Malaria Situation 2004
Vietnam

Asian Collaborative Training Network for MALARIA
evaluation of the MALARIA CONTROL in 2003 and plan of action for 2004 IN VIETNAM

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Population at risk of malaria

- Among 80 millions, 42 millions of people living in the malaria endemic areas.
- The endemic areas includes all the mountainous forest regions, along the international borders, Central Highland and South-West coastal region.
Malaria vector distribution:

The principal vectors:
- Mountainous regions: *An. minimus*
- Mountainous regions from the Central to the South: *An. minimus + An. dirus*
- Southern Coastal region: *An. sundaicus*

The secondary vectors:
- Mountainous regions: *An. aconitus; An. jeyporiensis; An. maculatus*
- Coastal Plain region: *An. subpictus; An. indefinitus; An. sinensis; An. vagus*

Malaria parasite species:
- *P.falciparum*: 75-80%; *P.vivax*: 20-25%; *P.malariae*: 2%
Main solutions

1. Continue the investments and technical guidance for rolling back malaria in the malaria “hot spots”, high endemic areas and high risk groups.

2. Improve the quality of malaria epidemiological surveillance.

3. Improve the quality of supervision and control of malaria vectors.


5. Strengthen scientific researches, IEC and international cooperation.

6. Strengthen the socialization of malaria control.
INSECTICIDES USED IN VIETNAM FOR MALARIA CONTROL PROGRAMME

- **2002**
  - **FENDONA 10 SC** - Spray(30) (effect in 9-10 months)
  - Impregnation(25mg/l) (effect in 9-10 months)

- **2003**
  - **ICON 10 WP (30 mg/m2)** - Spray (effect in 9-11 months)
  - **FENDONA 10 SC (25 mg/m2)** - Impregnation

- **2004**
  - **ICON 2.5 CS (20 mg/m2)** - Impregnation (ef. 7-11 months)
  - **FENDONA 10 SC (30 mg/m2)** - Spray
### Essential anti-malarial drugs & the use

<table>
<thead>
<tr>
<th>Name of drug</th>
<th>Central &amp; prov. levels</th>
<th>District level</th>
<th>Commune level</th>
<th>Village level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroquin (tablet)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Artesunate (tablet)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Artesunate (supp.)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Artesunate (inject.)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Primaquine (tablet)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Quinine (tablet)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Quinine (inject.)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>CV-8 (tablet)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Mefloquine (tablet)</td>
<td>+</td>
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</table>

**Drugs for prophylaxis**
## Main malaria indicators in 2000-2003

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2000</th>
<th>2003</th>
<th>% Reduced</th>
</tr>
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<tbody>
<tr>
<td>No. of malaria cases</td>
<td>293,016</td>
<td>164,706</td>
<td>-43.8%</td>
</tr>
<tr>
<td>Morbidity rate/1000</td>
<td>3.84</td>
<td>2.04</td>
<td>-46.9%</td>
</tr>
<tr>
<td>No. of positive cases</td>
<td>74,329</td>
<td>38,790</td>
<td>-47.8%</td>
</tr>
<tr>
<td>No. of death</td>
<td>148</td>
<td>51</td>
<td>-65.6%</td>
</tr>
<tr>
<td>Mortality rate/100.000</td>
<td>0.19</td>
<td>0.06</td>
<td>-68.5%</td>
</tr>
<tr>
<td>No. of outbreaks</td>
<td>02</td>
<td>02</td>
<td>0</td>
</tr>
</tbody>
</table>
NUMBER OF DEATHS DUE TO MALARIA
IN 2000

Number of Deaths: 148 (25 pro.)

NUMBER OF DEATHS DUE TO MALARIA
IN 2003

Number of Deaths: 51 (14 pro.)
Advantages

- High priority given by the Government, Ministry of Health and the various level authorities.
- Collaboration of different sectors.
- Development of suitable & creative malaria control strategy.
- Promotion of internal strength.
- Socialization of malaria control activities.
- International cooperation.
Problems

Changes of environment and natural climate.

Big population in the endemic areas (42 millions - 54%).

The coverage and quality of malaria control activities in the malaria endemic areas are limited.

Malaria indicators in some areas are still high.

Illegal migrant people going to and staying overnight in the forests.

Unstable resources, some international supported projects have been finished.
Orientation and plan of action for malaria control 2004

1. General objectives:

- Continue to roll back malaria in the high endemic, forests, remote and border areas.
- Develop and strengthen the sustainable factors for malaria control.

