

Malaria Situation and Control in China

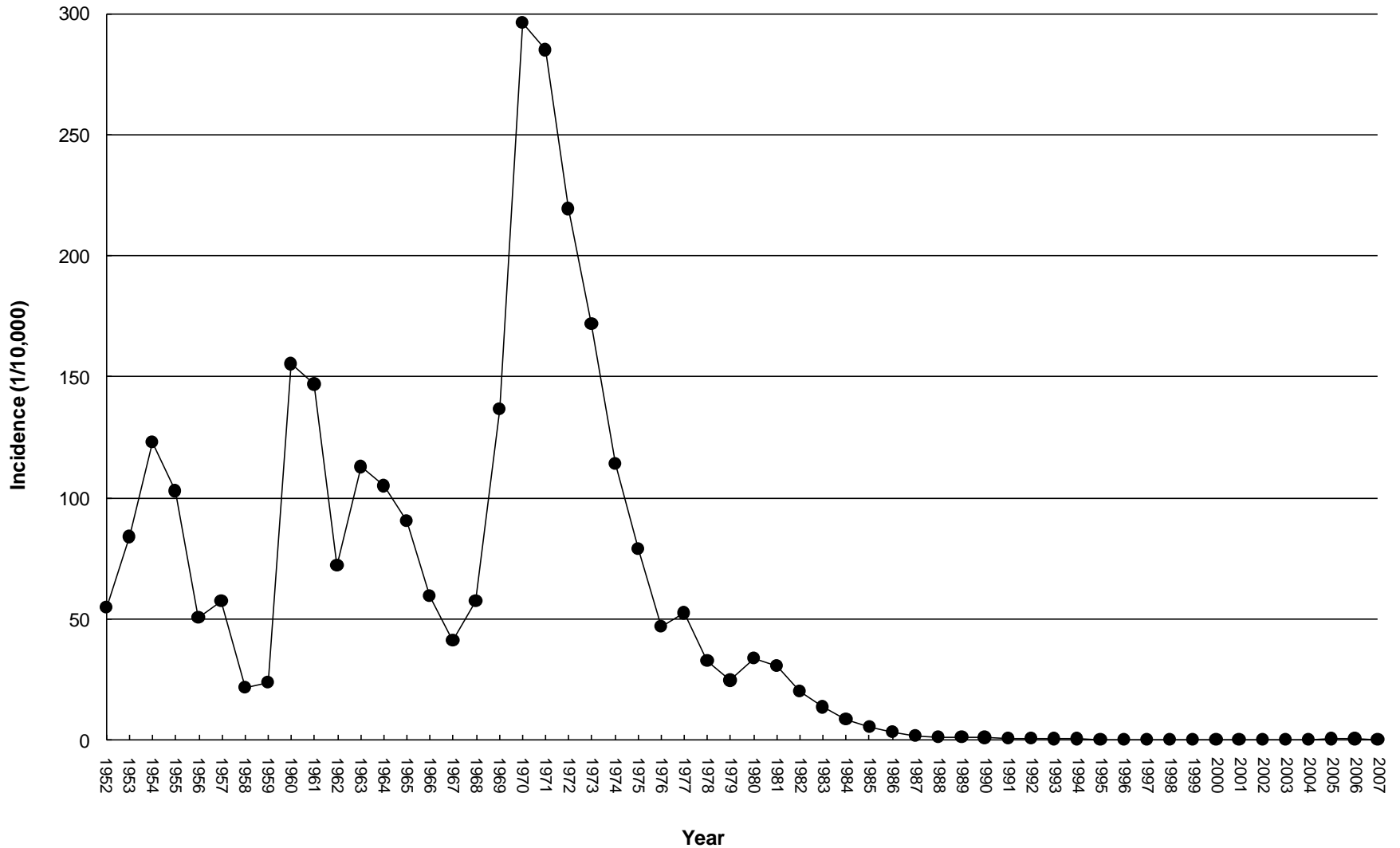


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