

Malaria Elimination in the Asia Pacific by 2030

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Sir Ronald Ross



- British officer in the Indian Medical Service
- Poet, scientist, mathematician, novelist, painter and musician
- 1897, India: Ross discovered the role of mosquitoes in transmission of malaria in humans while dissecting the stomach tissue of an anopheline mosquito that fed on a patient with malaria
- 1902: Awarded the second Nobel Prize for Medicine for his work on malaria

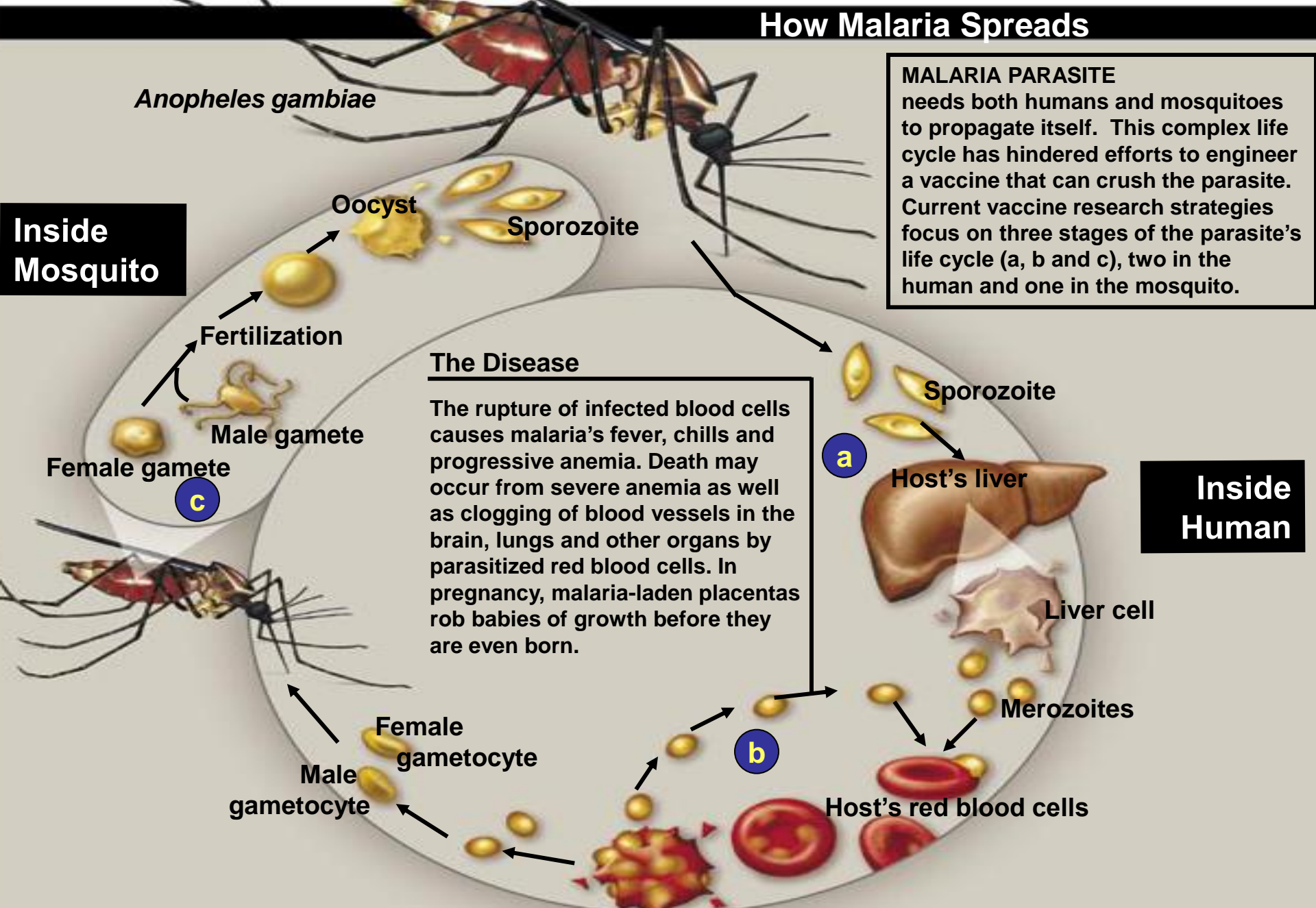


Definitions

- **Malaria Control:** reducing disease burden to a level where it is no longer a major public health problem
- **Elimination:** interrupting local mosquito-borne malaria transmission in a defined geographical area, i.e. zero incidence of locally acquired cases
- **Eradication:** permanent reduction to zero of the worldwide incidence of infection



