

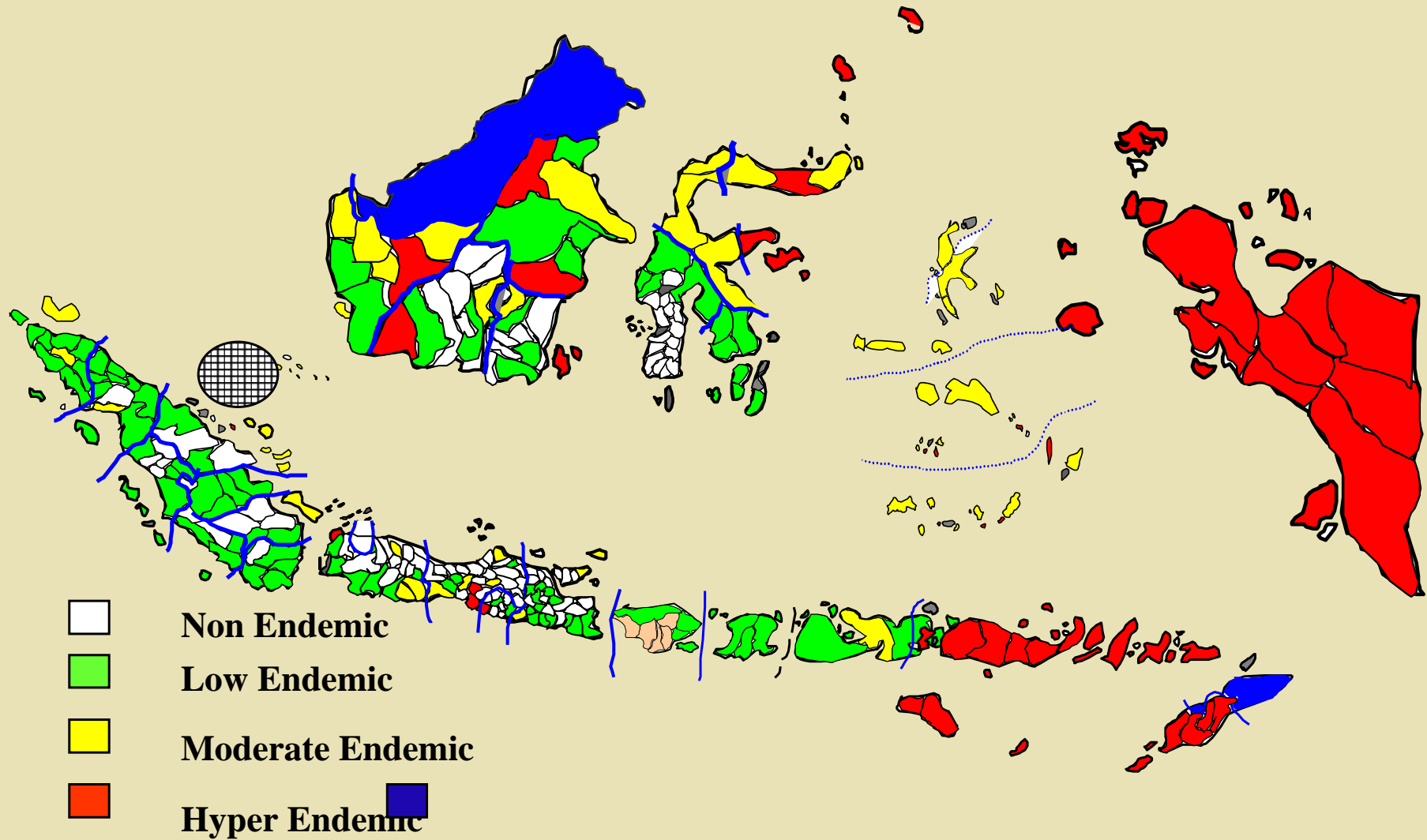


INDONESIA COUNTRY REPORT

**MALARIA ENDEMIC AREA
BY DISTRICT, SUB-DISTRICT, VILLAGE
IN INDONESIA, 1999**