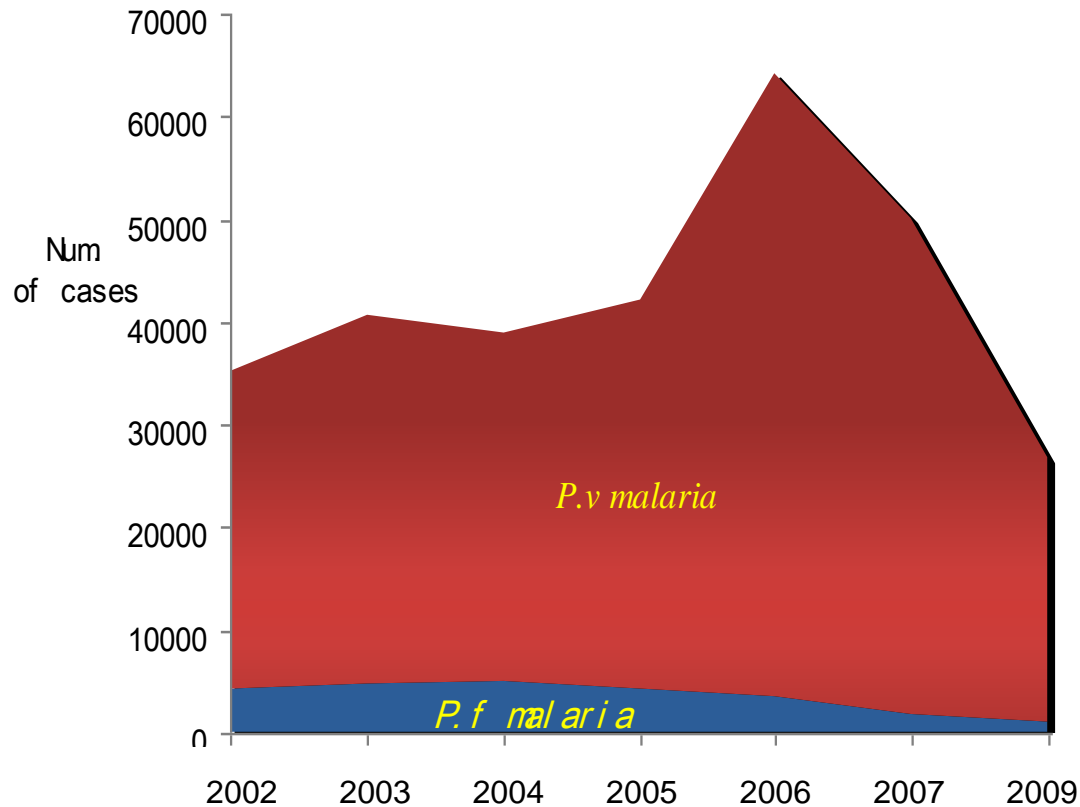
March 16 , 2010

Luang Prabang , Lao PDR

Malaria in China (1952 - 2009)

