

MALARIA SITUATION IN CAMBODIA, 2003

**National Malaria Center for Parasitology,
Entomology & Malaria Control**

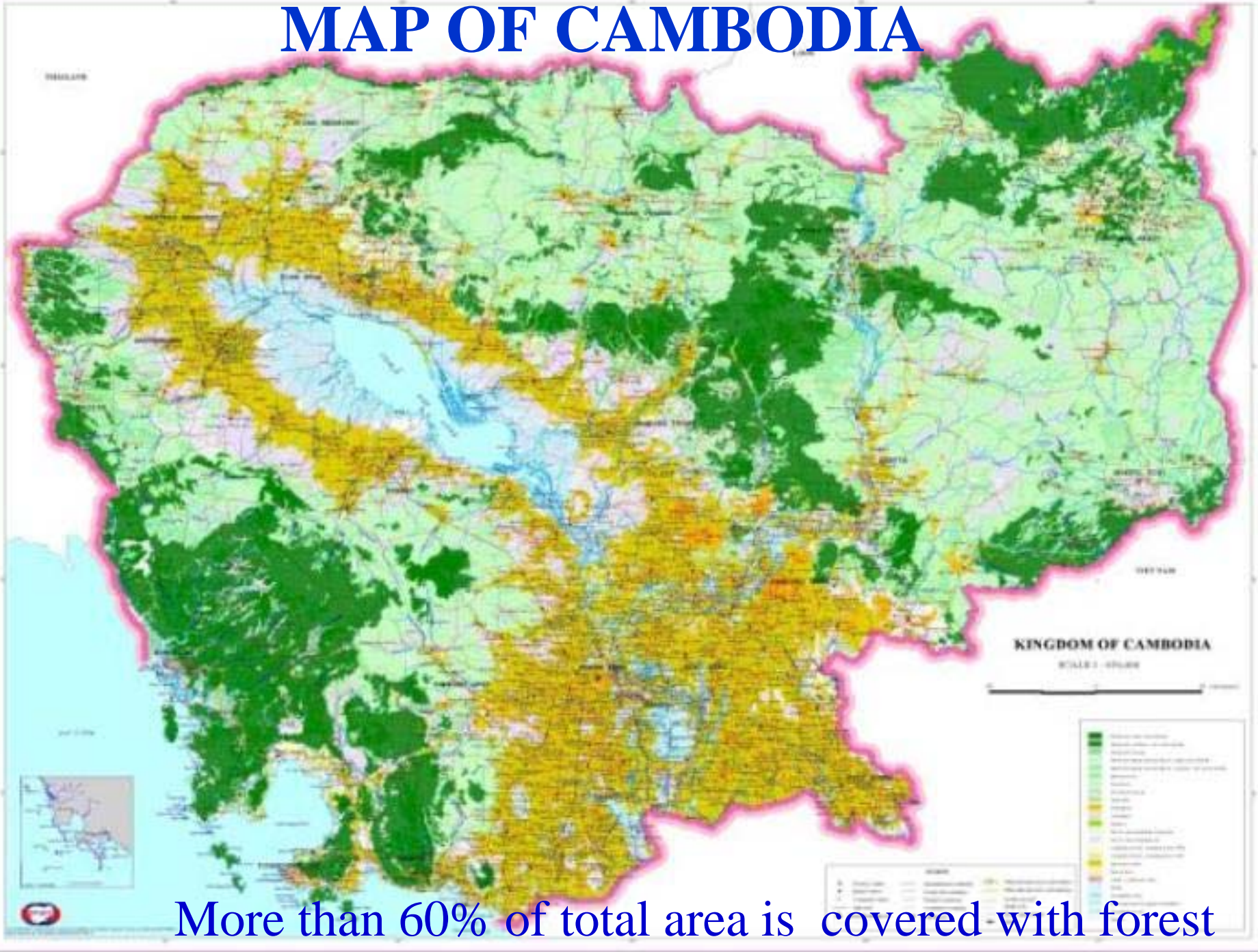
OUTLINE

- ❑ Magnitude of malaria
- ❑ Trends in disease incidence and mortality
- ❑ Factors contributing to Malaria deaths
- ❑ Cambodian malaria control strategy
- ❑ Village Malaria Workers (VMW) Project
- ❑ Summary

Magnitude of Malaria in Cambodia

- Malaria continues to be a major public health problem in Cambodia.
- One of the main obstacles to the country's development and also poses a heavy toll for communities.
- An estimated 1.6 million people of total population are at risk of malaria and about half a million of these live in the high transmission forest areas.

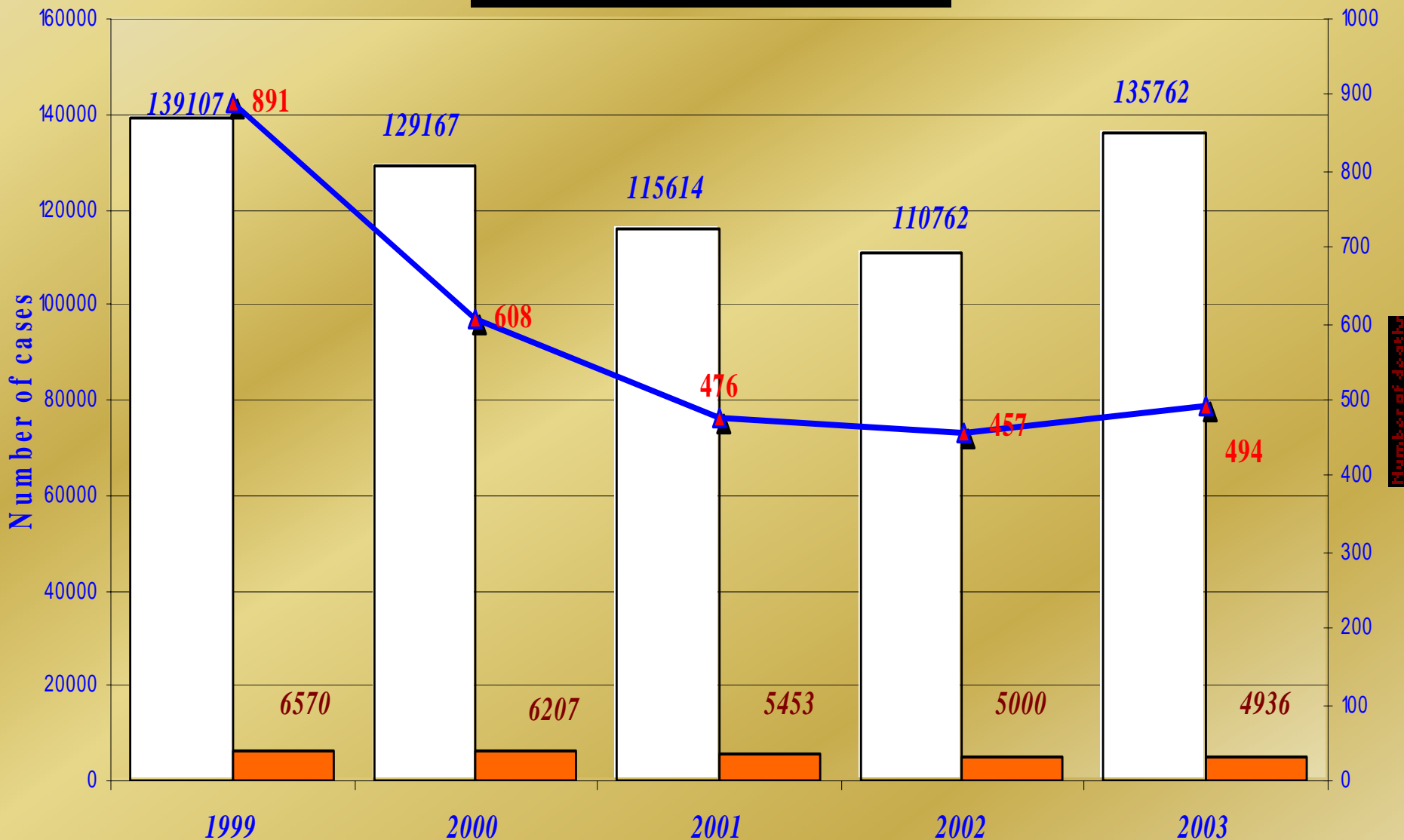
MAP OF CAMBODIA



More than 60% of total area is covered with forest

Trends in Disease Incidence and Mortality

Number of total Malaria cases, Severe cases and Deaths during 1997-2003 in Cambodia

