

# General Overview of The National Malaria Control Program in Timor Leste

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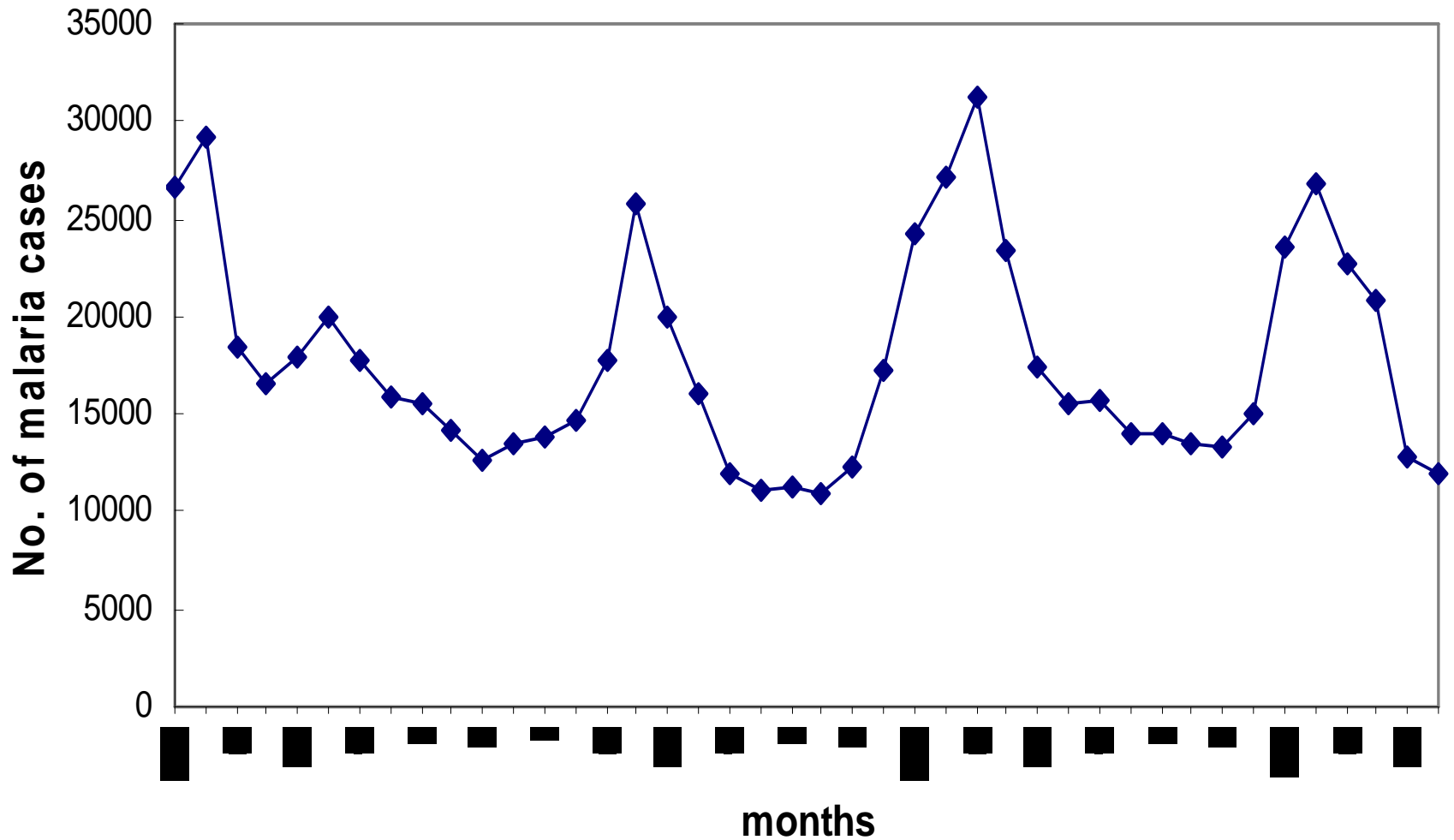
# Malaria situation in Timor Leste

