Malaria and Tourism:
The Experience of The Sumba Foundation
Dr. Claus Bogh
Malaria in Indonesia

1. Number of confirmed cases in 2017: 262,000 cases, API of 0.99 per 1,000

2. Cases down from 675,000 confirmed cases in 2007, API of 2.89

3. All 4 human malaria species present plus *P. Knowlesi*

4. In 2017 Eastern Indonesia accounted for 80% of all Indonesian malaria cases
Malaria in Indonesia

ANGKA KESAKITAN MALARIA (ANNUAL PARACITE INCIDENCE /API)
PER 1.000 PENDUDUK TAHUN 2009-2017

Sumber: Ditjen P2P, Kemenkes RI, 2018
Malaria is present in all areas of eastern Indonesia (provinces of Maluku, Maluku Utara, Nusa Tenggara Timur, Papua, and Papua Barat), including the town of Labuan Bajo and Komodo Islands in the Nusa Tenggara region. Rural areas of Kalimantan (Borneo), Nusa Tenggara Barat (includes the island of Lombok), Sulawesi, and Sumatra. Low transmission in rural areas of Java, including Pangandaran, Sukalumi, and Ujung Kulon. None in the cities of Jakarta and Ubud, resort areas of Bali and Java, and Gili Islands and the Thousand Islands (Pulau Seribu).
Sumba island
220 km long, 11,000 km², Pop: 700,000
The Sumba Foundation

- An Indonesia and US based NGO focused on alleviating diseases and poverty, focus on East Nusa Tenggara

- Founded in 2001 by Claude Graves, owner of Nihiwatu Resort and philanthropist Sean Downs

- Registered in USA as a 501(c) Non profit in 2001 and as an Indonesian NGO in 2006

- Initial projects focused on water projects and education

- Dr. Claus Bogh joined in 2004 to establish the Malaria and Health Programs
Malaria survey by ADB/MOH in 2003
All night mosquito catches
Survey of sleeping habits
The mosquito breeding surveys
Family mourning 4 months old girl who died from malaria
Distribution of malaria cases during MOH survey in 2003

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total number of cases</th>
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<tbody>
<tr>
<td>&gt;45</td>
<td>40</td>
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<tr>
<td>40-44</td>
<td>30</td>
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<td>35-39</td>
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<td>30-34</td>
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<td>5-9</td>
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No of people tested:
- P. ovale: 2.0%
- P. malariae: 14.0%
- P. vivax: 24.0%
- P. falciparum: 60.0%
Malaria prevalence diversity in Sumba
Malaria vector species on Sumba

11 Anopheles Species, 7 confirmed malaria vectors:

- An. sundaicus
- An. subpictus
- An. flavirostris
- An. barbirostris
- An. maculatus
- An. annularis
- An. tessellatus
- An. vagus
- An. kochi
- An. aconitus
- An. hyrcanus
SF Malaria/Health Program

• First SF Malaria Clinic opened in 2004 with 4 nurses

• By 2007 SF had 4 clinics with 14 nurses and 1 MD

• SF Malaria Microscopy Training Center opened in 2010

• The SF clinics now see around 20,000 patients per year, of these around 4,000 are malaria patients

• Village surveys screen another 10,000 people per year
SF Malaria Control Program
Main Intervention Components

1. Make high quality malaria diagnosis freely available

2. Provide the most effective malaria treatment for all malaria species

3. Conduct mass screening of the target population to wipe out the malaria parasites

4. Reduce malaria transmission by providing high quality LLINs
SF Malaria Clinics
Village level malaria diagnosis and treatment
LLIN distribution
Core results of Malaria Program

- 50,000+ malaria cases treated
- Hundreds of lives saved
- 25,000+ LLINs distributed
- 93% reduction in malaria prevalence in core intervention area
The Sumba Foundation
Malaria Microscopy Training Center
MTC concept and history

- Main concept: Provide International level training in malaria microscopy, treatment and control