	NO.OF AREA	NO. OF ENDEMIC AREA	%
DISTRICT	293	167	57.00
SUB.DISTRICT	3794	910	23.99
VILLAGE	64024	4592	7.17

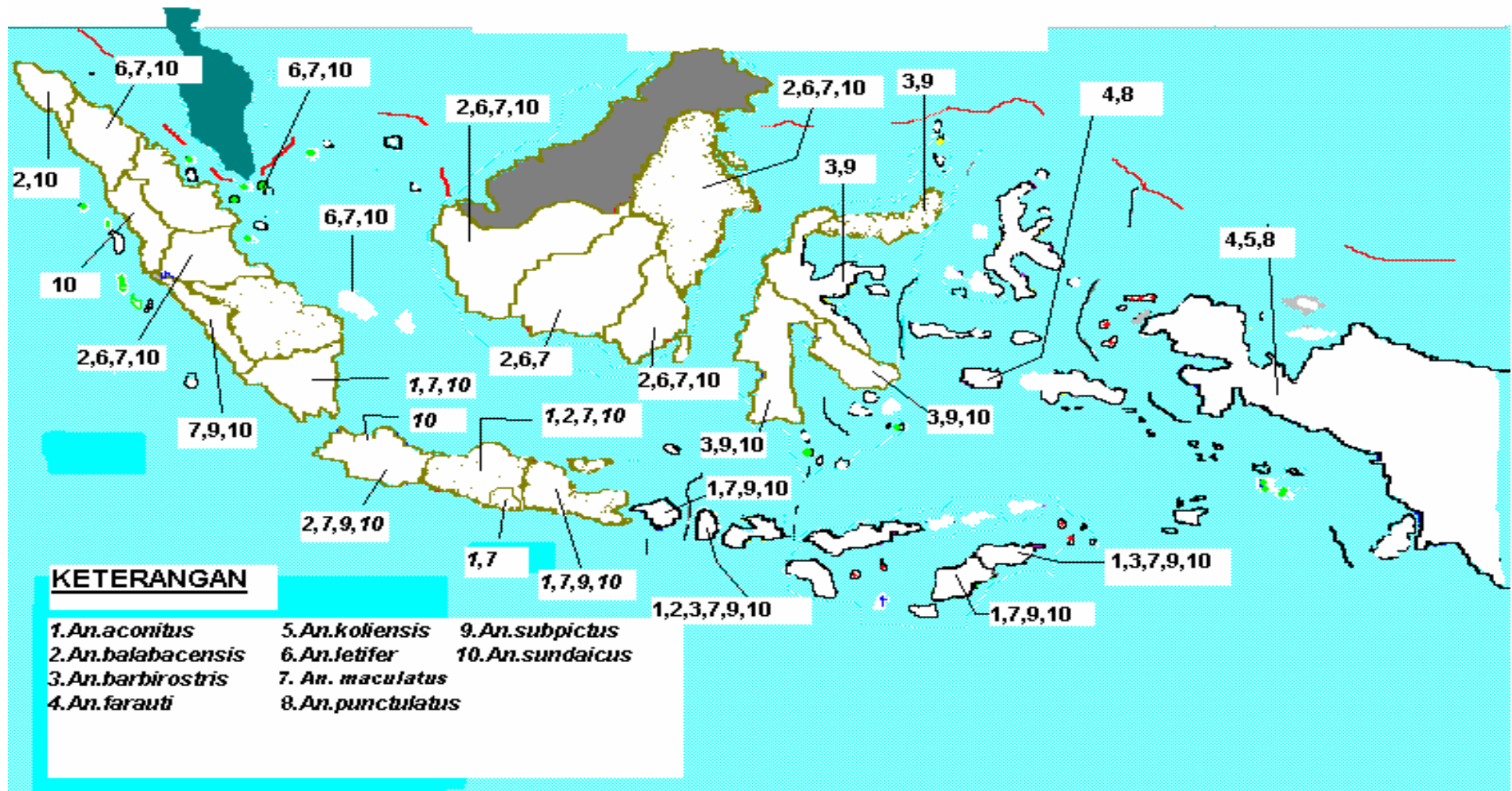