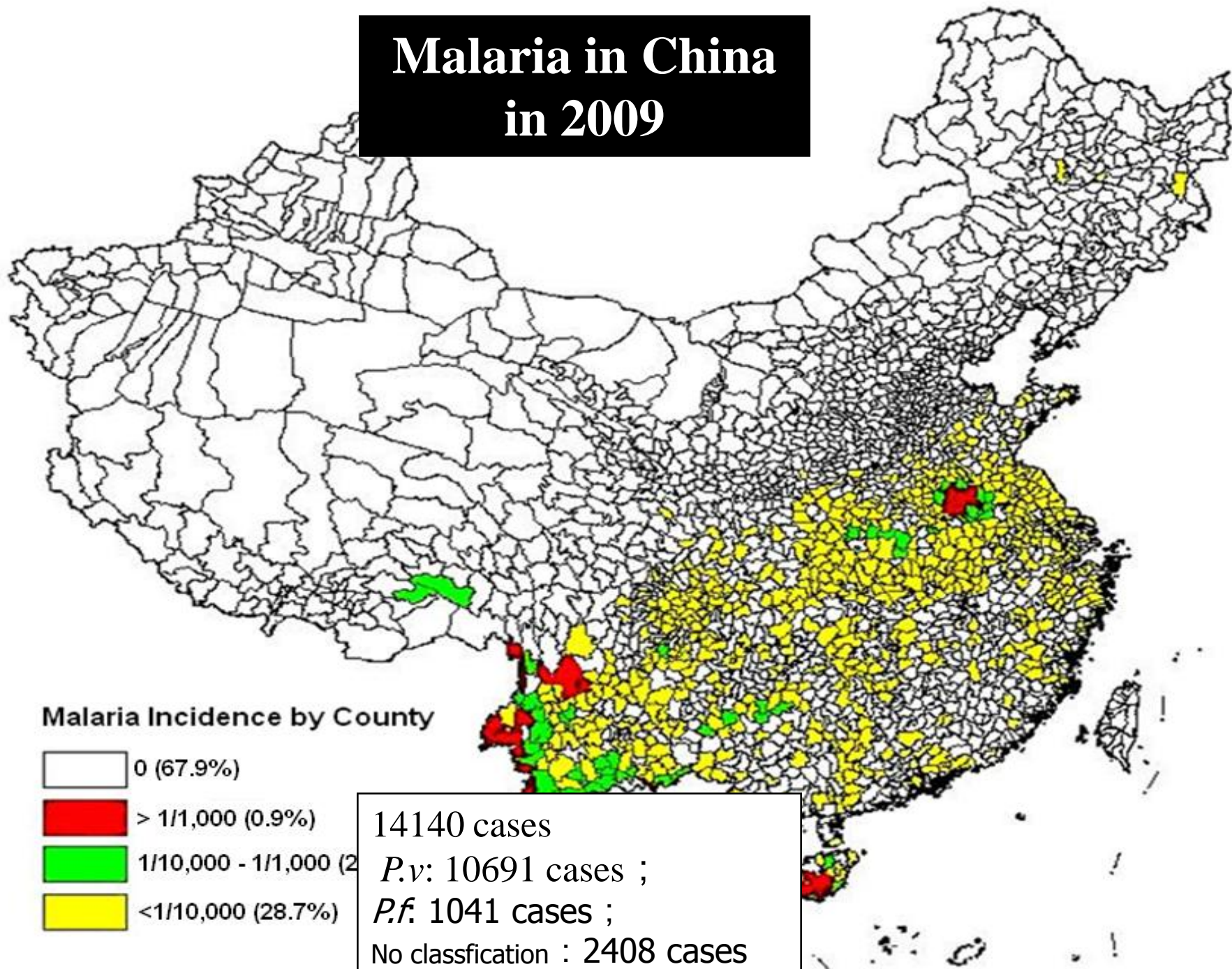


Vivax Malaria Situation



The Number and Proportion of Malaria Cases Reported in 2002-2009

Malaria in China in 2009





Malaria Profile in China

**Local transmission
with higher incidence**

8 Provinces:
Yunnan, Hainan,
Anhui, Hubei,
Jiangsu, Henan,
Tibet, Guizhou

Class I

**Local transmission
with dispersed foci**

11 provinces:
Shandong, Guangxi,
Guangdong, Jiangxi,
Zhejiang, Sichuan,
Hunan, Chongqing,
Liaoning, Shanghai,
Shannxi

