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**FRAMEWORK FOR IMPLEMENTING THE GLOBAL TECHNICAL STRATEGY  
FOR MALARIA 2016–2030 IN THE AFRICAN REGION**

**Report of the Secretariat**

**EXECUTIVE SUMMARY**

1. Malaria control in the WHO African Region has recorded progress, with a 42% reduction in case incidence and a 66% decline in the mortality rate between 2000 and 2015. This is the result of the expanded use of cost-effective prevention and case management services. However, malaria remains a regional and global priority as reflected in the Sustainable Development Goals and the Global Technical Strategy (GTS) for malaria (2016–2030) adopted by the World Health Assembly (WHA) in May 2015. The vision of the GTS is “a world free of malaria”. It has four goals and related targets to be achieved by 2030. The GTS interventions consist of three pillars and two supporting elements. The pillars are: (a) ensure universal access to malaria prevention, diagnosis and treatment; (b) accelerate efforts towards elimination and attainment of malaria-free status; and (c) transform malaria surveillance into a core intervention. The supporting elements are: (a) harnessing innovation and expanding research; and (b) strengthening the enabling environment.
2. Several challenges still hamper efforts towards malaria control and elimination in the Region. These include weak health systems, gaps in uptake of available interventions, low per capita investment on malaria, and the threat of resistance to medicines and insecticides.
3. This framework was developed to support implementation of the GTS in the African Region. Its vision is “an African Region free of malaria”. Its objectives are: (a) to reduce malaria mortality rates by at least 90% by 2030 compared with 2015; (b) to reduce malaria case incidence by at least 90% by 2030 compared with 2015; (c) to eliminate malaria from at least 20 malaria endemic countries; and (d) to prevent re-establishment of malaria in all Member States that are malaria-free. The aim of the framework is therefore to provide guidance to Member States and partners on region-specific priority actions towards attaining the goals, targets and milestones of the GTS.
4. The framework proposes specific priority interventions and actions to be implemented by Member States. Countries and districts are stratified into four phases based on the parasite prevalence or the Annual Parasite Index (API). In phase 1, programmes are in control mode and are characterized by more than 5% parasite prevalence or API of five or more per 1000 population. Phase 2 encompasses pre-elimination programmes and is characterized by parasite prevalence of less than 5% in all ages, or API of 2–4 per 1000 population, with focalized and seasonal transmission. In phase 3, elimination programmes are characterized by API of 1 or less per 1000 population. Phase 4 programmes aim at preventing re-establishment of local malaria transmission: they are characterized by three consecutive years of zero malaria cases or include countries that have already been certified as malaria free by WHO or classified as malaria free in the 2015 baseline classification or those that have been naturally malaria free.
5. The Regional Committee examined and adopted the priority interventions and actions proposed in this Framework.

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## **ABBREVIATIONS**

ACT	artemisinin-based combination therapy
AIDS	acquired immuno-deficiency syndrome
API	annual parasite index
GTS	Global Technical Strategy for Malaria
IPTi	intermittent preventive treatment of malaria in infants
IPTp	intermittent preventive treatment of malaria in pregnancy
IRS	indoor residual spraying
LLIN	long-lasting insecticidal net
LSM	larval source management
ITN	insecticide-treated net
MDA	mass drug administration
MDG	Millennium Development Goals
PSM	procurement supply management
REC/RECs	regional economic community or communities
SDGs	Sustainable Development Goals
SMC	seasonal malaria chemoprevention
TPR	test positivity rate
UN	United Nations
UNGA	United Nations General Assembly
WHA	World Health Assembly
WHO	World Health Organization
WHOPES	WHO Pesticide Evaluation Scheme

## INTRODUCTION

1. Significant progress has been made in malaria control in the WHO African Region. Malaria incidence and mortality rates declined by 42% and 66% respectively, between 2000 and 2015.<sup>1</sup> This progress is a result of the expanded use of cost-effective prevention and case management services. Despite this progress, malaria remains a major health and development problem in Africa. There are still over 800 million people in the Region at risk of malaria, with 82% at high risk of the disease.<sup>2</sup> Approximately 190 million cases (89% of the global total) and 400 000 deaths (91% of the global total) were estimated to have occurred in the Region in 2015.<sup>2</sup>