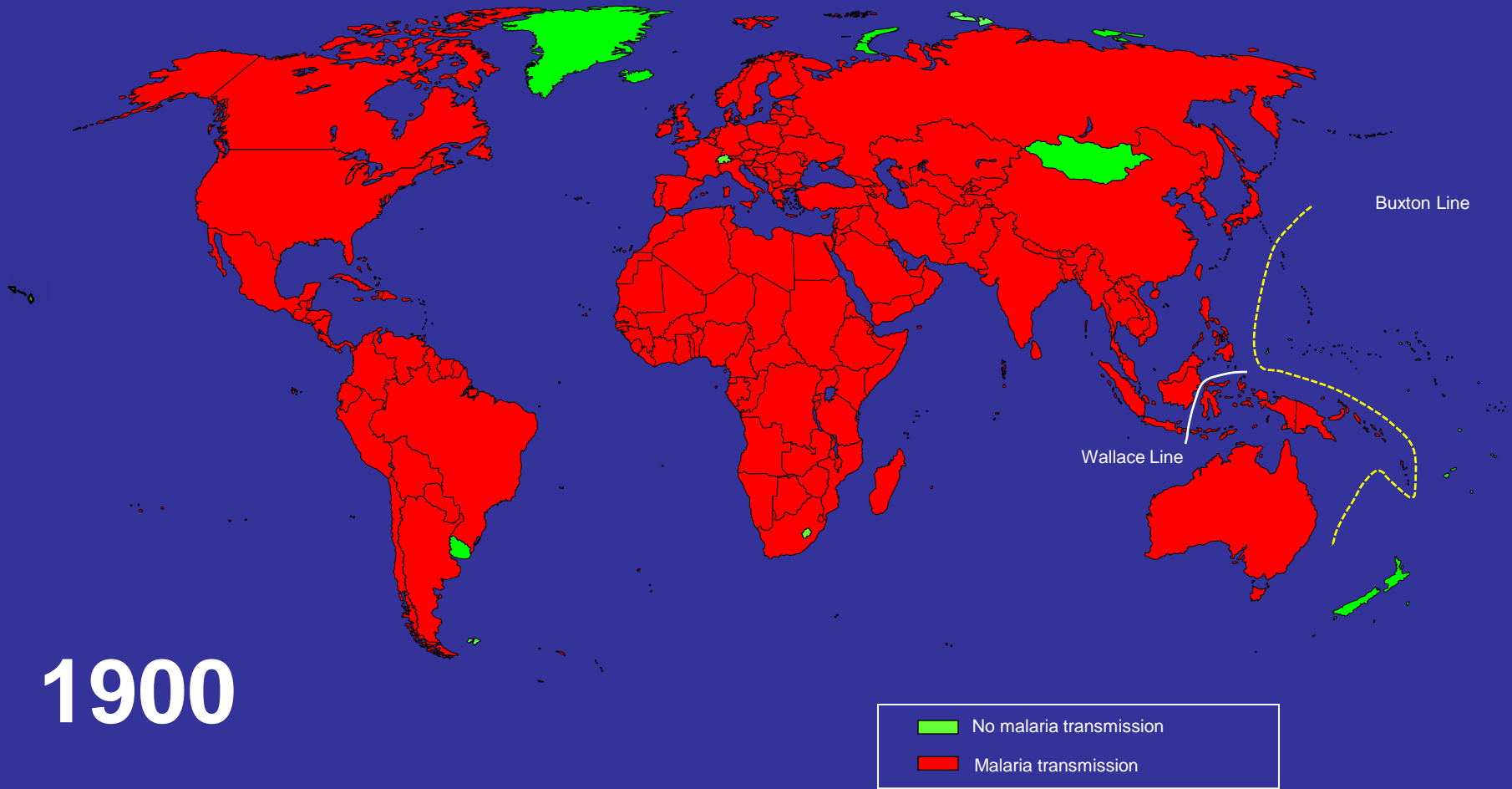
How Malaria Spreads



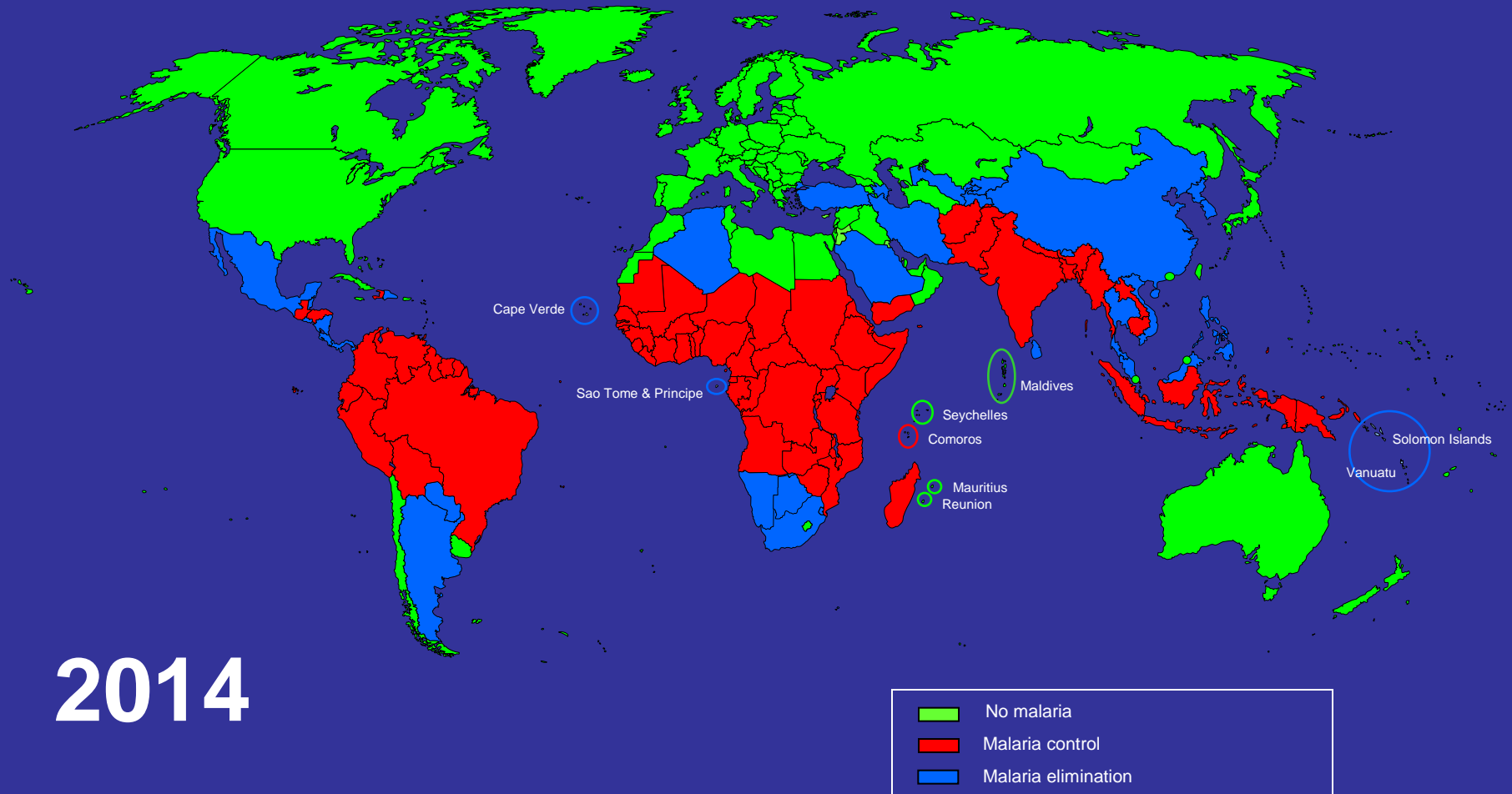
Female *Anopheles freeborni* mosquito having a blood meal



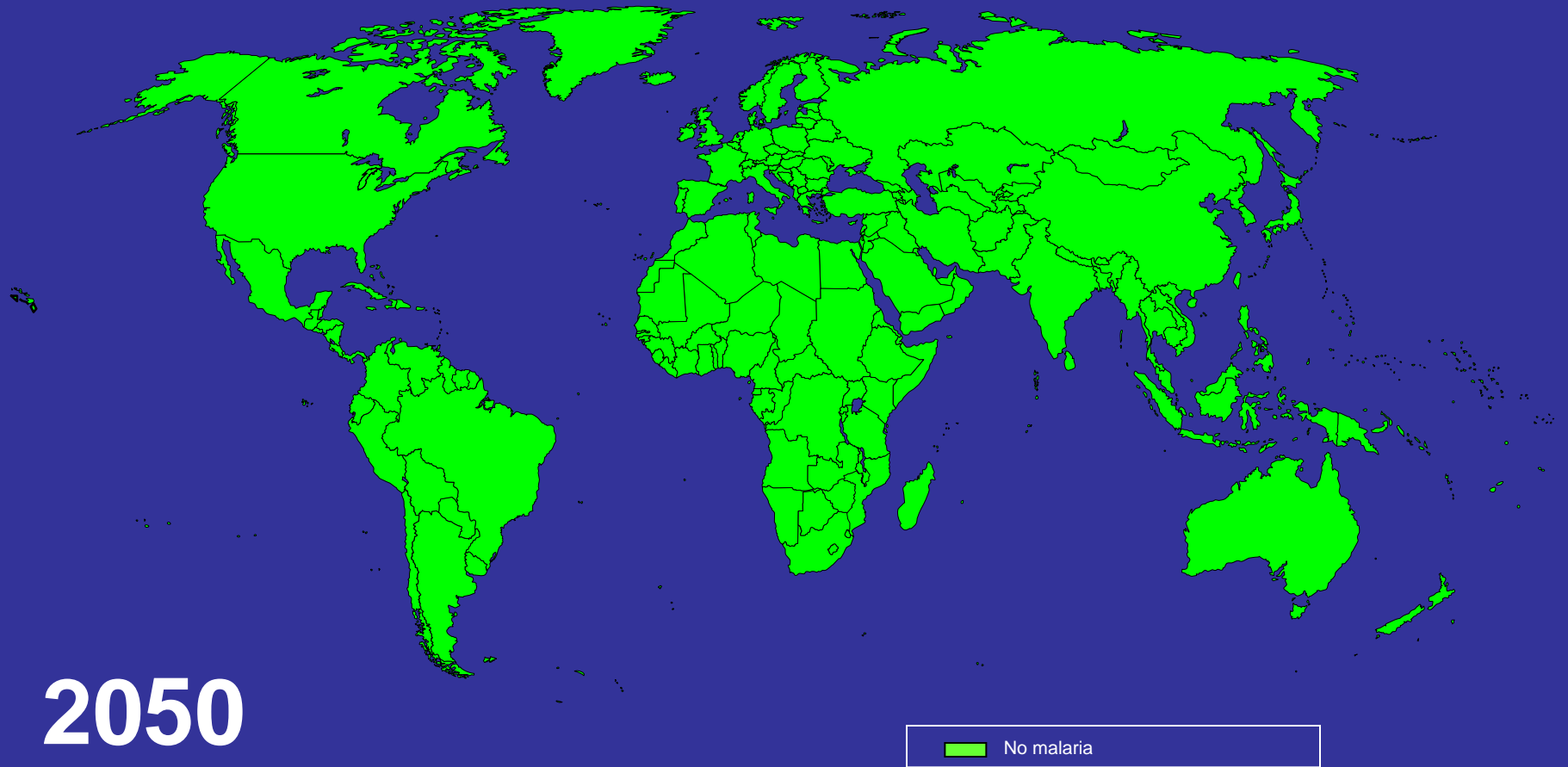
Malaria Transmission By Country



Progress Towards Elimination by Country



The Endgame



2050

No malaria



The Eradication Strategy

1. Aggressive control in the heartland, to achieve very low transmission and zero mortality where possible;
2. Progressive elimination from the endemic margins to shrink the malaria map; and
3. Research to bring forward a vaccine and better drugs, diagnostics, and other tools



Asia Pacific Malaria Elimination Network (APMEN)

- Launched 2009
- 30 partner institutions
- Country-led, country-driven
- Information-sharing, capacity building, evidence gathering and advocacy
- Focus on *P. vivax*
- Australian core funding
- Annual meetings:
Brisbane, Kandy, Kota Kinabalu,
Seoul, Bali, Manila, Hoi An

16 member countries



Secretariat:



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



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APMEN Malaria Elimination Goals

