

VANUATU

Overview

Malaria at a Glance

Reported cases of malaria (41% <i>P. vivax</i>)	3,915
Deaths from malaria	2
Population at risk (%) (Total population: 239,651)	99
Annual parasite index (cases/1,000 total population/year)	16
Slide positivity rate (%)	16

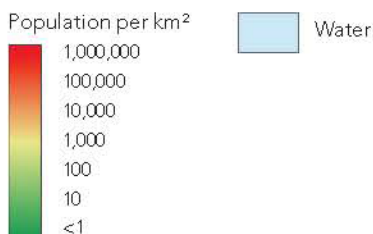
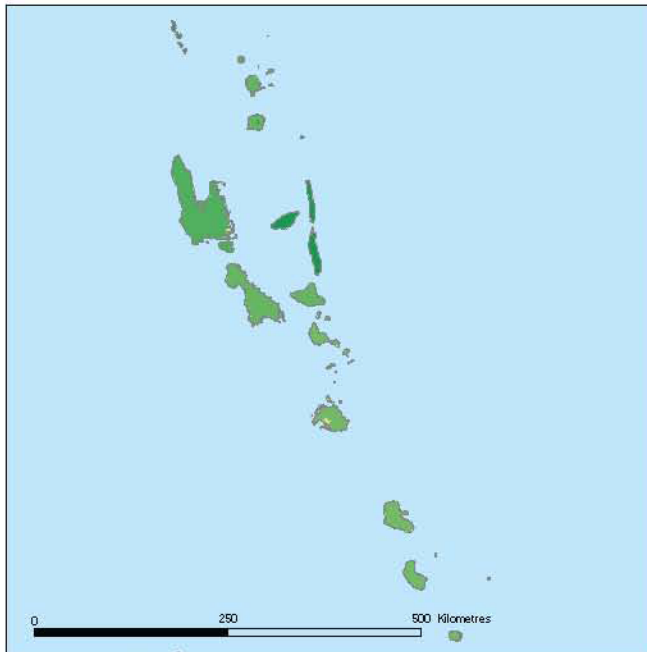
Source: WHO, World Malaria Report 2010

Health and Economic Indicators

GNI per capita (US\$)	2,760
Country income level	Lower middle
Annual per capita health expenditure (US\$)	106
Total health expenditure as % of GDP	4
Private health expenditure as % of total health expenditure	18
Life expectancy (years)	71

Source: World Bank, World Development Indicators

Human Population Density

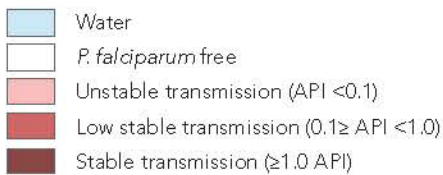
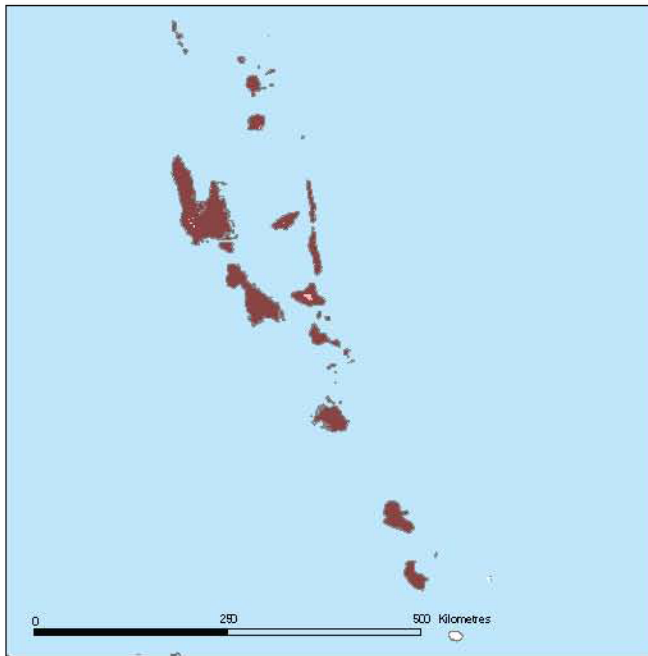