- Malaria is the leading cause of morbidity and mortality in Timor Leste
- Total Population : 1, 017,187 (80% of pop. Living in Malarious areas)
- > 100, 000 clinical malaria cases/year
- 200 deaths/year
- 20-40% of all outpatients & 30% of all hospital admissions present for malaria symptoms

## No. of clinically diagnosed and microscopically confirmed malaria cases and deaths due to malaria

Year	Clinically diagnosed cases	Laboratory confirmed	<i>P. falciparum</i> Cases (%)	<i>P. vivax</i>	Total	deaths
2000	108,609	15,212	4,663 (30%)	10549	123,821	134
2001	83,049	NA	NA	NA	83,049	NA
2002	93,693	26,651	14,124 (52%)	12,527	120,344	NA
2003	39,328 <sup>#</sup>	33,411	18,019 (54%)	15,392	72,739	NA
2004	203,793	39,164	23,006 (58%)	16,158	243,695	61
2005	138,206	40,409	25,810 (64%)	14,599	180,560	50
2006	184,650	38,269	25,348 (66%)	12,921	222,919	58
2007	167,280	46,832	34141 (73%)	125420	214,112	44

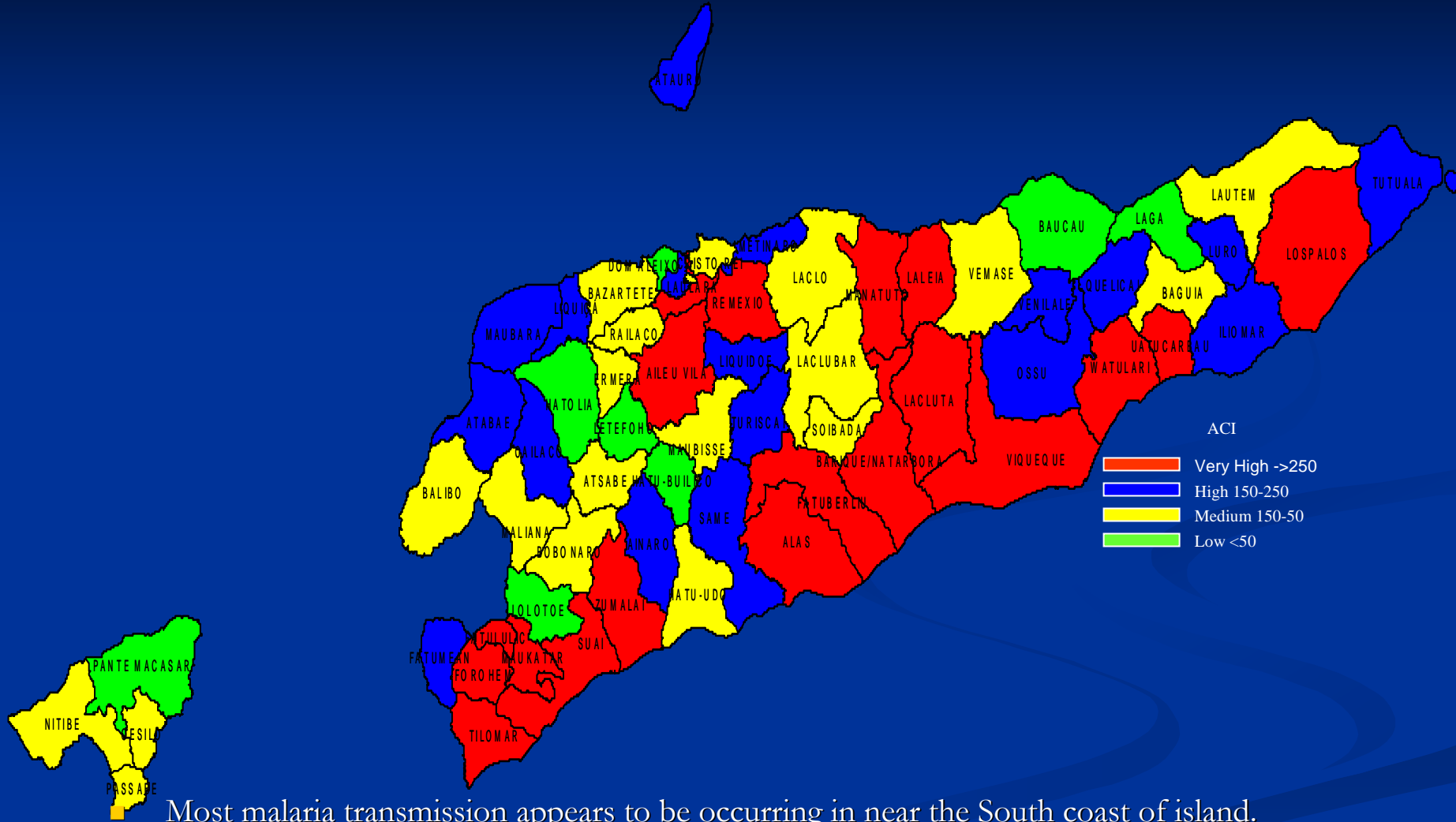
# No. of malaria cases reported from 2004 to May 2007