Sub-National National



Sri Lanka (2014)



Republic of Korea
(2017)



China (2020)



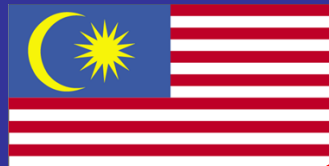
Cambodia (2025)
elimination (2020)



Nepal (2026)



Bhutan (2018)



Peninsular and Borneo
Malaysia (2020)



Vanuatu (2025)



Philippines
(2030)



Vietnam (2030)



Taffeta Province,
Vanuatu (2014)



Peninsular Malaysia,
Solomon Islands
Provinces,
Solomon Islands
(2020)



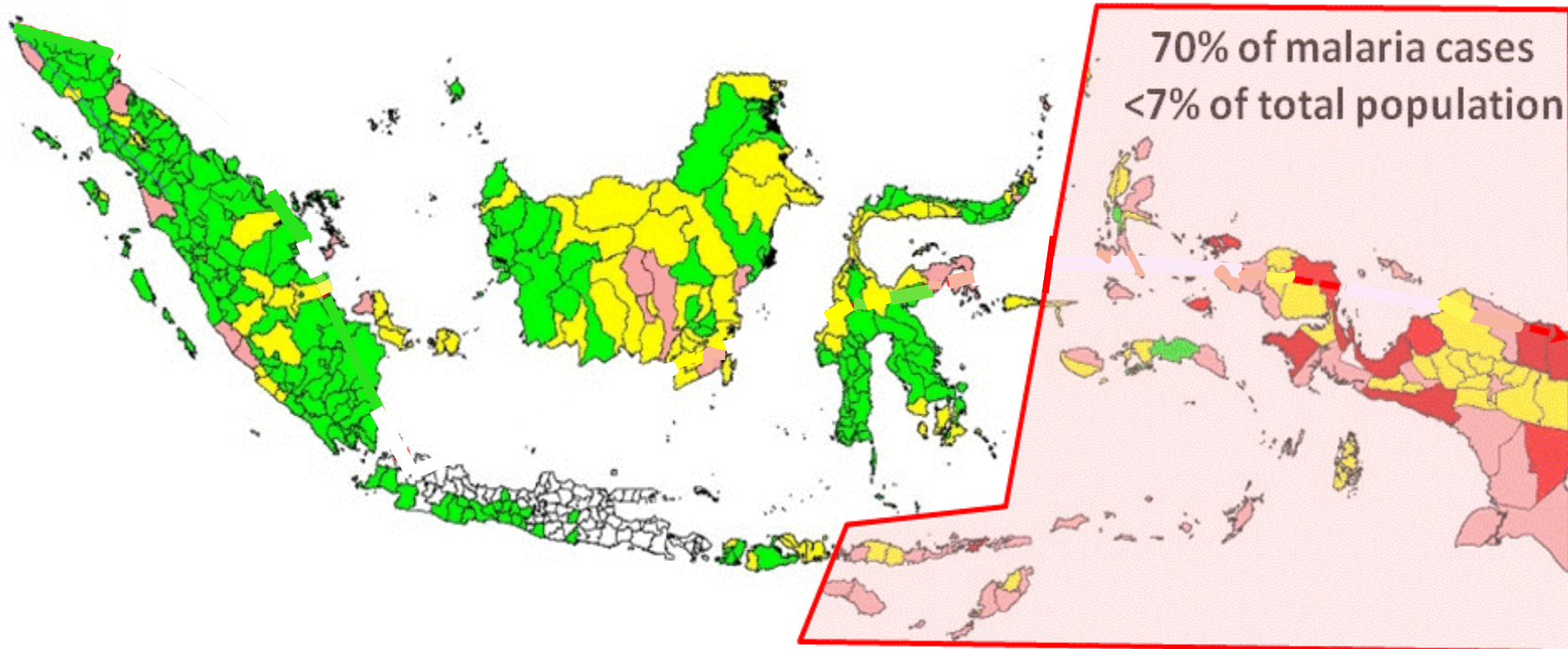
Indonesia (2020)
Indonesia out of 34
Provinces (2020)



Thailand (2030)
80% of Thailand
malaria-free (2020)



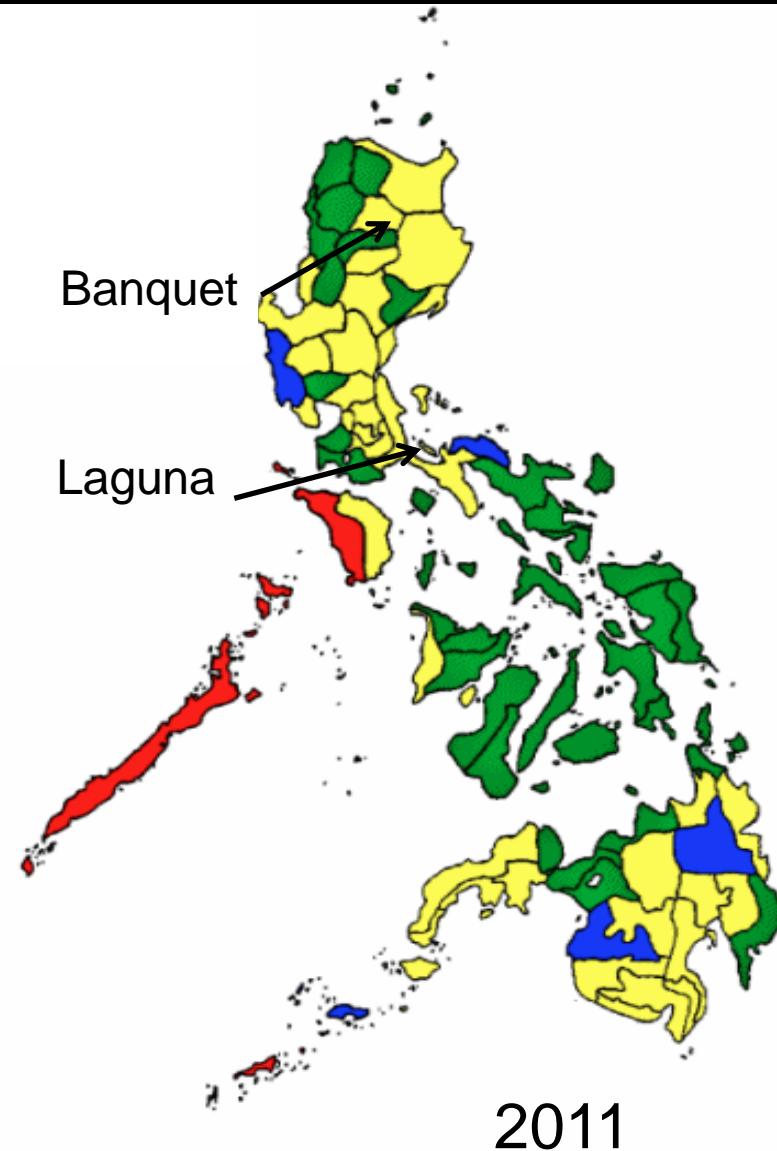
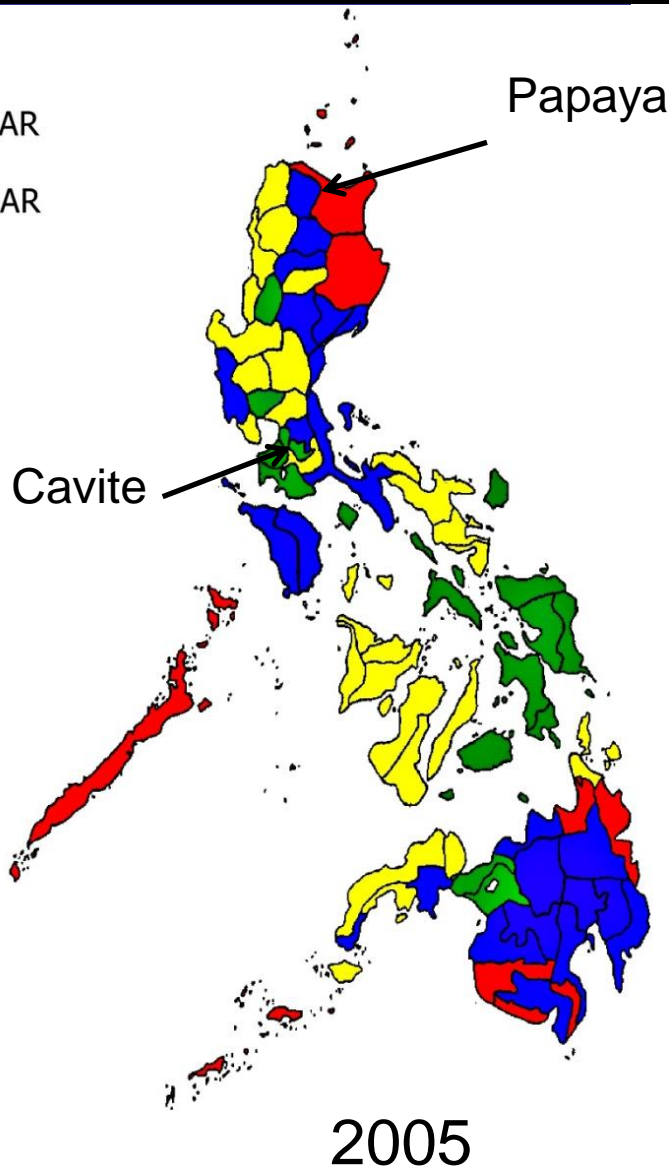
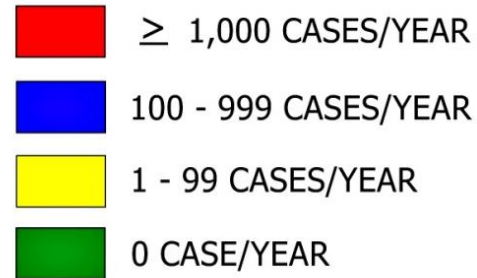
Malaria in Indonesia, 2012



