

TANZANIA (ZANZIBAR) MALARIA PROFILE

I. ABOUT

Launched in 2005, the [U.S. President's Malaria Initiative \(PMI\)](#) supports implementation of malaria prevention and treatment measures as well as cross-cutting interventions. PMI's 2021–2026 strategy, [End Malaria Faster](#), envisions a world free of malaria within our generation with the goal of preventing malaria cases, reducing malaria deaths and illness, and eliminating malaria in PMI partner countries. PMI currently supports 24 countries in sub-Saharan Africa and three programs across the Greater Mekong Subregion in Southeast Asia to control and eliminate malaria. Tanzania (Zanzibar) began implementation as a PMI partner country in FY 2006. Please see the [Tanzania \(Zanzibar\) – Malaria Operational Plan](#) for more information on PMI's approach and investments.

II. CONTEXT

Table 1: General Demographics and Malaria Situation

Population	1,690,136 (World Health Organization [WHO], 2020)
Population at risk of malaria	100% (WHO, 2020)
Malaria prevalence	0.2% (Tanzania Malaria Indicator Survey [MIS], 2017)
Peak malaria transmission	Rainy season is October to December and March to May

STRATIFICATION

The Zanzibar Malaria Elimination Program (ZAMEP), with support from PMI partners, is finalizing a malaria stratification in calendar year (CY) 2022, which will guide the development of the next malaria strategic plan, CY 2023–2028.

Figure 1: Incidence Map, 2020 and 2021

Maps of annual parasite incidence (API) per 1,000 population by *Shehia* between 2020 and 2021 in Zanzibar, both Unguja and Pemba islands. API cut-offs are no malaria (green), low API <1 (light green), moderate API 1-5 (yellow), and high API >5 (red).

