



# Malaria Situation in Myanmar

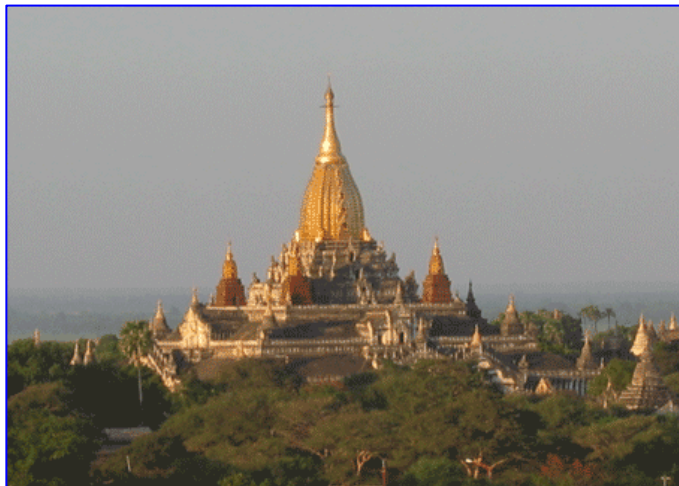
17.3.09

**Dr. Aung Naing Cho**

***Malariologist, Shan (South)/ Kayah***

***Dr. Tin Tun Oo***

***Team Leader, Kachin State VBDC Unit***



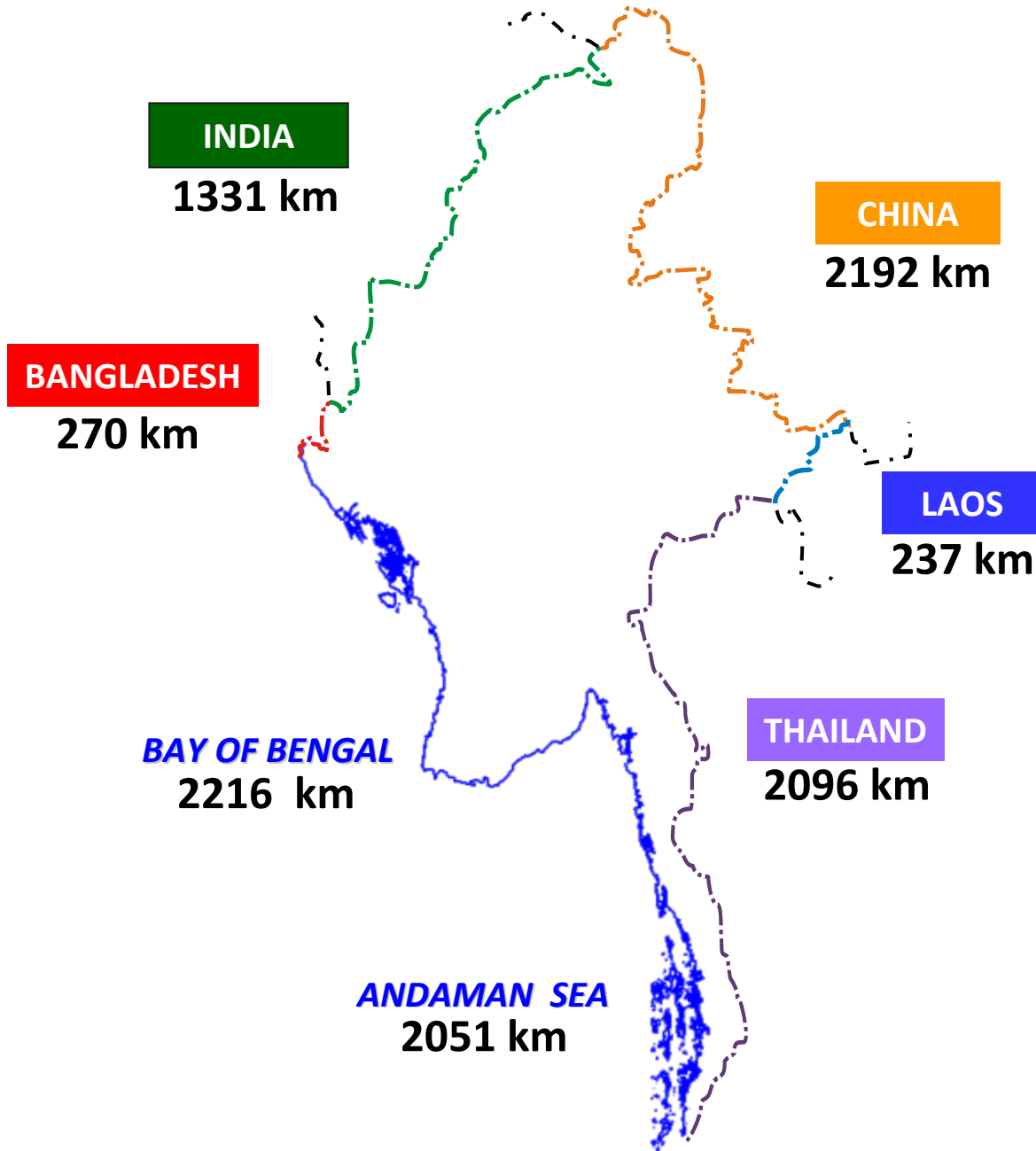
**Southeast Asia, bordering China, Laos,  
Thailand, Andaman sea ,Bay of Bengal  
Bangladesh and India**