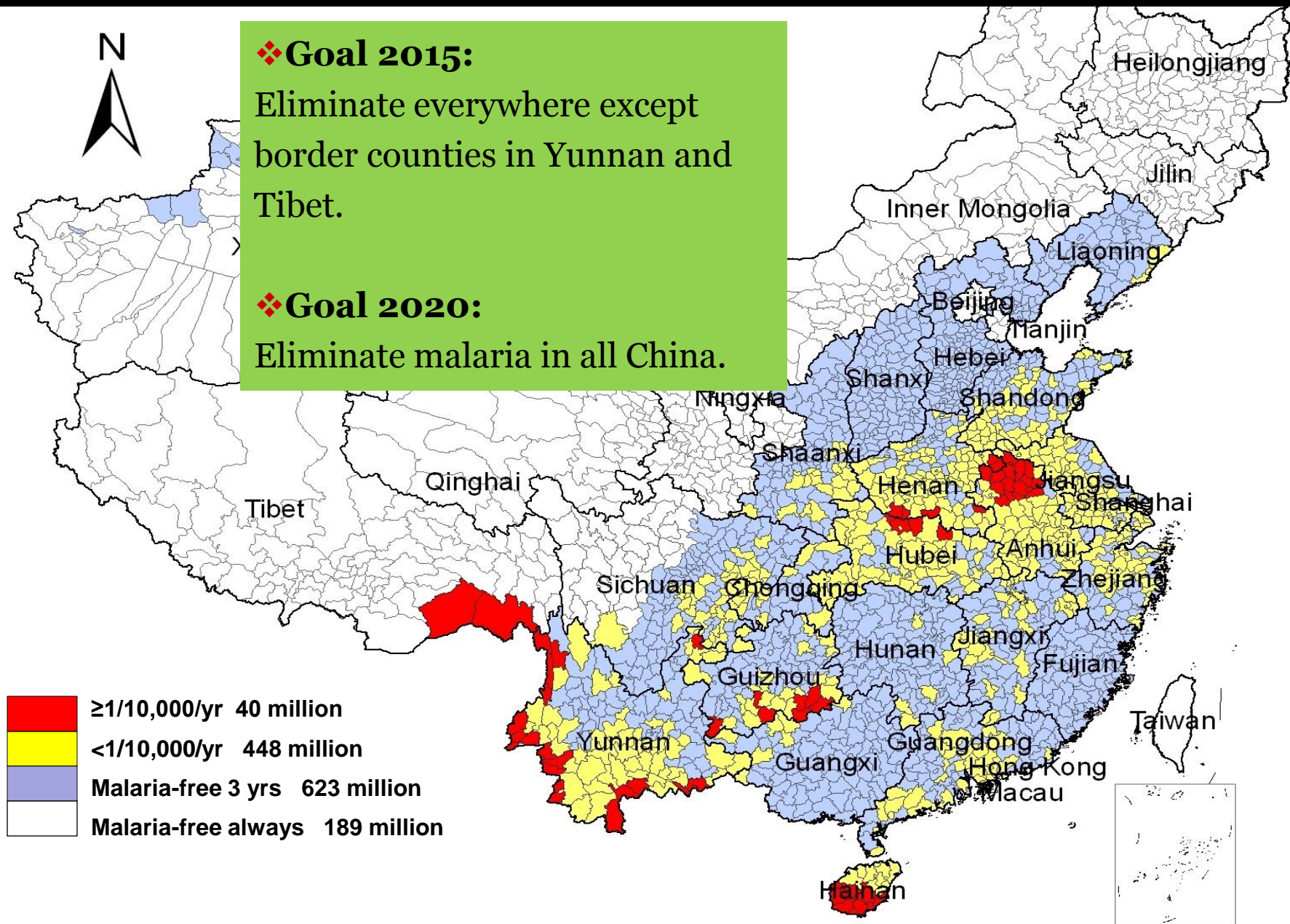
Endemicity	District/City	Population
Free	128	133 M
Low < 1 ‰	204	28 M
Moderate 1-5 ‰	85	73 M
High > 5 ‰	84	16 M