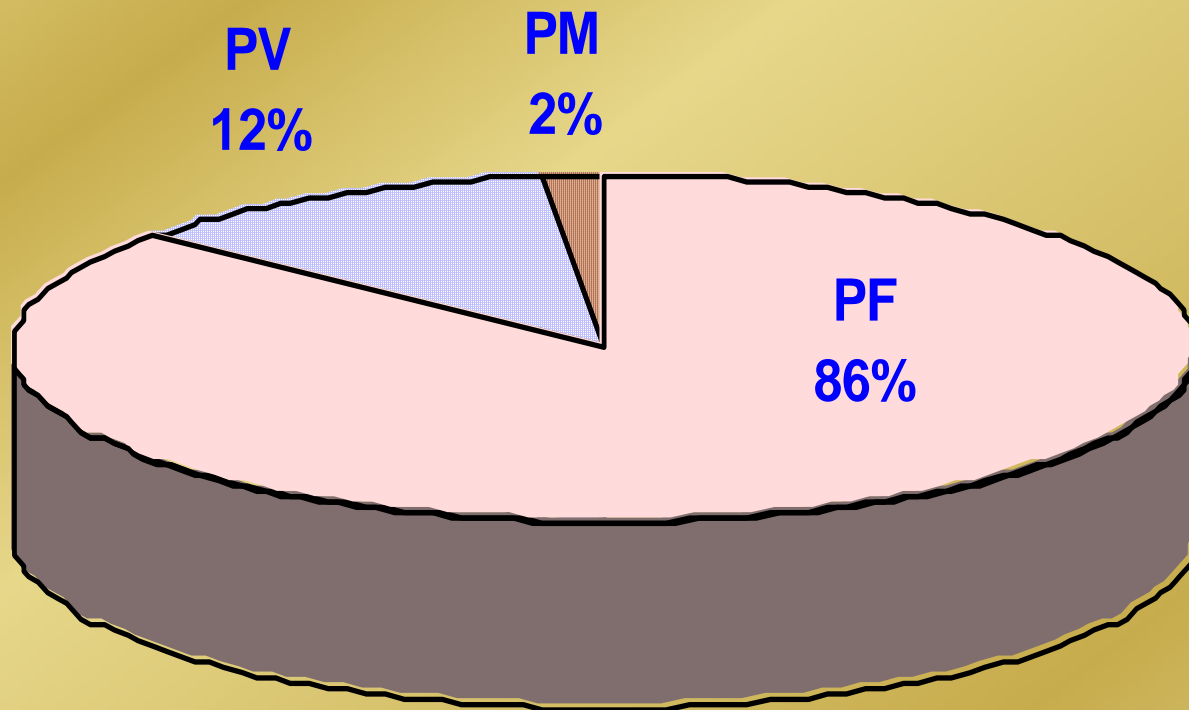


□ Total cases

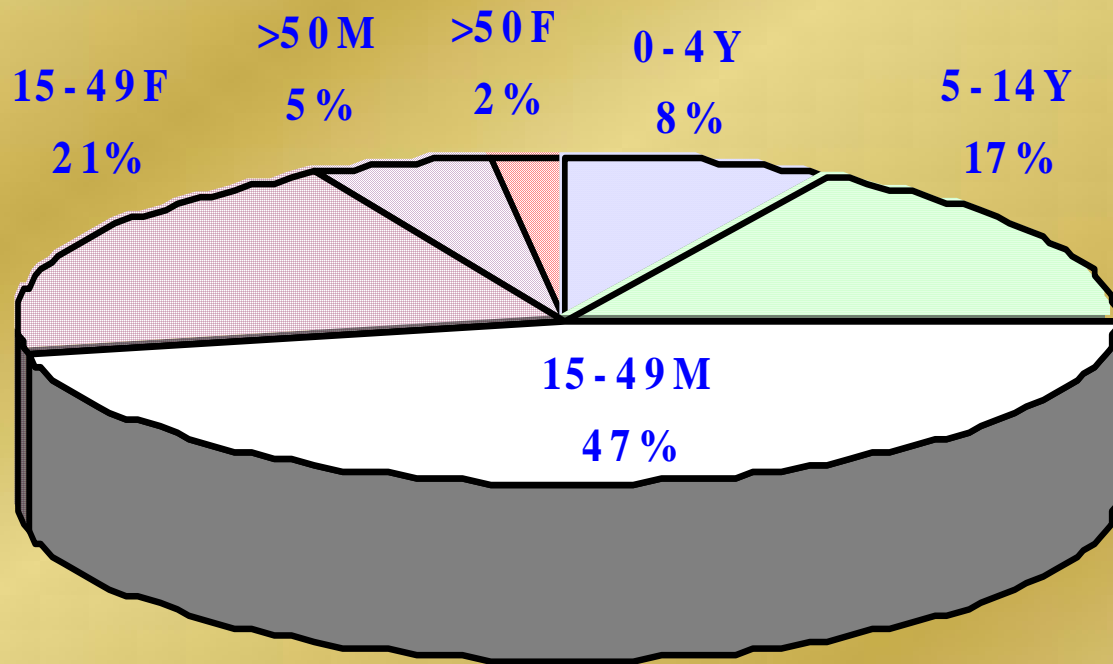
■ Severe cases

—▲— Deaths

**Malaria species confirmed by microscope in Cambodia
2003 (Total number examined: 42227)**

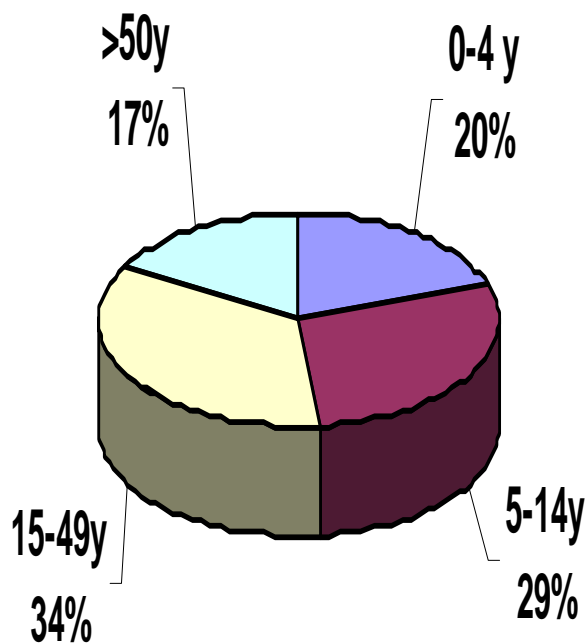


**Malaria confirmed cases (microscope & dipstick)
by age group in 2003, Cambodia (Total 74449)**

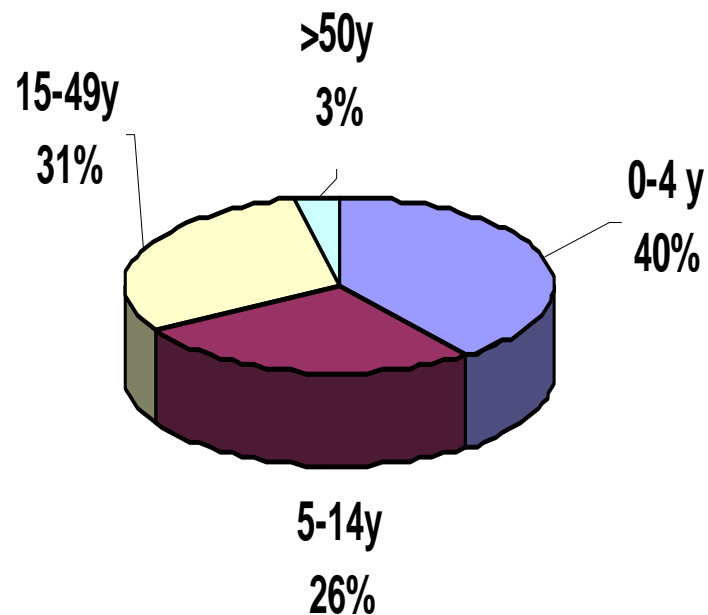


Comparison of age distribution of treated malaria cases (Ref: HIS and Village Malaria Worker's data 2003 from Rattanakiri province)