2. Malaria is a global and regional priority, identified in target 3.3 of the Sustainable Development Goals (SDGs) committing to “end the epidemics of AIDS, tuberculosis, malaria” by 2030.<sup>3</sup> In May 2015, the 68th World Health Assembly adopted the Global Technical Strategy (GTS) for malaria (2016–2030). The GTS is founded on the vision of a world free of malaria and consists of four goals and related targets to be achieved by 2020, 2025 and 2030.

3. This framework is developed to guide countries to implement the GTS in the African Region. It describes priority interventions and actions for Member States. The actions have been organized according to programme epidemiological strata in order to engender evidence-based targeting of interventions.

## CURRENT SITUATION

4. In the WHO African Region, there has been a 52% decline in infection prevalence in children aged 2–10 years, from 33% in 2000 to 16% in 2015. This drop was more pronounced in regions of stable transmission.<sup>4</sup> Six countries<sup>5</sup> in the African Region have the potential to eliminate local transmission of malaria by 2020. Thirteen of the 15 countries accounting for 80% of the estimated global cases of malaria in 2015 are in Africa.<sup>2</sup> Similarly, 14 of the 15 countries responsible for 78% of the estimated global malaria deaths are in Africa<sup>2</sup>, with the vast majority of the deaths occurring in children under five years of age. Moreover, the Democratic Republic of the Congo and Nigeria alone account for more than 35% of the global estimated malaria deaths.<sup>1</sup> Malaria also accounts for an average annual reduction of 1.3% in economic growth in high endemic countries of Africa.<sup>6</sup>

5. In 2015, about 67% of the general population in the Region had access to an insecticide-treated net (ITN). The proportion of children under the age of five years sleeping under an ITN increased from 2% in 2000 to 68% in 2015. Along with indoor residual spraying (IRS), vector control interventions are also used to protect about 75% of under-fives. In addition, the proportion of suspected malaria cases receiving a malaria diagnostic test before treatment increased from 41% in 2010 to 65% in 2014.<sup>1</sup>

6. There has been increased programme financing. International financing for malaria control increased from less than US\$ 100 million to US\$ 1640 million in 2013.<sup>1,7</sup> In 2013, the African

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<sup>1</sup> WHO, World Malaria Report 2015, Geneva, World Health Organization, 2015.

<sup>2</sup> WHO: Achieving the malaria MDG target: reversing the incidence of malaria 2000-2015, 2015, Geneva, World Health Organization, 2015.

<sup>3</sup> UN General Assembly, 69th session, agenda 13a and 115. September 2015.

<sup>4</sup> WHO, World Malaria Report 2014, Geneva, World Health Organization, 2014.

<sup>5</sup> Algeria, Botswana, Cabo Verde, Comoros, South Africa, Swaziland, in WHO, Eliminating malaria, World Health Organization 2016

<sup>6</sup> Sachs J, Malaney P. The economic and social burden of malaria, *Nature*, 415, (6872), 680-5; 2002.

<sup>7</sup> WHO, World Malaria Report 2014, Geneva, World Health Organization, 2013.

Region accounted for 72% of the total malaria funding globally, compared to 50% in 2005. In the Region, these investments grew at an average annual rate of 22% between 2005 and 2013, compared to 15% across all other WHO regions. Furthermore, domestic investments grew at an annual rate of 4% in the Region, compared to 2% in other WHO regions.