**Area**

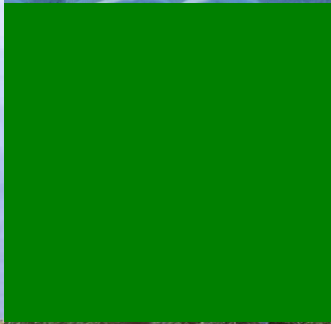
**Total: 678,500 sq km**

**Land: 657,740 sq km**

**Water: 20,760 sq km**



# Over One Hundred national races



Of the hill tribes, one special feature of Naga Festival





## MAJOR ETHNIC GROUPS

- ❖ KACHIN
- ❖ KAYAR
- ❖ KAYIN
- ❖ CHIN
- ❖ BAMAR
- ❖ MON
- ❖ RAKHINE
- ❖ SHAN

**Total Population: 57.6 million**

**0-14 years: 27.6 %**

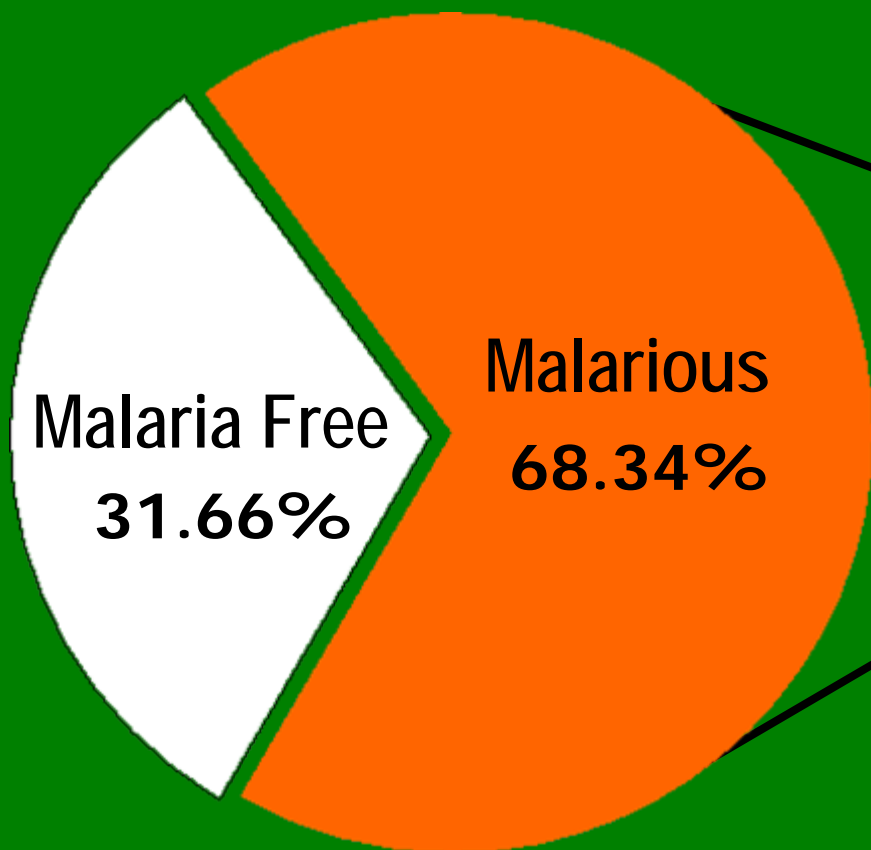
**15-64 years: 67.5 %**

**65 years and over: 4.9 %**

**Population growth rate 1.84 %**

**Population density 85 per sq km**

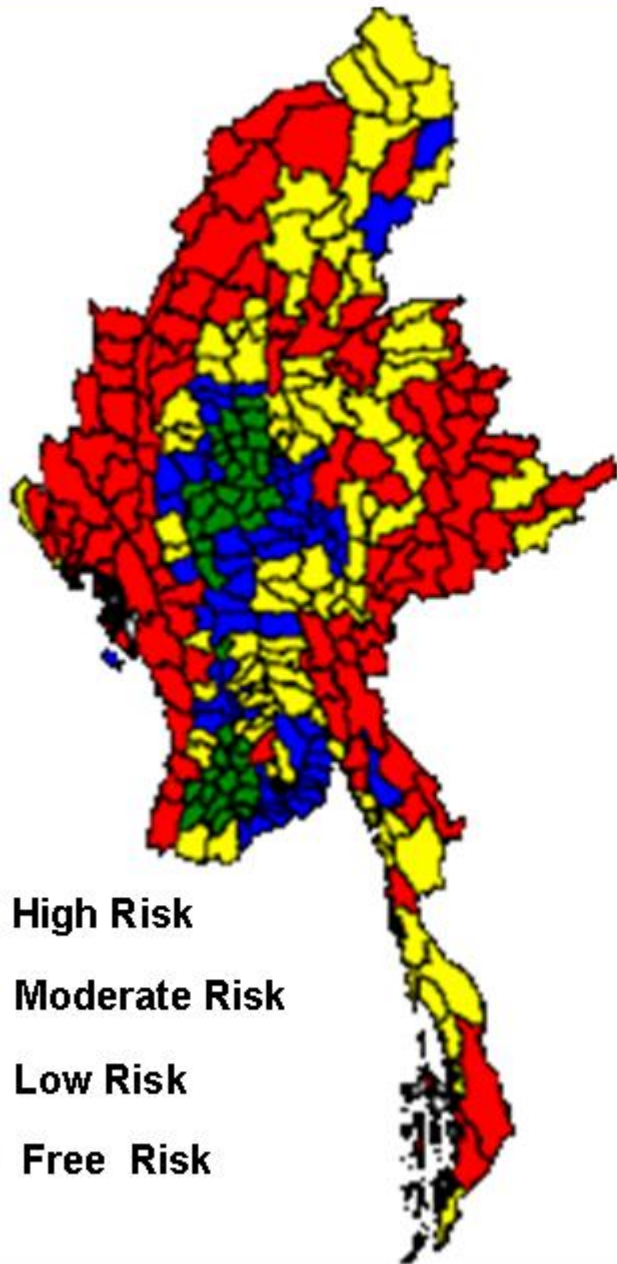
# Population living under malarious and malaria free areas in Myanmar [2007]



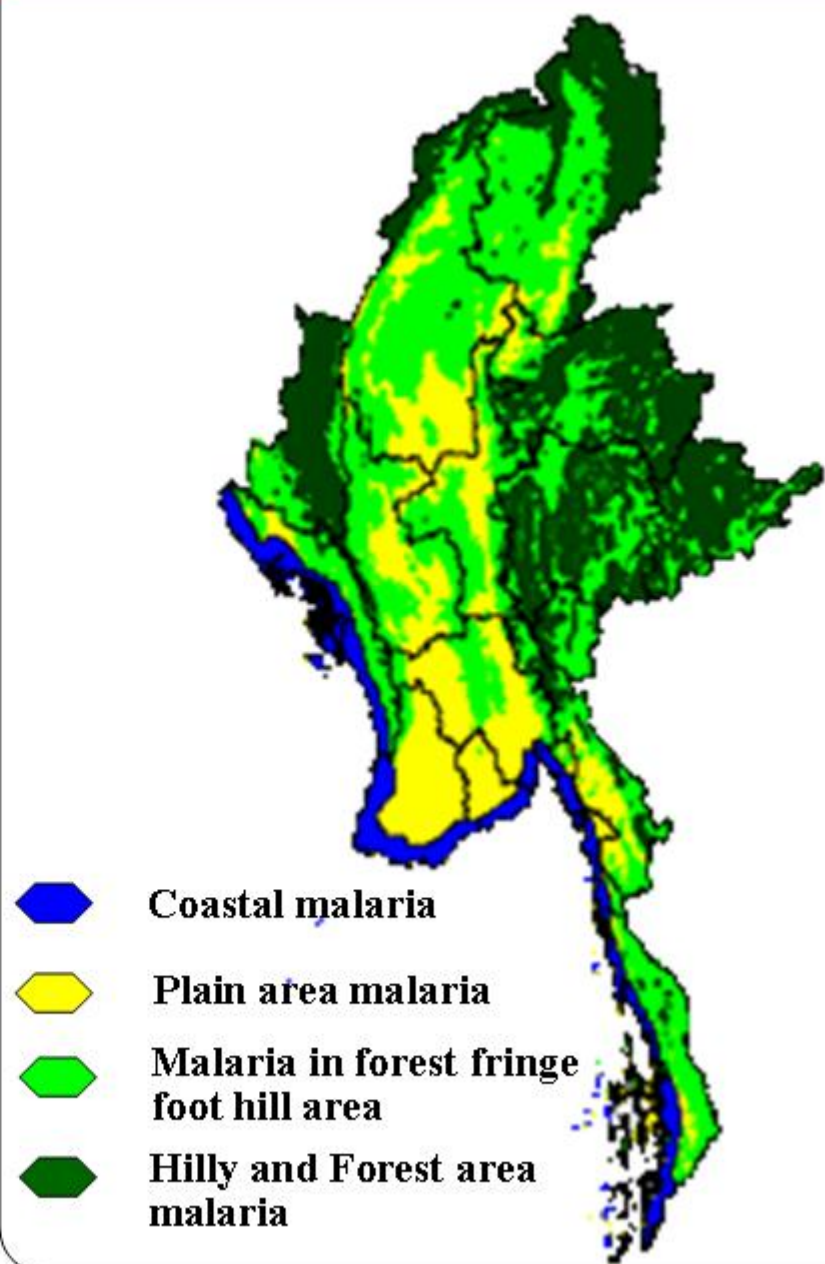
Year	1988	2007
High risk	38.9%	27.98%
Moderate risk	41.7%	23.55%
Low risk	13.8%	16.81%
No risk	8.6%	31.66%