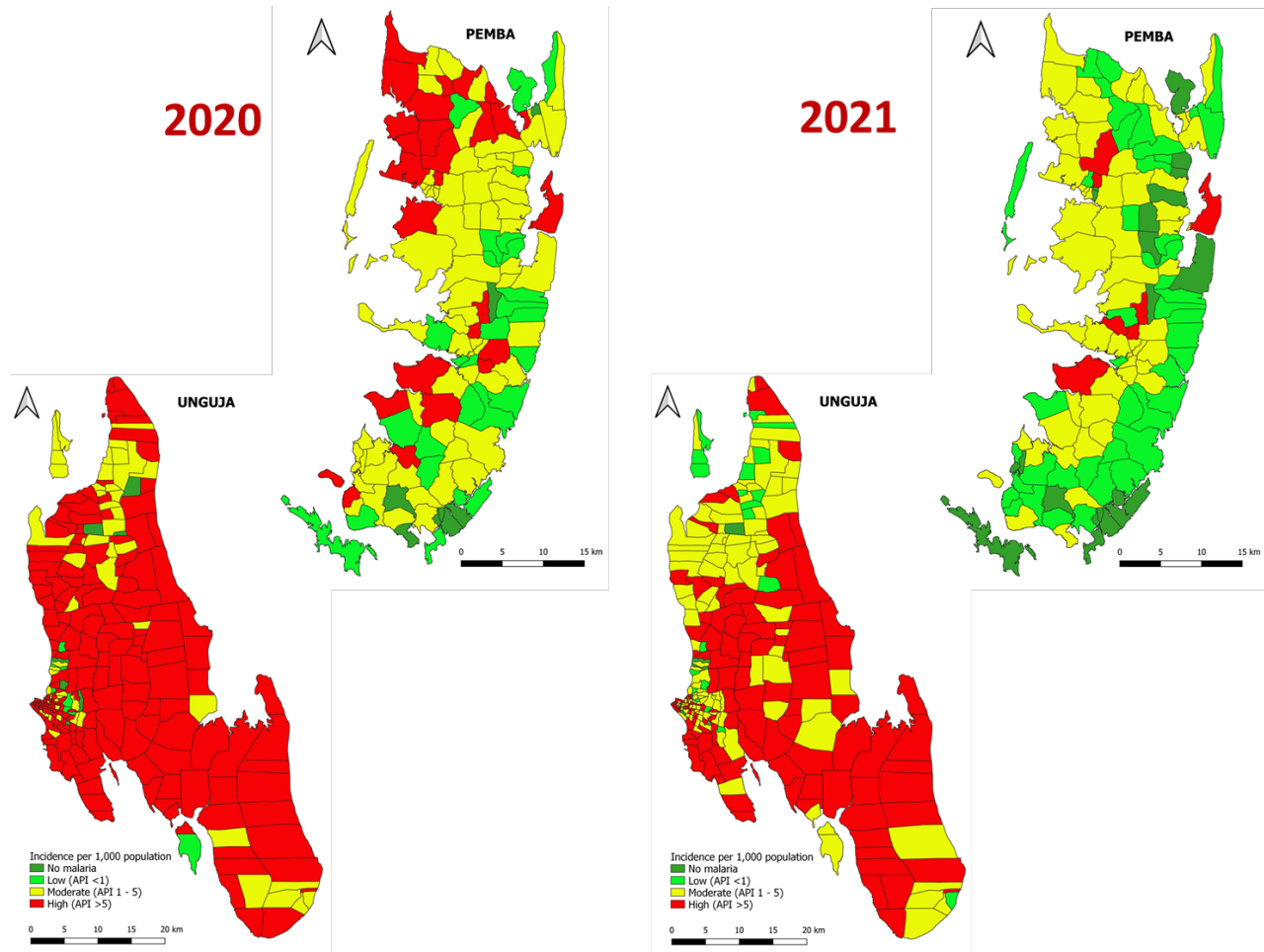


Figure 2: ITN Use:Access Ratio

Figure 2 is a map showing insecticide-treated mosquito net (ITN) use:access ratios by region in Zanzibar. Overall, there is a high ITN use to access ratio across Zanzibar, ranging from 0.91 in Kaskazini, Unguja to 0.99 in Kaskazini, Pemba.