- Developed according to WHO guidelines in close collaboration with NAMRU-2. Initial funding by Goldman Sachs Bank

- Opened in May 2010

- 4 weeks training program including field work and WHO and National standard certification

WHO Standardized slides
Malaria Theory
Parasite reading and counting
Final Microscopy Exams
MTC results 2010 to 2018

- 410 Students WHO/National level Certified
- 85% of MTC graduates are government staff
- 62 Government Health Clinics trained in East Nusa Tenggara
- 8 Government hospitals trained in East Nusa Tenggara
- 150,000+ people screened and about a third treated annually by MTC graduates
The Sumba Foundation
Management and Financing

• Overlapping management boards between USA and Indonesia (independent from Nihiwatu resort)

• Annual budget around $700,000

• Nihiwatu’s owner donates $180,000 annually to cover Sumba Foundation operating expenses

• Nihiwatu guests donate around $200,000 annually

• Sumba Foundation annual fundraising event in New York, San Francisco or Hong Kong raise additional project funds
Other Sumba Foundation Programs

• Sumba Eye Program has provided 900 free cataract operations and 10,000 prescription glasses over 10 years

• Maternal Health Program provides free ultrasound scanning for pregnant women to decrease maternal mortality, 6 lives saved in 2 years

• School Lunch Program provides 7,500 free meals a week at 10 primary schools

• Malnutrition Program provides daily food and vitamins to 180 malnourished children below 5.

• Water Program provided potable water to 25,000 people
Nihiwatu Resort
Nihiwatu History

• Opened in 2000 with 10 rooms

• Expanded to 25 rooms by 2010

• Won many awards for responsible tourism because of the link with Sumba Foundation

• Sold in 2013 and expanded to 32 keys by 2015

• Won Best Hotel in the World in 2016 and again in 2017, key reason was the link with Sumba Foundation
Hotel benefits from collaboration with Sumba Foundation

- Nihiwatu has won more than 10 international awards for responsible tourism because of the collaboration.

- Collaboration with Sumba Foundation is the heart of Nihiwatu’s Corporate Social Responsibility profile.

- Local community’s well being and perception of resort essential for operation, recruitment and safety.

- Local government very supportive of resort because of Sumba Foundation link.

- Sumba Foundation has developed and runs the hotels anti malaria and anti mosquito programs.
Nihiwatu guests at school lunch
Nihiwatu Malaria Control and medical backup by SF

• Sumba Foundation tests all 400+ hotel staff for malaria once a month to avoid local transmission

• Insecticide misting takes place 3 times a week in high risk areas and 2 times a week in lower risk areas of the resort

• Sumba Foundation Clinics assist any sick hotel staff six days a week

• Sumba Foundation medical team has a 24/7 on call system for emergencies for hotel staff or guests
Nahiwatu mosquito control
How to scale !
MOU with Province Health Office
MTC graduates at Hospitals and Clinics in East Nusa Tenggara
Malaria trend in East Nusa Tenggara

Annual Parasite Incidence (API) in NTT: 2006 - 2018

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<th>Year</th>
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<td>2017</td>
<td>5.6</td>
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<td>2018</td>
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Scaling of hotel links

- Five new hotels on Sumba support The Sumba Foundation to expand malaria/clinic coverage

- Two large hotel projects on Sumbawa island intend to copy the concept of NGO and hotels collaboration

- One NGO has been established on Sumbawa island, with solid help from Sumba Foundation
Government and hotel officials from Sumbawa
New Hotel and NGO collaborations
What motivates?
Motivation in Hotel industry

1. Protection of guests!
2. Protection of staff!
3. Awards and Travel with a purpose
4. Corporate Social Responsibility
5. Local perception
Motivation of politicians and officials

1. Protection of constituency
2. Eradication of malaria key for development
3. Tourism top priority for development
4. Local pride in Nihiwatu
Thank you!