## Malaria Risk Areas in Myanmar

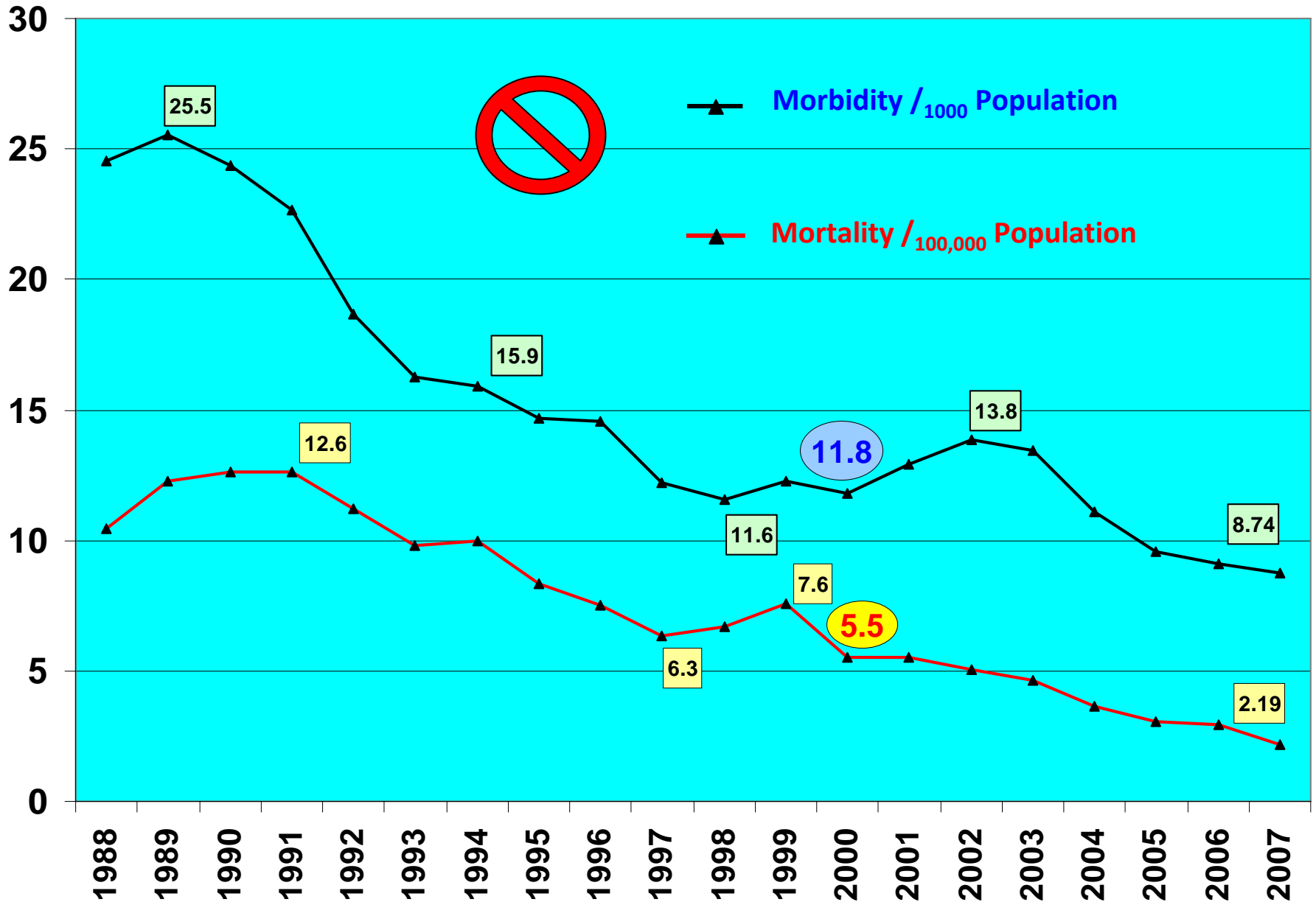


## Malarious area according to ecology



# MALARIA MORBIDITY & MORTALITY RATE IN MYANMAR

*TO REDUCE 50% OF MALARIA MORBIDITY AND MORTALITY YEAR 2000 -2010*



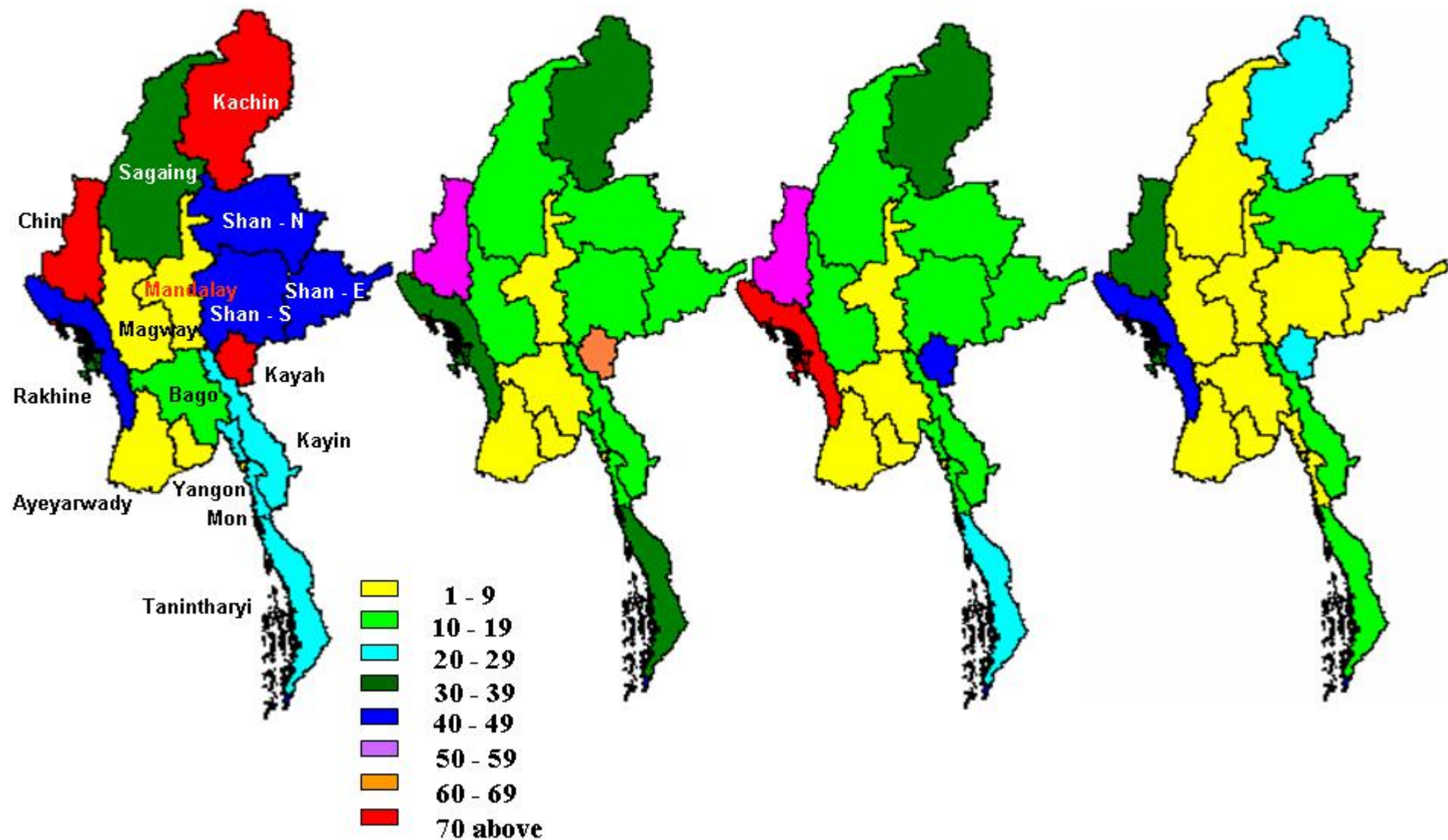
# Malaria Morbidity Rate /<sub>1000</sub> Population in Myanmar

1988

1998

2003

2007



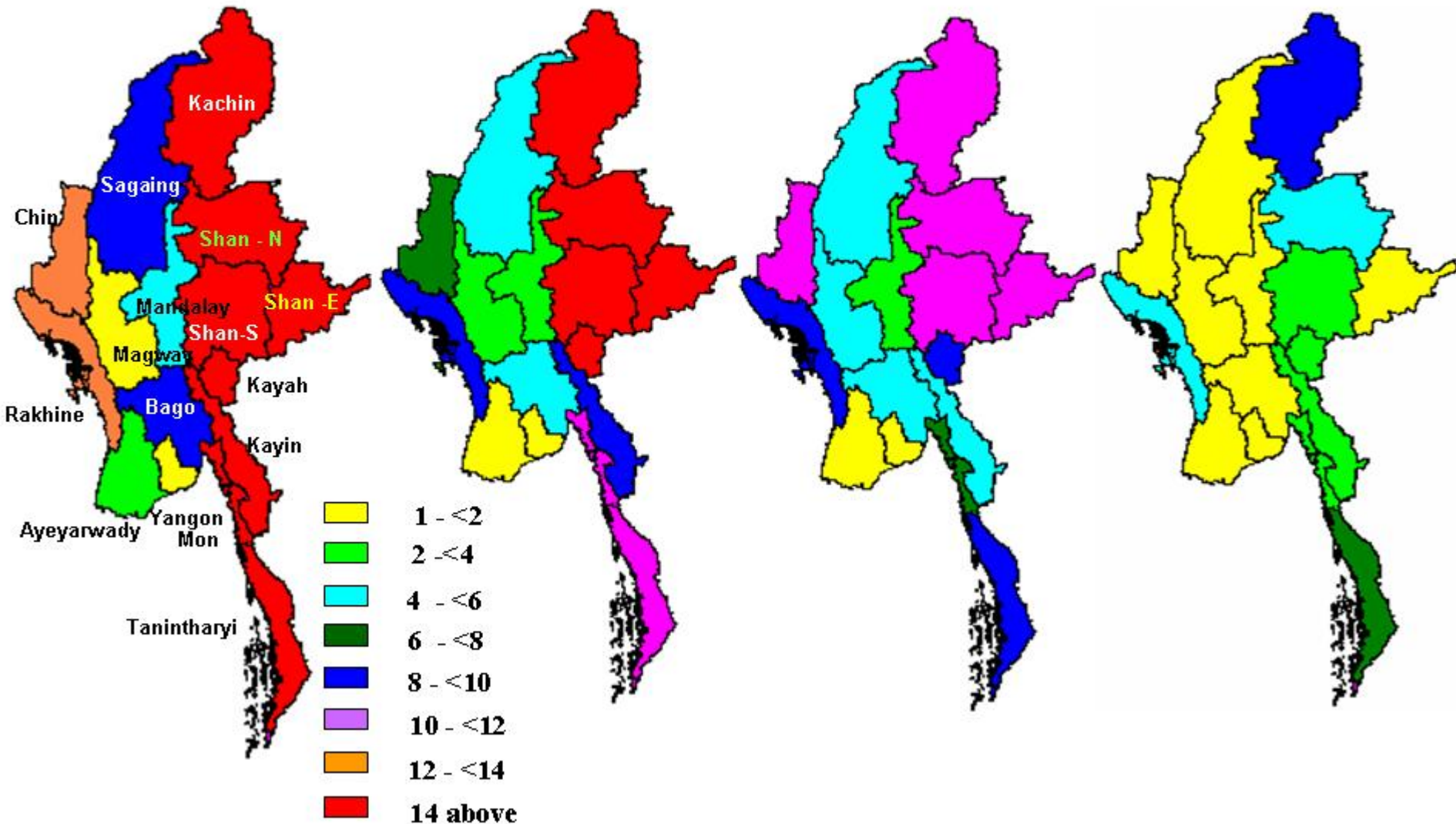
# Malaria Mortality Rate $_{100000}$ /Population in Myanmar