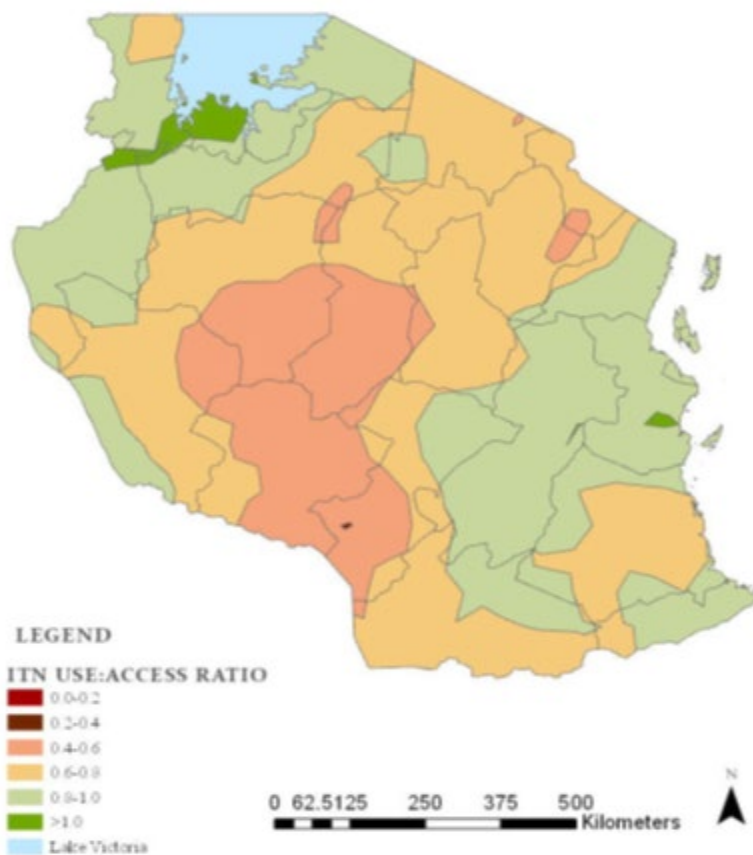


Table 2: Malaria Parasites and Vectors

Principal Malaria Parasites	<i>Plasmodium falciparum</i> (ZAMEP, 2021)
Principal Malaria Vectors*	High coverage of ITNs and indoor residual spraying (IRS) has resulted in a shift in the malaria vector population from <i>An. gambiae</i> s.s to predominantly <i>An. arabiensis</i> . The secondary vectors are <i>An. leesonii</i> , <i>An. parenesis</i> , and <i>An. rivulorum</i> from the <i>An. funestus</i> family complex. (ZAMEP, 2021)

* See **Entomological Monitoring** section of the Malaria Operational Plan for more details on vector bionomics and insecticide resistance and **Indoor Residual Spraying** section for details on residual efficacy.

COUNTRY HEALTH SYSTEM

Zanzibar consists of two major islands, Unguja and Pemba, as well as several small islands, covering a total area of 2,654 square kilometers and is part of the United Republic of Tanzania. Administratively, Zanzibar is divided into 5 regions, 11 districts, 2 sub-districts, and 388 *Shehias*. Zanzibar has a young, rapidly growing, and increasingly urbanized population. The population of Zanzibar is estimated to be about 1.4 million, of which approximately 46 percent resides in the urban areas.

Among public health facilities, there is one tertiary hospital (Mnazi Mmoja Hospital) with maternal and mental health services located in Zanzibar City, one hospital in Pemba, four district hospitals (Kivunge located in Unguja, and Micheweni, Wete, and Chake Chake located in Pemba), two primary health care centers (also called cottage hospitals, one each for Unguja and Pemba), 34 primary health care units+ (with 13 in Pemba and 21 in Unguja), and 119 primary health care units (51 in Unguja and 68 in Pemba). There are 91 registered private health facilities in Zanzibar (21 in Pemba and 70 in Unguja), of which eight are faith-based, 11 are NGO-based, and 70 are private for-profit, as well as many private laboratories and other diagnostic services and pharmacies. On average, more than 90 percent of the population in Zanzibar is within a 5 km radius to the nearest health facility and there is a facility for every 5,000 population.

Health sector management and service delivery are divided between the Ministry of Health (MOH) and the President's Office Regional Administration and Local Government and Specialized Departments (PORALG-SD). The MOH is responsible for the strategic direction of the health sector. This includes setting policy and guidelines for Mnazi Mmoja and district hospitals. PORALG-SD is administratively responsible for councils, including staffing, budgeting, and accounting. Councils are responsible for service delivery at facilities below hospital level.

OTHER CONTEXTUAL INFORMATION

There is evidence that a significant proportion (~60 percent) of malaria cases reported in Zanzibar may be imported, largely through informal ports of entry from the mainland Tanzania.

III. ZAMEP STRATEGIC PLAN

The ZAMEP Strategic Plan 2018–2023 identifies three major strategies to achieve its goal of elimination:

- 1) Malaria diagnosis and treatment: Ensure quality assured diagnosis and appropriate case management in all health facilities and at community level to 100 percent by 2023.
- 2) Integrated malaria vector control: Increase appropriate vector control measures to the population at risk of malaria to 100 percent by 2023.
- 3) Surveillance, monitoring, and evaluation
 - a) Actively investigate and classify 100 percent of all confirmed cases of malaria and initiate entomological surveillance in malaria foci from 0 percent in 2017 to 100 percent by 2023.
 - b) Conduct entomological surveillance in 100 percent of malaria foci areas by 2023.

