

**Update of Malaria control in Lao PDR :  
Louang Prabang  
16th - 17<sup>th</sup> March 2010**

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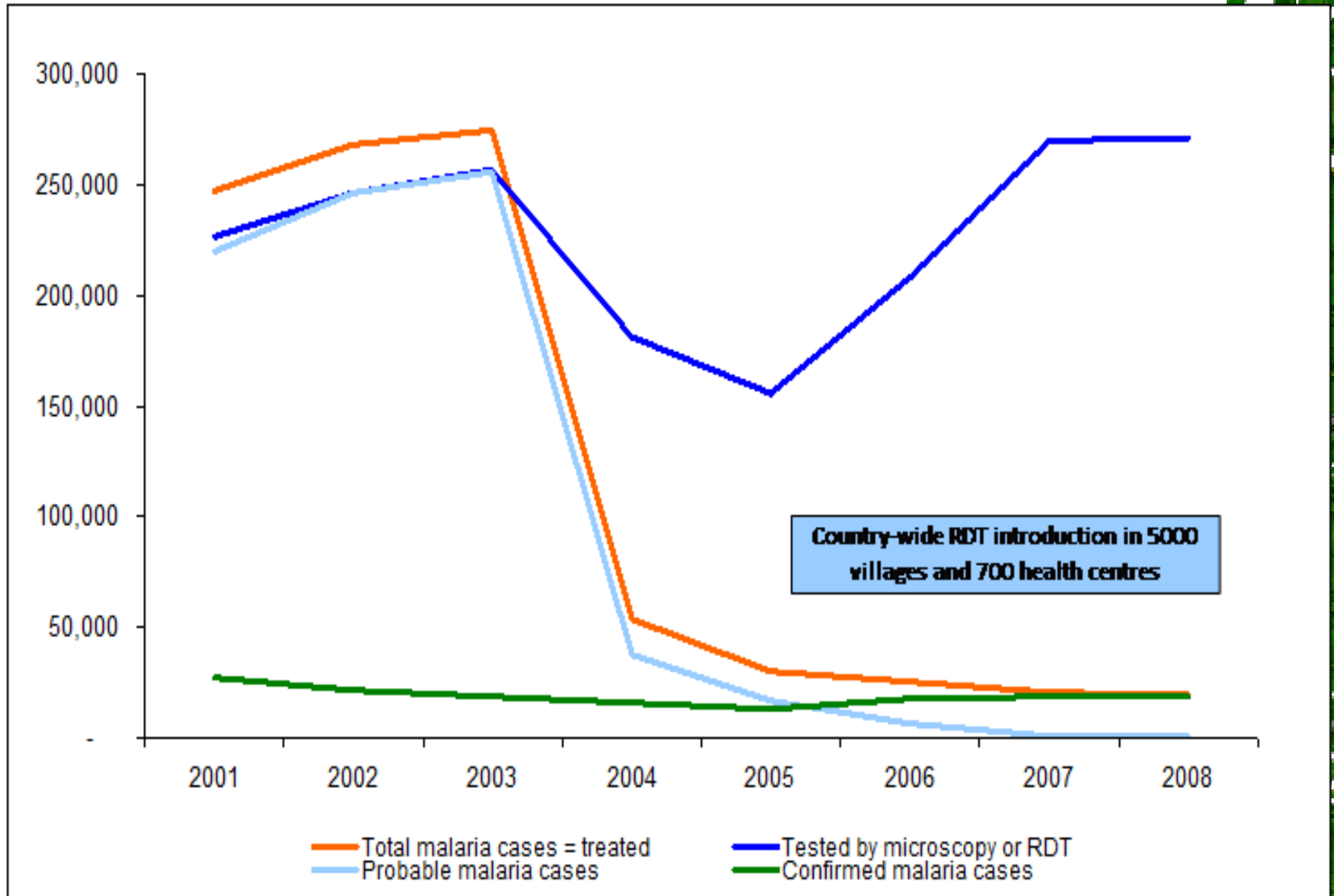


