sample of malaria patients with a limited number of follow-up examinations.

Because of the changing patterns of drug resistance, the efficiency of available treatment options should be assessed at regular intervals, e.g., every two years or whenever clinical reports of drug failures are increasing. To combat resistant malaria, new drugs and drug combinations are needed so as to prolong the life of existing drugs. Promising partners in search of new drugs are the industry, UN agencies (WHO, WB, UNICEF) research organizations, etc.

## 5.3 Transmission Risk Management

### (1) Malaria epidemics

Epidemics are commonplace in unstable malarious areas. Prediction of and early response to epidemics is a national priority. Box 2 gives the core indicators to assess morbidity and mortality due to malaria on a continuing basis. Early recognition of epidemics is important in mobilizing resources to prevent deaths. Epidemic preparedness and response would require an improved surveillance and monitoring system for use as a decision support system at the local level. It would require desegregated data, delegation of authority, data base including GIS, preferably computerized, private sector involvement, and development of standardized indicators so as to enable rapid response teams to act promptly in an emergency.

#### Box 2: Core Standard Indicators

##### Impact Indicators

###### *Morbidity attributed to malaria*

- Number of cases of UM (clinical/confirmed) among target groups/unit population
- Number of cases of SM (clinical/confirmed) among target groups/unit population
- Number of MTF/per no. of treated patients. Reported according to each drug used

###### *Mortality attributed to malaria*

- Number of malaria deaths (clinical/confirmed) among target groups/unit population
- Proportion of clinical/confirmed deaths due to malaria among patients with SM admitted to a health facility

##### Outcome Indicators

- Availability of antimalarial drugs (percentage of health facilities reporting no rupture of stock of antimalarial drugs during last three months)
- Reporting coverage (percentage of districts regularly reporting the above to the national programme on a monthly basis for the last 12 months)

A regional network on enhanced institutional mechanisms for rapid responses in case of emergencies/epidemics may help in better response to epidemics, including surveillance for the purpose of monitoring and review of epidemics and for disseminating information.

## **(2) Border malaria**

Malaria along the international borders is a serious problem. Porous borders provide movement of infected populations leading to the dissemination of new parasite strains. Malaria control along the borders would require a dialogue with neighboring countries to act in unison to synchronize inter-country malaria control strategies through regular exchange of information, discuss cross-border issues (social, organization, economic, etc.) and accelerated IEC for community awareness building.

## **(3) Integrated vector management**

Selective vector control towards an integrated approach with new partners is a first step away from routine residual spraying operations with criteria for the choice of insecticides and the spraying regime. Chemical control remains, nevertheless, the mainstay in this concept. Under the RBM initiative, countries should adopt a truly integrated vector management approach and apply best practices (Box 3). This should provide a sustainable basis for optimal transmission reduction under conditions that fluctuate over time and from place to place.

### **Box 3: Best Practices Application**

- Expanding the use of GIS and RS for monitoring critical environmental determinants of malaria transmission risk
- Obtaining government commitment for IVM as best practice in vector control, including malaria in health sector development and intersectoral action
- Strengthening of local environmental health services, where applicable, to perform essential functions in support of integrated vector management
- Give ministries of health proper regulatory powers, within an effective legal framework, to ensure that other sectors comply with their responsibilities in risk management
- Pursue an active partnership with the District Development Officer to achieve intersectoral action at the district level.

The process of putting together an integrated vector management (IVM) intervention requires:

- evidence-based decision-making criteria to arrive at the most cost-effective mix of vector management methods;
- identification and monitoring of critical environmental determinants of transmission risks;
- indicators for clear thresholds with acceptable safety margins to switch to chemical control, which assumes a fall-back position;
- genuine community involvement that focuses on the operational aspects of scientifically developed IVM methods and approaches;
- a solid evidence base for techniques, methods and their synergies in an integrated approach, and
- a robust cost-effectiveness component and sustainability.