1988

1998

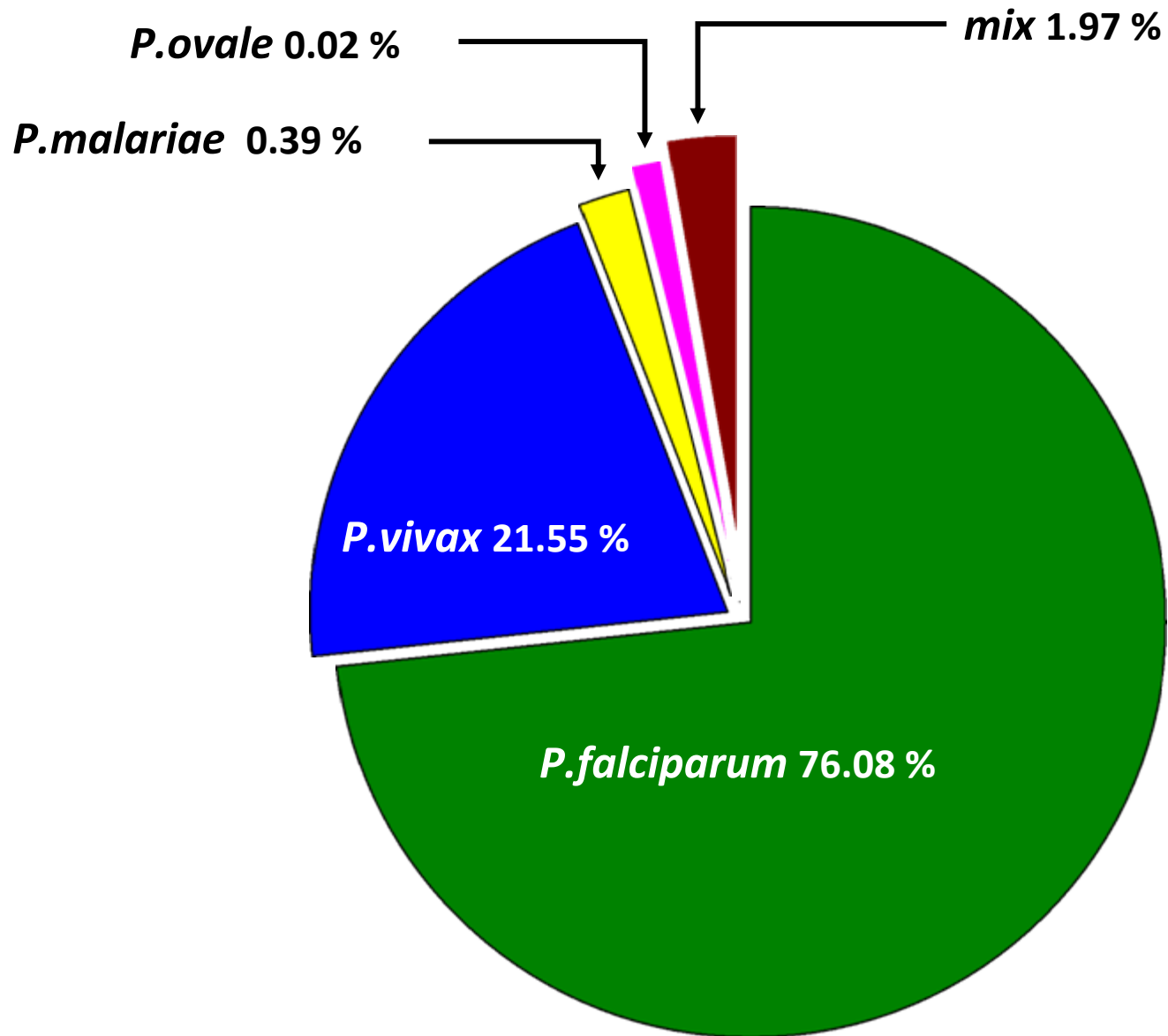
2003

2007

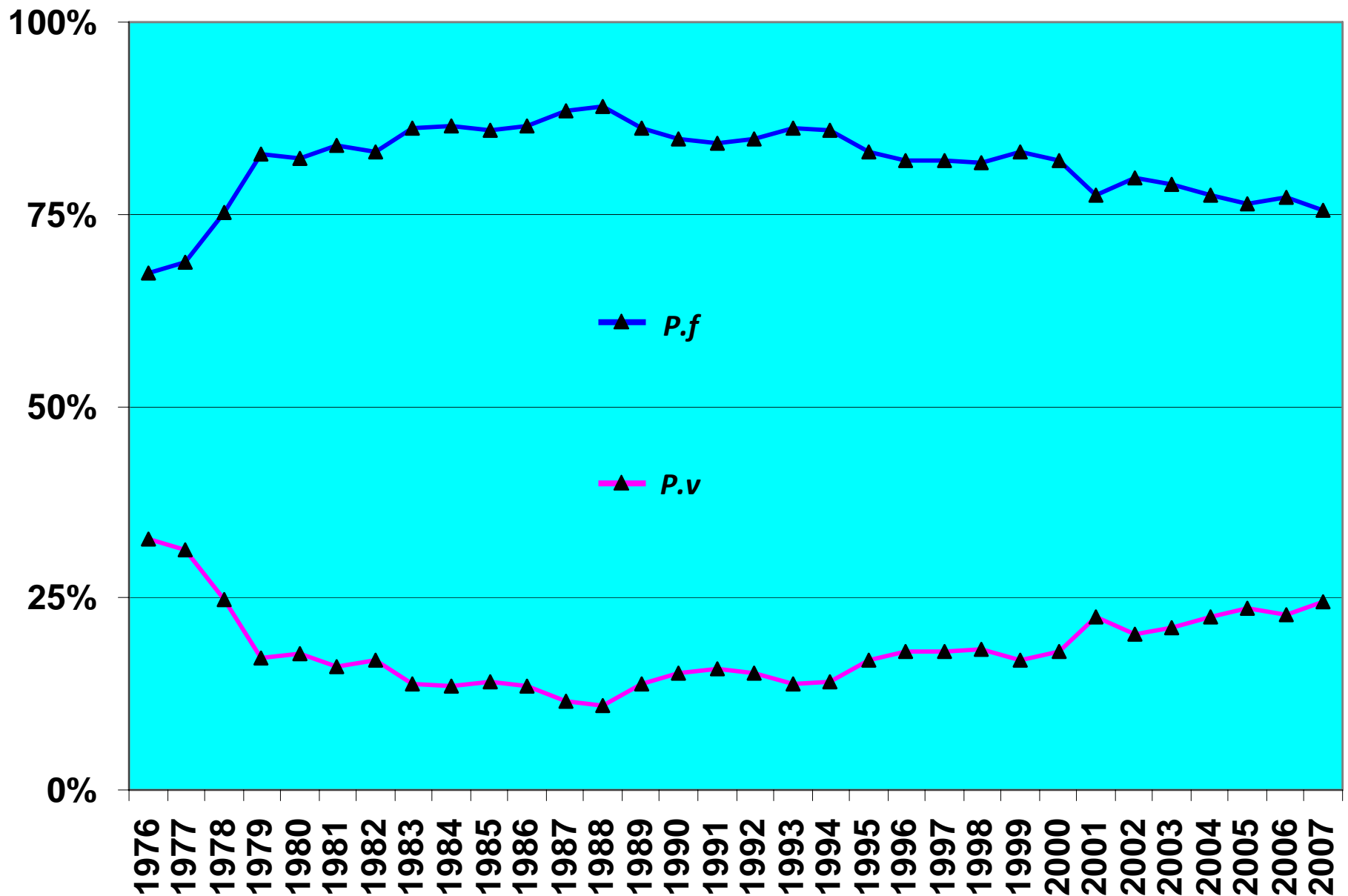


# Malaria Confirmed Cases in Myanmar

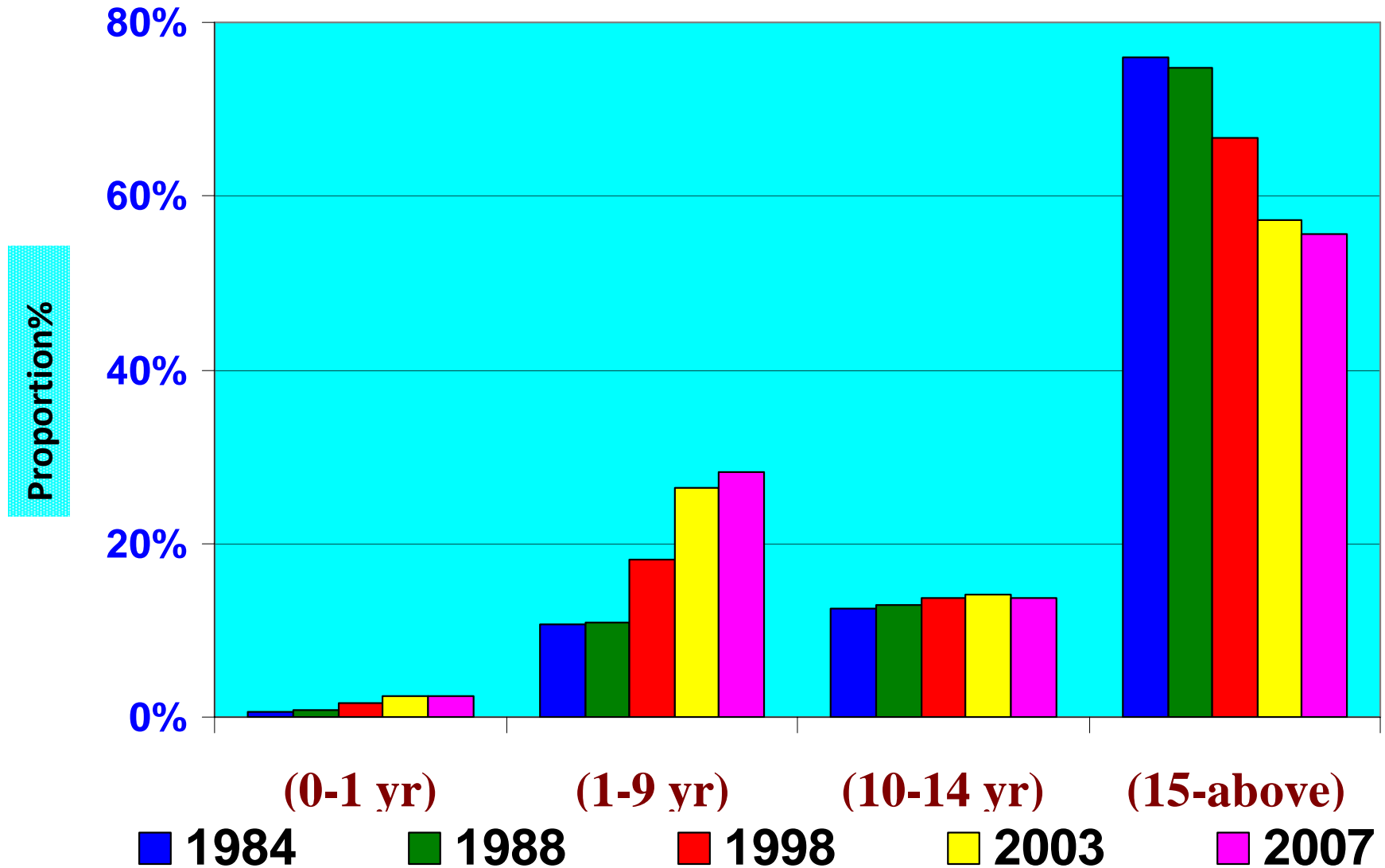
(5 Years Average 2003-2007)



# *P.falciparum* & *P.vivax* ratio in Myanmar



# Yearly