# Main strategies last 5 years

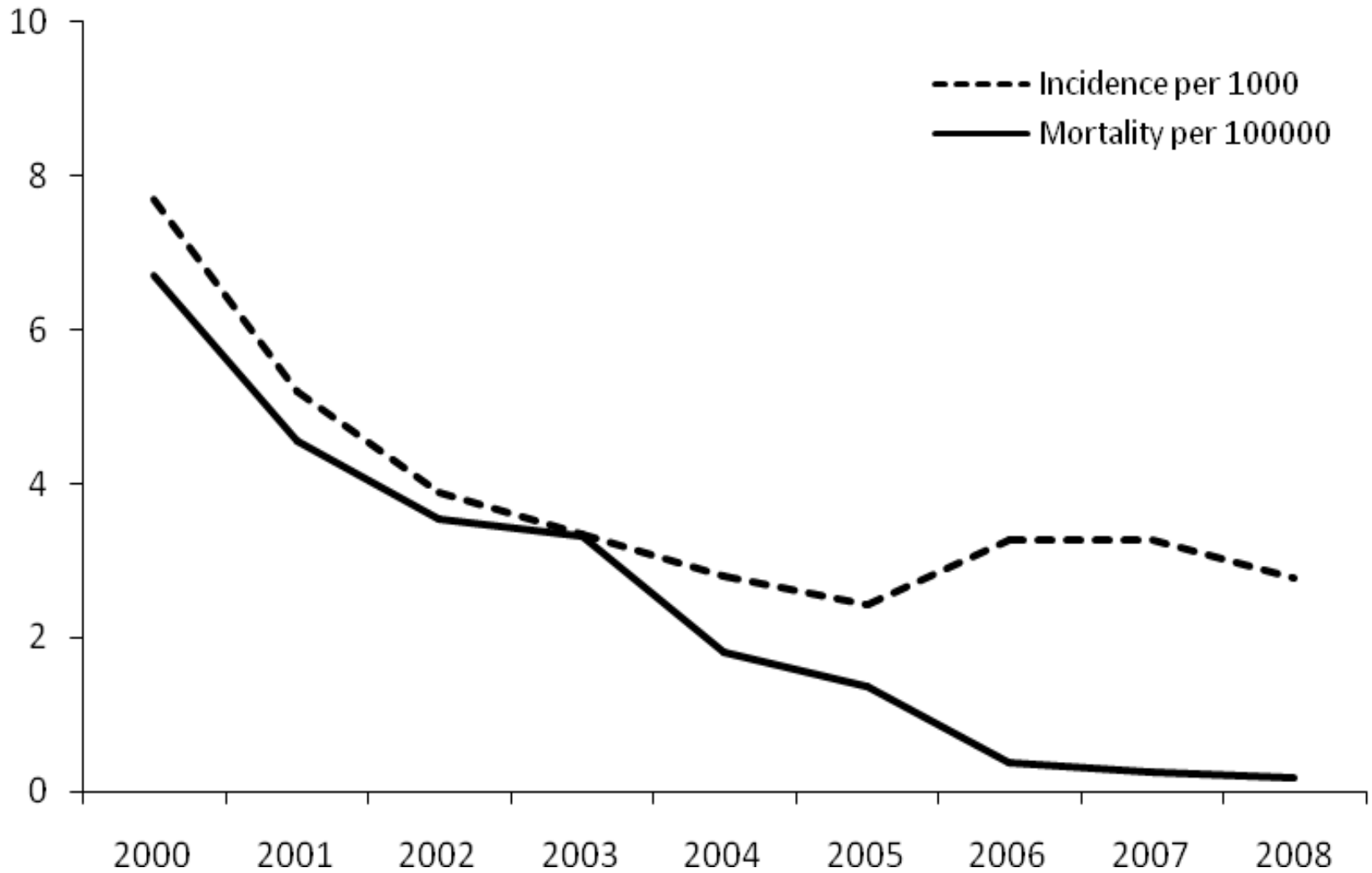
- ★ Early diagnosis and treatment – scale up of diagnosis with Paracheck RDT and treatment with ACT at village level covering approx. 5,000+ villages (total villages in Laos approx. 10,000)
- ★ Personal protection with ITNs and gradual scale up of LLN protecting targeting population at risk of approx. 3.6 million (population of Laos 5.7 million)
- ★ Targeting EMGs (since 2008) in intensive IEC activities
- ★ Enhancing capacity building and programme management