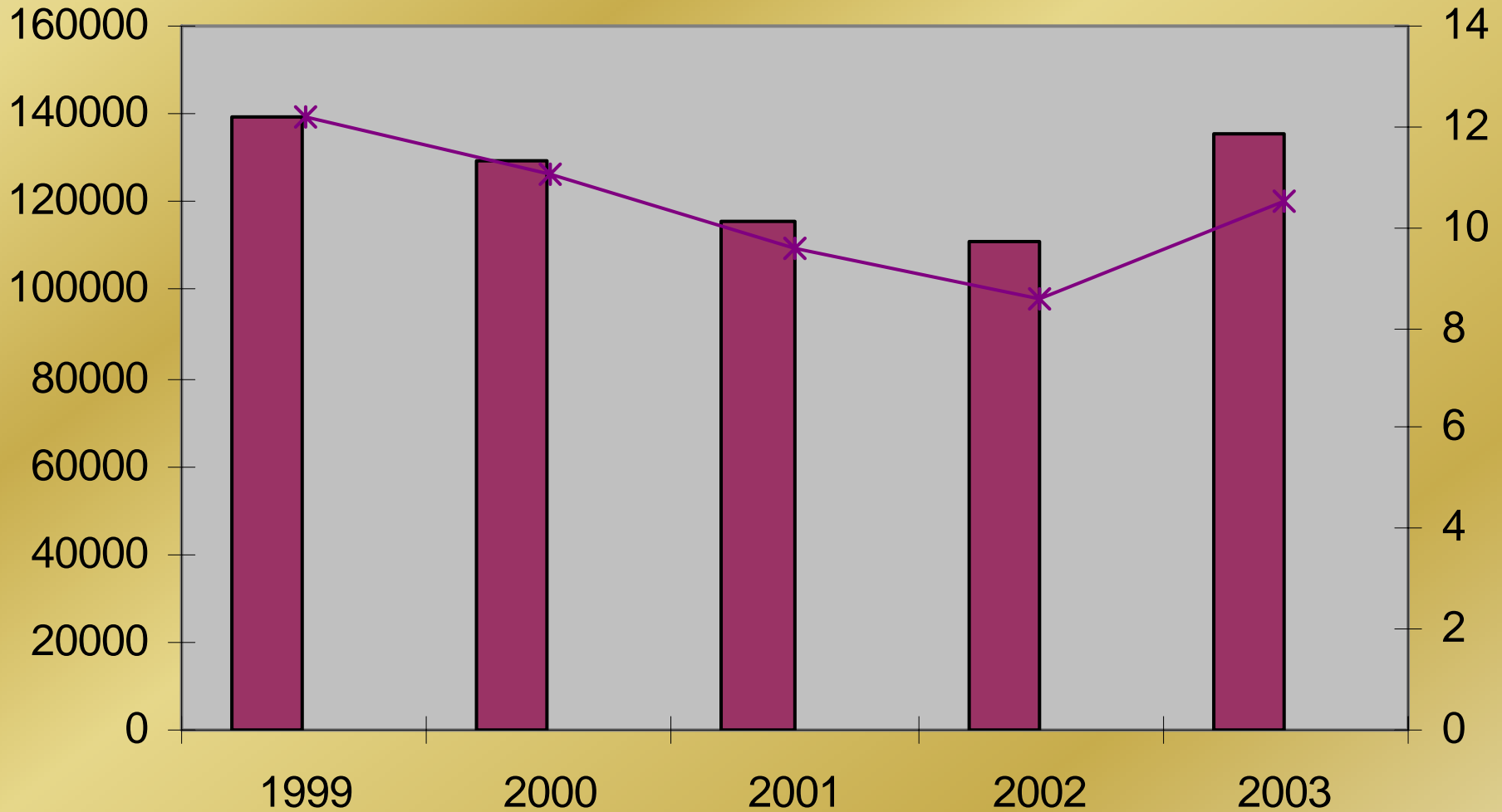
Rattanakiri HIS data 2003 (Total 6626)



VMW project's 2003 (Total 3027)

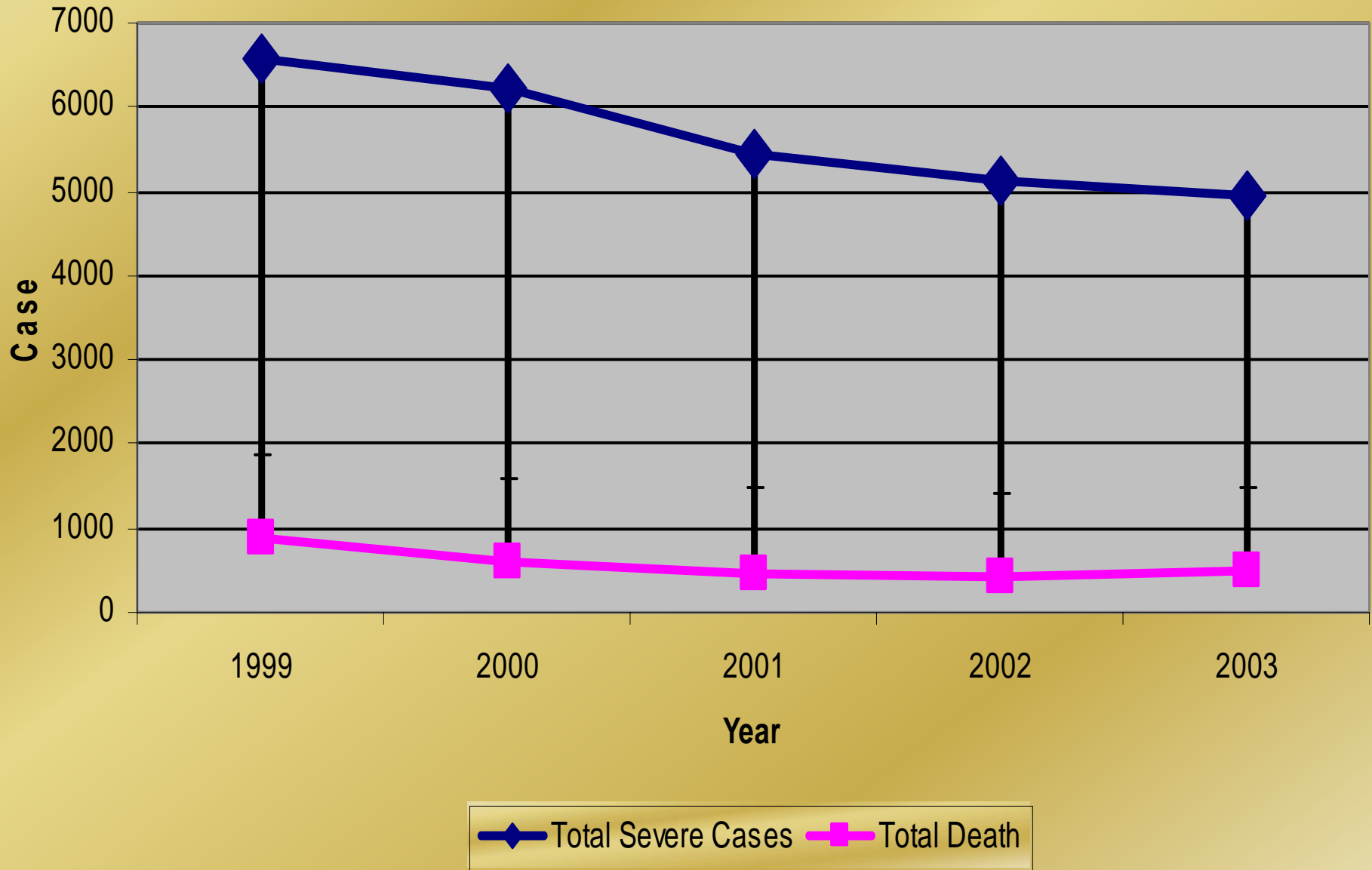


Total Treated cases and the Incidence rate of treated Cases from 1999-2003, Cambodia