Class II

**Potential transmission
area without local
case in 3 years**

4 provinces:
Fujian, Hebei,
Shanxi, Xinjiang

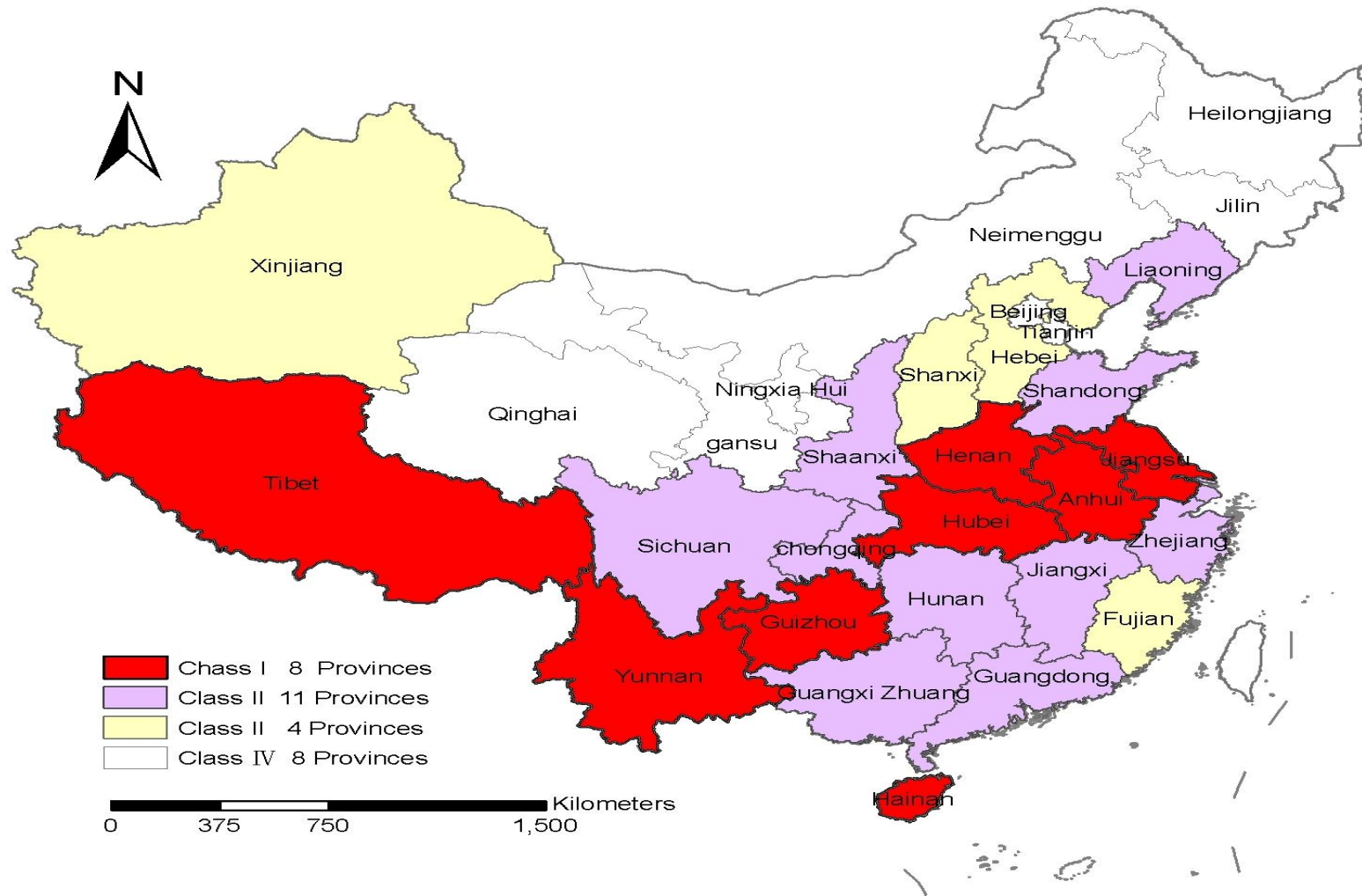
Class III

Malaria free areas

8 provinces:
Heilongjiang, Gansu,
Qinghai, Neimeng,
Ningxia, Beijing,
Tianjin, Jilin