# Progressive scale up of interventions – diagnosis and treatment



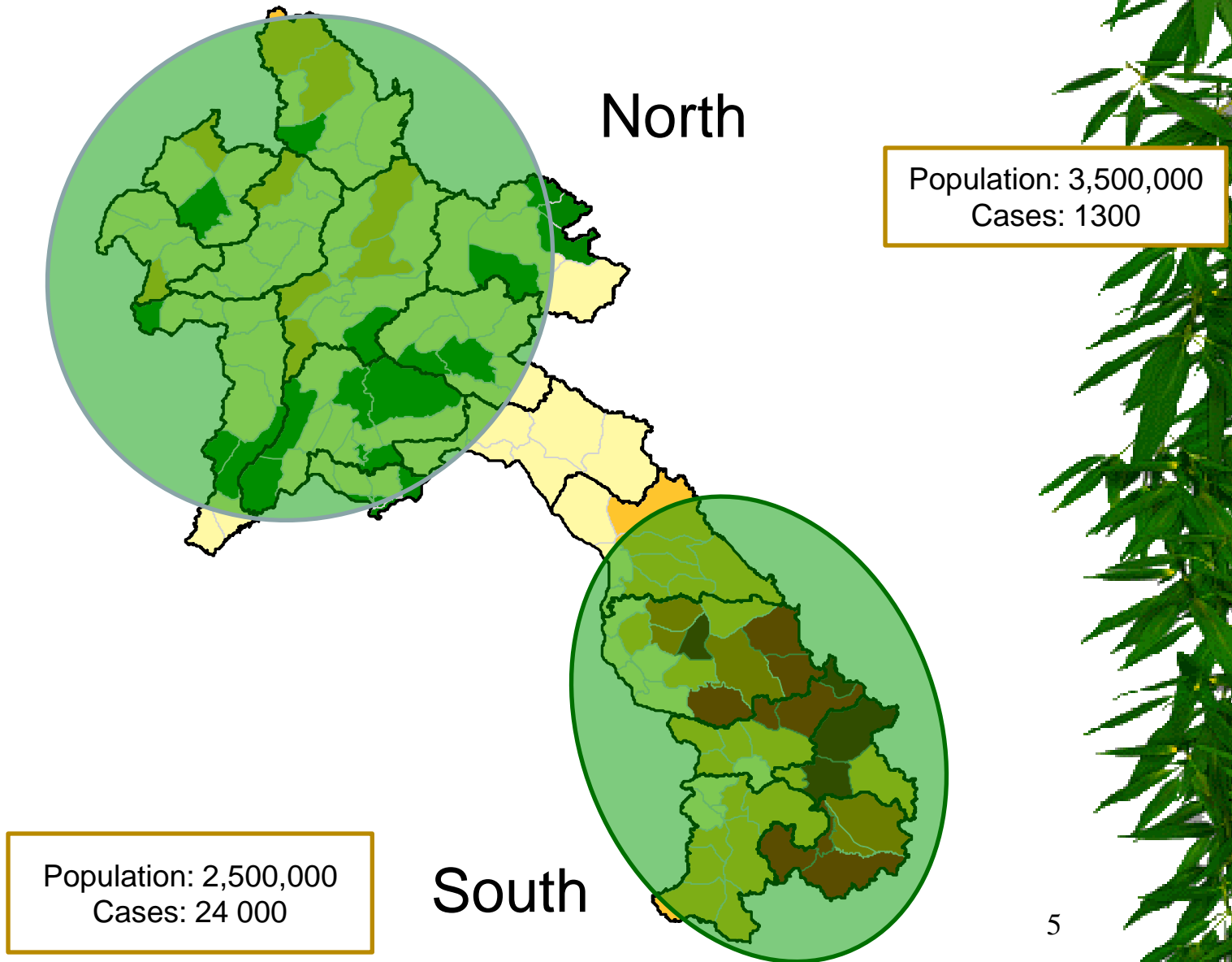
Incidence rate of confirmed malaria and mortality rate of probable and confirmed malaria in the Lao People's Democratic Republic, 2000-2008



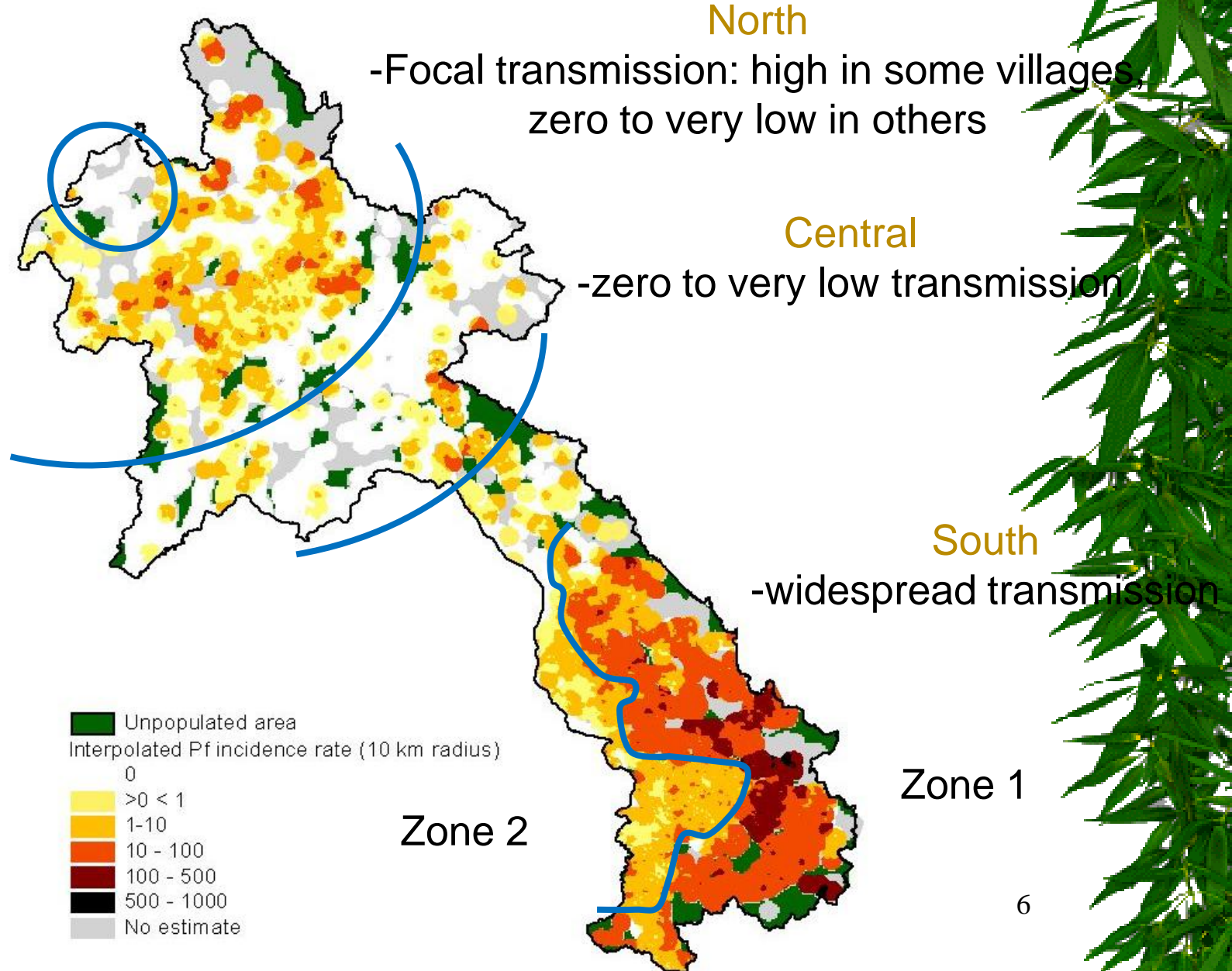
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# Distribution of malaria in Lao PDR