IV. KEY MALARIA DATA

EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS

Table 3: Key Survey Indicators

Indicator	2004–05 DHS	2010 DHS	2015– 2016 DHS-MIS	2017 MIS
% Households with at least one ITN	28	76	74	79
% Households with at least one ITN for every two people	10	39	40	42
% Population with access to an ITN	18	58	57	62
% Population that slept under an ITN the previous night	16	45	47	59
% Children <5 years of age who slept under an ITN the previous night	22	55	56	67
% Pregnant women who slept under an ITN the previous night	20	50	52	63
% Children <5 years of age with a fever in the last two weeks for whom advice or treatment was sought	80	73	79	82
% Children <5 years of age with a fever in the last two weeks who had a finger or heel stick	N/A	N/A	34	31

Indicator	2004–05 DHS	2010 DHS	2015– 2016 DHS-MIS	2017 MIS
% Children receiving an ACT among children <5 years of age with a fever in the last two weeks who received any antimalarial drug	N/A	N/A	N/A	N/A
% Women who attended 4 ANC visits during their last pregnancy	N/A	N/A	N/A	N/A
% Women who received three or more doses of IPTp during their last pregnancy in the last two years	N/A	N/A	N/A	N/A
<5 mortality rate per 1,000 live births	101	73	56	N/A
% Children <5 years of age with parasitemia by microscopy	N/A	N/A	0.7	N/A
% Children <5 years of age with parasitemia by rapid diagnostic test	N/A	N/A	0.0	0.2

DHS: Demographic and Health Survey; MIS: Malaria Indicator Survey

Table 4: Evolution of Key Malaria Indicators Reported through Routine Surveillance Systems

Community-level data is generated from reactive case detection (RCD) conducted by council malaria surveillance officers (CMSOs) and integrated into the broader Health Management Information System (HMIS).

Indicator	2017	2018	2019	2020	2021
# All-cause patient consultations	1,365,022	1,679,207	1,935,406	2,112,722	2,403,303
# Suspect malaria cases ¹	N/A	N/A	N/A	N/A	N/A
# Patients receiving diagnostic test for malaria ²	356,795	418,169	424,566	567,895	636,183
Total # malaria cases ³	4,171	5,146	6,970	14,289	6,172
# Confirmed cases ⁴	4,171	5,146	6,970	14,289	6,172
# Presumed cases ⁵	0	0	0	0	0

Indicator	2017	2018	2019	2020	2021
% Malaria cases confirmed ⁶	100%	100%	100%	100%	100%
Test positivity rate ⁷	1.2%	1.2%	1.6%	2.5%	1.0%
Total # children <5 years of age malaria cases ⁸	536	706	727	1,203	773
% Cases in children <5 years of age ⁹	12.9%	13.7%	10.4%	8.4%	12.5%
Total # severe cases ¹⁰	N/A	N/A	N/A	N/A	N/A
Total # malaria deaths ¹¹	1	5	7	20	4
# Facilities reporting ¹²	223	229	249	258	285
% Data completeness ¹³	96.3%	98.1%	98.3%	98.7%	99%

1 Number of patients presenting with signs or symptoms possibly due to malaria (e.g., fever); 2 Rapid diagnostic test or microscopy, all ages, outpatient and inpatient; 3 Total reported malaria cases; all ages, outpatient and inpatient, confirmed and unconfirmed cases; 4 Diagnostically confirmed; all ages, outpatient and inpatient; 5 Clinical/presumed/unconfirmed; all ages, outpatient and inpatient; 6 # confirmed cases divided by total # cases; 7 Confirmed cases divided by # patients receiving a diagnostic test for malaria (rapid diagnostic test or microscopy); 8 Outpatient and inpatient, confirmed and unconfirmed; 9 Total # children <5 cases divided by total # of cases; 10 Severe cases are defined in a patient with *P. falciparum* asexual parasitemia and no other obvious cause of symptoms, the presence of one or more of the following clinical features: behavioral changes, prostration/extreme weakness, coma, respiratory distress, convulsions, vomiting everything, inability to drink or breastfeed, circulatory collapse/ shock, pulmonary edema, bleeding tendency/ disseminated intravascular coagulation, jaundice, acute renal failure, and hemoglobinuria.; 11 All ages, outpatient, inpatient, confirmed, and unconfirmed; 12 Total # of health facilities reporting data into the HMIS/District Health Information System-2 (DHIS-2) system that year; 13 # monthly reports from health facilities divided by # health facility reports expected (average for the calendar year)

Table 5: Disaggregated Community-Level Data

Community-level data is generated from RCD conducted by CMSOs.