2. Specific objectives:

- Reduce morbidity by 5% (to under 2/1,000 p.).
- Reduce mortality by 5% (to under 0.05/100,000 p.).
- No big malaria outbreaks.
3. Main measures:

1. Concentrate resources and malaria control activities in the high endemic areas and high risk groups.
2. Improve the quality of malaria epidemiological surveillance, control of vectors, diagnosis and treatment.
3. Strengthen IEC and the socialization of malaria control.
4. Reduce morbidity, mortality, malaria outbreaks and continue to roll back malaria.
4. Targets

- Protect 10-12 million people by vector control measures (50-80% of population in the malaria high endemic areas)
  - Insecticide Treated Nets (ITNs): 8 millions
  - Indoor Residual Spraying (IRS): 2 millions
  - Provide 300,000 bednets to the target population.
- Treat 2.5 million man-times.
- Provide 3-3.5 millions malaria treatments (free of charge).
1. Non-endemic area
2. Free from malaria area
3. Malaria low endemic area
4. Malaria moderate endemic area
5. Malaria high endemic area
# Malaria epidemiological zones and intervention

<table>
<thead>
<tr>
<th>Area</th>
<th>Characteristics</th>
<th>Intervention strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Malaria no endemic</strong></td>
<td>- Plain, Coastal-plain, Rice fields.</td>
<td>- Management of cases and migration.</td>
</tr>
<tr>
<td></td>
<td>- No Vectors: <em>An. minimus</em>, <em>An. dirus</em>, <em>An. sundaicus</em></td>
<td>- Provide drugs &amp; treated bednets (for people going to malaria area).</td>
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<tr>
<td></td>
<td>- No indigenous cases</td>
<td>- IEC /Health education.</td>
</tr>
<tr>
<td><strong>2. Free from malaria</strong></td>
<td>No malaria indigenous cases over last 5 years.</td>
<td>- Management of cases and migration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provide drugs &amp; treated bednets (for people going to malaria areas).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IEC/Health education.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Regular epi.surveillance of malaria.</td>
</tr>
<tr>
<td><strong>3. Low endemic</strong></td>
<td>- Foot-hill, highland (800-1000m North), mountains reaching in to the sea (South), coastal area.</td>
<td>- Detection &amp; management of cases.</td>
</tr>
<tr>
<td></td>
<td>- Rice field, crops, fields, savanna</td>
<td>- Promotion of people using treated bednets in border malaria endemic areas.</td>
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<tr>
<td></td>
<td>- Low density of <em>An. minimus</em>, <em>An. dirus</em> or <em>An. sundaicus</em>.</td>
<td>- IEC/Health education.</td>
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<tr>
<td></td>
<td></td>
<td>- Strengthening of grass-root health services.</td>
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<tr>
<td></td>
<td></td>
<td>- Management of migration people going to and from malaria areas.</td>
</tr>
<tr>
<td>Area</td>
<td>Characteristics</td>
<td>Intervention strategy</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>4. Moderate endemic</strong></td>
<td>- Hilly areas, streams. coastal brackish water areas (South). &lt;br&gt; - Thin forest with savanna, industrial plants. &lt;br&gt; - Favourable for development of An.minimus, An.dirus &lt;br&gt; - Morbidity: 5-10/1000p/ year. &lt;br&gt; - P.falciparum &lt; 70 %</td>
<td>- Detection &amp; management of cases. &lt;br&gt; - Promotion of people using treated bednets at home and in the forests. &lt;br&gt; - Residual spray in areas where people do not use bednets. &lt;br&gt; - IEC/Health education. &lt;br&gt; - Regular malaria surveillance. &lt;br&gt; - Strengthening of health service, &lt;br&gt; - Inter-sectorial and civil-military cooperation.</td>
</tr>
<tr>
<td><strong>5. High endemic.</strong></td>
<td>- Mountains with thick forests, forest fringes, re-forested, flat jungles (South) areas, running water, water collections. &lt;br&gt; - An. minimus, An. dirus are well developed with high density. &lt;br&gt; - Morbidity: &gt; 10/1000p/ year &lt;br&gt; - P.falciparum &gt; 70 %</td>
<td>- Promotion of people to use treated bednets at home and in the forests. &lt;br&gt; - Detection and management of cases. &lt;br&gt; - House spray in malaria hot spots. &lt;br&gt; - IEC / Health education &lt;br&gt; - Regular surveillance. &lt;br&gt; - Strengthening of health service. &lt;br&gt; - Prevention and stand-by drugs for people going to forests. &lt;br&gt; - Inter-sectorial &amp; civi-military cooperation</td>
</tr>
</tbody>
</table>
stratification into MALARIA epidemiological zones AND INTERVENTIONs

1. No malaria area
2. Free from malaria area
3. Low endemic area
4. Moderate endemic area
5. High endemic area
Thank you !