#### **(4) Cost-effective analysis**

Costing of each intervention methods is an important criteria in the selection of various tools and their integration. Studies have shown that DDT is the cheapest insecticide but in most situations it is not effective in reducing transmission to acceptable levels. Malathion is 3 to 4 times more costly than DDT but more effective in controlling mosquito populations resistant to DDT, although coverage declines sharply partly due to refusals as the pungent smell of the insecticide is not appreciated by the households. Synthetic pyrethroids (SP) are slightly more expensive than malathion. SP compounds are very effective in reducing transmission to low levels. These compounds are also used in the treatment of nets.

Insecticide treated nets (ITN) have been introduced in all countries of the SEA Region with variable results in malaria control. If the ITN technology shows improvement, the cost of ITN is less compared to DDT and about three times less in comparison with the spraying of malathion or any other synthetic insecticide. However, ITN may not be suitable under all epidemiological situations but should be an important component of the integrated strategy for the control of malaria under endemic and epidemic conditions. Civil society has an important role to play in enhancing both the sustainability and effectiveness of the ITN

intervention. Information and interactive communication should therefore be an integral part of the strategy in eliciting cooperation and establishing partnerships.

In relation to cost-effectiveness, long-term sustainability and resilience of interventions should also be taken into account. Capital intensive methods of environmental modification (usually of an infrastructural nature), although costly in the initial stages, are cheaper in the long run when compared to ongoing services with recurrent costs. In periods of social instability, however, when there is a breakdown in services, the value of resilience of such modifications has clearly come to expression.

#### 5.4 Health Sector Development

Principles of decentralization and local ownership of health programmes have been widely endorsed as basic tenets in health sector development and reform. The RBM initiative has recognized the need to adhere to these principles and will attempt to lead as a pathfinder in health sector development. This will involve transfer of resources, delegation of authority to district or sub-district level and empowerment of local authorities and communities to identify felt needs and priorities.

RBM should integrate with the general health services and work through the primary health care system by exploiting the opportunities offered by ongoing health sector reforms for effective action against malaria. RBM should follow the district health system in the context of the individual country situation with enhanced dynamism. In the functioning of RBM, the managerial capacity should be strengthened at the district level (person specified with precise responsibilities of RBM). Information, education and communication (IEC) activities should be intensified both for the people and providers at all levels, and decentralized planning based on partnerships should lead to proactive action and optimal utilization of resources.

There should be increased emphasis on public health at all levels as part of a regional health agenda. RBM advocacy for change in the organizational set-up should address the new role of district managers, multisectoral involvement and partnerships development, community participation, local leadership for participatory planning and supervision,

political support (Panchayat, union Parishad, other local government bodies, village development committees etc.) coordination of NGOs and other social organizations, including the private sector.

Creation of a forum representing all possible leaders (e.g. political, administrative, technical, traditional, corporate, private sector) interested groups (trade unions, environmentalists etc.) and partnerships (international, national, regional, provincial, district and local levels) for joint advocacy and resource mobilization, so as to bring malaria to the fore in health sector reforms.

The programmes should address health issues arising through enhanced community awareness and knowledge about disease prevention, diagnosis and treatment, as well as through local operational research activities. The decision-making and planning capacity will be based at the level where the problem occurs i.e. local level planning, disease surveillance, monitoring of programme activities, resource allocation, IEC, training and vector control etc.

Epidemiological information would be analysed at the local level for proactive action. In achieving this objective, computerization of data from the periphery to the central level would be required. However, national-level competence and coordinating functions would be retained or developed at the central level during the process of decentralization and thereafter. The cost involved in extending public health services to the community level would accelerate community involvement and participation of the private sector as partners in malaria control. Whenever feasible and for certain sections of the society, cost recovery through cost sharing, user fees and health insurance would contribute to a more efficient use of resources.

## 5.5 Strategic investments

New areas of strategic investment to accelerate the impact of RBM in the context of health improvement are the following:

- GIS (and possibly RS) will be an important tool in the analysis of the epidemiological and ecological situation as it develops over time and space.

- Mapping of drug resistance based on therapeutic efficacy trials and in *vitro* tests.
- To facilitate research on vaccines and drugs, WHO may establish regional networks that will be able to conduct multi-centre studies and raise funds.
- Socioeconomic research on various malaria interventions and integration strategies for sustainable results.
- Research on health indicators (incorporating malaria) for situation analysis and rapid response.
- Health impact assessment in projects and mitigating strategies in improvement of health.
- Research on reforms in health systems to make the programme more proactive by incorporating information technology.