age group wise malaria positive trend



# High risk groups include:



**Pregnant Women &  
<5 yr Children**



**Children**



**Seasonal Migrant  
Workers/ Farmers**



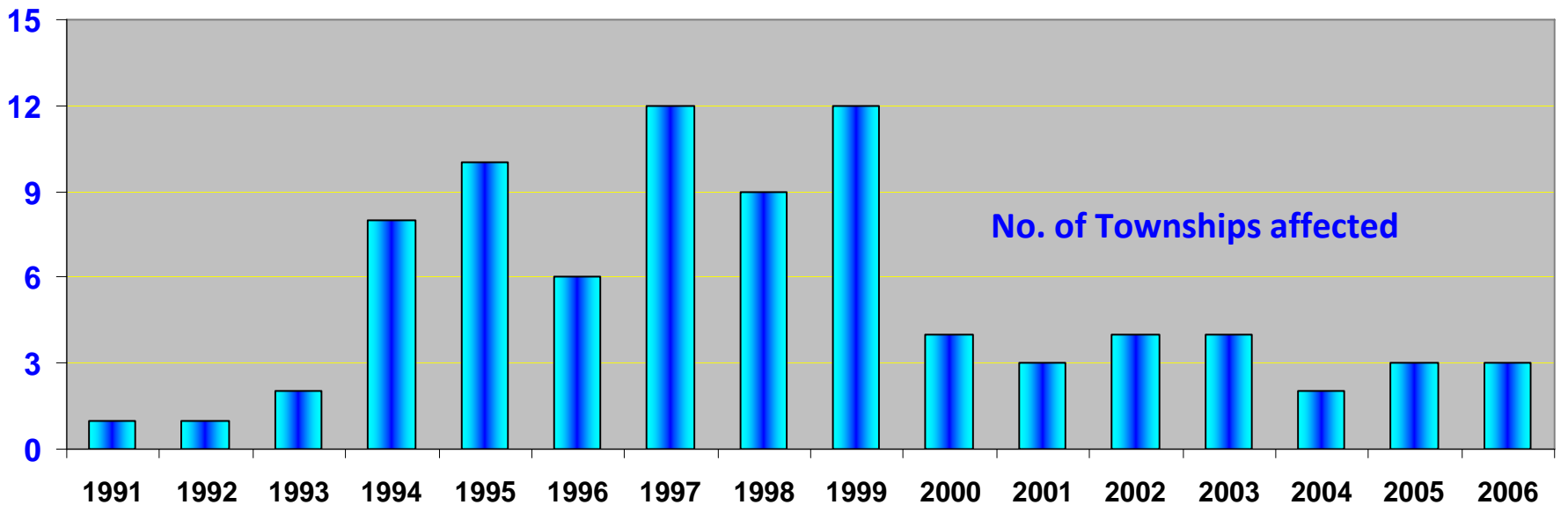
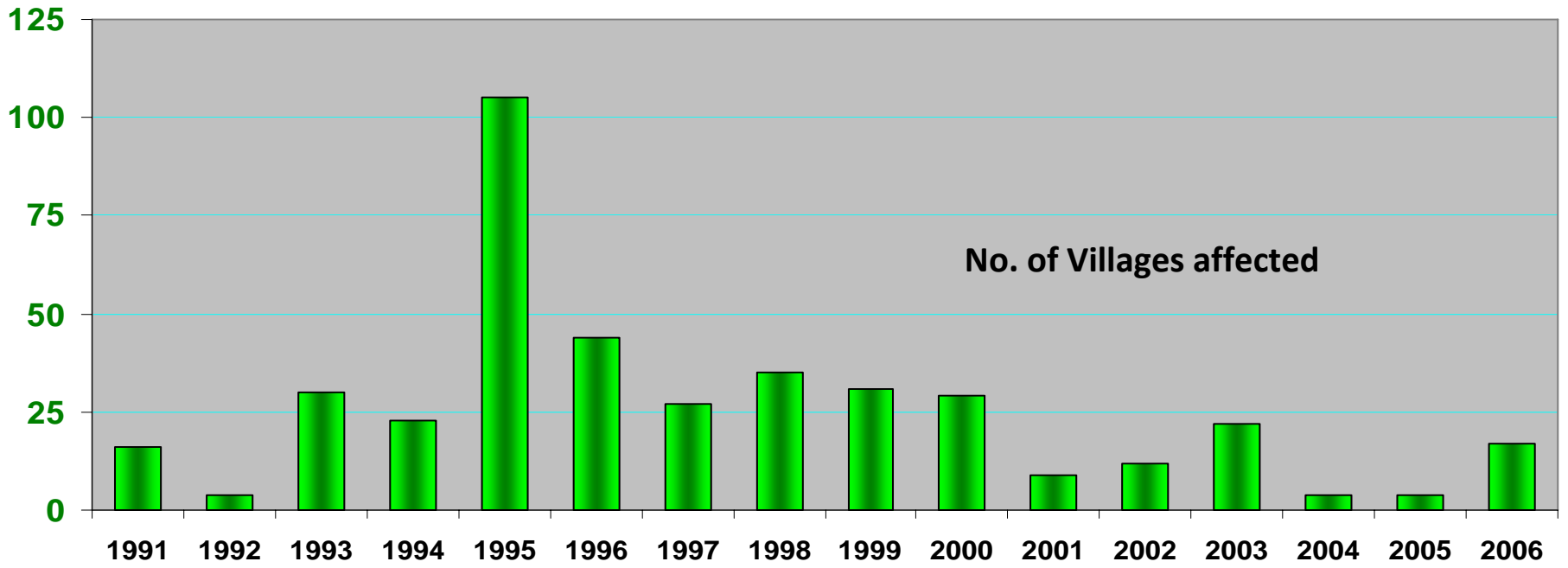
**Miners**