Strategic Program Goals for Elimination

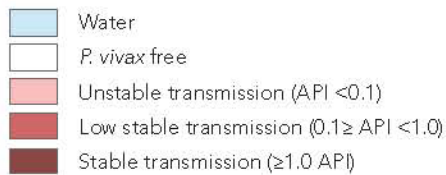
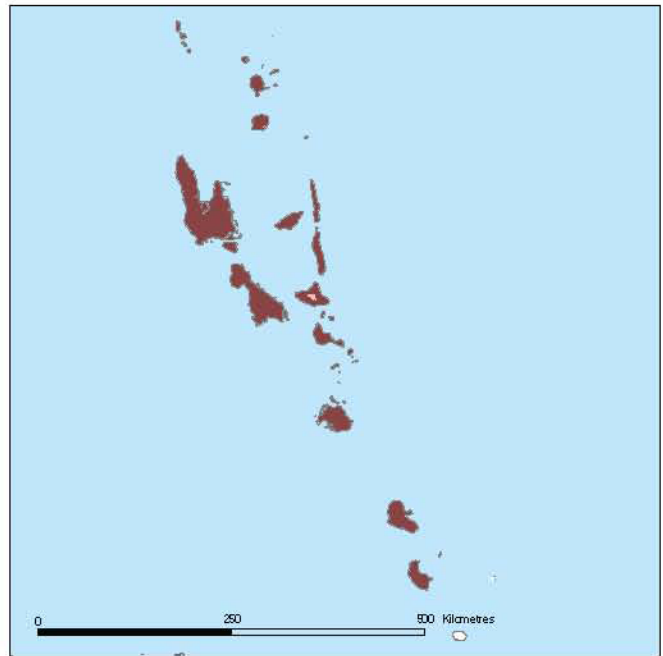
- Reduce the annual parasite index between 2007 and 2016 by 70%
- Reduce malaria-related deaths between 2007 and 2016 to zero
- Eliminate malaria from Tafea Province by 2012

Malaria Transmission Limits

Plasmodium falciparum

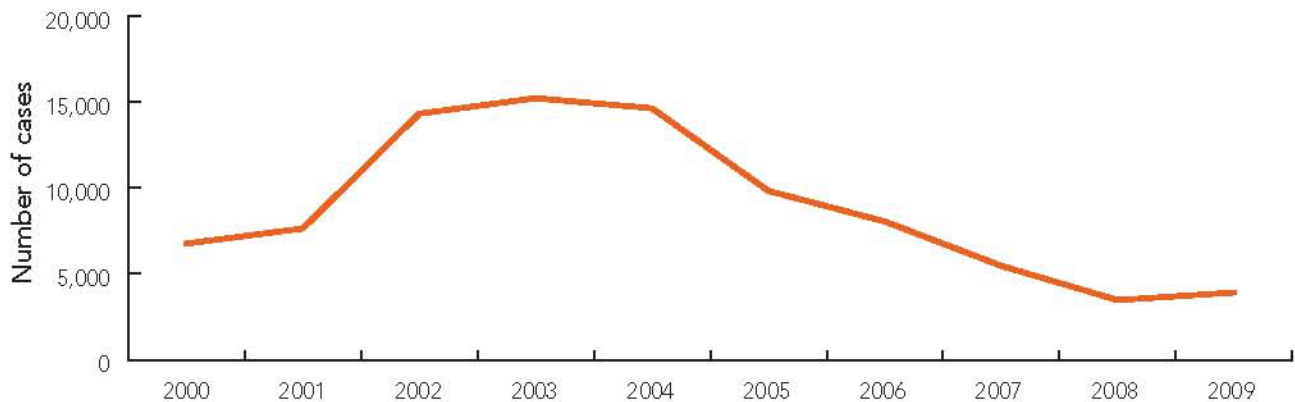


Plasmodium vivax



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.