## 6. REGIONAL SUPPORT NETWORKS

Technical support to countries for RBM would be provided by regional support networks which would address core issues, review and monitor, and act as channels of information on priority issues such as:

- drug Policy and monitoring
- monitoring and evaluation of surveillance systems and epidemics
- transmission risk management, and
- advocacy media communication and country partnerships.

## 7. ROLL BACK MALARIA ACTION PLAN

The strategic action plan for the SEA Region would consist of a preparatory phase (6 months), piloting phase (2 years) and operational phase (5 years).

### 7.1 Preparatory Phase (the end of December 1999)

- Political commitment at all levels
- Formulation of national strategies and development of a partnerships plan

- Situational analysis leading to the selection of districts for the piloting of RBM
- Establishment of resource networks to address the core issues in malaria.

### 7.2 Piloting Phase (1999-2001)

- Situational analysis of the districts and identification of problems at the local level
- Time-limited action plan to RBM
- Advocacy for RBM, identification of partners, assignment of responsibilities and resource mobilization
- Integrated malaria control in synergy with development
- Assessment and lessons learnt

### 7.3 Operational Phase (2001-2006)

- A five-year RBM action plan to be developed by countries involving all partners, vital inputs to come from the pilot phase and resource networks.

## 8. RECOMMENDATIONS

- (1) The Roll Back Malaria initiative should be endorsed by the countries of this region at the highest political level:
  - as a means of alleviating suffering among the poor and promoting human development;
  - through a government policy statement based on partnership.
- (2) The cornerstone of planning and implementation of Roll Back Malaria to be:
  - national-level partnership building for joint advocacy, planning, resource mobilization and action;
  - community empowerment and development of local initiatives.

- (3) National partnerships to carry out situation analyses and to prepare RBM action plans at the district (or appropriate), provincial and national levels.
- (4) Strategic planning for Roll Back Malaria should take into account the need for:
- universal access of those at risk to early diagnosis, and prompt and effective treatment for malaria;
  - a truly integrated approach for the management of mosquito vectors for transmission risk reduction;
  - prediction of, and rapid response to epidemics be considered as a national priority;
  - an improved surveillance and monitoring system for malaria be formulated for use as a decision support system at the local level;
  - exploiting the opportunities offered by ongoing health sector reform for effective action against malaria;
  - dialogue with partners on their respective roles in RBM to achieve these, based on their comparative advantages and interests.
- (5) Technical support to countries for rolling back malaria to be provided by regional support networks which address core issues, review and monitor the state of the art, and act as channels of information on the following issues:
- drug resistance monitoring and drug policy
  - transmission risk reduction
  - epidemics and surveillance
  - advocacy, promotion and interactive communication

### **The Reward of RBM**

- much reduced malaria burden
- human development
- poverty reduction



## LIST OF PARTICIPANTS

**Participants****Bangladesh**

Dr A. Mannan Bangali  
Deputy Programme Manager  
Directorate General of Health Services  
Dhaka  
Tel: 00-880-2-606326 (O)  
00-880-2-9110625  
Fax 00-880-2-9886415 (R)  
Email: <dphezh@Citecho.net>

Dr M. Ataul Huque Mahmood  
Evaluator (M&PDC)  
Directorate General of Health Services  
Dhaka

**Bhutan**

Dr Samdrup Wangchuk  
Superintendent, Gelephu Hospital  
Gelephu  
Tel: 00975-6-51028, 51027, 51184  
00975-6-51087  
Fax: 00975-6-51098

Mr Tshering Wangchuk  
Programme Officer  
National Malaria Control Programme  
Gelephu  
Tel: 00975-06-51115/51133  
Fax: 00975-06-51173

**India**

Dr Shiv Lal  
Director  
Directorate of National Anti-Malaria  
Programme  
22, Sharnath Marg  
New Delhi-110054  
Tel: 2918576 (O), 6885610 (R)