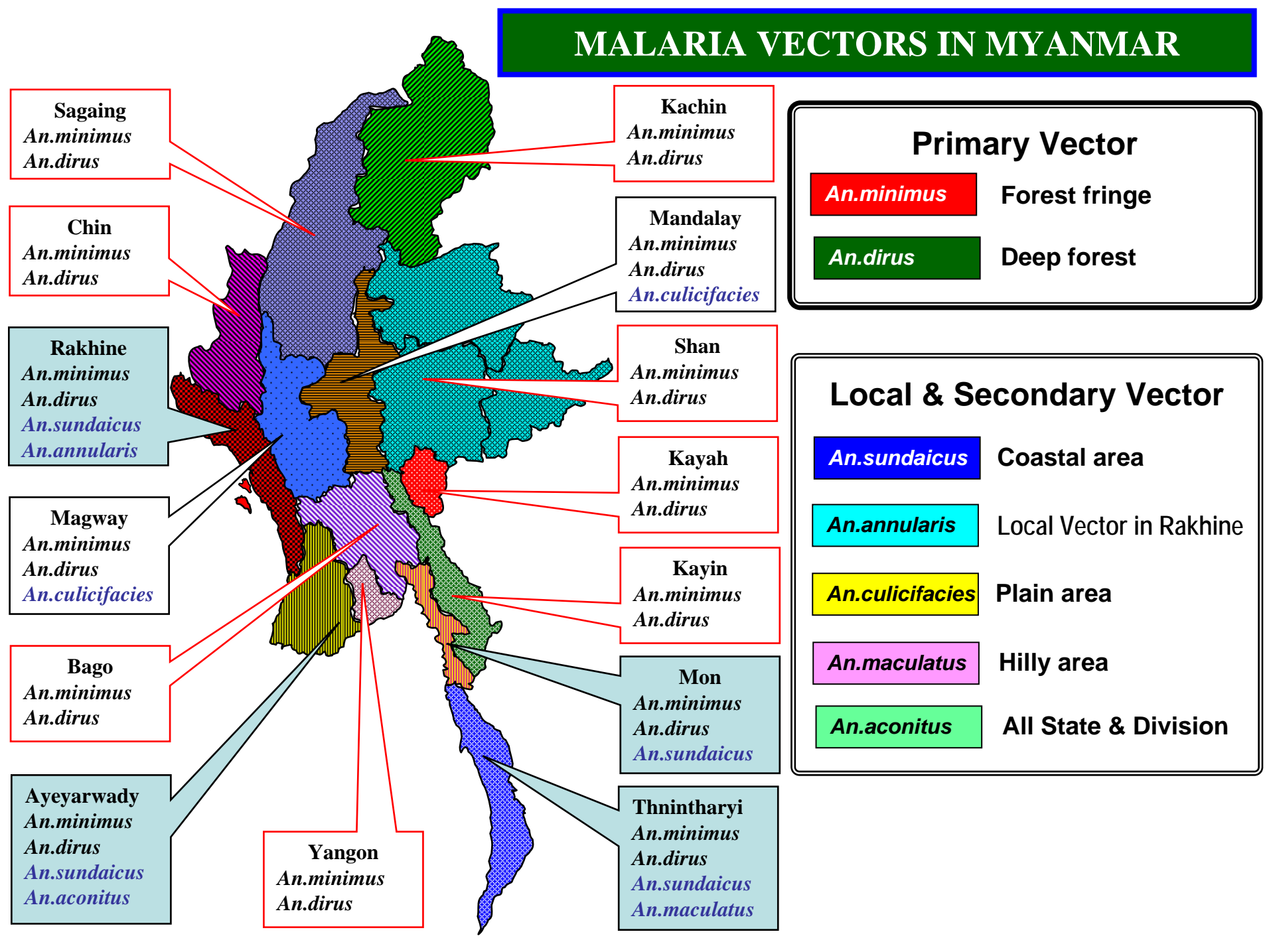
**Forest-related workers**



# Yearly Analysis of Epidemics in Myanmar (1991-2006)



# MALARIA VECTORS IN MYANMAR



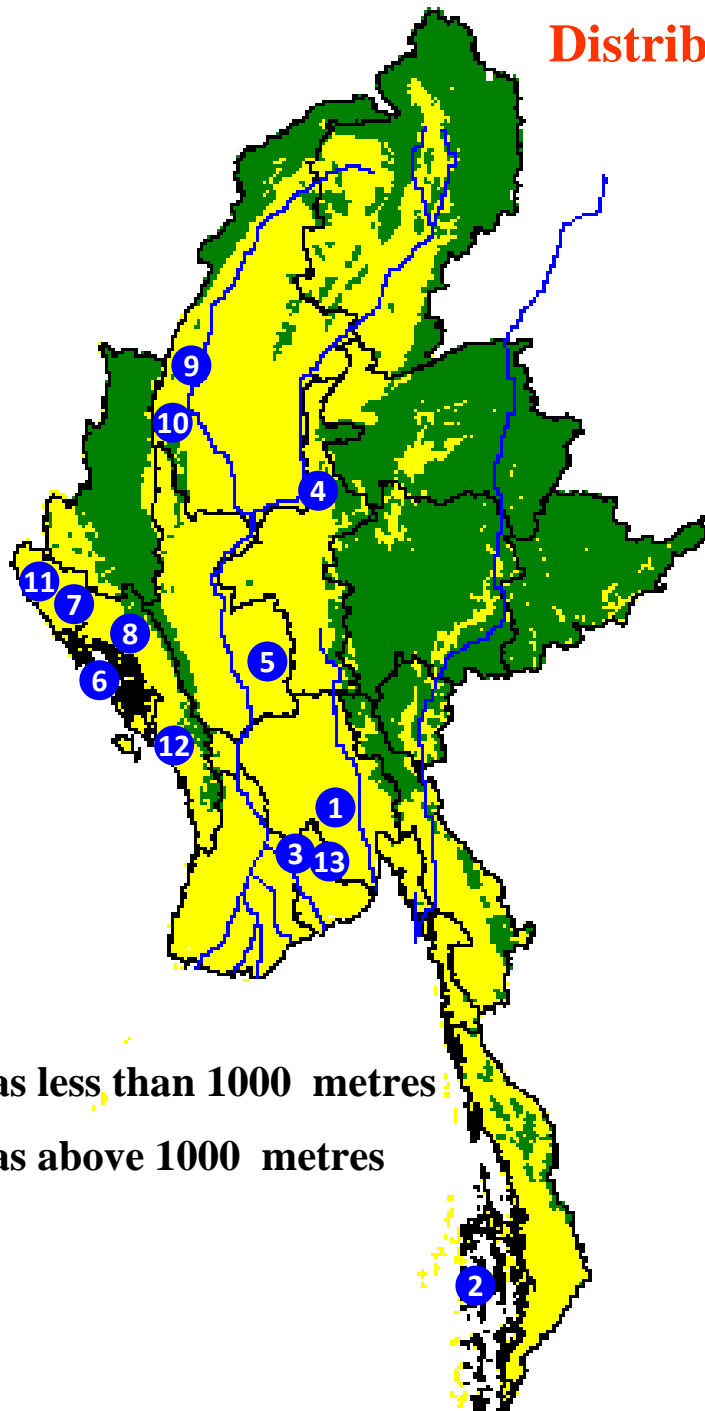
# DRUG RESISTANT STATUS OF *Plasmodium falciparum*