Malaria Endemicity in Indonesia, 2002



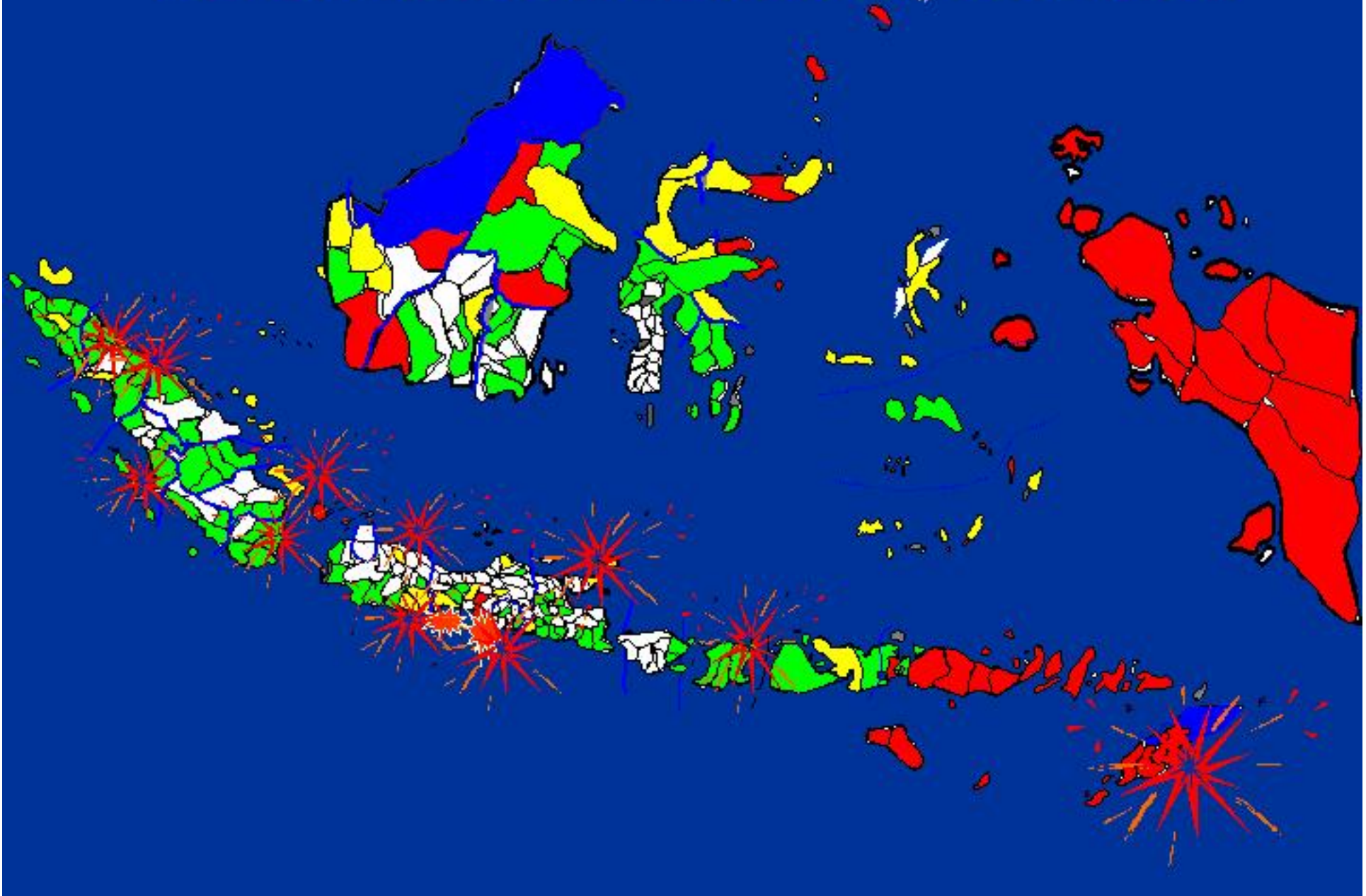
Out of Indonesia

MALARIA'S VECTOR DISTRIBUTION IN INDONESIA