# No of malaria cases according to districts 2006

Districts	Total Populasi	Clinical Cases	Conformed Cases	Total Malaria cases	Morbidity rate (per 1000 Pp*)
Aileu	39840	17170	3024	20194	507
Ainaro	57919	4812	268	5080	88
Baucau	112937	11089	125	11214	99
Bobonaro	88976	6859	678	7537	85
Covalima	60416	20939	8986	29925	495
Dili	181199	18283	10735	29018	160
Ermera	111423	11143	1583	12726	114
Lautem	62049	24652	4541	29193	470
Liquica	59463	8480	826	9306	157
Manatuto	41666	7222	1896	9118	219
Manufahe	47774	8511	97	8608	180
Oecuse	63203	5799	1328	7127	113
Viqueque	71749	39691	4182	43873	611
Total	998,613	184,650	38269	222919	223

Map.1 Micro-Stratification of Malaria Incidence (1000 population) Based on Data 2005



■ Twenty nine out of 65 sub-districts account for 59% of the total malaria cases in the country.

# National strategy for malaria control

- Clinical management providing effective and prompt treatment
- Distribution of insecticide treated bed nets to high risk group
- Integrated vector control
- Epidemic preparedness and response

# Clinical management providing effective and prompt treatment

- New treatment protocol has been adopted → introducing ACT to treat *pf* cases.
- Use of RDT for Malaria at HFs without Microscope



# Treatment Protocol

- *P. vivax* - chloroquine + premaquine
- *P. falciparum* or mix *P. falcipharum*
  - 1<sup>st</sup> line – ACT (Arthemether/lumefantrine)
  - 2<sup>nd</sup> line- Quinine combination of quinine/doxycyclene or clindamycin
- PW 1<sup>st</sup> Trimester (*Pf case*): quinine + clindamycine

# Distribution of LL-ITN to high risk group

- Mainly used vector control method in the country
- Total number of LL – ITN distributed :
  - Mass distribution to CU5 : 118, 707
  - PW : 15,669 Distributed through ANC visit
  - Other target : 49,600 (targeting 80% of population at high endemic areas)
- Ministry of health distribute free of charge with substantial help from NGOs