# Identification of epidemiological strata





<b>ACI /1000</b>	<b>Strata</b>	<b>No. of villages</b>
0-0.1	Strata 1	3,861
0.1-10	Strata 2	694
>10	Strata 3	649
Unknown incidence		621
		5,825

# Malaria risk strata - Number of villages, districts and summary populations by province

	Strata 1 villages	Strata 2 villages	Strata 3 villages	Unknown risk	TOTAL villages
VTC	60	2	0	1	63
PSL	220	6	5	159	390
LNT	269	3	0	22	294
ODX	282	30	2	14	328
BK	175	5	1	57	238
LPB	526	80	24	0	630
HP	343	5	1	116	465
XYL	263	8	1	14	286
XK	336	5	1	4	346
VTP	135	11	0	118	264
BLX	238	3	1	5	247
KM	175	38	28	49	290
SVK	288	174	176	28	666
SRV	148	104	147	0	399
SK	75	17	83	31	206
CPS	305	167	71	1	544
ATP	23	36	108	2	169
<i>districts</i>	<i>131</i>	<i>86</i>	<i>57</i>	<i>58</i>	
<i>villages</i>	<i>3,861</i>	<i>694</i>	<i>649</i>	<i>621</i>	<i>5,825</i>
<i>population</i>	<i>1,691,844</i>	<i>239,788</i>	<i>408,161</i>	<i>240,236</i>	<i>2,580,029</i>



# *Where we are now...*

1. NMCP supported mainly by GFATM since 2003

GF R1 (2003-2008): 12 mil USD,

R4 (2005-2010): 14 mil USD,

R7: (2008-2013): 24 mil USD


2. A stratification exercise is completed, population at risk classified into 3 strata with specific interventions.

3. A National Strategic Plan 2011 – 2015 for malaria control and elimination based on GMP principles and WHO WPA Regional Strategic Plan 2010-2015 has recently been developed and endorsed by MoH

4. A Phase 2 continuation of R7 (2010-2013) is planned with NSP elements



# 8 objectives of the NSP 2011-2015

1. Strengthening programme management
  2. Maximize access to effective vector control and personal protection measures.
  3. Improve access to early, effective diagnosis for malaria.
  4. Support routine malaria case management at community level in Stratum 3 villages and in selected private sector health facilities
  5. Strengthen routine Malaria Information System
  6. Maintain malaria epidemic preparedness and response capabilities
  7. Progressively roll out malaria elimination in selected provinces
  8. Maximize utilization of malaria services through IEC/BCC and strengthen community mobilization efforts especially in elimination provinces
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# **Status of resistance against anti-malarial drugs**

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# 1999 - 2007

SS = Sample size  
FU = Follow up days  
TF = Treatment failure (total)  
ACPR = Adequate Clinical & Parasitological Response

**Luangnamtha**

2001-02: Chloroquine  
SS= 36, FU= 14, TF= 30-55%  
SP  
SS=39, FU=14, TF=18%

2003: Artesunate + Mefloquine  
SS= 53, FU= 42, ACPR=100%  
Artemether + Lumefantrine  
SS=47, FU= 42, ACPR: 93%