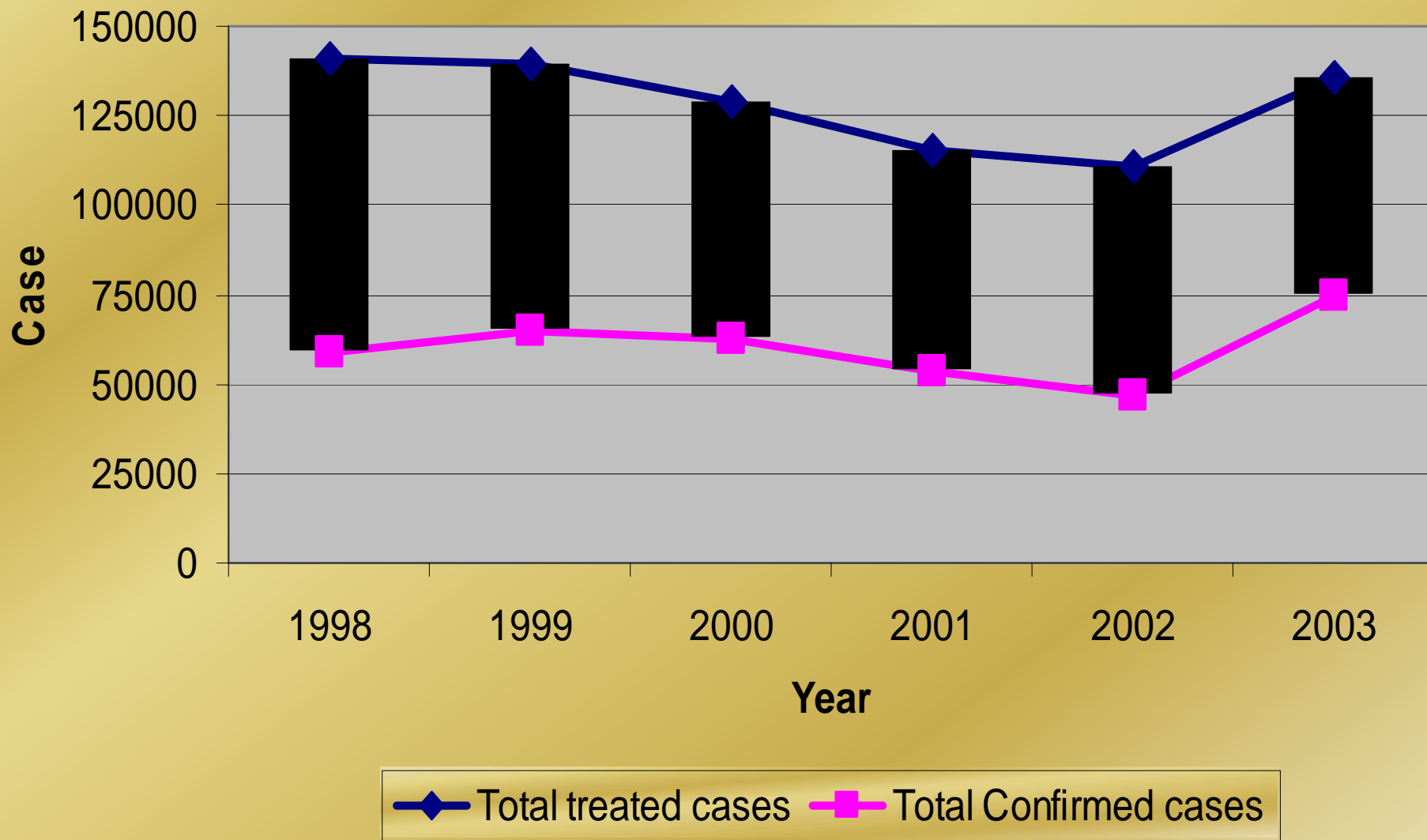


■ Total treated cases *— Incidence Rate/1000

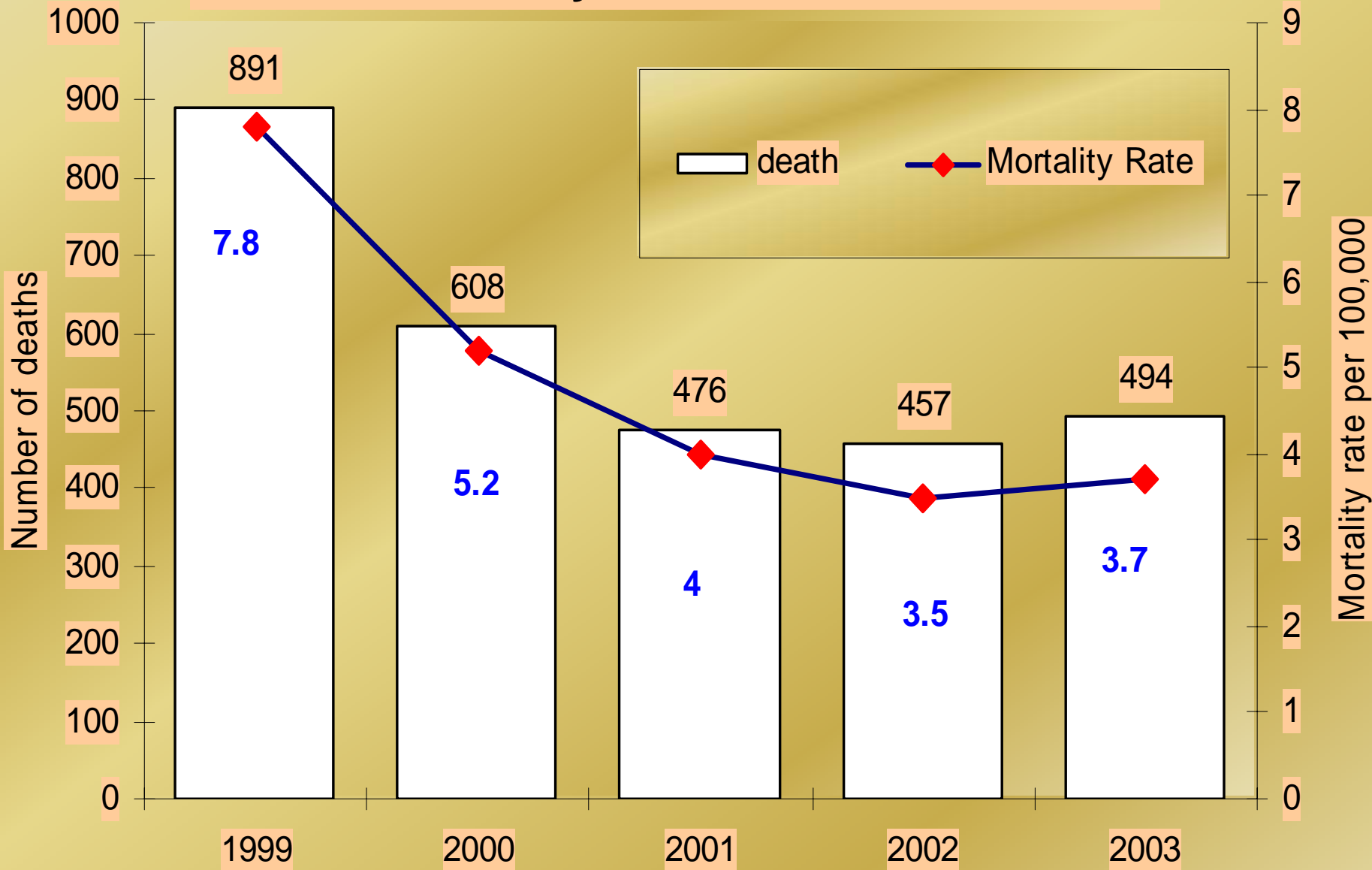
Malaria severe case and death from 1999-2003, Cambodia



Malaria treated case and confirmed case from 1998-2003, Cambodia



Malaria Mortality in Cambodia 1999-2003



Factors contributing to Malaria deaths

- ❑ Predominance of the falciparum variety of malaria
- ❑ Poor health infrastructure especially in the high transmission areas
- ❑ Poor communication systems- poor road conditions, lack of suitable vehicles, lack of telephone facilities, etc.resulting in treatment delays
- ❑ Occupational hazard among the military personnel, forest workers, miners, etc.
- ❑ Remoteness & inaccessibility of affected areas
- ❑ Continuing shortages of diagnostic kits and appropriate drugs
- ❑ Large number of unqualified private practitioners and pharmacies who still do not follow national treatment guidelines
- ❑ Abundance of fake drugs available in the market
- ❑ Drug resistance in different pockets of the country

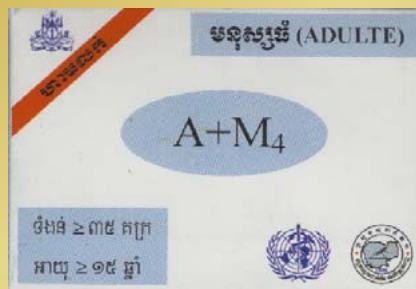
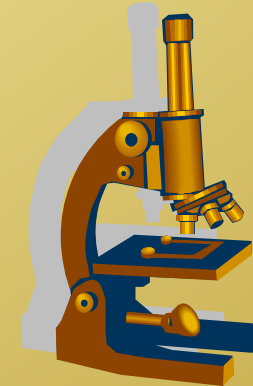
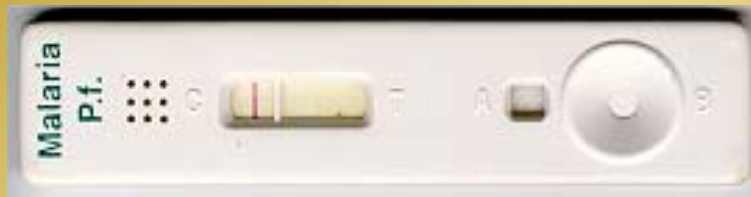
Difficult road communications



Cambodian malaria control strategy

A public/private mixed delivery system

Public sector



Private sector



លើសពី 13 ឆ្នាំ
9,000 ៖

Malarine®

3 DAY MALARIA TREATMENT

Malarine® 3 DAY MALARIA TREATMENT

Composition: Artesunate and Mefloquine
Dosage: select correct pack according to age (see innerleaf for age-weight table), swallow pills with liquid, take one dose daily as indicated and complete entire pack in 3 days.