7. Strengthened country programme leadership, greater political commitment, and stronger global partnership and coordination have been central to the progress. This is evident in the many high-level regional and global declarations, resolutions and calls for malaria control and elimination. They include the 2000 Abuja Declaration on Roll Back Malaria in Africa and plan of action; the 2001 Abuja declaration and framework of action for the fight against HIV/AIDS, Tuberculosis and other related infectious diseases; and the 2006 call for “Universal Access to HIV and AIDS, Tuberculosis and Malaria Services by a United Africa by 2010”. In addition, the following commitments have also contributed to progress in malaria control: (a) the 2013 special summit of African Heads of State on HIV and AIDS, Tuberculosis and Malaria; (b) the RC50 resolution (AFR/RC50/R6) on Roll Back Malaria and framework for implementation; (c) the RC59 resolution (AFR/RC59/R3) on Accelerated malaria control: Towards Elimination in the African Region; (d) the 2011 WHA call for increased efforts to control emerging resistance to antimalarial drugs and insecticides; and (d) the 2015 UNGA adoption of the SDGs.

## ISSUES AND CHALLENGES

8. Implementation of the GTS in the Region will necessitate addressing the following key challenges: weak health systems for malaria control and elimination; gaps in uptake of available interventions; low per capita investment on malaria interventions; the threat of resistance to the medicines and insecticides being used and the adverse effects of climate variability and change.

9. **Weak health systems for malaria control and elimination:** Prevalent weak health systems pose a very high risk to malaria control and elimination in Africa. Particular areas of weakness include commodity supply, disease surveillance, and human resources for health. These weaknesses are further exacerbated during times of political instability, extreme climate change, health emergencies, population displacements and migration. Such situations easily overwhelm the already weak health systems and disrupt service delivery. This reality was brought to the fore with the Ebola virus disease (EVD) epidemic in West Africa in 2014 and 2015. During this period, malaria control gains were lost in the severely affected countries of Liberia, Sierra Leone and Guinea.

10. **Gaps in access to available interventions:** There remains a major gap in coverage of interventions and services. In 2014, one third of households in Africa did not own a single ITN, while only 29% of households had enough ITNs for all household members. Behaviour change communication for ITN use should be strengthened. In 2015 about 41 million out of the 163 million (25%) under-fives in sub-Saharan Africa lacked access to either an ITN or IRS thus living lives unprotected from malaria. In addition, about 38% of suspected malaria cases were not investigated with a diagnostic test.<sup>1</sup> Moreover, only 17% of pregnant women received three or more doses of intermittent preventive treatment in pregnancy (IPTp) in 2014.<sup>8</sup>

11. **Low per capita investment in malaria:** At the core of the limited access to available interventions is the unpredictable and low per capita investment in malaria. Although malaria funding in Africa increased substantially by 410% between 2005 and 2013, the annual investment per person at risk remained low at US\$ 2 in the year 2013.<sup>6</sup> This is less than half the average per

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capita funding needed for successful implementation of the GTS for malaria in Africa. The funding situation is further threatened by low domestic financing. Based on GTS cost estimates and at a fixed 2013 population at risk of malaria in Africa of about 830 million, the total cost of malaria elimination in Africa by 2030 is US\$ 66 billion; the required yearly per capita investment is therefore estimated to rise from US\$ 3 in 2016 to US\$ 7 by 2030 (an average of US\$ 5 per capita per year between 2016 and 2030). During the period 2005–2013, the proportion of total malaria funding contributed by national governments in Africa stagnated at less than 10%. This unsustainable funding situation is due to over-reliance on external financing by most Member States.

12. **Increasing resistance to medicines and insecticides as well as absence of novel technologies:** Resistance to artemisinin-based combination therapy (ACT) has been confirmed in the Mekong valley of South East Asia.<sup>7</sup> The threat of its emergence in Africa is as real as the emergence of resistance to chloroquine that spread throughout the Region, after it was documented in South East Asia. The increasing circulation of products of non-assured quality as well as substandard and counterfeit medicines in countries raises the risk of resistance. In addition, rising resistance to available insecticides has been documented in Africa and threatens the vector control programmes in the Region.

13. **The increasing circulation of products of non-assured quality as well as substandard and counterfeit medicines** in countries remain a major challenge in malaria control and elimination. In addition, it contributes to raise the risk of resistance.