2005 - 06: Artemether + Lumefantrine  
SS= 42, FU= 28, ACPR= 100%

2007: Artemether Lumefantrine  
SS=18, FU=28, ACPR=94.4%

1999: Chloroquine  
SS= 39, TF:46%, RII/RIII: 33%

2001: Chloroquine  
SS= 65, FU= 14, TF=45-55%

2002: Fansidar  
SS= 33, FU= 14, TF:15%

Chloroquine + Fansidar  
SS= 55, FU= 14, TF= 15-25%

Mefloquine  
SS= 26, Fu= 14, ACPR=100%

2005 : Artesunate + Lumefantrine  
SS= 43, FU = 28, ACPR:100%

2006: Artemether + Lumefantrine  
SS= 23, FU = 28, ACPR = 100%

2007: Artemether+Lumefantrine  
SS=24, FU=28, ACPR=100%

2001-02: Chloroquine  
SS= 78, FU=14-42, TF= 30-55%

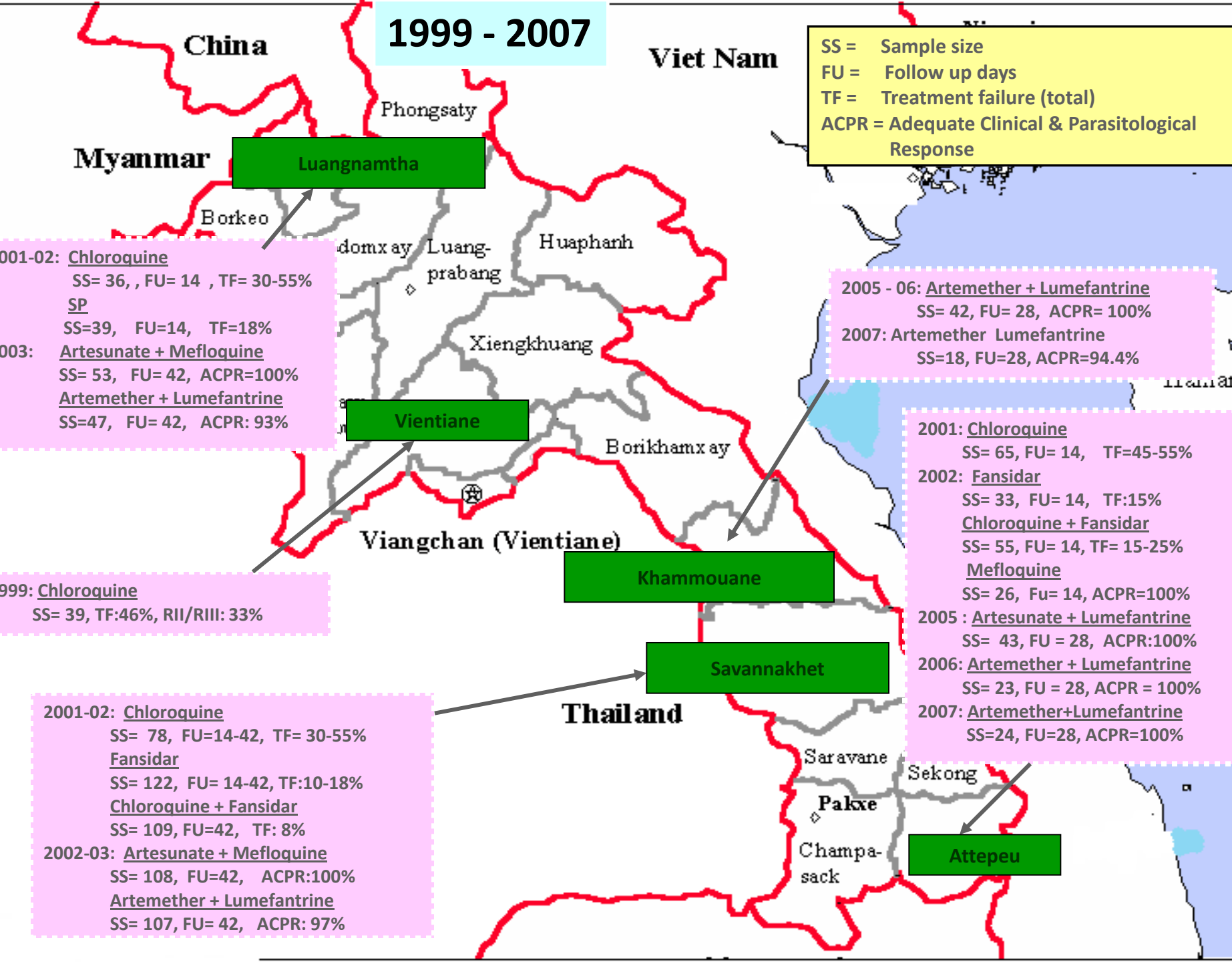
Fansidar  
SS= 122, FU= 14-42, TF:10-18%