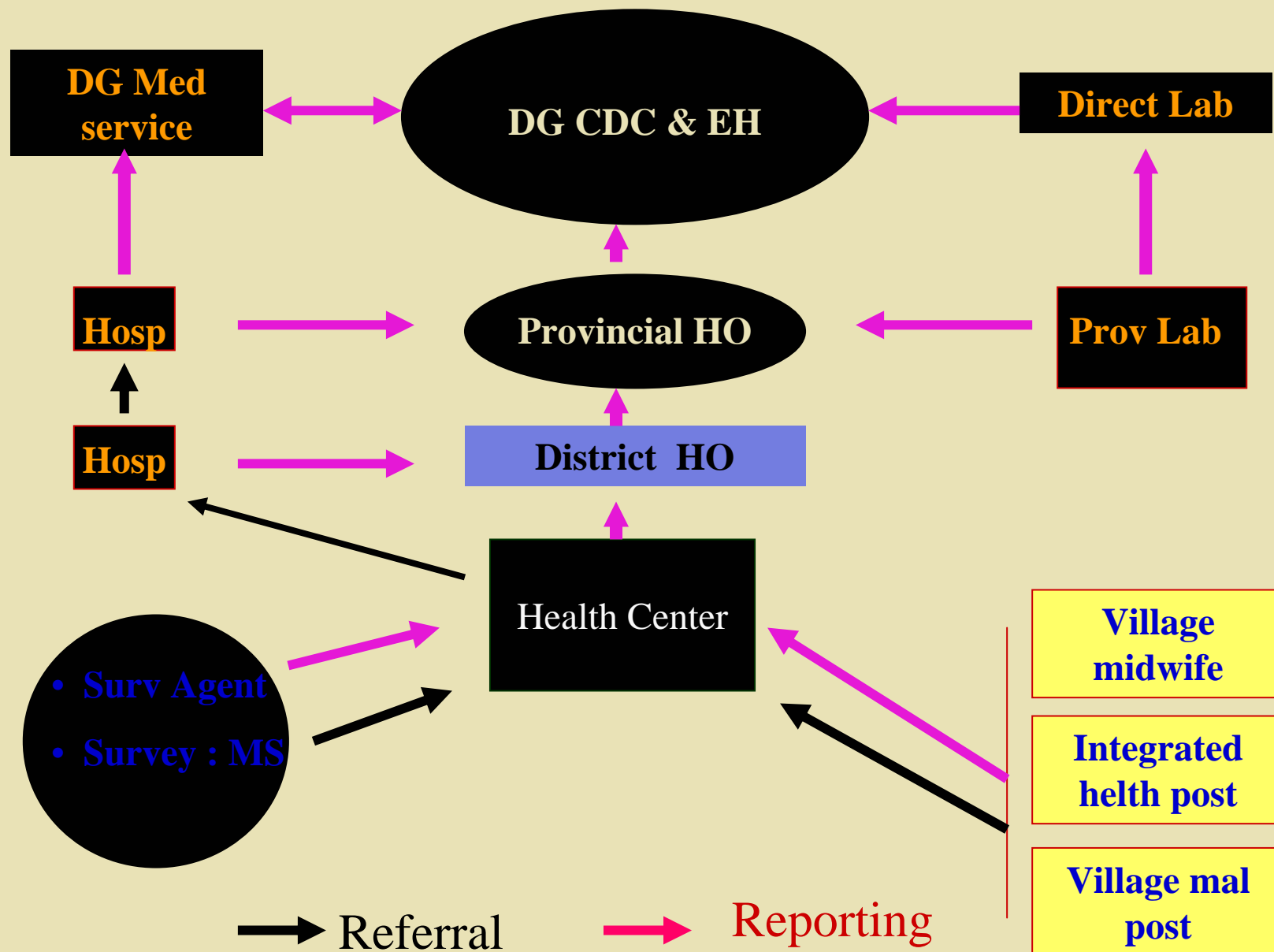
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Malaria Outbreak in Indonesia, 1998 - 2001