Dr G.P. Mathur  
Addl. Director  
Directorate of Ministry of Health Services  
Tilak Marg, 'C' Scheme,  
Jaipur  
Tel: 0141-381531(O)  
0141-650002( R)

Dr J.K. Anjan  
Joint Director (Mal.and Fil.)  
Commissioner of Health  
Medical Services and Medical Education  
Dr. Jivraj Mehta Bhawan  
Block No.5  
Gandhinagar (Gujarat)  
Tel: 02712-38403/38445 (O)  
7521663 ( R)

Dr D.P. Mandal  
Chief Malaria Officer  
(State Programme Officer)  
Sultanganj, Swasthya Bhawan  
Bihar, Patna  
Tel: 0612-670131 (O)  
0612-286304 / 288649 (R)  
Fax: 0612-670131

Dr M.V. Murugendrappa  
Joint Director (Mal.and Fil.)  
Directorate of Health Services  
Ananda Rao Circle,  
Bangalore

Dr A.K. Agarwal  
Consultant in Medical  
Dr R.M.L. Hospital  
New Delhi  
Tel: 011-3365525 (O)  
011-4699445/4699446 ( R)

Dr R.S. Sharma  
Deputy Director (E)  
Dte. of NAMP  
22 Shammath Marg  
New Delhi-110054  
Tel: 011-2918576 (O)  
0129-425972 ( R)  
Fax:011-3968329

Dr Neeraj Sethi  
Professor (P&E)  
National Institute of Health and FW  
Munirka  
New Delhi-110067  
Tel: 011-6188485/6165959/6166441(O)  
Fax:011-6101623  
Email: rohin@del3-vsnl.net.in

#### **Indonesia**

Dr Thomas Suroso  
Director  
Directorate of Vector Borne Disease Control  
CDC and EH  
Ministry of Health  
Jakarta  
Tel: 62-21-4247573  
Fax:62-21-4247573  
Email: dir.ppbb@dnet.net.id

Dr Ferdinand J. Laihad  
Chief  
Sub-Directorate of Malaria  
CEC and EH  
Ministry of Health  
Jakarta  
Tel: 62-21-4247608 Extn.150  
Fax:62-21-4247573  
Email: dir.ppbb@dnet.net.id

Mr. R. Sinulingga  
Malaria Control Project  
CDC and EH  
Ministry of Health  
Jakarta  
Tel: 62-21-4247608 Extn.150  
Fax:62-21427573  
Email: dir.ppbb@dnet.net.id

#### **Nepal**

Dr Som Nath Ariyal  
Special Secretary  
Ministry of Health  
Kathmandu  
Tel: 254759  
Fax: 977-1-262896

Dr M.B. Bista  
Director, Epidemiology and  
Disease Control Division  
Department of Health Services  
Kathmandu  
Tel: 255796 (O)  
470739 (R)  
Fax:262268

#### **Sri Lanka**

Dr W.P. Fernando  
Anti Malaria Campaign Directorate  
P.O. Box 1472  
Colombo  
Tel: 581918 / 588408  
Fax: 691605

Dr D.M. Goonewardene  
Regional Malaria Officer  
Anti Malaria Campaign  
Moneragala  
Tel: 94-55-30839  
Fax: 94-01-699284

Mrs M.D.B. Perera  
Regional Malaria Officer  
Anuradhapura

#### **Bilateral / Multilateral Organizations and NGOs**

Mr David Peters  
Principle Public Sector Specialist  
The World Bank Office  
New Delhi, India

Dr Rudolf Knippenberg  
Regional Adviser – Health -Nutrition  
UNICEF  
East Asian Pacific Regional Office  
P.O. Box 2-154  
Bangkok 10200  
Thailand

Dr Stephen J. Atwood  
Chief, Health Section  
UNICEF  
India Country Office  
73, Lodi Estate  
New Delhi 110003

Dr Ranjini Saxena  
Project Officer (Nutrition and Health)  
CARE – India  
B-28, Greater Kailash, Part I  
New Delhi  
Tel: 011-6221728/ 6235926/ 6418421  
6418422 / 6441948 / 6471527