- ❖ Therapeutic efficacy of chloroquine - 62.5 - 76%
- ❖ Treatment failure with S-P 25 - 35%
- ❖ Resistance to Mefloquine & Quinine - low level

## DRUG RESISTANT STATUS OF *P.vivax*.

- CQ resistance in *P.v* has been documented but is not yet considered serious threat.

## Distribution of chloroquine resistant *Falciparum* infections in Myanmar up to 1974

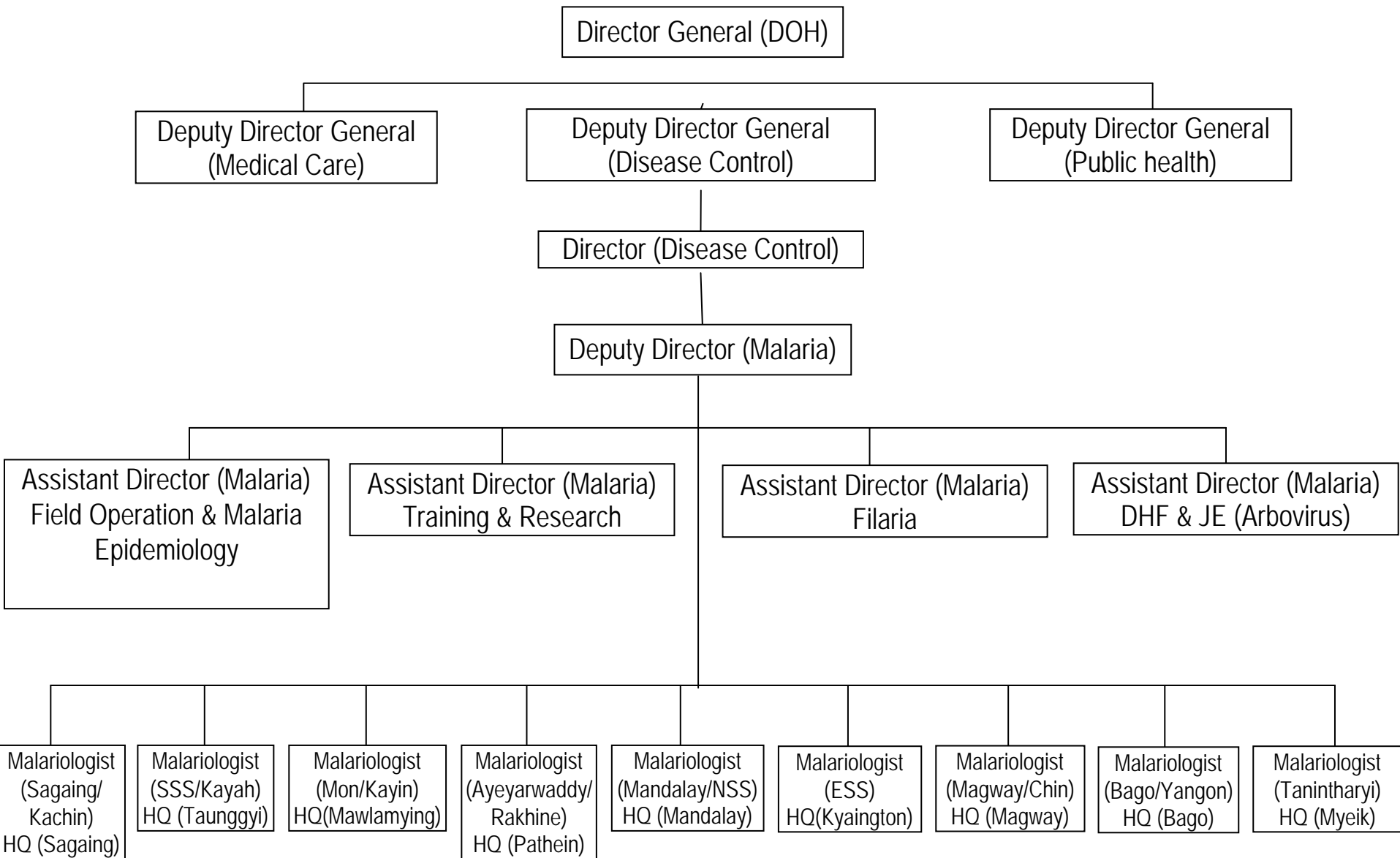


- ① Zaungtu area
- ② Pale-Kyun ( Myeik Township )
- ③ Taikkyi area
- ④ Sedawgyi area
- ⑤ Obauk area
- ⑥ Sittwe area
- ⑦ Kyauktaw area
- ⑧ Minbya area
- ⑨ Kabaw Valley
- ⑩ Kale Valley
- ⑪ Fourth Mile area
- ⑫ Ngapali area
- ⑬ Gyogon area