14. **Limited variety of interventions:** Unfortunately there is currently a limited range of effective medicines and insecticides on the market. Furthermore, elimination efforts are being hampered by the absence of novel tools like field diagnostics able to detect low level infections. Moreover, there are no novel medicines or vaccines that can effectively target parasite reservoirs in asymptomatic infected persons, *Plasmodium vivax* hypnozoites, gametocytes and mosquito stages of parasites. All these hamper the progress of malaria elimination in Africa.

15. **Unavailability of malaria vaccine:** Although there has been investment in the development of malaria vaccines, the progress to date has been inadequate. The most advanced malaria vaccine is the RTS,S/AS01 that has been developed against *Plasmodium falciparum*. The phase 3 trial of RTS,S/AS01 enrolled infants and young children in seven sub-Saharan African countries representing a range of different malaria transmission settings. Among children who received four doses, vaccine efficacy in 5–17 month-old children for all forms of malaria and severe malaria was 39% and 31.5% respectively. In 6–12 week-old children it was 27% for all forms of malaria, but with no significant efficacy against severe malaria.<sup>8</sup> The European Medicines Agency (EMA) issued a positive “European scientific opinion” from a regulatory perspective.<sup>9</sup> This means that the European Medicines Agency can facilitate access to the new vaccine for people living outside the European Union. However, the vaccine is not licensed, and implementation challenges include its low efficacy, the feasibility of the dosing schedule, its value in the context of the setting and other malaria control measures. Therefore, the need for high quality, safe and effective drugs to treat malaria will continue regardless of any deployment of a first-generation malaria vaccine. Based on the efficacy data from the Phase 3 trial, WHO does not recommend the use of the RTS,S vaccine in the younger (6–12 weeks) age category, as the vaccine efficacy was found to be low in this age category. WHO recommends the conduct of

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<sup>8</sup> WHO, Malaria vaccine: WHO position paper – January 2016, Weekly Epidemiological Record, Geneva, World Health Organization, 2016.

<sup>9</sup> European Medicines Agency. Assessment report: Mosquirix™, 2015 ([http://www.ema.europa.eu/docs/en\\_GB/document\\_library/Other/2015/10/WC500194576.pdf](http://www.ema.europa.eu/docs/en_GB/document_library/Other/2015/10/WC500194576.pdf), accessed May 2016).

pilot implementations of the RTS,S/AS01 vaccine using four doses in 3–5 distinct epidemiological settings in sub-Saharan Africa, at subnational level, covering moderate-to-high transmission settings.<sup>8</sup>

16. **Climate change** poses immediate and long-term threats to human health and survival across the globe.<sup>10</sup> Nowhere is this anticipated to have a greater impact than in Africa, where social, political, environmental and economic conditions are already fragile and creating serious health vulnerabilities for many communities across the continent. Malaria is a climate-sensitive disease, whose global and regional distribution and seasonality are closely linked to temperature, rainfall, humidity and socioeconomic development.<sup>11</sup> Climate change is expected to cause an overall net increase in the risk of the disease.<sup>12</sup>

## REGIONAL FRAMEWORK FOR IMPLEMENTATION

### Vision, Objectives, Targets and Milestones

17. The vision is an African Region free of malaria. The targets and milestones for this framework are summarized by objective in Table 1.

Table 1: Objectives, milestones and targets of the framework in the African Region

Objectives	Milestones		Targets
	2020	2025	2030
To reduce malaria mortality rates compared with 2015	At least 40%	At least 75%	At least 90%
To reduce malaria case incidence compared with 2015	At least 40%	At least 75%	At least 90%
To eliminate malaria from countries in which malaria was transmitted in 2015	At least 8 countries	At least 13 countries	At least 20 countries
To prevent re-establishment of malaria in all countries in Africa that are malaria-free	Re-establishment prevented in malaria-free countries	Re-establishment prevented in malaria-free countries	Re-establishment prevented in malaria-free countries

### Guiding principles

18. The following principles will guide the implementation of the GTS in the Region:

- (a) **Country ownership and leadership with involvement and participation of communities in the context of a multisectoral approach:** Mobilizing and working with other sectors in malaria control and elimination.
- (b) **Equity in access to quality health services:** Identifying the sub-population groups and communities most likely to be affected by malaria and targeting them with appropriate malaria interventions and services. Planning, resource allocation and implementation should adopt innovative mechanisms to reach poor, highly vulnerable, hard-to-reach and displaced or migrant populations.
- (c) **Inclusive and coordinated partnership:** Leadership of the ministry of health for better harmonization and alignment of stakeholders.