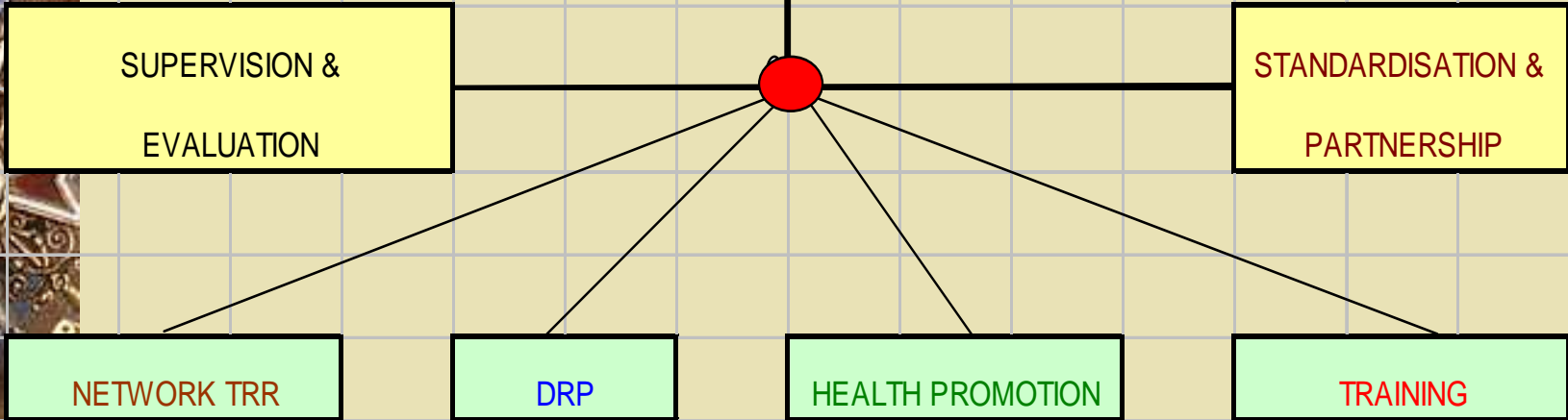


MALARIA SURVEILLANCE & TREATMENT



DIRECTORATE OF VECTOR BORNE DISEASE CONTROL

CHIEF MALARIA SUB DIRECTORATE



EXISTING AMD TREATMENT (CQ & SP SENSITIVE)

- ◆ **Uncomplicated Pf Malaria:**

1. Chloroquine + Primaquine
2. SP + Primaquine
3. Quinine + Primaquine

- ◆ **Complicated Pf Malaria:**

1. Quinine per-infus

- ◆ **Pv Malaria:**

1. Chloroquine + Primaquine
2. Quinine + Primaquine

- ◆ **Prophylaxis:**

1. Chloroquine
2. Doxycycline

- ◆ **Pregnant woman unc Pf:**

1. Chloroquine
2. Quinine

- ◆ **Pregnant woman complicated:**

1. Quinine per infus

- ◆ **Outbreak containment:**

1. MDA : Chloroquine + PQ.
2. IRS.

PROBLEMS EDPT

- ◆ Malaria cases → most are living in remote areas.
- ◆ Malaria diagnosis → most based on sign and symptoms.
- ◆ Public service in remote → AMD limited which will impact on self medication.
- ◆ *P.falsiparum* & *P.vivax* → resistance to existing anti malarial drugs .