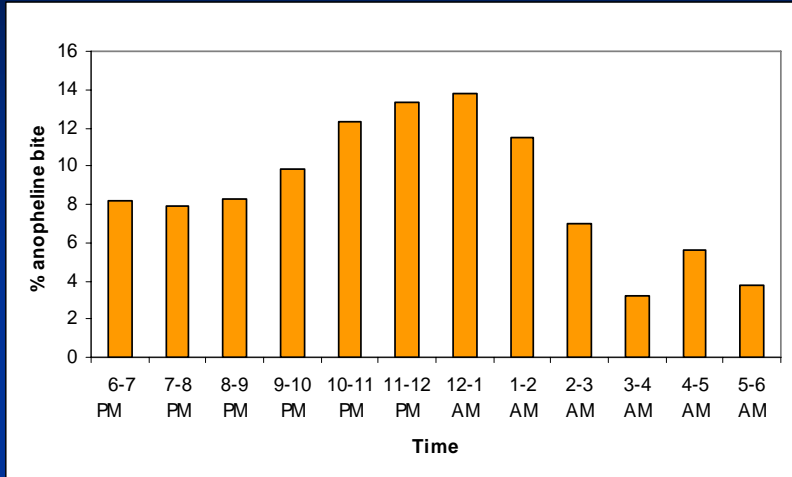
# Integrated vector control → Commenced with entomological Surveillance

- Existing challenges for malaria control program
- Commenced with support from WHO
- Entomological laboratory established
- Number of preliminary surveys carried out in malaria high risk areas
- To to develop evidence based appropriate vector control strategy

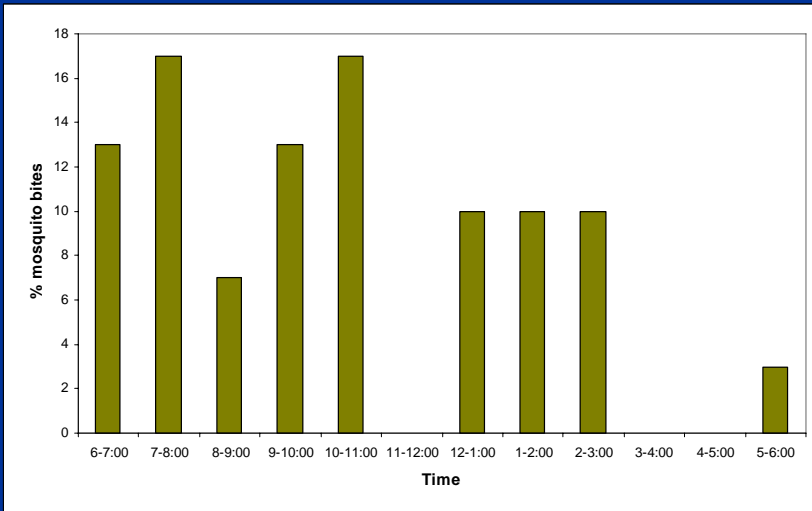
# Vectors and behavior

- 10 anopheline species found in Timor Leste
- **Vectors**
  1. *An. subpictus*
  2. *An. barbirostris*
- **Biting and Resting behavior**
  - Mainly rest indoors on walls, roof and under furniture
  - Mainly bite indoors
  - Prefer human blood

# Biting pattern



*An. barbirostris*



*An subpictus*

- *An. barbirostris*-  
6PM-3 AM & another small peak from 4-5 AM
- *An. subpictus*-  
6 -10 PM & Another peak- 12-3 AM
- Biting time of the vectors does not always correlate with the hours that persons at risk would utilize bed nets.
- Therefore nets are probably not be the most effective or only prevention method required to reduce man-vector contact .

# Epidemic preparedness and response

Build evidence-based district policies to cope with unnatural variation in malaria transmission that could generate focal epidemics and mitigate as far as possible impact related to outbreaks

# Major constrains of malaria control programme

- Shortage of officers at National and District level for effective implementation of programme
- Delayed implementation of vector control programmes (IRS) due to lack of entomological information
- Poor microscopic diagnosis of malaria parasites and shortage of analysts/microscopists

- Increased transmission due to very limited coverage of Insecticide Treated Long Lasting Nets (LLINs) in high risk malaria areas and low utility rate of distributed LLINs nets
- Limited or no access to Health institutions with laboratory facilities.
- Emergence of Sulfadoxine-pyremethamine resistance to *P. falciparum* cases
- Community knowledge, attitude and practice regarding malaria prevention and treatment is relatively low. (KAP Survey 2005)



**Thank you**