<sup>10</sup> The Lancet. A Commission on climate change. Lancet (London, England) 373, 1659 (2009).

<sup>11</sup> Githeko, A K., Lindsay, S. W., Confalonieri, U. E. & Patz, J. a. Climate change and vector-borne diseases: a regional analysis. Bull. World Health Organ. 78, 1136–1147 (2000).

<sup>12</sup> IPCC. Climate Change, Adaptation, and Vulnerability. Organ. Environ. 24, 1–44 (2014).

- (d) **Collaboration with regional economic communities:** Incorporation of malaria elimination into Africa's development agenda through regional political and economic platforms.

### Priority interventions and actions

19. The priority actions of the GTS are defined around its three pillars and two supporting elements (See details in Annexes 1, 2 and 3):

- (a) **Pillar 1: ensure universal access to malaria prevention, diagnosis and treatment.** The strategic components are as follows (detailed in Annex 3):
- (i) *Quality-assured vector control:* This includes the use of ITNs and IRS, maintaining adequate entomological surveillance and monitoring, and managing insecticide resistance and residual transmission. There is also need to strengthen capacity for evidence-driven vector control and implement malaria vector control in the context of integrated vector management. To maximize the impact of malaria vector control, countries should apply the principles of integrated vector management. Integrated vector management is a rational decision-making process for the optimal use of resources for vector control with the ultimate goal of preventing the transmission of vector-borne diseases. In addition, countries should undertake regular studies on durability of ITNs using the WHOPES protocol.
  - (ii) *Chemoprevention:* Expand preventive treatment in the most vulnerable groups. This would include intermittent preventive treatment in pregnancy (IPTp), intermittent preventive treatment in infants (IPTi) and seasonal malaria chemoprevention (SMC).
  - (iii) *Diagnostic testing and treatment:* Ensure universal testing of all suspected malaria cases and provide quality-assured treatment to all patients. There is also need to scale up community-based diagnostic testing and treatment and monitor safety and efficacy of antimalarial medicines as well as managing antimalarial drug resistance.
- (b) **Pillar 2: Accelerate efforts towards elimination and attainment of malaria free status.** This entails detection of every infection, implementation of targeted measures for attacking both parasites and vectors in order to interrupt local transmission, elimination of all parasites from humans, and managing the risk of re-establishment through imported malaria. It will require enactment of appropriate legislation, greater political commitment and regional collaboration, as well as intensified coordination between public, private and community-based agencies and services.
- Effectively responding to all cases of malaria will require setting up a centralized reporting system for epidemiological surveillance of malaria, for vector control data, outbreak reporting, and preparedness and response. Other interventions may include use of transmission-blocking medicines in high transmission settings and mass drug administration in specific situations as recommended by WHO. Preventing re-establishment of local malaria transmission will entail targeted malaria vector control, deployment of transmission-blocking chemotherapy in areas with low transmission, detection of all infections, use of medicines to reduce the parasite pool, development of *Plasmodium vivax* specific strategies, and use of surveillance as an intervention.
- (c) **Pillar 3: Transform malaria surveillance into a core intervention in areas of high and low transmission and those targeted for elimination.** Significant investment in routine information systems will ensure collection of data necessary for



understanding disease trends and overall programme performance. Furthermore, national plans should take into account the epidemiology and heterogeneity of malaria in a country.