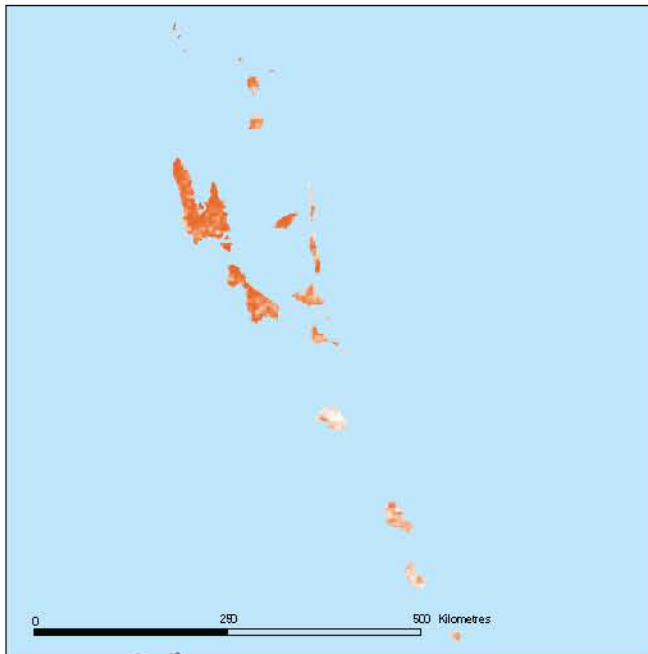
Reported Malaria Cases



Source: WHO, World Malaria Report 2010

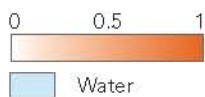
Occurrence of Malaria Vector Species

1. Farauti Complex



Probability of occurrence scale

This map shows the predicted probability of occurrence of this vector species.



Bionomics Vector Species Table

Species	Vector status across species range	Primary environment	Zoophilic/ anthropophilic	Endo/ exophagic	Endo/ exophilic	Biting time
<i>Anopheles (Cellia) farauti</i> species complex	Variable depending on species and location	Coastal areas, brackish or fresh water, highland river valleys, a great variety of aquatic habitats	Anthropophilic/ both	Both	Exophilic/both	Day/ dusk/ night

Sources

SOURCES FOR THE MAPS IN THE *ATLAS OF THE ASIA PACIFIC MALARIA ELIMINATION NETWORK, 2011*

Socioeconomic Data and Applications Center (SEDAC). <http://sedac.ciesin.columbia.edu/gpw>.

United Nations Department of Economics and Social Affairs. World Urbanization Prospects: The 2007 Revision Population Database. <http://esa.un.org/unup>.

Guerra, CA, Gikandi, PW, Tatem, AJ, Noor, AM, Smith, DL, Hay, SI and Snow, RW. (2008). The limits and intensity of *Plasmodium falciparum* transmission: implications for malaria control and elimination worldwide. *Public Library of Science Medicine*, 5(2): e38.

Guerra, CA, Howes, RE, Patil, AP, Gething, PW, Van Boeckel, TP, Temperley, WH, Kabaria, CW, Tatem, AJ, Manh, BH, Elyazar, IRF, Baird, JK, Snow, RW and Hay, SI. (2010). The international limits and population at risk of *Plasmodium vivax* transmission in 2009. *Public Library of Science Neglected Tropical Diseases*, 4(8): e774.

Sinka, ME, Bangs, MJ, Manguin, S, Chareonviriyaphap, T, Patil, AP, Temperley, WH, Gething, PW, Elyazar, IRF, Kabaria, CW, Harbach, RE and Hay, SI. (2011). The dominant Anopheles vectors of human malaria in the Asia-Pacific region: occurrence data, distribution maps and biologic précis. *Parasites and Vectors* 4:89.

SOURCES FOR VANUATU

Strategic Program Goals for Elimination

National Malaria Strategic Vision 2007–2016. Vanuatu. Asia Pacific Malaria Elimination Network (APMEN) website–Country Resources. <http://apmen.org/storage/country-partner/Vanuatu-National Vision Statement.pdf>.

Tynan, EA, Community participation for malaria elimination in Tafea Province, Vanuatu: Part II. Social and cultural aspects of treatment-seeking behaviour. *Malaria*, 2011. 10(204). <http://www.malariajournal.com/content/10/1/204/abstract>.

Transmission Limits Maps (Data years 2003–2005, 2007)

World Health Organization/Regional Office for the Western Pacific (2009), Manila, Republic of the Philippines, URL: <http://www.wpro.who.int/sites/mvp/epidemiology/malaria>

The Sources listed above are extracted from the following pages in the *Atlas of the Asia Pacific Malaria Elimination Network, 2011*

Methods and Sources (12)

Appendix A: Sources and Citations for the Strategic Program Goals for Elimination (59–60)

Appendix B: Annual Parasite Incidence Data Used for the Transmission Limits Maps (61)