Mr Seshu Babu  
Project Officer  
DFID India  
British High Commission  
50-M Shantipath, Chanakyapuri  
New Delhi 110021  
Tel: 011-4673889-94  
Fax: 011-4673896  
Email: s.babu@dfidgtnet.gov.uk

Dr Ravi Narayan  
Community Health Cell  
367, Srinivasa Nilaya  
Jakkasandra  
Ist Main, Ist Block  
Rajaji Nagar  
Bangalore  
Tel: 080-5531513/5525372 (O)  
Fax: 080-5533358  
(Mark Attn: Dr Ravi Narayan, CHC)  
Email: sochara @ blr.vsnl.net.in

Dr Mohammad Asri  
Manager  
PT Freeport Public Health and Malaria  
Control Deptt.  
Timika Indah C-23  
Timika  
98663 Irian Jaya  
Indonesia  
Tel: 0062-901-242-213  
Email: mohammad-assi@fmi.com

Mr Rajiv Misra  
Ex-Secretary  
Ministry of Health and Family Welfare  
Government of India

Prof. Dr R.S. Srivastava  
Medical College, Allahabad  
Tel: 0532-622151 (O)  
0532-624204 (R)  
Fax: 0532-641183

Dr Vinay Agarwal  
Indian Medical Association  
IP Estate  
New Delhi-2

Dr A.K. Monga  
Indian Medical Association  
IP Estate  
New Delhi-2

#### **Observers**

Dr R.S.Sharma  
Ex-Director  
National Anti-Malaria Programme  
Tel: 011-6942509 (R )  
011-3985310 (O)

Mr Rajesh M. Nair  
Mckingsey & Company Inc.  
Taj Palace Hotel  
2, Sardar Patel Marg  
Diplomatic Enclave  
New Delhi-110021

### **Temporary Advisers**

Dr Francois Nosten  
SMRU  
P O Box 46  
Maesot 63110  
Thailand  
Tel: +66 55 531 531  
Fax: +66 55 544 442  
Email: nosten@cm.rsc.co.th

Dr V.P. Sharma  
C/o. Malaria Research Centre  
20, Madhuban, Vikas Marg  
Delhi 110092  
Tel: 2247983 (O)  
6885195 / 4674587 ( R)

Dr A.R. Wickremasinghe  
Department of Family Medicine  
University of Sri Lanka  
Jayawardenapura  
Colombo  
Sri Lanka  
Tel: 94-1-829577  
Fax: 94-1-829577  
Email: rajwicks@slt.lk

Prof. F.P. Amerasinghe  
Deptt. of Zoology  
University of Peradeniya  
Sri Lanka  
Tel: 94-8-389131  
Fax: 94-8-388018  
Email: fpa@zoology.pdn.ac.lk

### **WHO Secretariat**

#### **Headquarters**

Dr David Nabarro  
Project Manager  
Roll Back Malaria

Dr Kamini Mendis  
RBM/HQ

Dr S. Spinaci  
CDC/CPC/CCS

Mr Robert Bos  
SDE/CPC/CCS

Dr Charles Delacollette  
WHO/HQ

Dr A.V. Kondrachine  
CDS/CTD/MAL

### **EMRO**

Dr A. Beljaev  
RA-MAL

### **SEARO**

Dr Vijay Kumar  
Ag. Director, Communicable Diseases

Dr S.G. Mukhtader  
External Cooperation Officer

Mr Pak Chang Rim  
Technical Officer-International Agencies

Dr M.V.H. Gunaratne  
Communicable Disease Surveillance and  
Response

Ms. Martha R. Osei  
Health Promotion and Education

Mrs Harsaran Bir Kaur Pande  
Information Officer

Dr (Ms) J. Larusdottir  
Emergency and Humanitarian Action

Dr V.S. Orlov  
SRA (Control of Tropical Diseases)

Dr P.R. Arbani  
Regional Adviser-MAL

Dr R.M. Montanari  
Medical Officer-ICD

Dr Harry D. Causy  
Regional -Epidemiologist

Dr Hadi M. Abednego  
Short Term Contract / Roll Back Malaria