Malaria in the Philippines, 2005-2011

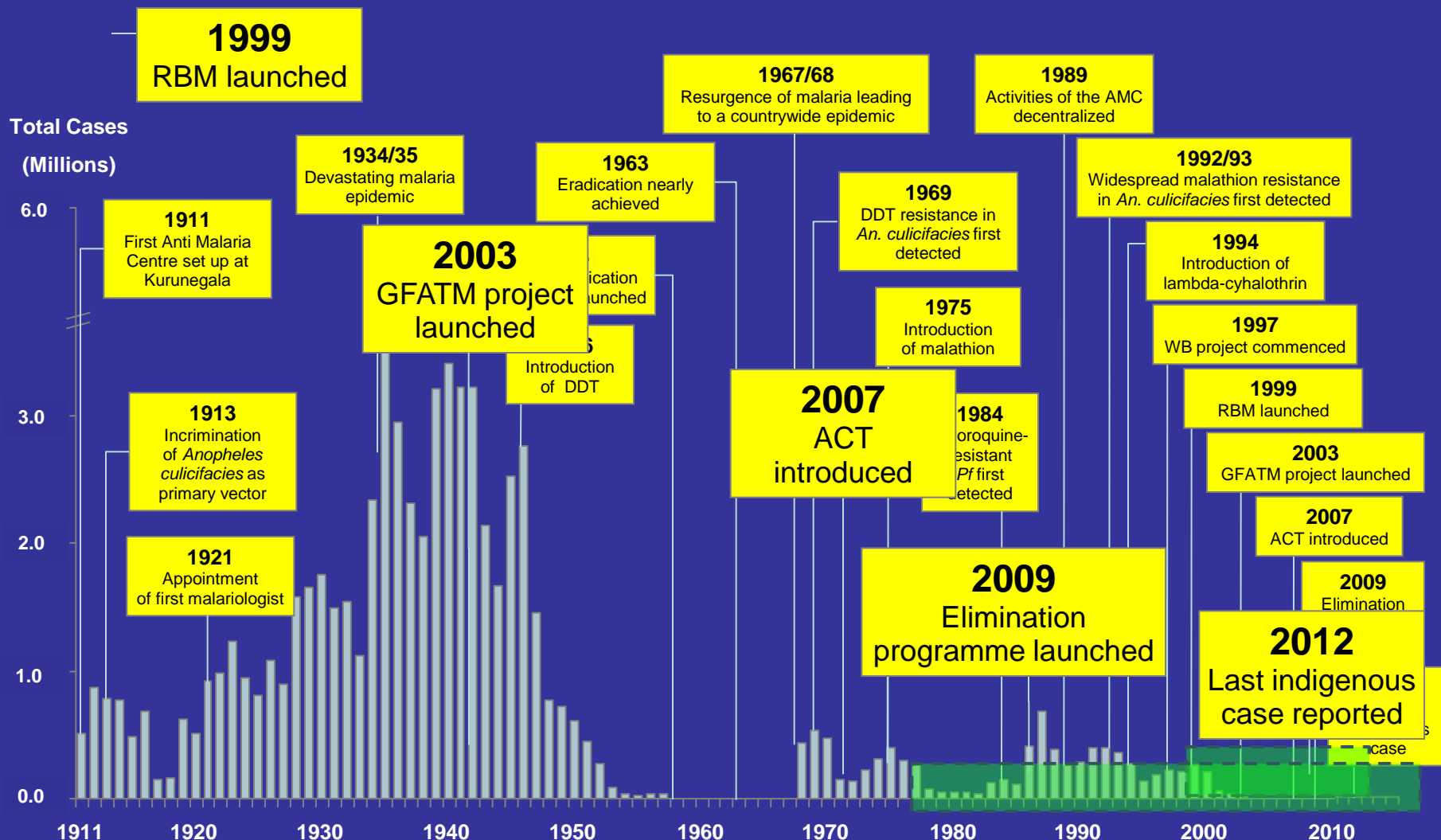
LEGEND



Malaria Elimination in China, 2011

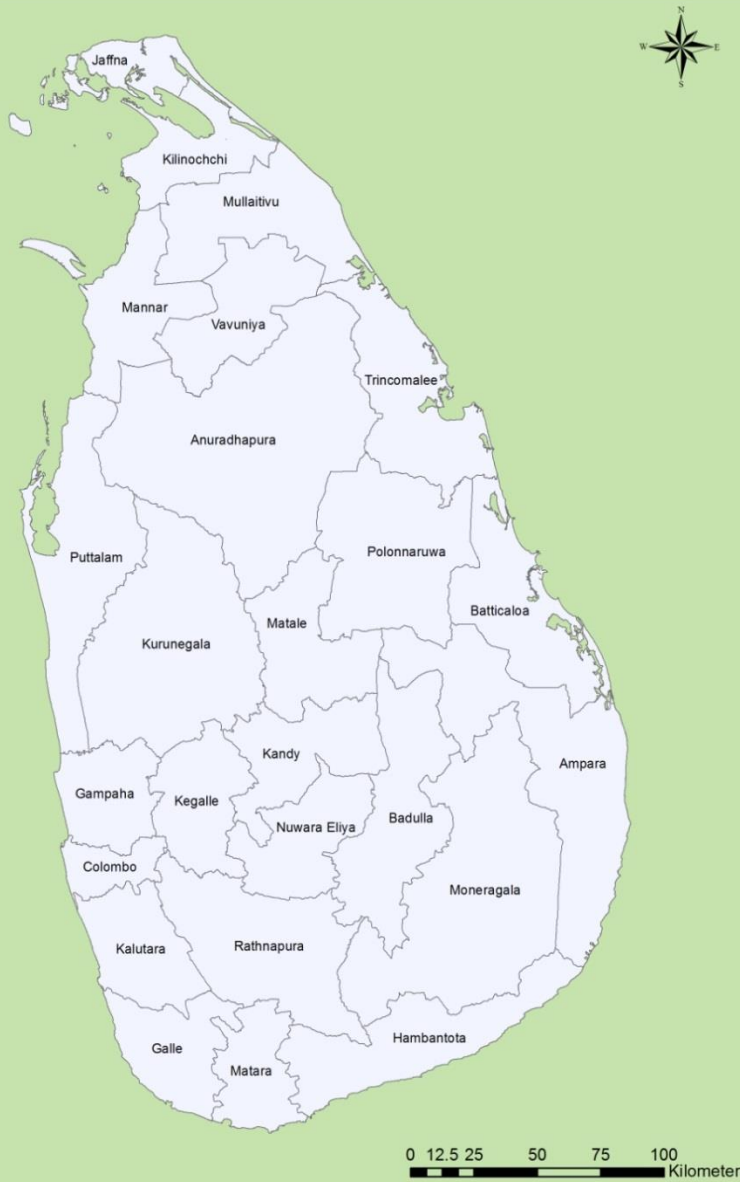


Malaria in Sri Lanka, 1999-2013



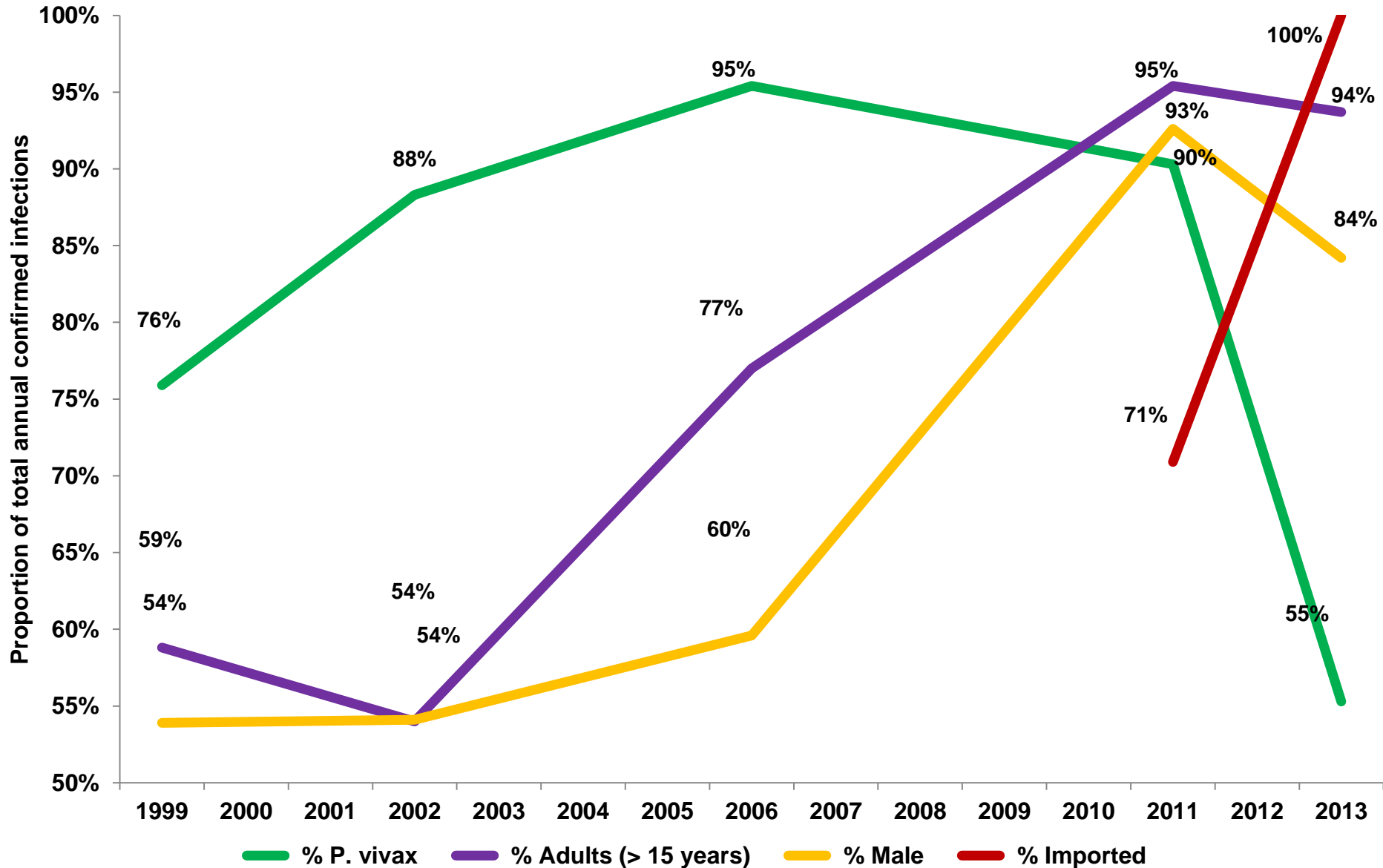
Shrinking the malaria map in Sri Lanka 1999-2013