Indicator	2019	2020	2021
# Patients receiving diagnostic test for malaria from a CMSO	18,286	30,528	19,772
Total # of malaria cases reported by CMSOs ¹	543	598	416
% of CMSO reported cases (among total malaria cases) ²	7.8%	4.2%	6.7%

1 Includes all ages, confirmed and unconfirmed.

2 Total # malaria cases reported by CMSOs/Total # malaria cases in previous table.

Table 6: Key Elimination Indicators

Indicator	2019	2020	2021
Total # of regions, districts, and <i>Shehias</i>	5 – Regions 11 – Districts 389 – <i>Shehias</i>	5 – Regions 11 – Districts 389 – <i>Shehias</i>	5 – Regions 11 – Districts 389 – <i>Shehias</i>
# of regions, districts, and <i>Shehias</i> designated for elimination	5 – Regions 11 – Districts 389 – <i>Shehias</i>	5 – Regions 11 – Districts 389 – <i>Shehias</i>	5 – Regions 11 – Districts 389 – <i>Shehias</i>
% of <i>Shehias</i> pursuing elimination	100%	100%	100%
API	3.6	8.6	4.1
Test positivity rate	1.6	2.5	1.0
Proportion of cases investigated	68%	75%	95%
Proportion of foci classified	N/A	N/A	100% ¹

¹ Total foci: 396 (active 178; residual non-active 201; cleared 17)

V. OTHER IMPLEMENTATION INFORMATION

Table 7: Results of Durability Monitoring

After three years of following similar, rural populations in the Zanzibar, the 150-denier polyethylene Olyset ITN showed lower physical survival compared to the 100-denier polyester PermaNet 2.0 ITN, despite an estimated median survival of 2.7 years for the Olyset and 2.9 years for the PermaNet ITNs. Insecticidal performance was optimal for both brands throughout the follow-up when the tunnel test was applied to samples. See full report [here](#).

Site/Net Type	Survey and Time Since Distribution (months)	Attrition to Wear and Tear (%)	Nets in Serviceable Condition (%)	Optimal Insecticidal Effectiveness in Bioassay (%)
Wete district (Pemba) / Olyset	Baseline	0%	99.1%	N/A
	12-month	5.3%	91.8%	53.0% (32.8–72.8) 96.7% (77.7–99.6) [including tunnel]
	24-month	10.6%	77.6%	20.0% (9.8–36.6) 80.0% (58.4–91.9) [including tunnel]
	36-month	14.9%	64.0%	50.0% (30.5–9.5) 100% [inc. tunnel]
North B district (Unguja) / PermaNet 2.0	Baseline	0.2%	99.2%	n/a
	12-month	1.1%	95.1%	90.0% (63.5–97.9) 100% [inc. tunnel]

Site/Net Type	Survey and Time Since Distribution (months)	Attrition to Wear and Tear (%)	Nets in Serviceable Condition (%)	Optimal Insecticidal Effectiveness in Bioassay (%)
	24-month	7.6%	84.9%	96.7% (77.7–99.6) 100% [inc. tunnel]
	36-month	12.3%	67.7%	90.0% (63.4–97.9) 100% [inc. tunnel]

Summary of Completed Therapeutic Efficacy Studies (TES)

PMI doesn't support TES in Zanzibar. PMI supports drug efficacy monitoring following the standard WHO protocol at four sentinel sites annually in mainland Tanzania and includes molecular testing of antimalarial resistance markers for artesunate-amodiaquine (ASAQ), Zanzibar's first-line artemisinin-based combination therapy (ACT). For details about Tanzania's TES, see the TES section in the Tanzania mainland FY 2023 MOP.