- (d) **Supporting element 1: Harnessing innovation and expanding research.** This includes new tools and approaches for vector control, new diagnostic testing tools that can more readily detect low-level parasitaemia, new treatment regimens, malaria vaccines, as well as surveillance approaches.
- (e) **Supporting element 2: Strengthening the enabling environment.** This includes increasing international and domestic financing, ensuring a robust health sector response and strengthening health workforce and malaria expert base. It also involves high-level advocacy towards Heads of State for increased political commitment to ensure adequate domestic funding for malaria control and elimination. Innovative funding for increased financing includes, but is not limited to, involvement of the private sector, use of country taxes on products such as tobacco, alcohol, air travel tickets and the in-country malaria bonds. Member States should also ensure sustainability of malaria responses and improvement of government stewardship. There should also be cross-border collaboration of malaria programmes and strengthening of multisectoral collaboration. Private sector participation should be encouraged as well as increased engagement with nongovernmental organizations.

20. **Malaria control programme phases:** In order to tailor interventions to prevailing malaria epidemiology, four region-specific programme phases have been adopted:

- (a) *Phase 1*, control programmes characterized by intensive malaria transmission, and high parasite prevalence rate (more than 5%) or Annual Parasite Index (API) of five or more per 1000 population;<sup>13</sup>
- (b) *Phase 2*, pre-elimination programmes characterized by parasite prevalence of less than 5% in all ages, or API of 2–4 per 1000 population with focalized and seasonal transmission patterns;
- (c) *Phase 3*, elimination programmes characterized by few cases or API of 1 or less per 1000 population with highly focalized transmission; and
- (d) *Phase 4*, programmes preventing re-establishment of local malaria transmission characterized by three consecutive years of zero malaria cases and including countries that have already been certified as malaria free by WHO or classified as malaria free in the 2015 baseline classification or those that have been naturally malaria free.

21. **Priority interventions and actions for programmes in control phase:**

- (a) Ensure universal access to malaria prevention, diagnosis and treatment.
- (b) Transform malaria surveillance into a core intervention through effective malaria surveillance, monitoring and evaluation, and strengthening systems and capacity for epidemic forecasting, detection, preparedness and response.
- (c) Harness innovation and expand research through enhanced support of research and innovation for malaria control; development and uptake of new technologies and tools; and development and uptake of appropriate WHO guidelines and tools.

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<sup>13</sup> Provided that the Annual Blood Examination Rate (ABER) is more than 10.

22. Priority **interventions and actions for programmes in pre-elimination and elimination phases:**

- (a) Accelerate efforts towards malaria elimination through adopting and implementing appropriate organizational structures and systems. Regular programme reviews are required. There is also need to set up malaria elimination committees, decentralize surveillance and response systems to district level and deliver quality case management interventions in both public and private sectors. Vector control programmes also need to be strengthened.
- (b) Transform malaria surveillance into a core intervention through effective malaria surveillance, monitoring and evaluation, and strengthen systems and capacities for epidemics forecasting, detection, preparedness and response.
- (c) Provide enabling environment through systems strengthening for effective malaria programme management, and cross-border collaboration with neighbouring countries.

23. Priority **interventions and actions for all malaria programmes**

- (a) Strengthen existing coordination and planning platforms within countries.
- (b) Enhance human resource and financial capacity of the WHO secretariat in Africa in setting up and managing the regional malaria accountability platform. This would include the Africa Malaria Taskforce – a technical body charged with monitoring and evaluating implementation of the framework.
- (c) Organize annually, the Africa Malaria Forum, which is a platform for mutual technical and financial accountability, by Member States and partners, on commitments and investments towards a malaria-free future.
- (d) Task the Malaria Elimination Committee with supporting elimination countries in preparing for elimination. This would include preparation of documentation for elimination certification, and advising the Africa Malaria Taskforce on readiness for elimination certification.