Class IV

Malaria profile in China

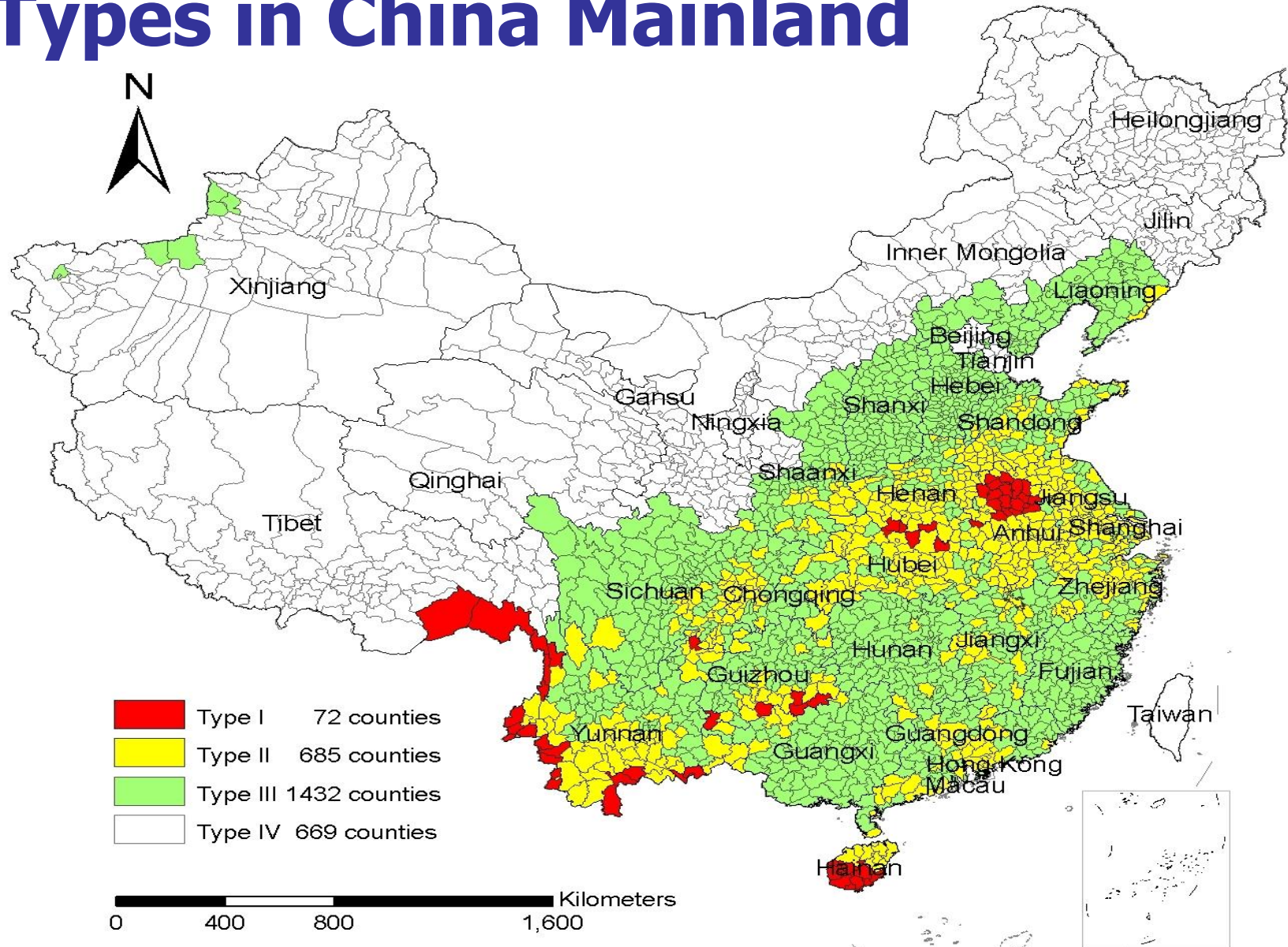




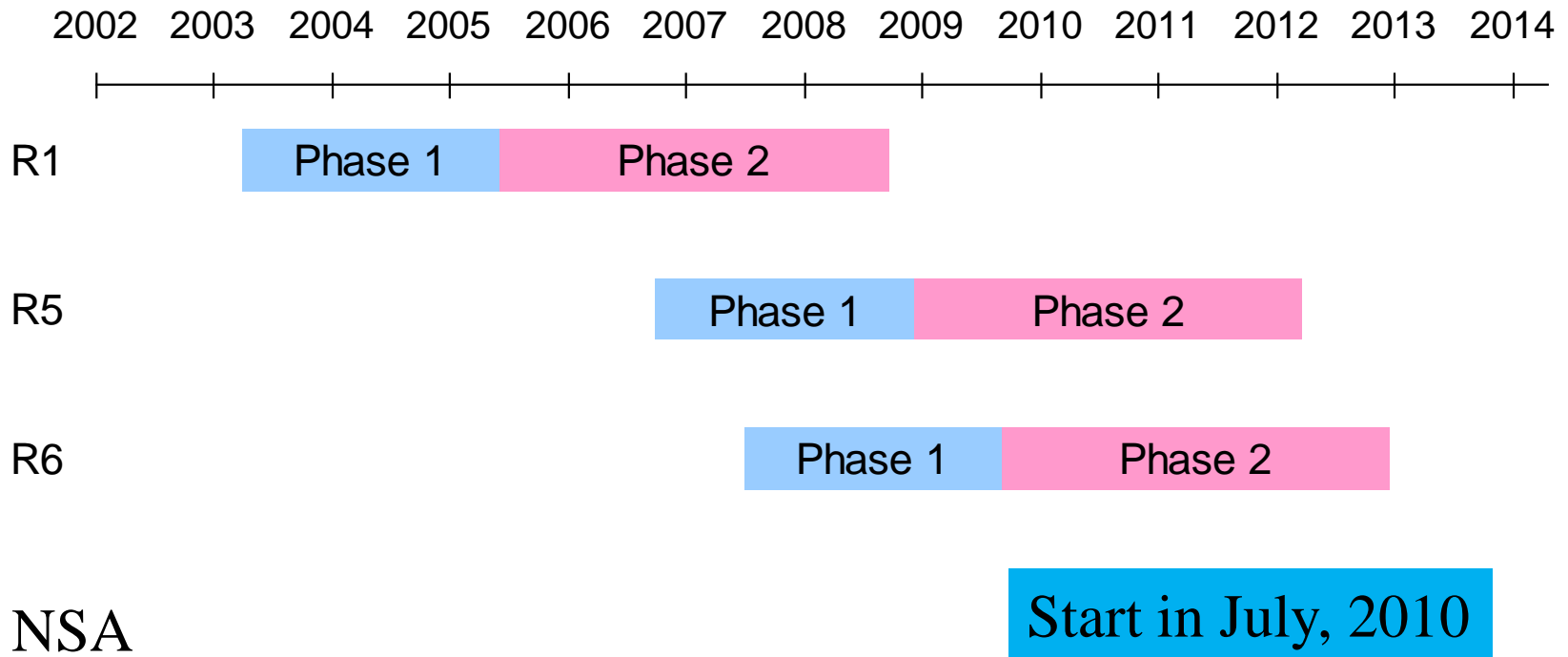
Stratification of Counties

County Type	Definition	Malaria Endemicity	No. of Counties	Target population(10,000 population)
Class 1	Presence of confirmed local case(s) in the last 3 years, with all previous 3 years having an annual incidence $\geq 10/100,000$	Higher malaria incidence	72	3,797
Class 2	Presence of confirmed local case(s) in the last 3 years, with at least 1 year having an annual incidence $< 10/100,000$	Lower malaria incidence	685	4,4866
Class 3	No local case for at least 3 years, only imported cases	Potential malaria transmission	1432	62,373
Class 4	No history of any locally transmitted cases, only imported cases	Historically and currently malaria-free	669	18,882