APPROACHES TO INCREASE EDPT BASED ON STRATIFICATION MALARIA PROBLEM

1. No evidence on malaria resistance areas:
 - Nearby health/treatment facility areas:
 - = Training MD, Nurses at Sub HC, Mid wife at Village for mal case mgt.
 - = Training focused ANC and integrated IMCI.
 - Remote areas:
 - = Training Village Malaria Drug Post
 - = Training drug vendor for proper treatment.

APPROACHES TO INCREASE EDPT BASED ON STRATIFICATION MALARIA PROBLEM

2. There is evidence on malaria resistance:
 - Nearby laboratory facility areas:
 - = Training malaria micorscopist at HC.
 - = Malaria treatment based on lab confirmation.
 - Far from lab facility (> 1day):
 - = Training nurses at Sub HC, Midwives at Village for blood taking, focused ANC and integrated IMCI.
 - = Clinical treatment for probable malaria cases will be followed by radical after confirmation.

APPROACHES TO INCREASE EDPT BASED ON STRATIFICATION MALARIA ROBLEM

- Remote areas:

 - = Regular visit by malaria team for treatment (ACD or MFS/MFT).

FUTURE AMD TREATMENT (CQ & SP FAILURE AREAS)

Uncomplicated Pf Malaria:

1. Arts + Amo or Arts + SP (?) or Arts + Mef (?).
 2. DHA + Pip or Artm + Lum
 3. Qn + Doxy.
-

Complicated Pf Malaria:

1. Arts im atau iv or Artm im continued with Arts + Amo
 2. Qn per-infus & Qn tabl.
-

Pv Malaria:

1. Arts + Amo + Primaquine ??
2. Qn + Primaquine.

Prophylaxis:

1. Doxy or Mef
 2. Primakuine ??.
-

Pregnant woman unc Pf:

1. Arts + Amo or Arts + Clinda (< 3 mos with Qn).
 2. Qn
-

Pregnant woman complicated:

1. Artesunate im/iv or Artm im.
 2. Qn per-infus
-

Outbreak containment:

1. MBS/ MFS (RDT) & DHA + piperakuin or Artmeter + Lumefantrine.
2. IRS

APPROACHES TO INCREASE EDPT IN THE NEW TREATMENT (ACT)

1. Nearby laboratory facility areas:
 - = Training treatment with new drug/ACT at HC.
 - = Malaria treatment based on lab confirmation.
2. Far from lab facility (> 1day):
 - = Training nurses at Sub HC, Midwives at Village for using RDT and new treatment/ACT.
3. Remote areas:
 - = Regular visit by malaria team for treatment/ACT (ACD or MFS/MFT) based on RDT confirmation.

STATUS OF RESISTANCE	MICROSCOPIST AVAILABLE	MICROSCOPIST . ACCESS < 1 DAY	REMOTE	
NO EVIDENCE OF RESISTANCE	- Train health providers at Health center for good treatment.	- Train Health providers. at sub health center for good treatment.	- Train volunteers for good treatment. (Village Malaria Post).	
EVIDENCE AVAILABLE < 25 % RESISTANCE	- Train microscopist for good microscopist	- Train Health providers. for blood taking.	- Establish malaria mobile team (MFS).	
	- Provide second line regimen for treatment.	- Treatment failure after laboratory confirmation.	- Diagnostic & treatment on site.	
	- Treatment failure after laboratory confirmed.	(CQ -> SP).	- ACD (CQ -> SP)	
EVIDENCE AVAILABLE > 25 % RESISTANCE	- Train new regimen for malaria treatment. (Arts + Amo).	- Train health providers to use RDT. - Train new regimen for malaria treatment.	- Train volunteers use RDT. - Train new regimen for malaria treatment.	