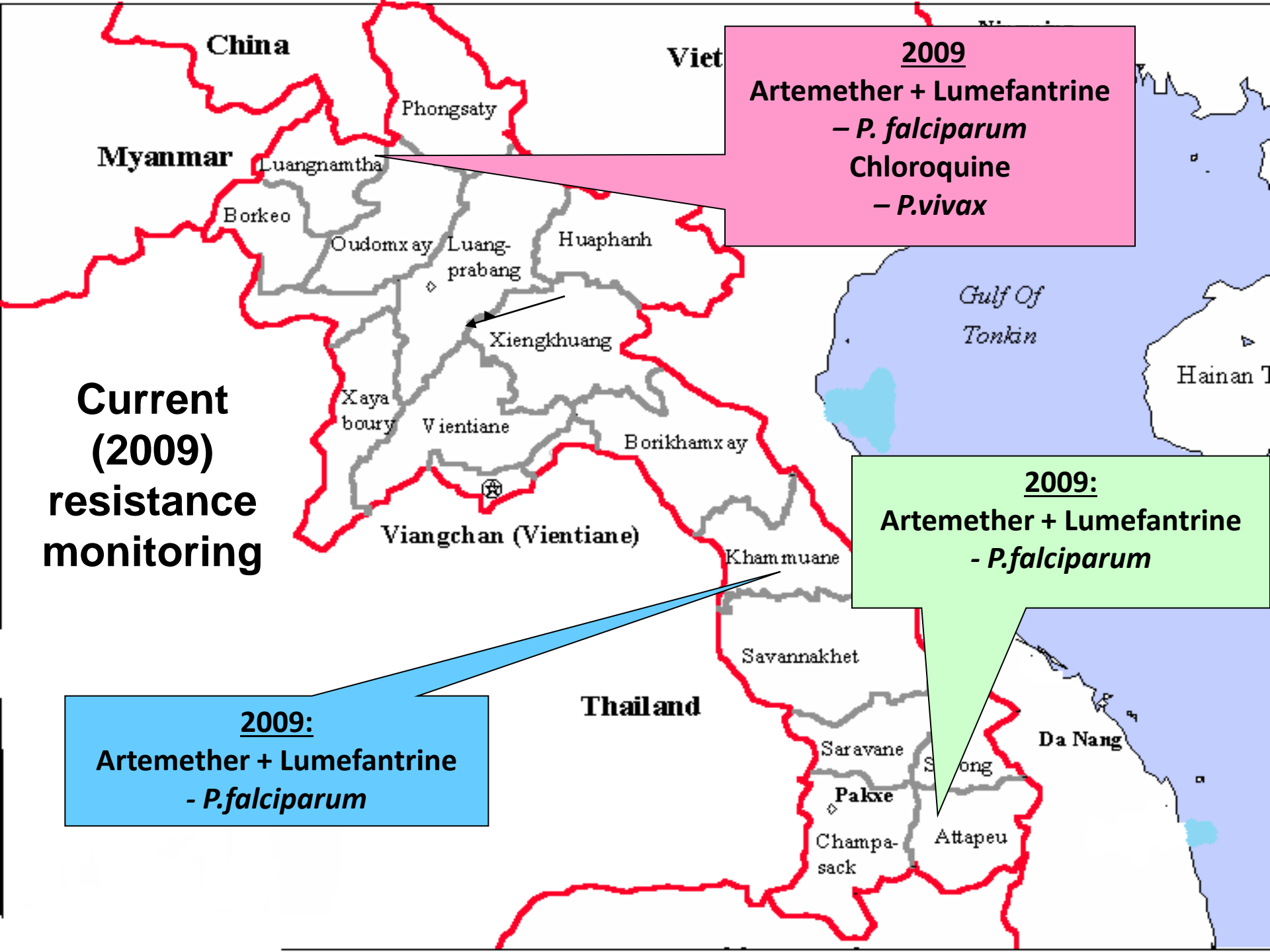
Chloroquine + Fansidar  
SS= 109, FU=42, TF: 8%

2002-03: Artesunate + Mefloquine  
SS= 108, FU=42, ACPR:100%

Artemether + Lumefantrine  
SS= 107, FU= 42, ACPR: 97%

**Attepeu**





**China**

**Viet**

2009

**Artemether + Lumefantrine**  
– *P. falciparum*  
**Chloroquine**  
– *P. vivax*

**Myanmar**

Luangnamtha

Phongsatay

Borkeo

Oudomxay

Luangprabang

Huaphanh

Xiangkhuang

Xayaboury

Vientiane

Borikhamxay

Viangchan (Vientiane)

Khammuane

*Gulf Of  
Tonkin*

Hainan T

**Current  
(2009)  
resistance  
monitoring**

2009:

**Artemether + Lumefantrine**  
– *P. falciparum*

2009:

**Artemether + Lumefantrine**  
– *P. falciparum*

**Thailand**

Savannakhet

Saravane

Pakxe

Champasack

Attapeu

Da Nang

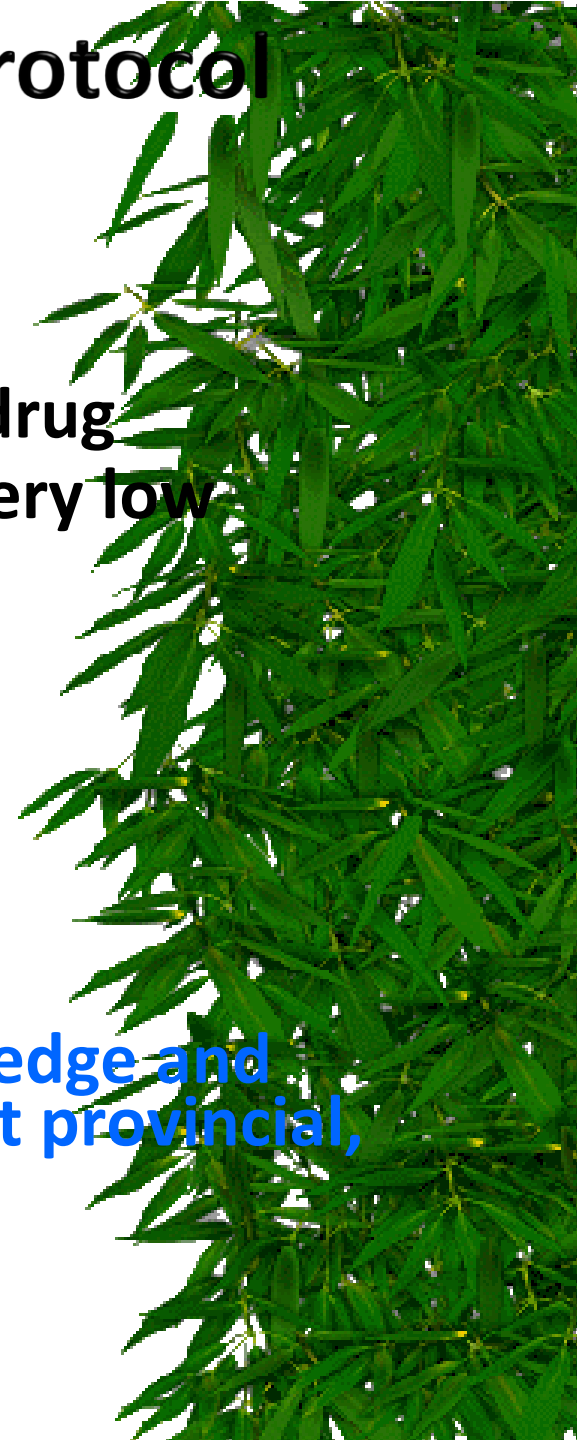
# Current (2009) drug resistance monitoring update

Period: 20th June – 20th Sep 2009


Site	Funding	Parasite	Drug
LNT	WHO/USAID	Pf Pv	A+L CQ
KM	GFATM	Pf	A+L
ATP	GFATM	Pf	A+L

# Challenges lined to TES protocol implementation

- ▣ Children < 1 year difficulty to take a drug
- ▣ Number of malaria case in hospital very low
- ▣ Delayed in implementation
- ▣ Early/late onset of raining season
- ▣ Numbers of sample size not enough:
  - ☞ Parasite density very low
  - ☞ Period of study is short
  - ☞ How to evaluate of the study
  - ☞ **More training to Improve knowledge and experience for in-vivo monitoring at provincial, district and health center staff**



# Lessons learnt

- ▣ Methodology and sample size not appropriate with declining trend of malaria and limited duration of monitoring
  - ▣ Provincial and district staff in KM and ATP sentinel sites show improved knowledge and experience in in-vivo monitoring. **More training and monitoring** needed in LNT site.
  - ▣ Human resources at sites limited and other activities apart from TES also take priority for provincial/district staff and microscopists
  - ▣ Currently too labour intensive for one site (ie, LNT) to perform 'active' case detection to achieve sample size
  - ▣ **Further refresher trainings needed for microscopy**
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# **Status of insecticide resistance**

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- ★ Baselines from MALVECAAsia project 2003 – no insecticide resistance in Laos
- ★ Laos has carried out bioassay test on LLN at IMR, Malaysia 2007
- ★ Regular monitoring of insecticide to be strengthened (TA needed)



# Public Private Mix in malaria diagnosis and treatment

Province	District	private clinics	Private pharm
Louangnamtha	Namtha	3	17
Savannakhet	Phine	3	7
	Phalanxay	0	5
	Sepone	0	7
Champassack	Mounlapamok	0	12
	Paksong	1	21
Attopeu	Saysettha	0	4
	Samakhixay	3	12
Total	8	10	85

# PPM training in EDAT





# PPM in Laos



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# PPM- Future direction

- ★ A 1 year pilot evaluation with TA from WHO showed very favourable results for continuity
- ★ A future scale up to more provinces and districts is currently underway
- ★ Objectives are to both improve access and quality of service provision of confirmed diagnosis and treatment with ACTs
- ★ Target sites are based on consultation with FDA on hot spots of counterfeit/substandard drug prevalence.