## **ACTIONS PROPOSED**

24. The Regional Committee examined and adopted the priority interventions and actions proposed in this Framework.

**ANNEX 1: THE GLOBAL TECHNICAL STRATEGY FOR MALARIA  
AT A GLANCE (SOURCE: WHO GLOBAL TECHNICAL STRATEGY  
FOR MALARIA, 2016–2030)**

<b>VISION – A world free of malaria</b>			
<b>GOALS</b>	<b>MILESTONES</b>		<b>TARGETS</b>
	<b>2020</b>	<b>2025</b>	
1. Reduce malaria mortality rates globally compared with 2015	At least 40%	At least 75%	At least 90%
2. Reduce malaria case incidence globally compared with 2015	At least 40%	At least 75%	At least 90%
3. Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries	At least 20 countries	At least 35 countries
4. Prevent re-establishment of malaria in all countries that are malaria-free	Re-establishment prevented	Re-establishment prevented	Re-establishment prevented
<b>PRINCIPLES</b>			
<ul style="list-style-type: none"> <li>• All countries can accelerate efforts towards elimination through combinations of interventions tailored to local contexts.</li> <li>• Country ownership and leadership, with involvement and participation of communities, are essential to accelerating progress through a multisectoral approach.</li> <li>• Improved surveillance, monitoring and evaluation, as well as stratification by malaria disease burden are required to optimize the implementation of malaria interventions.</li> <li>• Equity in access to health services especially for the most vulnerable and hard-to-reach populations is essential.</li> <li>• Innovation in tools and implementation approaches will enable countries to maximize their progression along the path to elimination.</li> </ul>			
<b>STRATEGIC FRAMEWORK</b>			
Comprising three major pillars, with two supporting elements: (1) innovation and research and (2) a strong enabling environment			
<p><b>Maximize impact of today's life-saving tools</b></p> <ul style="list-style-type: none"> <li>• <b>Pillar 1.</b> Ensure universal access to malaria prevention, diagnosis and treatment</li> <li>• <b>Pillar 2.</b> Accelerate efforts towards elimination and attainment of malaria-free status</li> <li>• <b>Pillar 3.</b> Transform malaria surveillance into a core intervention</li> </ul>			
<p><b>Supporting element 1. Harnessing innovation and expanding research</b></p> <ul style="list-style-type: none"> <li>• Basic research to foster innovation and the development of new and improved tools</li> <li>• Implementing research to optimize impact and cost-effectiveness of existing tools and strategies</li> <li>• Action to facilitate rapid uptake of new tools, interventions and strategies</li> </ul>			
<p><b>Supporting element 2. Strengthening the enabling environment</b></p> <ul style="list-style-type: none"> <li>• Strong political and financial commitment</li> <li>• Multisectoral approaches, and cross-border and regional collaboration</li> <li>• Stewardship of entire health system including the private sector, with strong regulatory support</li> <li>• Capacity development for both effective programme management and research</li> </ul>			

**ANNEX 2: MALARIA PERFORMANCE INDICATORS, MILESTONES AND TARGETS  
BY PROGRAMME PHASE IN THE AFRICAN REGION**

Categories	Indicators	Programme phases				Progress tracking			
		(1)	(2)	(3)	(4)	Baseline/Milestones/ Targets			
						2015	2020	2025	2030
<b>Impact</b>									
Morbidity	Annual parasite incidence	X	X	X	-	235 <sup>2</sup>	<140	<60	<24
Mortality	Malaria death rate	X	X	X	-	49 <sup>2</sup>	<30	<10	<5
<b>Outcome</b>									
	Proportion of the population who slept under Long Lasting Insecticide Nets	X	X	X (foci)	-	68%	80%	85%	100%
	Proportion of pregnant women who received at least 3 doses of Intermittent Preventive Treatment for pregnant woman	X	-	-	-	7% (2013)	80%	85%	100%
	Proportion of suspected cases tested	X	X	X	X	62%(2013)	90%	95%	100%
	Proportion of countries with database (repository) with up-to-date information covering all areas <sup>14</sup>	X	XX	XX	XX		60%	80%	100%
	Percentage of expected health facility reports received complete (with core indicators) <sup>15</sup>	X	X	X	X		80%	90%	100%
	Proportion of foci investigated	-	X	X	X		90%	95%	100%
	Proportion of cases investigated and classified		X	X	X		90%	95%	100%

**Key:** X = applicable; XX = more applicable

<sup>14</sup> Surveillance, entomological, interventions, survey outputs, quality assurance, financing, human resources, master health facility list, population, meteorological, etc.

<sup>15</sup> With outpatient malaria cases, inpatients and deaths received at national level.