សូមជ្រើសរើសប្រភេទបញ្ចុះតាមអាយុកម្រិត និង ទម្ងន់ ដោយយោងតាមតារាងត្រឹមត្រូវ។ បញ្ចុះត្រូវប្រើប្រាស់តាមការណែនាំ និង បញ្ចប់ការប្រើប្រាស់ទាំងស្រុងក្នុងរយៈពេល ៣ ថ្ងៃ។

Lot. No: _____
 Mfg. Date: _____
 To be used before: _____

អាយុកម្រិត	ស្រី ១ ឆ្នាំ	១ ឆ្នាំ ៥ ឆ្នាំ	៥ ឆ្នាំ ១៣ ឆ្នាំ	លើសពី ១៣ ឆ្នាំ
បញ្ចុះ	1	2	3	4
កញ្ចប់	1	2	3	4

Malarine®

3 DAY MALARIA TREATMENT

ជាថ្នាំមួយសុទ្ធជា និងមានប្រសិទ្ធភាពខ្ពស់
សម្រាប់ព្យាបាលជំងឺគ្រុនចាញ់

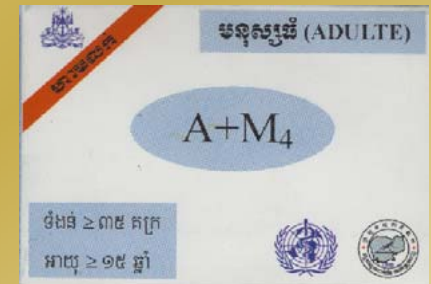
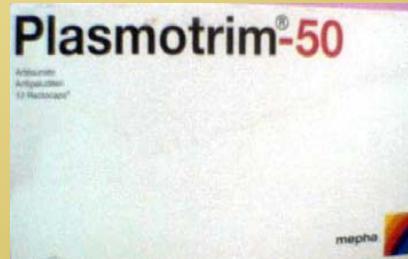
ត្រូវពិនិត្យរោគសញ្ញាជំងឺគ្រុនចាញ់
ដើម្បីបញ្ជាក់ថាជំងឺគ្រុនចាញ់
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តារាងត្រឹមត្រូវ

អាយុកម្រិត	ស្រី ១ ឆ្នាំ	១ ឆ្នាំ ៥ ឆ្នាំ	៥ ឆ្នាំ ១៣ ឆ្នាំ	លើសពី ១៣ ឆ្នាំ
បញ្ចុះ	1	2	3	4
កញ្ចប់	1	2	3	4

១ ២ ៣
 ថ្នាំ Malarine គ្រប់ប្រភេទ គ្រប់ទម្ងន់ គ្រប់អាយុកម្រិត គ្រប់ភេទ គ្រប់ព្រះរាជាណាចក្រកម្ពុជា
 ថ្នាំ Malarine គ្រប់ប្រភេទ គ្រប់ទម្ងន់ គ្រប់អាយុកម្រិត គ្រប់ភេទ គ្រប់ព្រះរាជាណាចក្រកម្ពុជា

VMW approach



Village Malaria Workers (VMW) Project

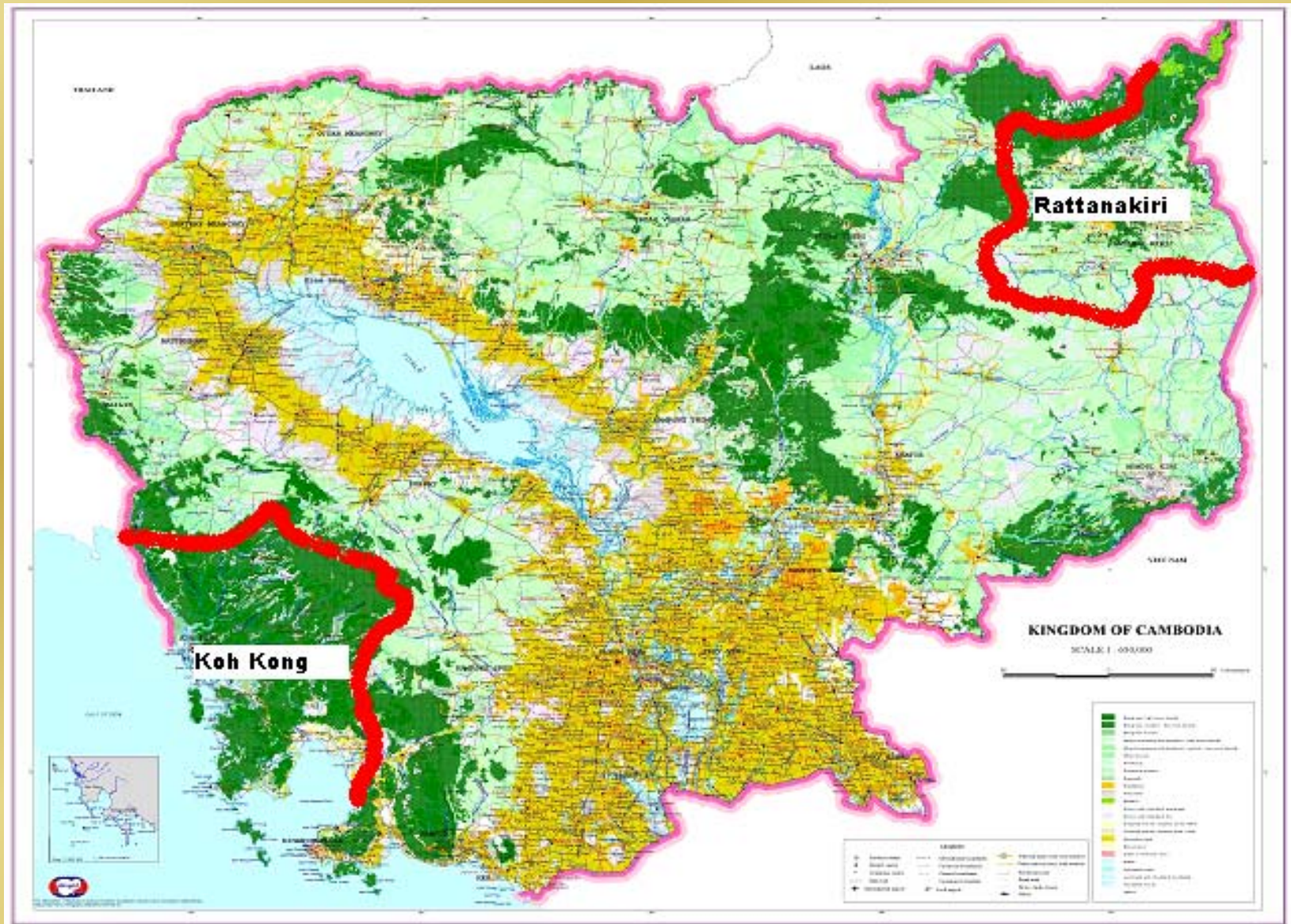


Background of Village Based Malaria EDAT initiative

- Although malaria affects people living in 60 % of total area of Cambodia, yet because of low density of population, proportionally less health facilities have been established in these areas and thus not meeting their actual malaria care needs.
- People living in remote areas which are beyond the reach of outreach services unable to access malaria diagnosis & treatment services at public and/ or private facilities.
- In local transmission areas, children are the easy victims of malaria and thus the morbidity and mortality are very high especially among this group.



Pilot Projects in RTK & K. Kong provinces



EDAT by VMWs in hyperendemic villages



A baby with falciparum malaria in Yaem village waits to see the Village malaria worker (VMW.)