Geographical Distribution of County Types in China Mainland

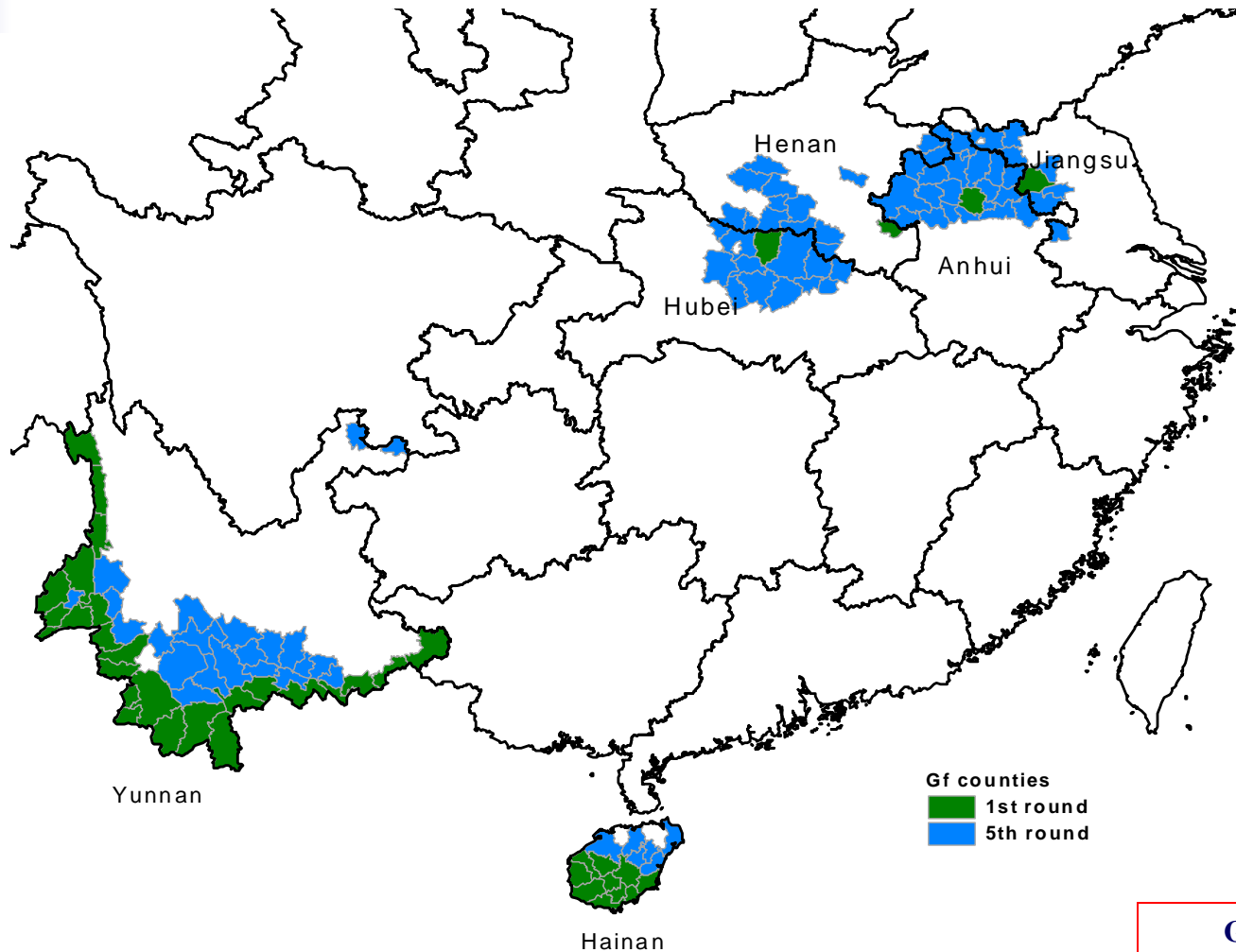


GF malaria programs in China



Rounds	Goal	Budget (USD)
R1	<p>Malaria control in high transmission areas in China.</p> <p>Double decrease the malaria incidence in Yunnan;</p> <p>Reduce falciparum malaria transmission in Hainan.</p>	6.4 million
R5	<p>To roll back re-emerging malaria in central provinces and reduce the malaria burden in resource poor areas of 6 provinces in central and southern China.</p>	39 million
R6	<p>To reduce malaria burden of frequently mobile Chinese workers (FMCW) crossing borderline in 12 project counties of Yunnan.</p> <p>To reduce malaria burden of Myanmar local residents in 4 special regions of Myanmar.</p>	16 million
NSA	<p>To eliminate malaria in China by the end of 2015 except in border counties in Yunnan and Tibet.</p>	176 million