2013

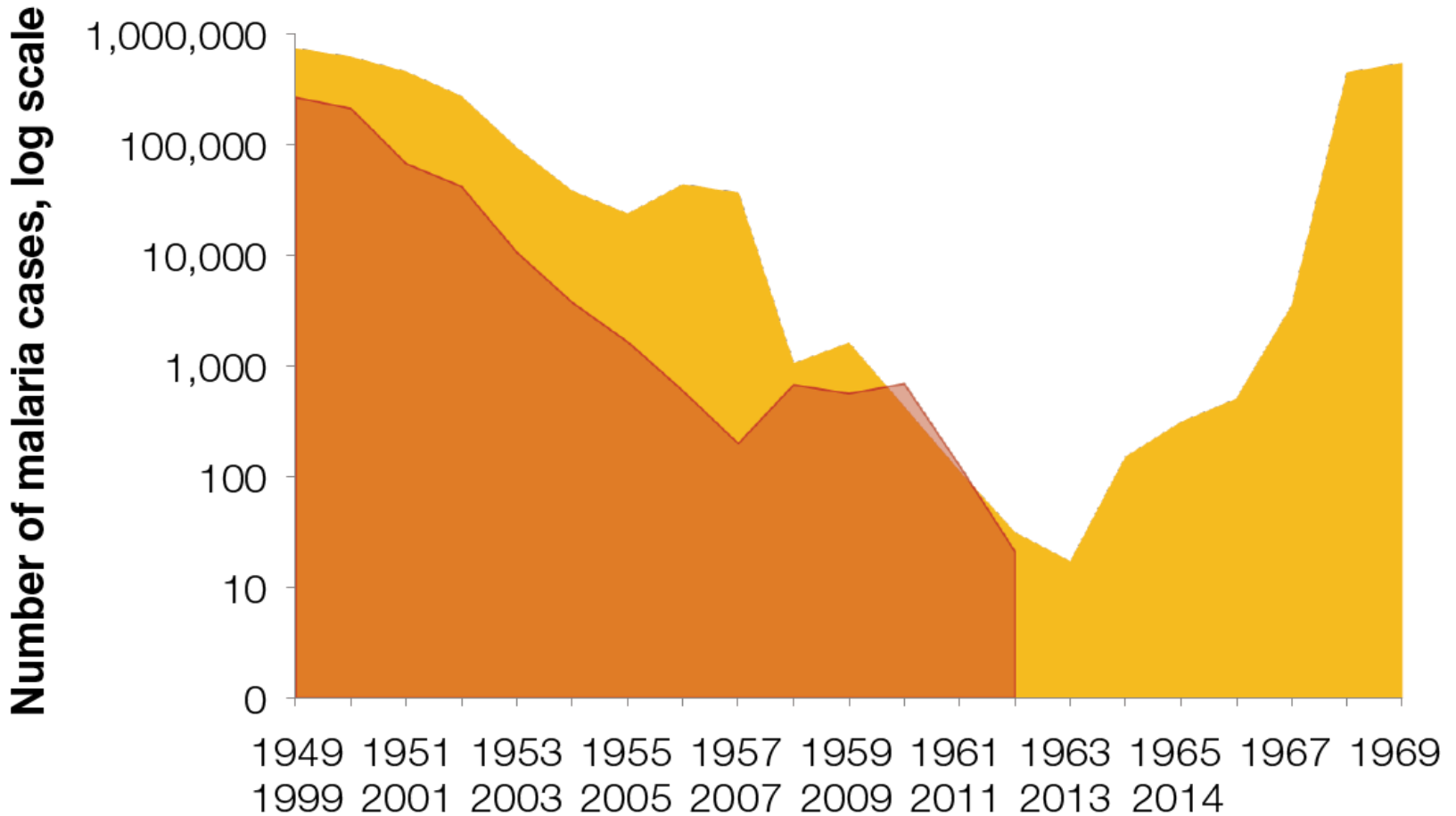


2009

The Changing Face of Malaria: Sri Lanka



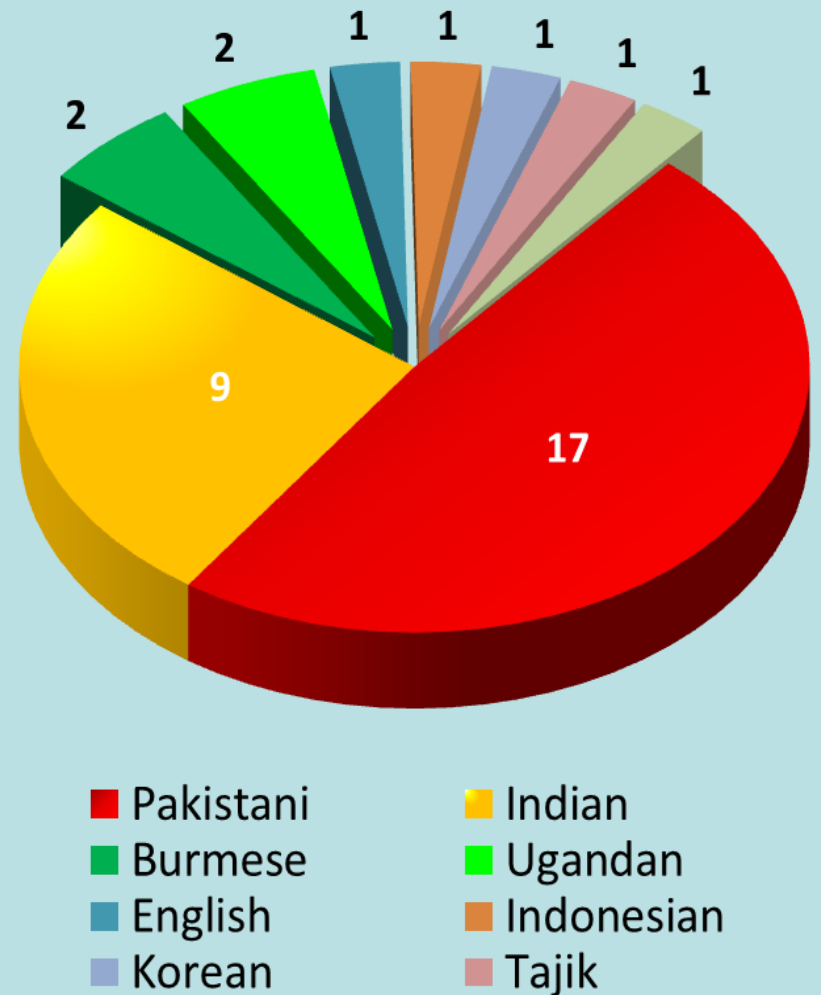
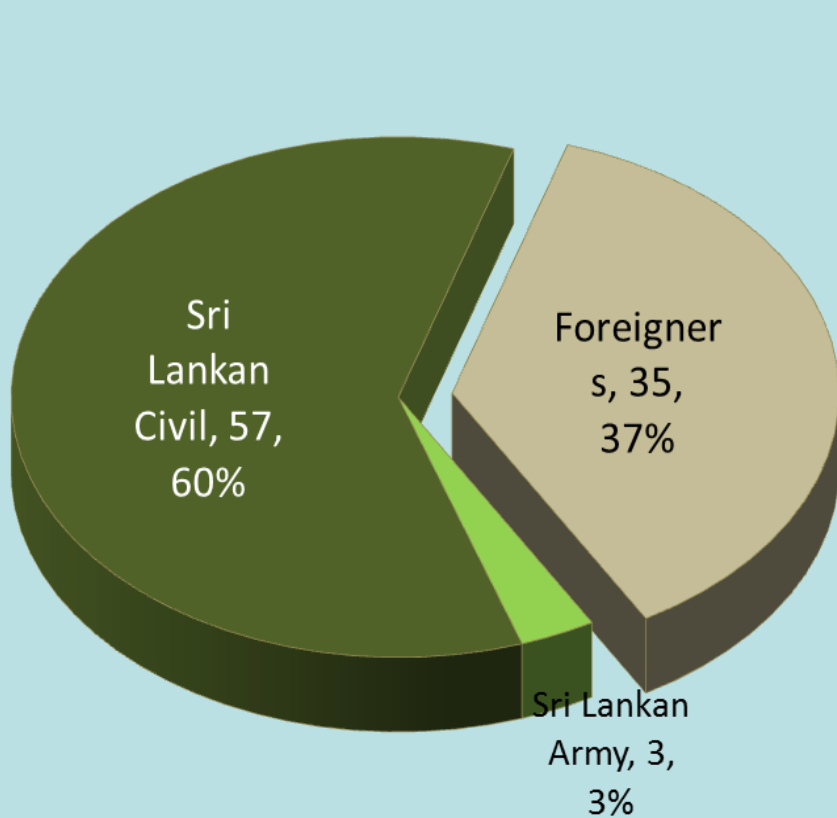
Let History NOT Repeat Itself