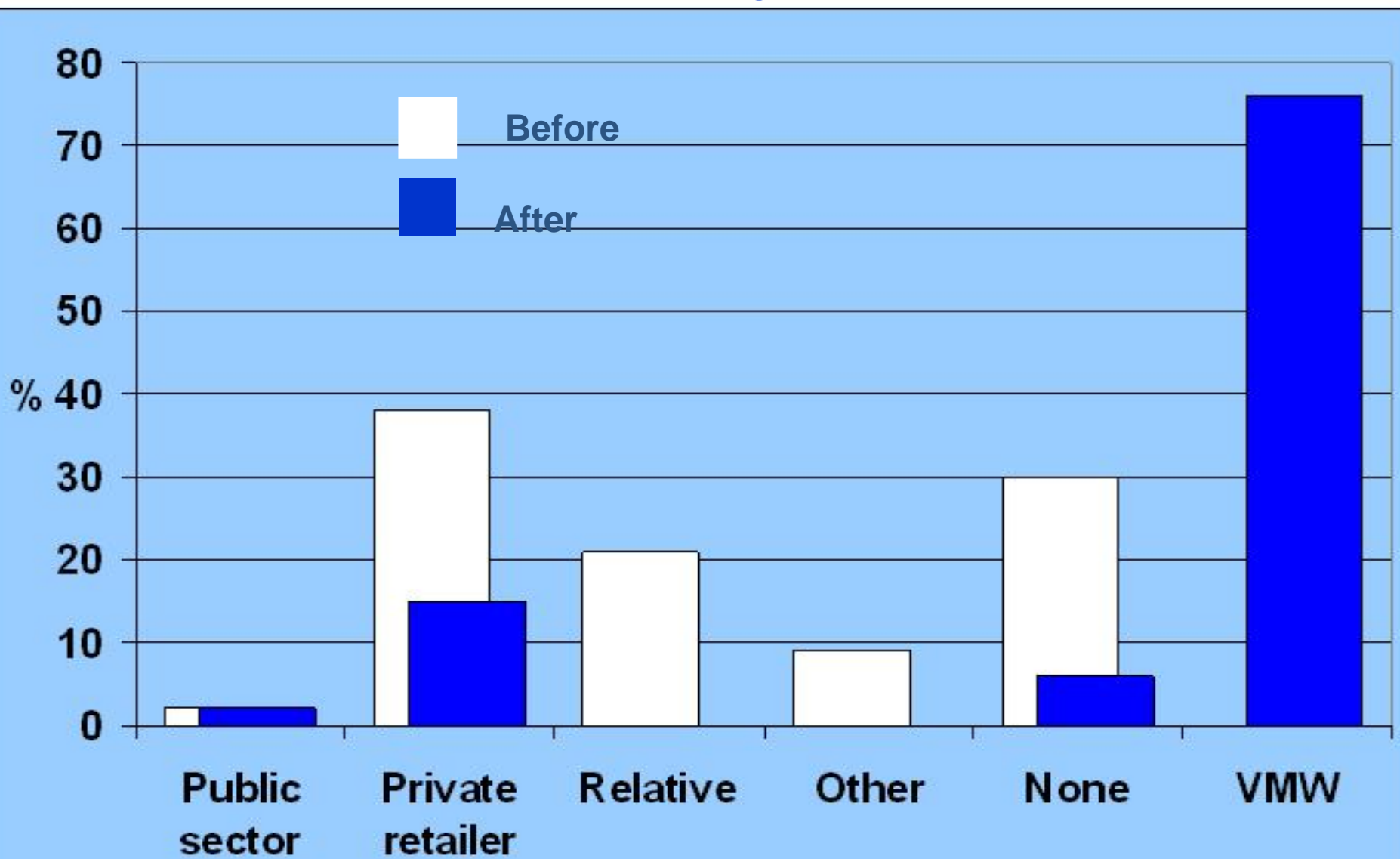
VMW confirms *PF* by dipstick test



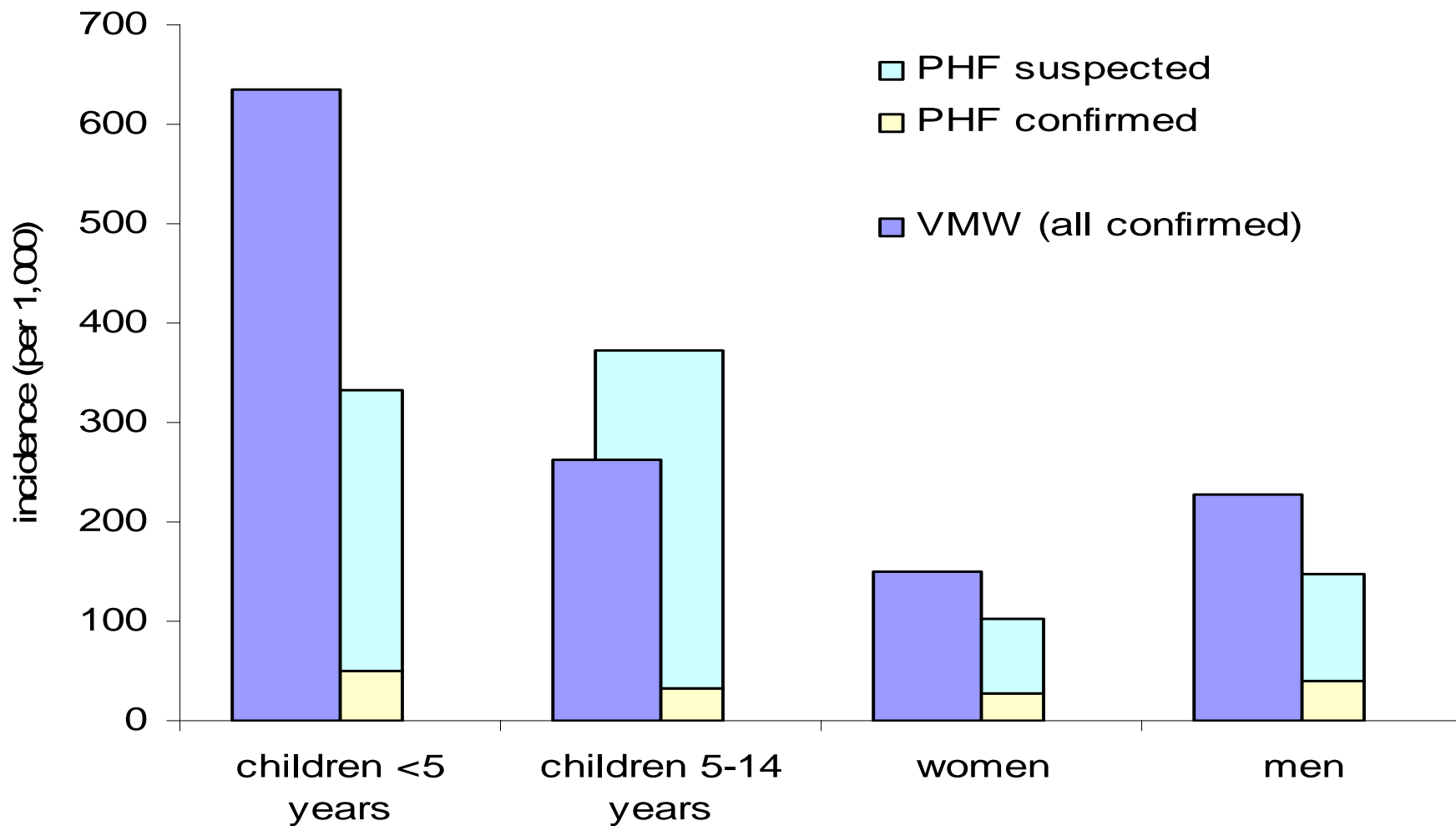
Treatment



Changes in treatment seeking behavior following the introduction of village malaria workers