GF ATM-MALARIA PROJECT IN CHINA



**GFATM-MALARIA
PROJECT IN CHINA**

Monitoring of Insecticide Resistance

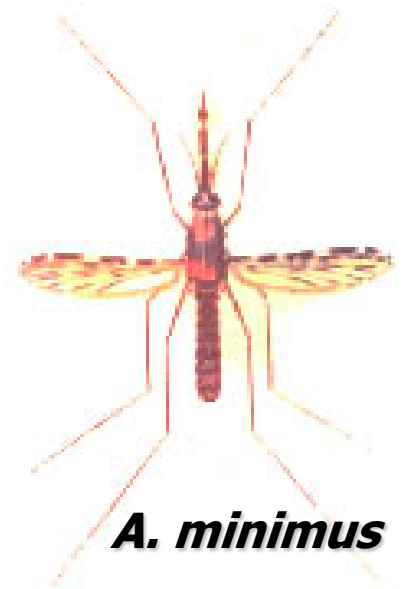
Species of malaria vectors

An. sinensis

An. anthropophagus

An. minimus

An. dirus





Monitoring of Insecticide Resistance

- ***An. Sinensis*** :

Hubei and Jiangsu Province in 2009 :

Deltamethrin 0.05%(0.0178g /m²)

(R)

Malathion 5%(1.78g /m²) (R)

DDT 4% (1.428g/m²) (R)



Monitoring of Insecticide Resistance

- ***An. Sinensis*** :

Yunan Province in 2008 :

Pyrethroid (R)

DDT 4% (1.428g/m²) (R)

Monitoring efficacy of antimalarial drugs



- monitoring efficacy of antimalarial drugs in the Greater Mekong Subregion (GMS)

- In 2009 :

65 Pf cases :

1 LPF

1 LCF

47 ACPR

10 WTH

1 LFO

55 Pv cases :

2 LPF

0

45 ACPR

6 WTH

2 LFO



Programme strategies

- **Diagnosis, with the use of microscopy and RDTs**
- **For *P.f* case(s), ACTs**
- **For *P.v* case(s), CQ and PQ, then Spring Treatment**
- **ITN in higher risk areas with a responsive vector**
- **IRS as a response measure to foci**
- **Strengthen training at all levels**
- **IEC**
- **M&E**
- **Private sector cooperation**



The Goals in Future

- Chinese government has deleared a plan, a new program ***From Malaria Control to Elimination*** with the goals as follows:
- By the end of 2015, no indigenous *vivax* malaria cases occur in the national wide except for the border areas in Yunnan Province.
- By the end of 2020, all indigenous malaria will be eliminated in the whole country.



Challenges and opportunities

- **Transmission dynamics;**
- **Surveillance;**
- **Forecasting and early warning system;**
- **Re-emergence and outbreaks control strategies;**
- **Long and short incubation period correlated with relapse mechanisms;**
- **Novel diagnostic techniques;**
- **Optimized treatment scheme;**
- **Drug resistance surveillance;**



Follow-up of Training

- In 2008 , Lin (Hainan CDC) , Xiong (NIPD) joined Instruction Skills on Malaria Microscopy in Indonisia
- In 2008 , Yang (Yunnan CDC) , Dr Huang (NIPD) , *in vitro* drug susceptibility testing in Cab



Follow-up of Training

- 2009 , Mr Xia and Mr Zhang (NIPD) , BITTW in Indonenia
- 2009 , Ms Yang and Dr Guan (NIPD) , IR in Vientem



International exchanges

- **2nd International Conference on**
- **Vivax Malaria in Asia and Pacific Area**
- **29-31 January 2010**
- **Shanghai, PR China**



International exchanges

- Technical Meeting on Control of Vivax Malaria

Jan. 28, 2010 Shanghai, China

Thank you! 谢谢!