1949–1969

1999–2014

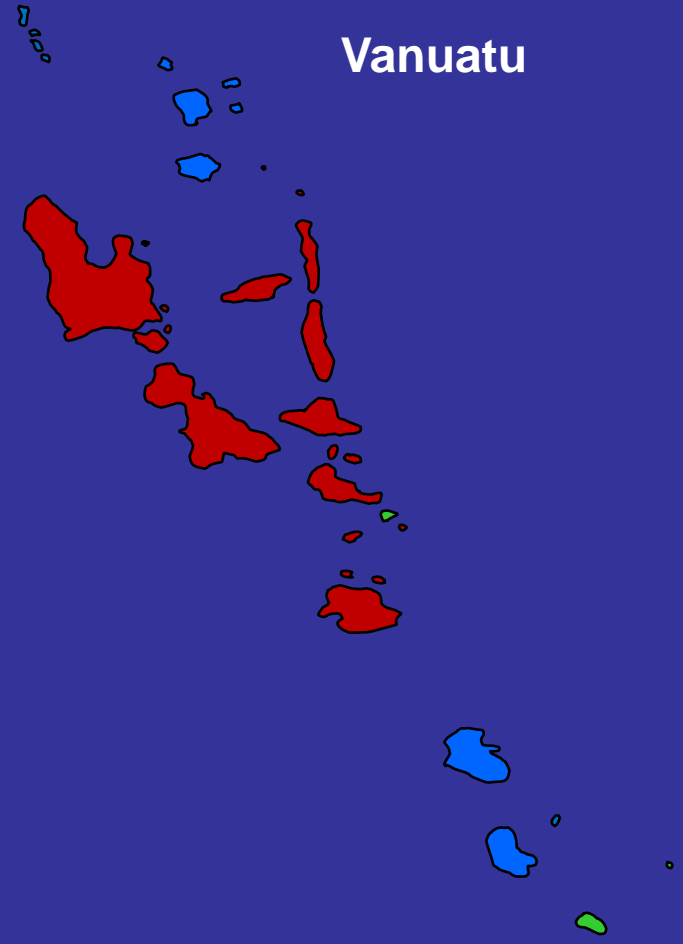
Sri Lanka: Imported Cases by Nationality, 2013



Pacific Malaria Initiative

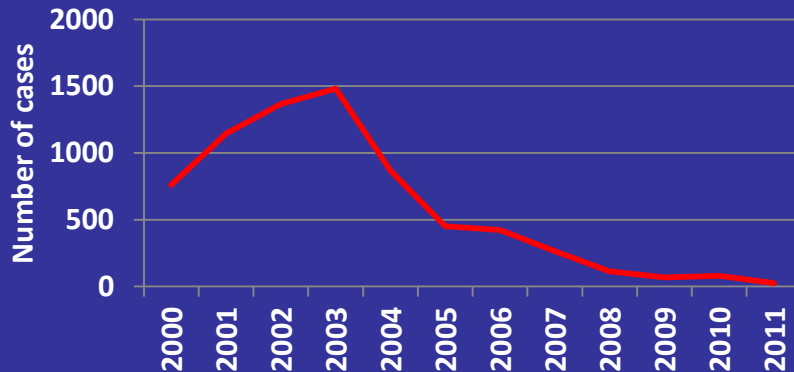


Solomon Islands



Vanuatu

Total microscopy confirmed Malaria cases in Isabel Province 2000-2011 (June)



East Asia Summit Statement

14 November 2014, Nay Pyi Taw

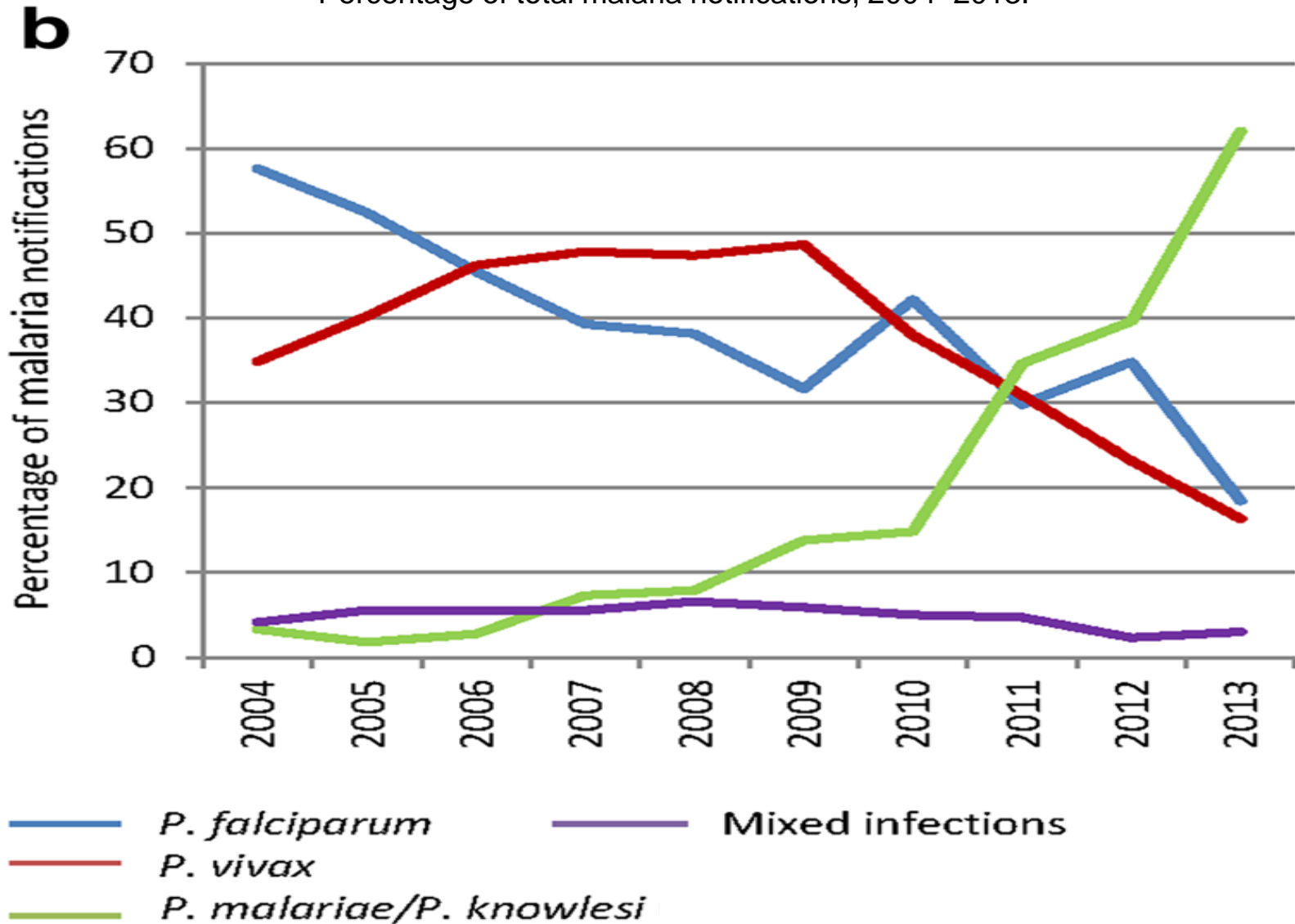
19. *We reiterated our commitment to the Declaration of the 7th East Asia Summit on Regional Responses to Malaria Control and Addressing Resistance to Anti-malaria Medicines. We welcomed the Asia Pacific Leaders Malaria Alliance (APLMA) Task Force Progress Report 2014 and agreed to the goal of an Asia Pacific free of Malaria by 2030. We tasked the APLMA co-chairs to submit to the 10th EAS in Malaysia a plan for achieving this goal and to implement the recommendations of the APLMA Task Forces.*

Monkey Business



Monkey Business in Sabah

Percentage of total malaria notifications, 2004–2013.



Source: William et al. *Malaria Journal* 2014, 13:390

The Challenges Now for Elimination

1. Political Commitment

- ALMA??
- APLMA??
- Dengue! Ebola!