PLAN FOR 2003-2004 (1)

PLAN 2003:

- ◆ TOT for malaria mapping.
- ◆ Promote use of RDT esp. Pf resistant areas during outbreak.
- ◆ TOT for Village drug posts.
- ◆ TOT for Midwives in mal. during pregnancies (Focus ANC).
- ◆ Integrated IMCI.

PLAN 2004:

- ◆ Training & malaria mapping
- ◆ Expansion use of RDT in remote areas.
- ◆ Training & provide Village drug posts with drugs and materials. Training mal during pregnancies (focused ANC) for Midwives.
- ◆ Training referral case mgt (emergency)-IMCI.

PLAN FOR 2003-2004 (2)

PLAN 2003:

- ◆ . Monitoring efficacy: in some Provinces.
- ◆ Study on possibility of AMD used in Indonesia (Timika & other areas).
- ◆ Process for new AMD registration.

PLAN 2004:

- ◆ Introducing new AMD policy in some Provinces.
- ◆ Expansion monitoring efficacy to all Provinces.
- ◆ Continued study in some areas for AMD used.

EXISTING VECTOR CONTROL ACTIVITIES (1)

1. INDOORS RESIDUAL SPRAYING (IRS):

- ◆ In Java-Bali for many years → mainly done for high Incidence areas.
- ◆ In outer Java- Bali → mainly done in the development project , potential outbreak, social conflict and transmigration or resettlement areas.
- ◆ IRS done 1 month before the peak of malaria transmission or 2 month before peak of malaria incidence.

EXISTING VECTOR CONTROL ACTIVITIES (2)

1. INDOORS RESIDUAL SPRAYING (IRS):

- ◆ Insecticide used for many years carbamate (bendiocarb) in Java-Bali, pyrethroid in outer Java-Bali (lambdacyhalotrine in Eastern Indonesia, Deltametrine in Central Indonesia and western Indonesia with etofenprox).
- ◆ Since 2001 after decentralization law, some Provinces and Districts procure different insecticide to be used in their own areas after having license from Pesticide Commission of Indonesia in the Ministry of Agriculture.

EXISTING VECTOR CONTROL ACTIVITIES (3)

2. LARVICIDING:

- ◆ Used in the clear define breeding places and mostly during dry season to avoid excessive water flow that make larvicide not effective.
- ◆ Used as an alternative measure.
- ◆ Larvicide used in Indonesia BTI and altosid.

EXISTING VECTOR CONTROL ACTIVITIES (4)

3. USED OF LARVIVOROUS FISH:

- ◆ Used as an alternative measure.