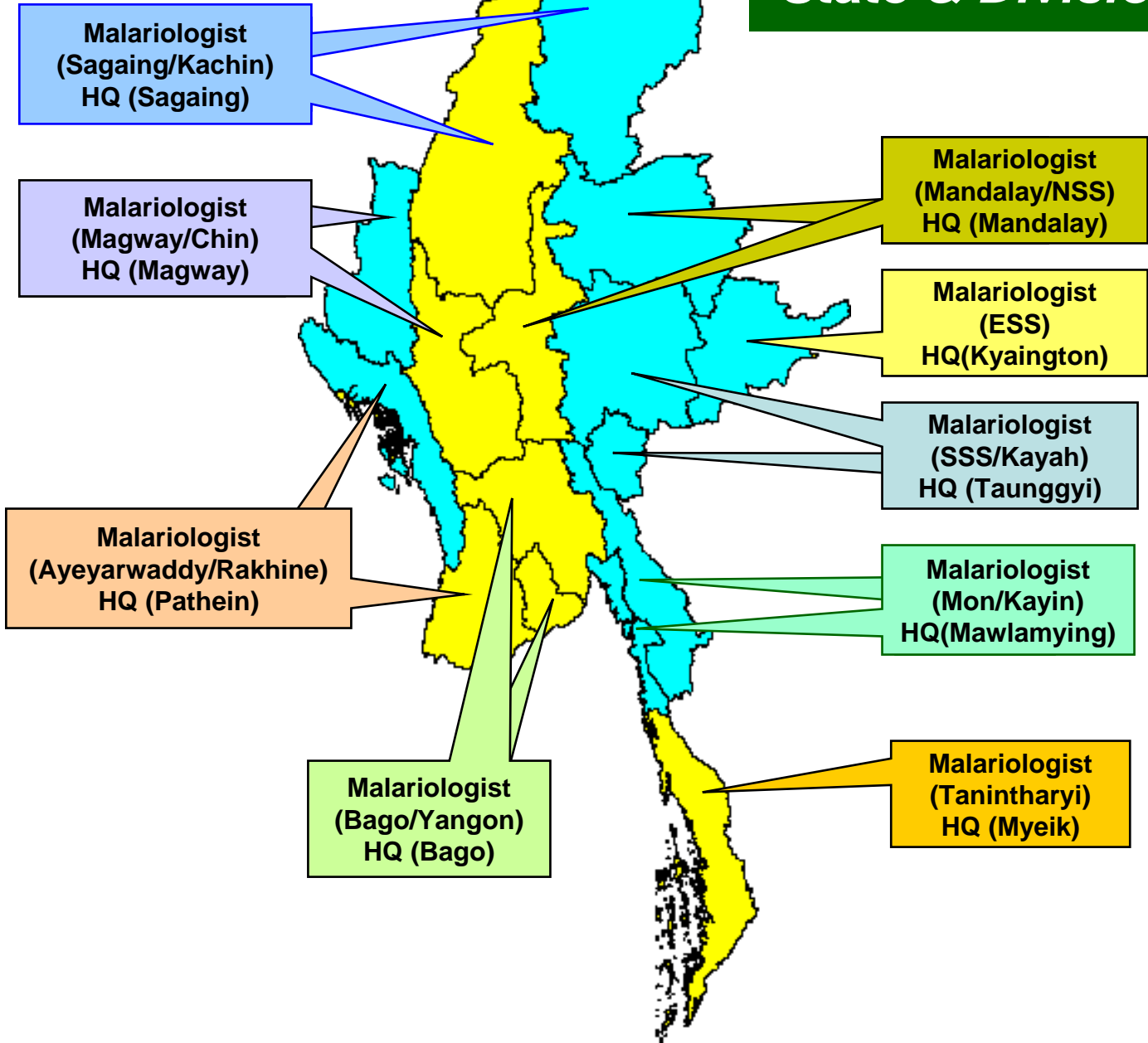
Areas less than 1000 metres

Areas above 1000 metres

# Central/State-Division level VBDC Organization



# *Malariologists Set Up of State & Division VBDC Teams*



# Aims & Objectives of NMCP

- Reduction of malaria morbidity and mortality by 50% of the level in 2000 by 2010 and
- To achieve MDG by 2015 (To achieve MDG Goal 6 Target 8 - have halted by 2015, and began to reverse the incidence of malaria and other major diseases)

# National Malaria Control Program Strategies



# 1. Information, Education & Communication regarding malaria up to grass root level



## 2. Prevention – mainly emphasizing personal protection and environmental measures



1. **3. Prevention, early detection and control of epidemics.**



## 4. Early Diagnosis and Appropriate Treatment



# 5. Intersectoral collaboration.



# 6. Community involvement





## 7. Capability strengthening of health staff

# 8. Operational Research





# Follow Through to Vector Control and Management

- 1 Malariologist and 1 Entomologist attended
- Entomological study to be carried out in Rakhine State starting this month

# Follow Through to ISD – Malaria Microscopy and QA

- 2 Lab Tech attended
- Refresher training of State/Divisional microscopists conducted in Nov.
- QA activities commenced in Jan. 2009

# Capacity Development Needs

MMFO

TTT

Epidemic Management

VCM

Pharmaceutical Management and  
Quantification

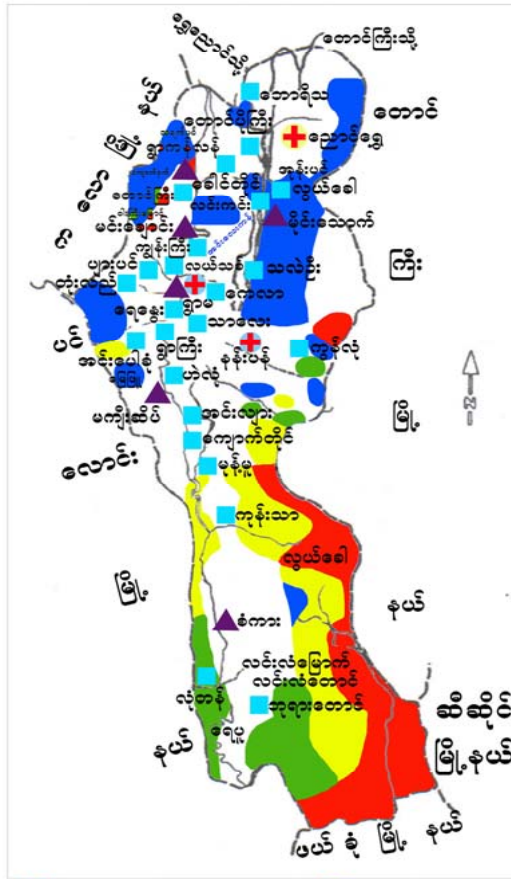
# *Innovative Strategies*

- **New Treatment Policy** (ACT for *P falciparum* positive cases)  
developed and adopted in 2002,  
reviewed and updated in Feb. 2008  
being implemented in the public sector  
nationwide

# Innovative Strategies

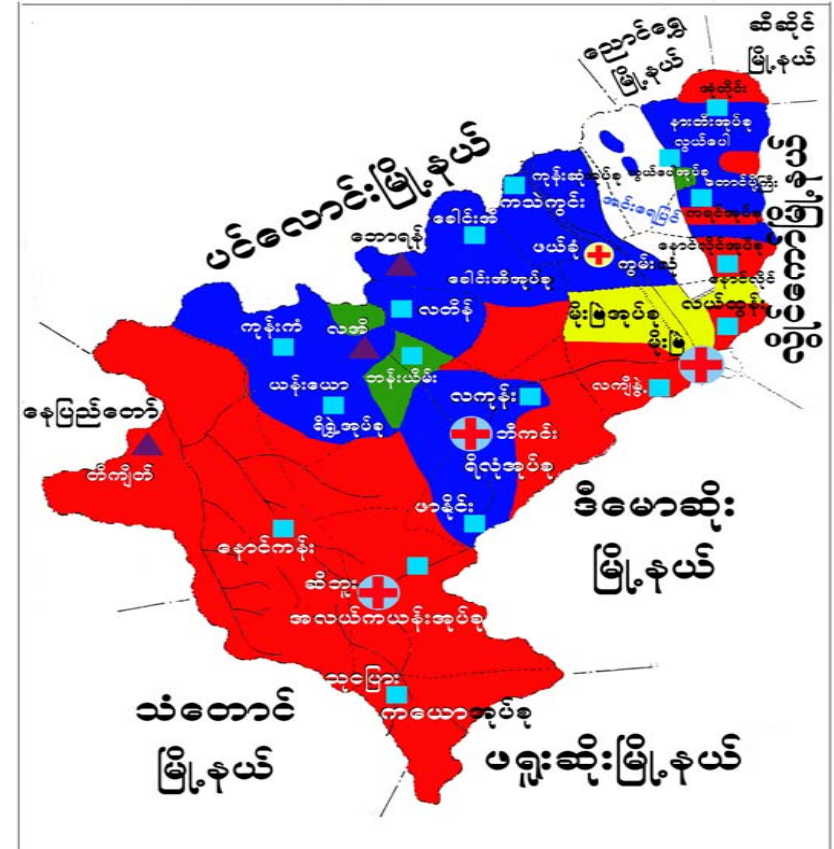
## Microstratification of malaria risk areas in 80 townships

ငှက်ပျားရောဂါ ကူးစက်မှုအန္တရာယ်မြင့်မားခြင်း အခြေပြမြေပုံ (ညောင်ရွှေမြို့နယ်)



- 1a ကူးစက်မှုမြင့်မားသောဧကရာဇ်
- 1b ကူးစက်မှုလယ်လယ်အဆင့်ရှိသောဧကရာဇ်
- 1c ကူးစက်မှုအနည်းဆုံးရှိသောဧကရာဇ်
- 2 ကူးစက်မှုမြင့်မားခြင်းမရှိသောဧကရာဇ်
- 3 ကူးစက်မှုမရှိသောဧကရာဇ်
- + မြို့နယ်ဆေးရုံ
- + တိုက်နယ်ဆေးရုံ
- ▲ ကျေးလက်ကျန်းမာရေးဌာန
- ကျေးလက်ကျန်းမာရေးဌာန

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- 1a ကူးစက်မှုမြင့်မားသောဧကရာဇ်
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# *Innovative Strategies*

- Township evaluation and micro-planning

Conducted in 100 townships in 2008 and 2009

# ***Innovative Strategies***

- **Community-based malaria control program (Malaria Volunteers)**
  - **introduced in Eastern Shan State and Tanintharyi Division in 2008**
  - **being expanded in 3 States and I Division in 2009**

# *Innovative Strategies*

- **Quality assurance of malaria microscopy/ RDT (rapid diagnostic test)**

**blood slides sent monthly beginning Jan. 2009**

**From**

**Health Centers**

**S/D Malaria Clinics**

**To**

**S/D Malaria Clinics**

**Central VBDC**



# *Issues & Challenges*

- **Sustainability of countrywide coverage with New Treatment Policy**
- **Adherence of New Treatment Policy**
- **Scaling up ITN Program**

# *Issues & Challenges*

- **Improving KAP of local community**
- **Multi-drug resistance of *P. falciparum***
- **Fake & substandard anti-malarial drugs**



22.01.2007

***Thank You***

00:00