Overview

Malaria at a Glance
- Reported cases of malaria: 972
- Deaths from malaria: 4
- Population at risk (%): 73 (Total population: 708,484)
- Annual parasite index (cases/1,000 total population/year): 1.4
- Slide positivity rate (%): 1.6

Health and Economic Indicators
- GNI per capita (US$): 1,920
- Country income level: Lower middle
- Annual per capita health expenditure (US$): 98
- Total health expenditure as % of GDP: 5
- Private health expenditure as % of total health expenditure: 18
- Life expectancy (years): 67

Source: WHO, World Malaria Report 2010

Human Population Density

Strategic Program Goals for Elimination
- Achieve zero local transmission of malaria in Bhutan by 2016
- Zero deaths due to malaria by 2016
- World Health Organization certification of malaria-free status by 2020
Malaria Transmission Limits

Plasmodium falciparum

Plasmodium vivax

P. falciparum/P. vivax malaria risk is classified into no risk, unstable risk of <0.1 case per 1,000 population (API), low stable risk of 0.1 to <1.0 case per 1,000 population (API), and stable risk of ≥1.0 case per 1,000 population (API). Risk was defined using health management information system data and the transmission limits were further refined using temperature and aridity data. Data from the international travel and health guidelines (ITHG) were used to identify zero risk in certain cities, islands and other administrative areas.

Reported Malaria Cases

Source: WHO, World Malaria Report 2010
**Occurrence of Malaria Vector Species**

1. *Anopheles sinensis*
2. *Anopheles aconitus*

These maps show the predicted probability of occurrence of each vector species.

**Bionomics Vector Species Table**

<table>
<thead>
<tr>
<th>Species</th>
<th>Vector status across species range</th>
<th>Primary environment</th>
<th>Zoophilic/anthropophilic</th>
<th>Endo/exophagic</th>
<th>Endo/exophilic</th>
<th>Siting time</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Anopheles (Anopheles) sinensis species complex</em></td>
<td>Variable depending on location</td>
<td>Lowland freshwater habitats with vegetation in open areas</td>
<td>Zoophilic</td>
<td>Exophagic</td>
<td>Exophilic</td>
<td>Dusk/night</td>
</tr>
<tr>
<td><em>Anopheles (Cellia) aconitus Dörnitz, 1902</em></td>
<td>Variable depending on location and abundance</td>
<td>From coastal plains to upland rice fields</td>
<td>Zoophilic</td>
<td>Both</td>
<td>Exophilic/both</td>
<td>Dusk/night</td>
</tr>
</tbody>
</table>
Sources

Sources for the Maps in the Atlas of the Asia Pacific Malaria Elimination Network, 2011


Sources for Bhutan

Strategic Program Goals for Elimination

Transmission Limits Maps (Data years 2007–2010)
Thinley Yangzom, Sonam Gyeltshen and Karma Lhazeen, (2010), Vector-Borne Disease Control Programme, Department of Public Health and Ministry of Health, Gelephu, Kingdom of Bhutan