2. Finance

- “No malaria, cut the budget!”
- Global Fund
- Measles logic

3. Management

- Generally weak
- Sine Qua Non

4. Reengineering

- Easiest because technical
- Most likely to happen

Elimination Between Now and 2020

- At least 20 countries



Algeria



Argentina



Azerbaijan



Belize



Bhutan



Botswana



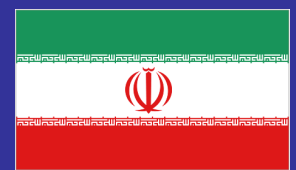
Cape Verde



Costa Rica



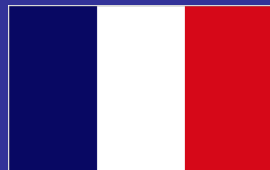
El Salvador



Iran



Kyrgyzstan



Mayotte



Paraguay



Rep. of Korea



Saudi Arabia



Sri Lanka



Swaziland



Tajikistan



Turkey



Uzbekistan



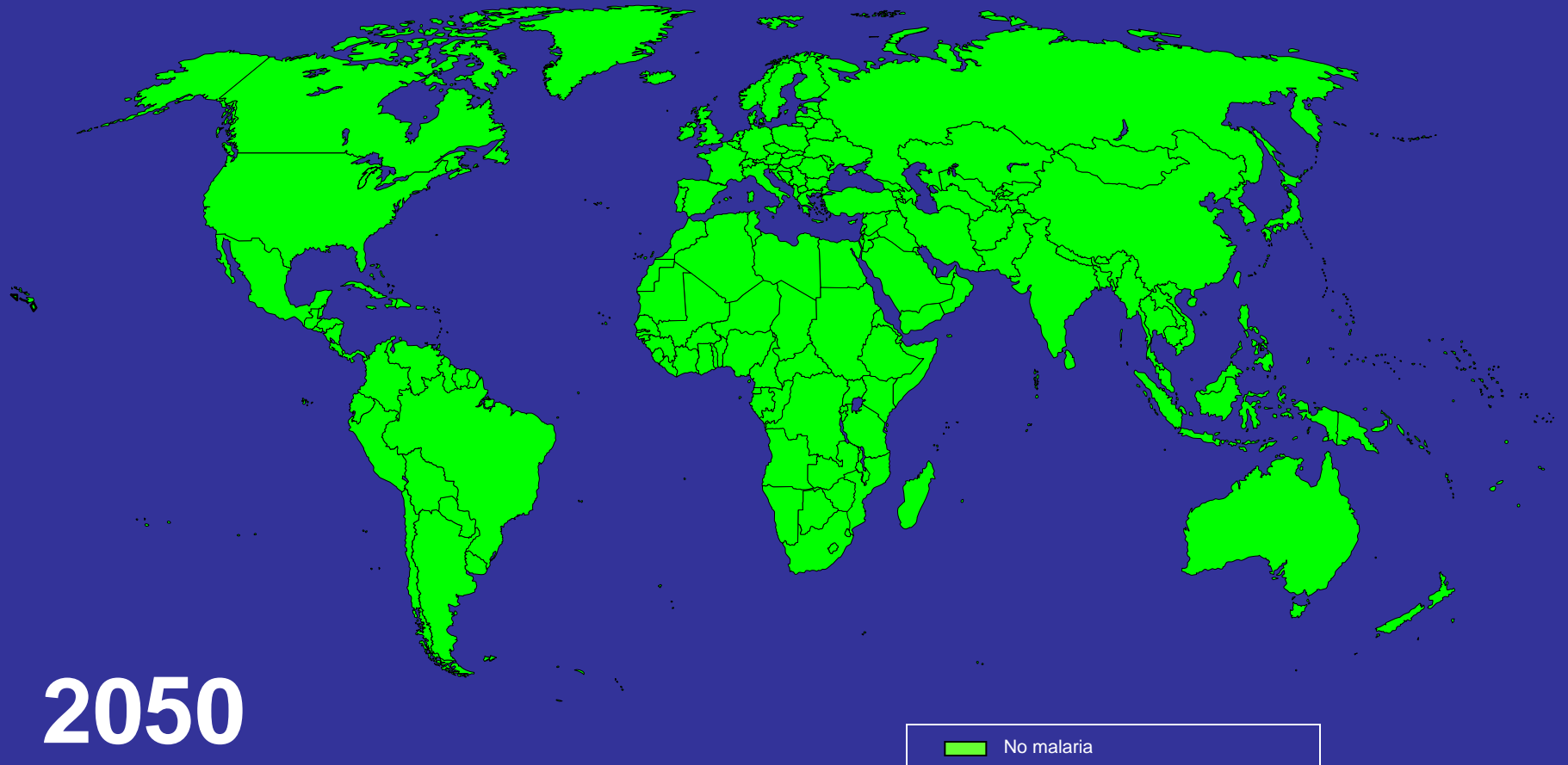
Elimination After 2020

- 80 countries
- Dependent on the big four

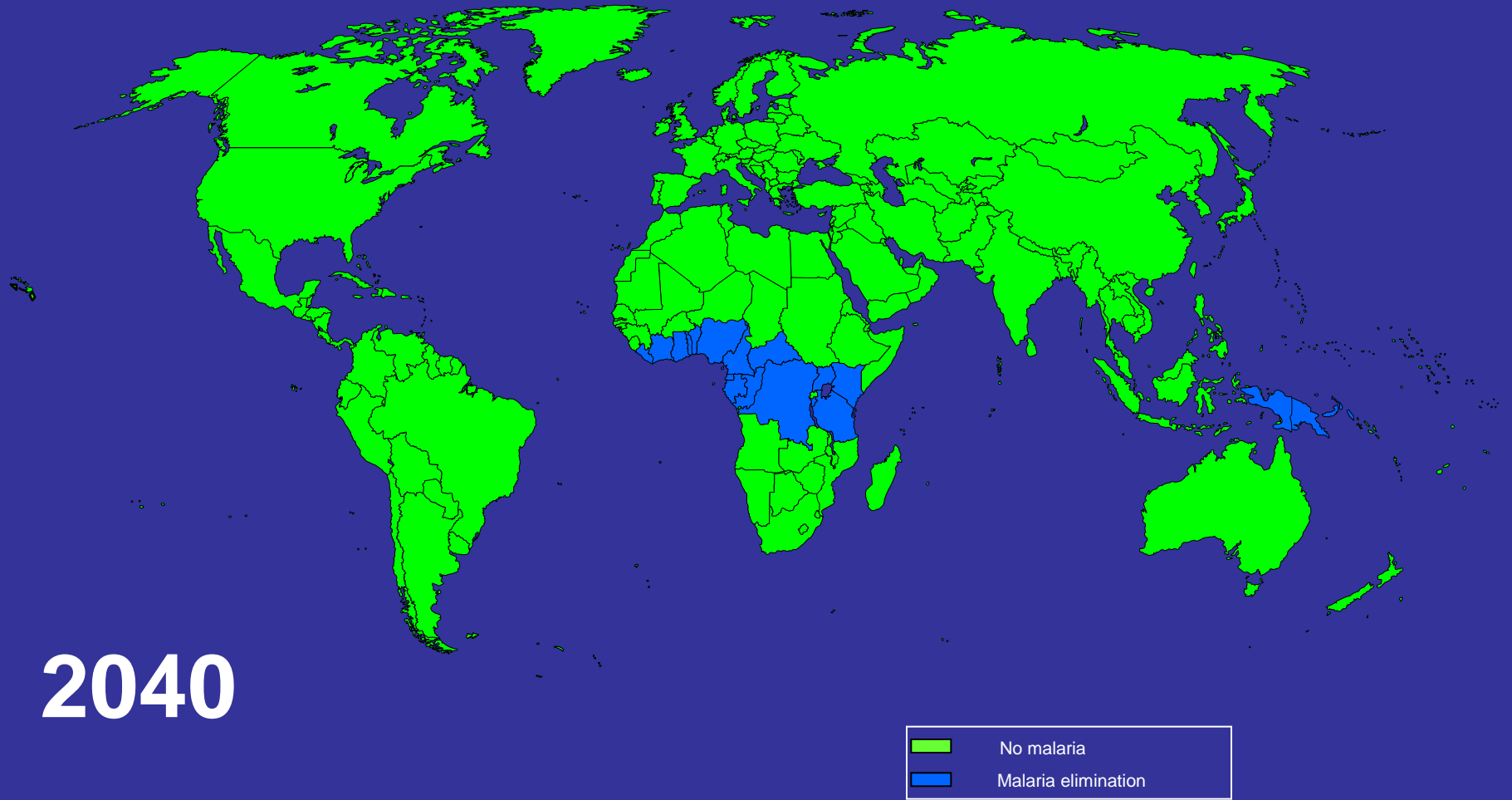
+

Science / Discovery

The Need to Commit



The Need to Commit





“Whatever you can do, or dream you can do, begin it. **Boldness** has genius, power and magic in it.”

Johann Wolfgang von Goethe (1749-1842)
Faust, 1835



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From evidence to action

“Until one is **committed**, there is hesitancy, the chance to draw back, always ineffectiveness. The moment one definitely **commits** oneself, providence moves too. A whole stream of events issues from the decision, raising in one’s favor all manner of unforeseen incidents, meetings, and material assistance, which no man could have dreamt would have come his way.”

W. H. Murray, OBE (1913-1996)
The Scottish Himalayan Expedition, 1951



The Granite Ridge of Dungaree Peak
(16,690 feet)