4. ENVIRONMENTAL MANAGEMENT:

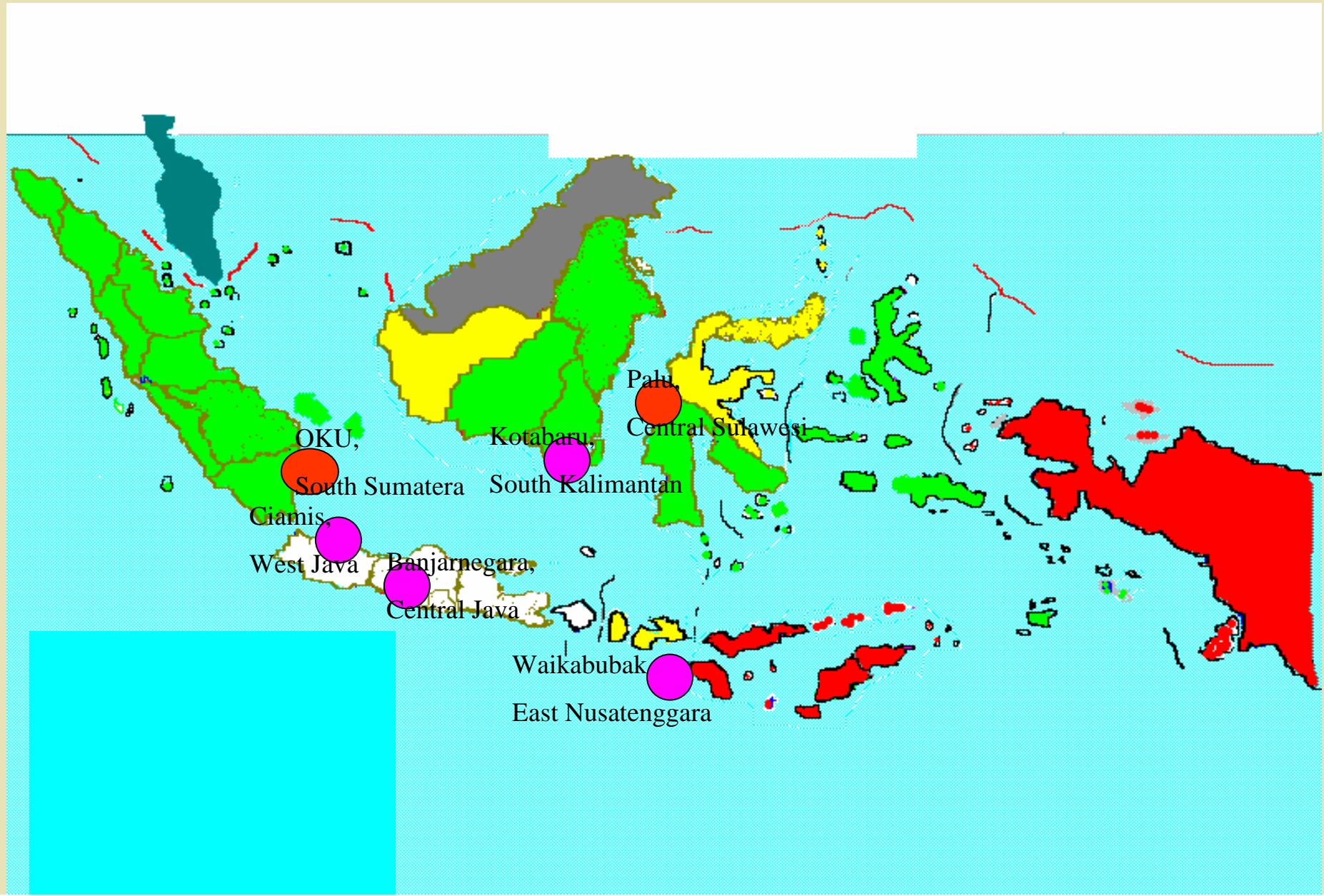
- ◆ Environmental modification:
 - Channeling
 - Source reduction etc
- ◆ Environmental manipulation

EXISTING VECTOR CONTROL ACTIVITIES (5)

5. INSECTICIDE TREATED NET (ITN):

- In the past used as an alternative measure for IRS but now using as a main control measure in the appropriate areas.
- Insecticide used for ITN is Permethrine and need for re-impregnation. Now there are many option including LLMN and insecticide used (Deltametrine, etofenprox, etc).
- It is used for prevent mosquito biting as well as reducing malaria transmission.

SIX VCFS IN INDONESIA



PROBLEMS ON VECOR CONTROL (1)

1. Population movement → mapping of malaria transmission risk at village level.
2. Environmental change → delineation the areas of malaria transmission.
3. Parasite (Pf & Pv) resistance to existing anti malaria drugs → prediction of the transmission occurrence (Seasonal transmission).

PROBLEMS ON VECOR CONTROL (2)

4. Coverage and quality of vector control → limited resources (funds, equipments, supplies, others).
5. Participation of the community and sector related → sustainability of prevention.
6. Competence of malaria epidemiologist, entomologist and microscopist → validity and reliability of information provided (related with malaria transmission).