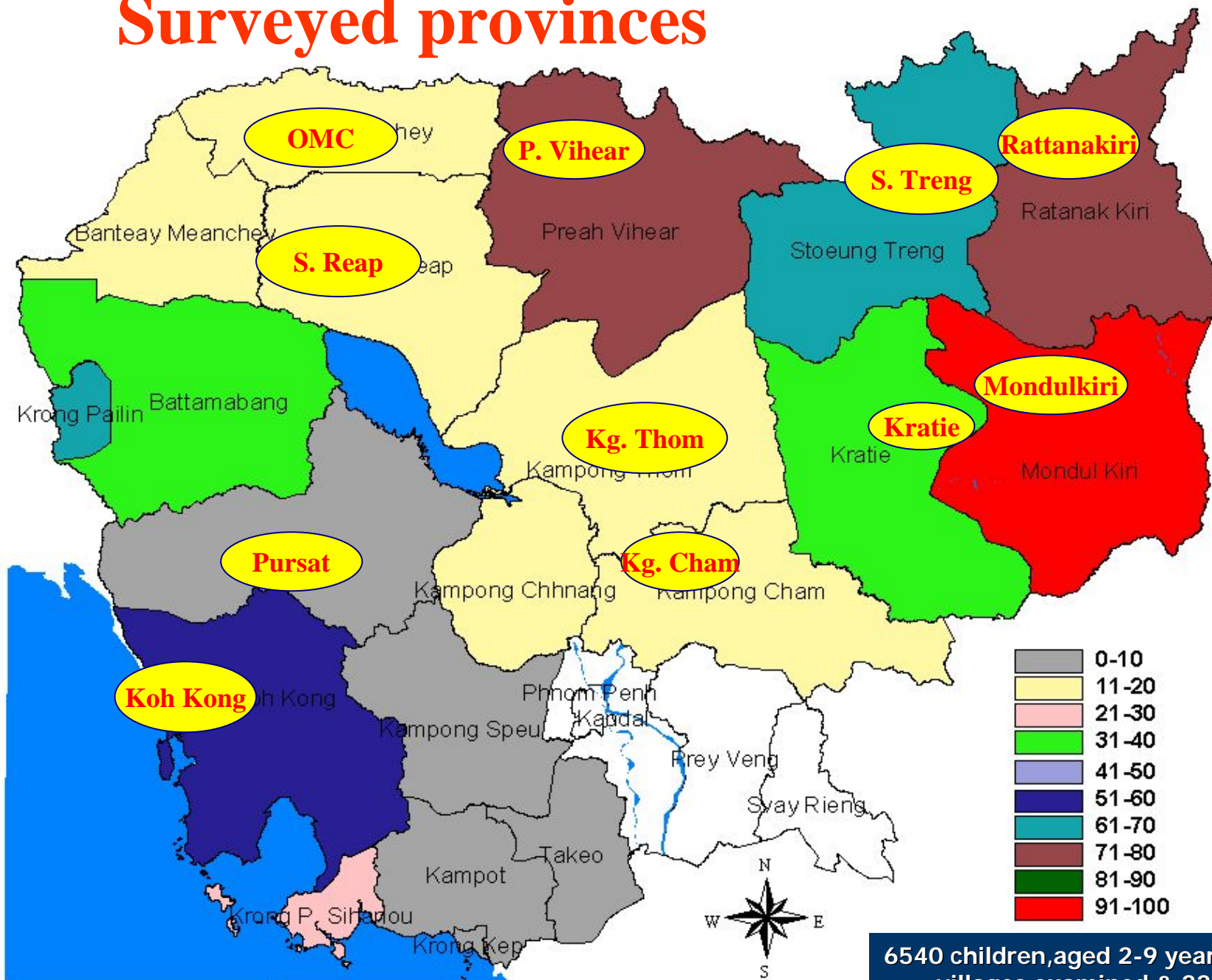


Comparison of the estimated annual incidence of malaria in rural Ratanakiri in 2002-2003 (by age and sex) derived from two different sources: rural public health facilities (RPHF) province wide and VMWs in 36 villages.



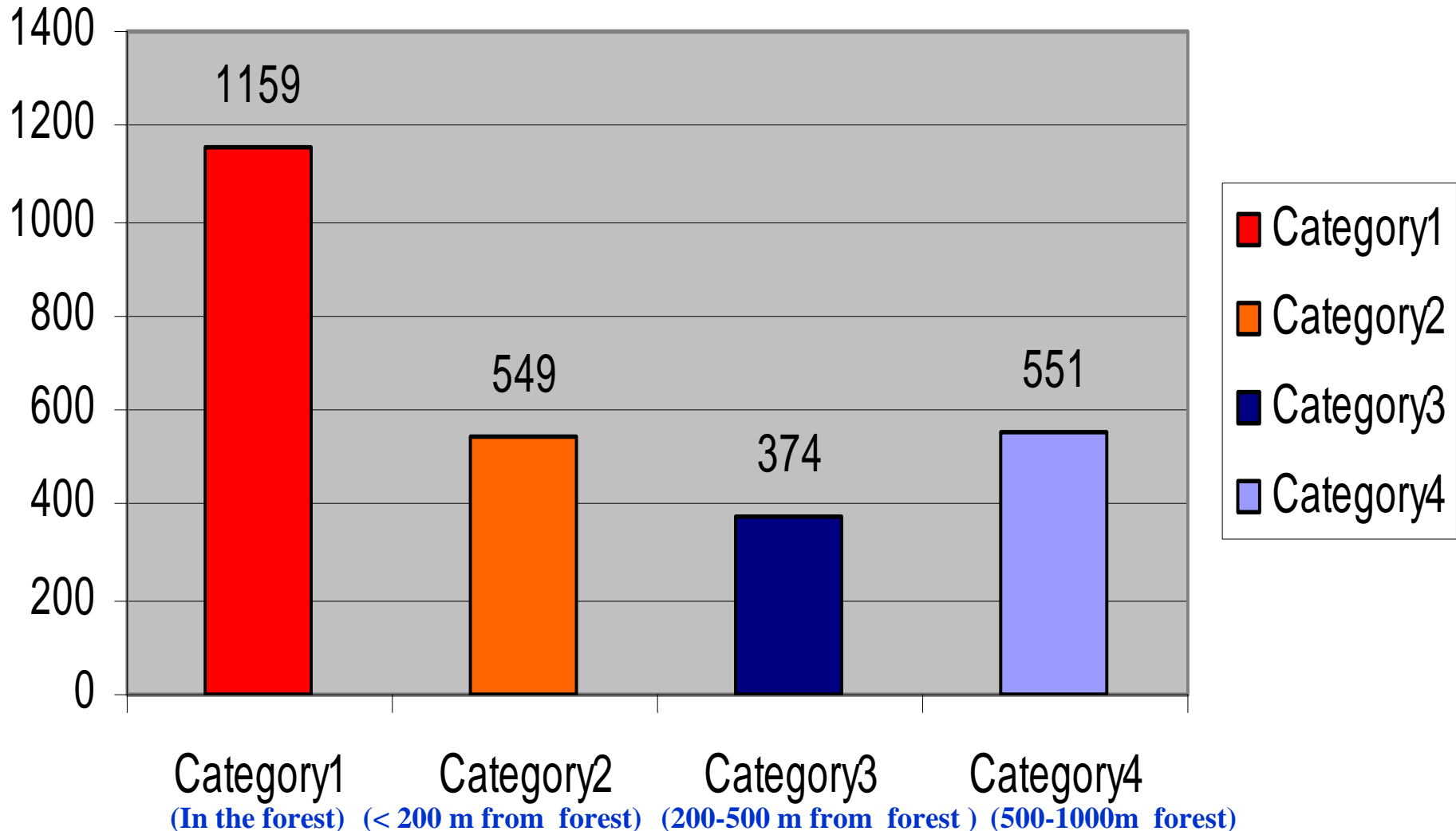
Scaling up the VMW project (with GFATM support)