# Ethnic Minorities Malaria Control Programme

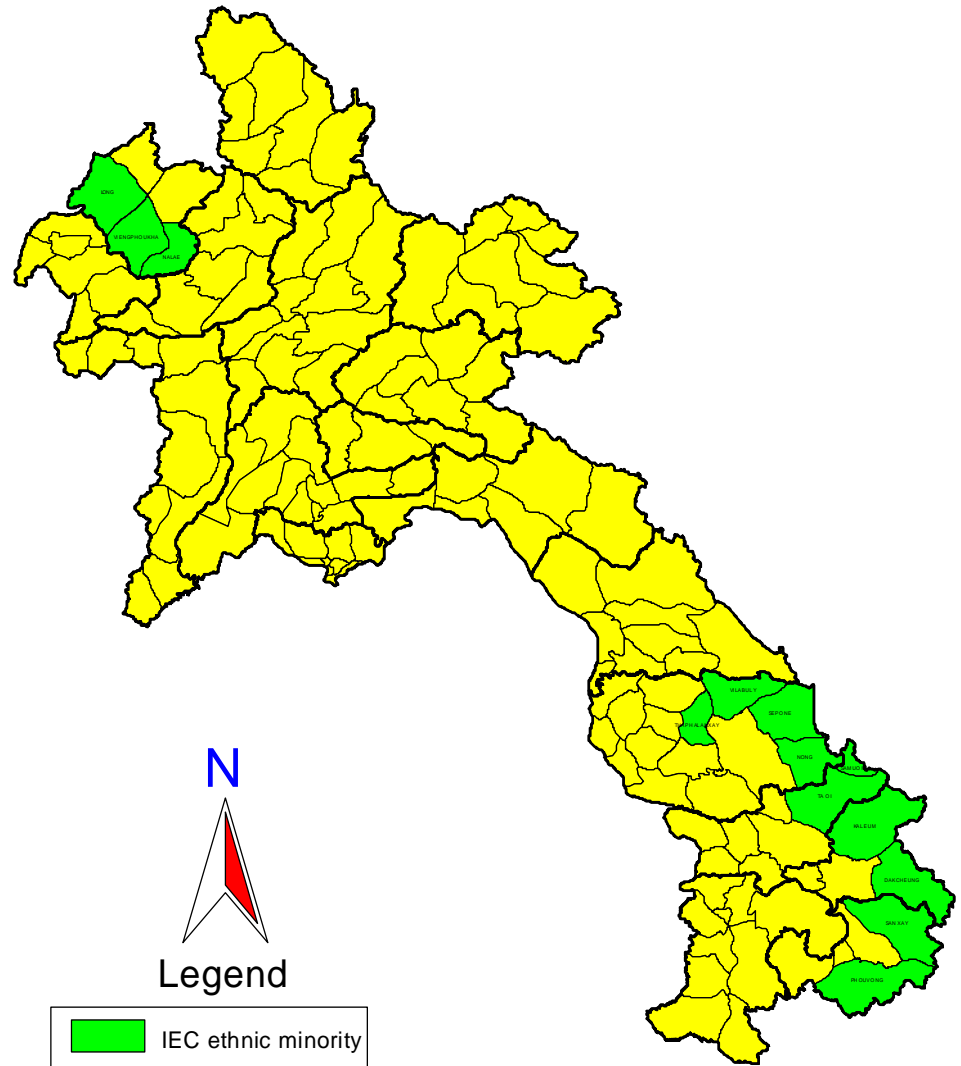


	CMPE	HU	PEDA
Target ethnic groups	Phuthai, Khmu	Phuthai, Khmu, Brau, Talieng, Alak, Yea, Katu, Ngea	Aka, Kui, Phuthai, Ko, Tri, Makong
Project areas	Phin: 25 villages Vilaboury: 30 villages	Taoi: SRV-11 villages Samouai: SRV-11 villages Dakchung: SK-19 villages Kalum: SK-12 villages Phouvong: ATP-5 villages Sanxay: ATP-12 villages	Long: LNT-10 villages Nalae: LNT-10 villages Viengphoukha: LNT-10 villages Nong: SVK-20 villages Sepone: SVK-20 villages
Strategies	Community-based malaria control and prevention	Village-based approach	Peer-education approach



06/13/2007

# IEC ethnic minority project in 5 provinces for Round 7





# IEC campaign using poster





# Using pictorial cards



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# Achievements

- Initiation of PPM in 4 provinces of Laos (3 South and 1 North)
- Re-stratification of Malaria endemic areas with NIMPE, Vietnam and other TA
- Set up sentinel sites for malaria in 3 provinces (central, North and South)
- National bed net survey completed
- Scaling up malaria control for EMG from 1 province to 5.
- Field quality assurance of RDT with Pasteur, Cambodia
- National strategic plan 2011-2015 developed



# Achievements (Cont')

- Set up QA on microscopy at 3 regional sites: North, Central and South
- Combat anti-malarial fake and substandard drug under collaboration with FDD
- Initialize motivation mechanism for VHV in working for malaria.
- Improve MIS and LIS at village, HC level, district and province level.



# Follow up of ACT-Malaria trainees from 2008-09

- ★ MMFO(2009): 2 pax
- ★ PPM(2008): 3 pax
- ★ Insect. Resist.  
monitoring(2009): 2 pax
- ★ Operational Res.: 1 pax
- ★ QA microscopy: 12 pax/6 exper







**KHOP CHAY  
THANK YOU**