VI. KEY POLICIES

Table 8: Policies in Zanzibar

Available policy, operational, and guidance documents can be viewed and downloaded from the MOH Zanzibar [website](#).

Zanzibar Malaria Elimination Strategic Plan (2018-2023)
Zanzibar Digital Health Strategy (2020–2025)
Zanzibar Digital Health Investment Roadmap (2020–2025)
Zanzibar Malaria Elimination Social & Behavior Change Communication Strategy (2018–2023)
Zanzibar Supply Chain Strategic Plan (2021–2026)
Vector Control Guidelines for Malaria Elimination in Zanzibar (2017)

Guidelines for Malaria Diagnosis and Treatment (2018)	
What is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	ASAQ
What is/are the second-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	Intramuscular artemether or quinine if artesunate is not available
What is/are the first-line treatment(s) for uncomplicated <i>P. vivax</i> malaria?	Primaquine
What is the first-line treatment for severe malaria?	Artesunate
In pregnancy, what is the first-line treatment for uncomplicated <i>P. falciparum</i> malaria in the <u>first trimester</u> ?	Quinine with clindamycin
In pregnancy, what is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria in the <u>second and third trimesters</u> ?	ASAQ
What is/are the first-line treatment(s) for <i>P. vivax</i> malaria during pregnancy?	Chloroquine
In pregnancy, what is the first-line treatment for severe malaria?	Intravenous artesunate
Is pre-referral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	Yes, Artesunate
Is pre-referral treatment of severe disease with rectal artesunate recommended for community health workers?	No
What is the # of CHWs currently providing iCCM?	N/A
What is the country's target for number of CHWs providing iCCM?	N/A
What percent of the country's target is met?	N/A
Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs?	N/A
Do CHWs have the authority to test and treat all ages for malaria?	No

At what gestational age is the first dose of Intermittent preventive treatment for pregnant women (IPTp)-sulfadoxine-pyrimethamine (SP) to be given to pregnant women according to the national guidelines for malaria and maternal and child health?	Zanzibar is no longer implementing IPTp
Do the national ANC guidelines reflect the WHO 2016 recommendation of 8 ANC scheduled contacts (plus one additional contact for early initiation of IPTp at 13-16 weeks)? If not, how many ANC contacts are recommended?	Zanzibar is no longer implementing IPTp
What is the status of training ANC providers on the WHO recommended 8+ contacts?	USAID supported the MOH to review, update, and disseminate the updated ANC guidelines based on the WHO 2016 recommendations, including the 8 ANC contacts.
Have HMIS/DHIS2 and ANC registers been updated to include 8+ contacts?	No
Are IPTp data collected as single months where the January 2022 data represent the number of doses administered in January 2022, or cohort data, representing the cumulative data from pregnancies which began 6 months prior?	Zanzibar is no longer implementing IPTp
Is antenatal care/IPTp provided by facility staff conducting antenatal care outreach to communities?	Zanzibar is no longer implementing IPTp
Can community health workers deliver IPTp and if so, which specific cadres and beginning with which dose?	Zanzibar is no longer implementing IPTp

VII. PARTNER LANDSCAPE

Table 9: Partner Landscape

Partner	Key technical interventions	Geographic coverage	Funding amount or in-kind contribution	Timeframe
Global Fund	<ul style="list-style-type: none"> • Support for nationwide ITN mass campaign • Training and Malaria Service and Data Quality Improvement supportive supervision in health facilities 	<ul style="list-style-type: none"> • National 	\$3,691,113	CY 2021-23
Swiss Development Corporation - Swiss Tropical Public Health Institute	<ul style="list-style-type: none"> • Technical guidance on surveillance, monitoring, and evaluation and case management 	<ul style="list-style-type: none"> • National 	Technical guidance from partner staff	CY 2021–2025