Surveyed provinces

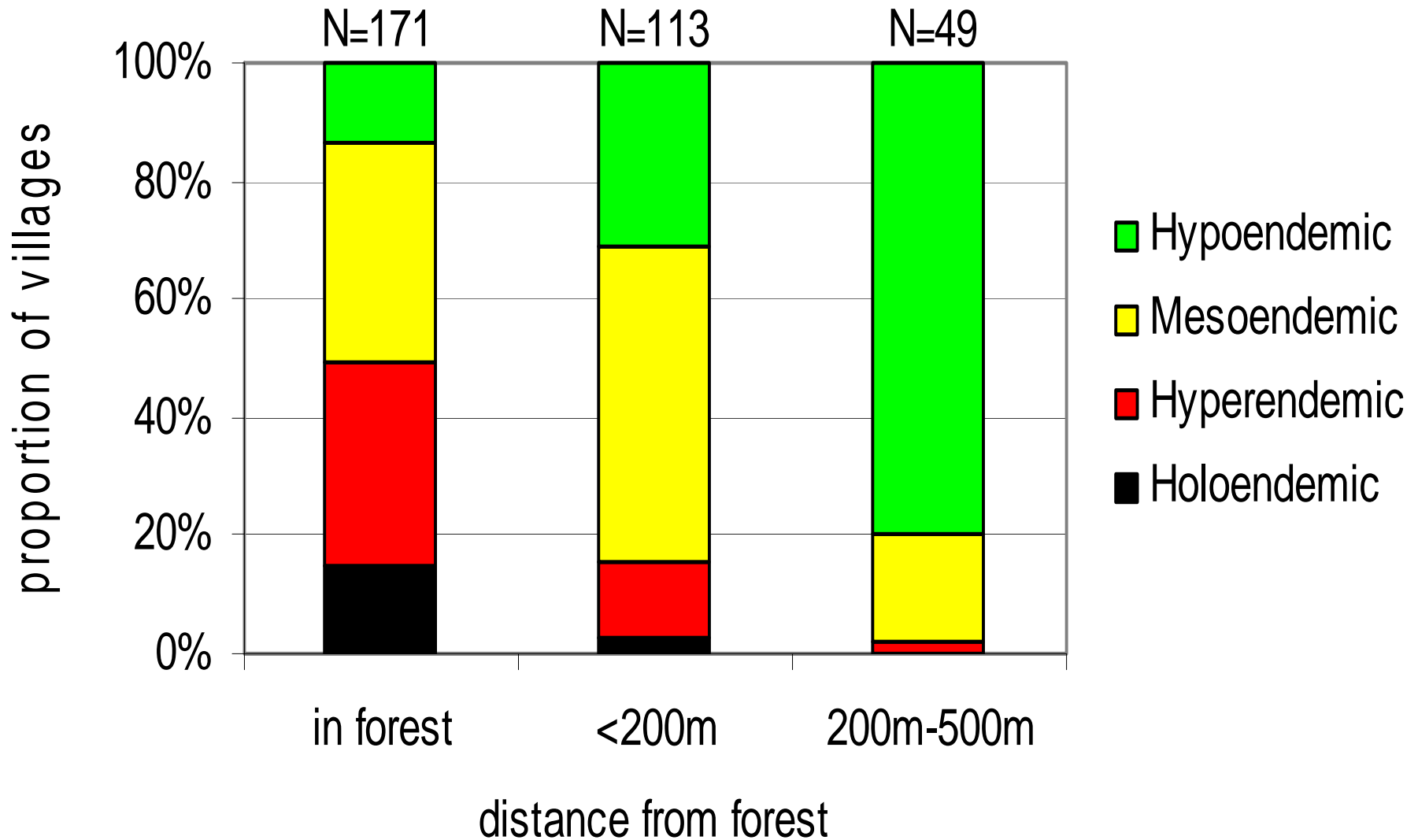


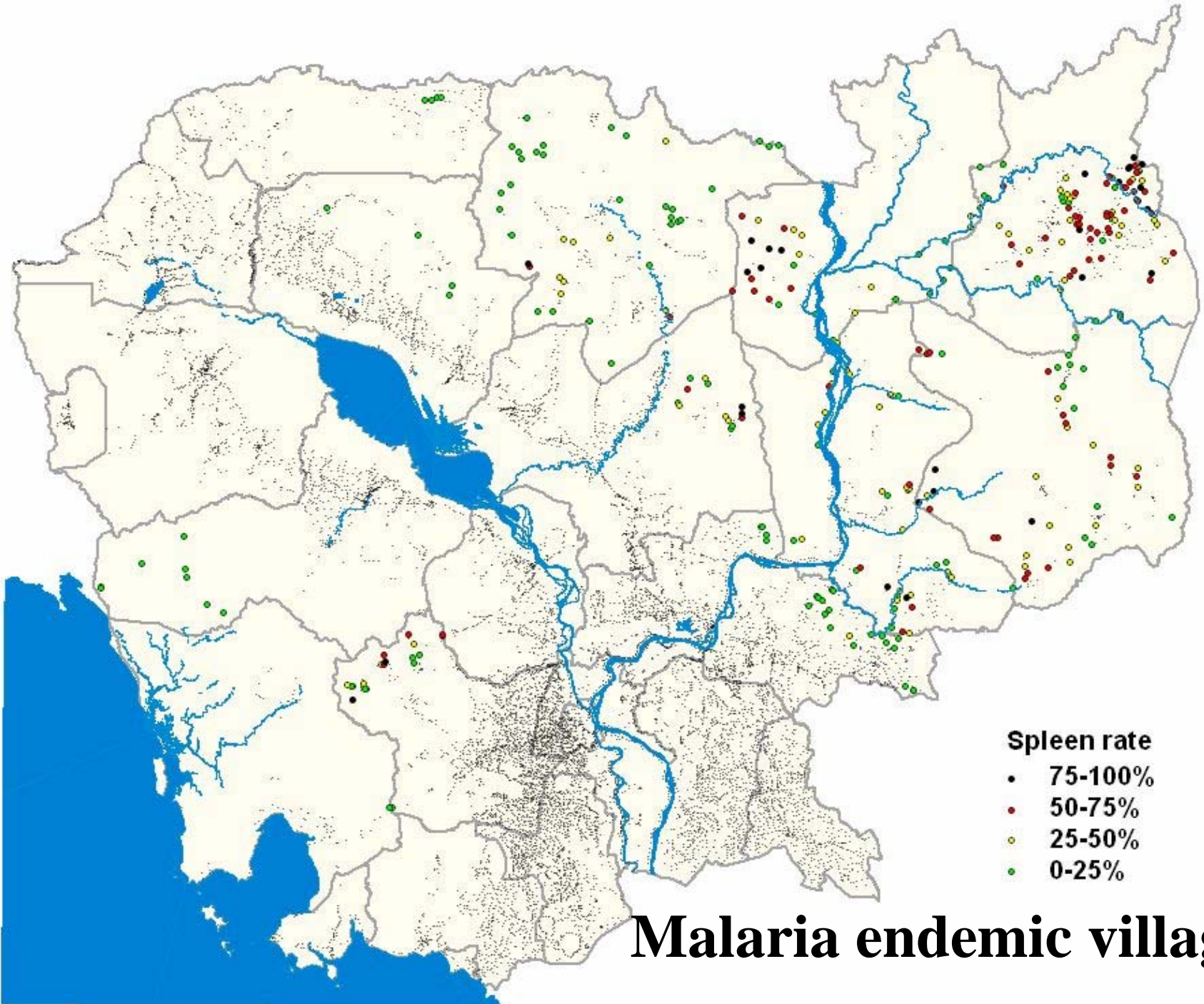
6540 children, aged 2-9 years, in 372 villages examined & 2282 of them found to have enlarged spleens.

Number of villages in different categories of risk in Cambodia



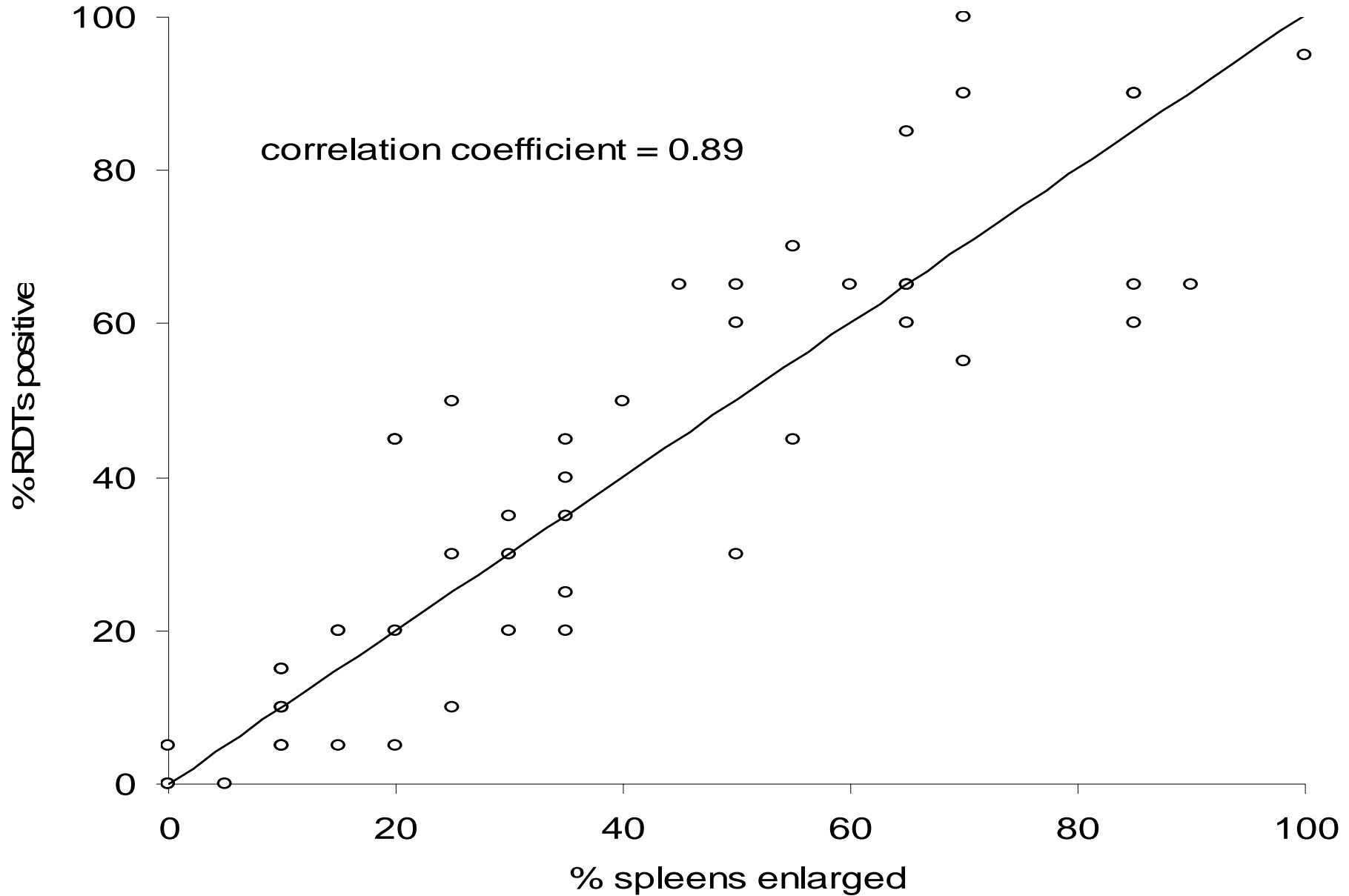
Endemicity of villages by distance from forest.





Malaria endemic villages

Correlation between spleen rate and RDT positivity.



Summary

- Malaria is still a major public health concern in Cambodia.
- Public/private mixed EDAT delivery system is in place and functioning fairly well.
- Village based EDAT for malaria – has emerged as the emergency strategy of choice for remote and hyperendemic villages in Cambodia

With the expectation that....



This generation and their children in the remote hyperendemic areas will no longer be easy victims for “MALARIA” and other preventable/ treatable communicable diseases.

THANK YOU !