### ANNEX 3: MALARIA REGIONAL IMPLEMENTATION FRAMEWORK: PRIORITY ACTIONS BY OBJECTIVES, PILLARS AND PROGRAMME PHASE

OBJECTIVES, PILLARS AND PRIORITY ACTIONS	PROGRAMME PHASES			
	Control	Pre- elimination	Elimination	Preventing re- establishment
<i>Objective 1: To reduce malaria mortality rates by at least 90% in Africa by 2030</i>				
<i>Objective 2: To reduce malaria case incidence rates by at least 90% in Africa.</i>				
<i>Pillar 1: Ensure universal access to malaria prevention, diagnosis and treatment</i>				
- Strengthening systems for effective malaria vector control services delivery: (a) access and universal coverage with high quality LLINS for all at-risk populations; (b) universal coverage with high quality IRS in all targeted areas and all at risk populations; (c) Larval Source Management (LSM) including larviciding, environmental manipulation and management as supplement to LLINs and IRS; and (d) Entomological surveillance and insecticide resistance monitoring and management.	X	X		
- Strengthening systems for effective malaria diagnosis and treatment services delivery by expanding access to service delivery points: (a) appropriately trained health workers equipped to deliver malaria diagnosis and treatment services including deployment of community health or extension workers; (b) access to quality-assured diagnostics and medicines aimed at appropriate diagnostic testing of all suspected malaria cases and treatment of all test positives with appropriate and effective antimalarial medicines; (c) monitoring and containment of artemisinin resistance; and (d) quality of malaria curative services monitoring and improvement	X	X		
- Strengthening systems for effective chemoprevention for all targeted population groups: (a) universal coverage with IPTp; (b) universal coverage with IPTi; (c) universal coverage with SMC; and (d) universal coverage with other chemoprevention innovations including malaria vaccines when available	X	X		
- Strengthening systems for effective malaria behaviour change communication service delivery: (a) sociocultural and behavioural studies to inform design of locally appropriate strategies; (b) universal coverage with culture-specific, high quality and evidence-based IEC/BCC strategies and tools; and (c) IEC/BCC impact monitoring with focus on uptake of vector control, chemoprevention, and diagnosis and treatment services as indirect measure of impact of BCC/IEC services.	X	X		
- Strengthening mechanisms for enhanced support of operational research to malaria programme planning, implementation and innovation: (a) formation and operationalization of platform (or technical working group) for collaboration between research institutions and malaria programmes; (b) operational research agenda, financing and capacity building; and (c) research to policy forums aimed at sharing evidence to guide policies and strategies of national malaria programmes.	X	X		
- Targeting and intensifying access and coverage of malaria interventions through community engagement – empowering communities and population groups to take charge of own malaria control as a community development initiative: (a) advocacy with targeted communities and population groups; and (b) capacity building for enhanced community participation in targeted communities and population groups		X	X	X
- Strengthening/institutionalizing stratification of malaria burden to better target interventions for enhanced impact in relatively high burden districts or localities using standardized epidemiological parameters (incidence, entomological, socioeconomic factors, etc.): (a) national and district level capacity building for investing for impact; and (b) monitoring impact and adapting interventions targeting based on monitoring results		X	X	X
<i>Pillar 3: Transform malaria surveillance into a core intervention through</i>				
- Strengthening systems for effective malaria surveillance, monitoring and evaluation: (a) tracking results of malaria testing and treatment services with appropriate documentation and reporting of the malaria test results and case outcomes; (b) capacity building for use of quality-assured malaria surveillance data to define hot spots and specially target the hotspots with interventions (that will better inform on malaria situation for decision-making in further reduction of malaria burden); (c) monitoring quality and tracking impact of vector control interventions; and (d) monitoring and evaluation of programme performance.	X	XX	X	X
- Strengthening/establishing systems and capacities for epidemics forecasting, detection, preparedness and response: (a) planning for malaria epidemic preparedness and response; (b) monitoring temporal and spatial distribution of cases including development and deployment of epidemic monitoring tools and; (c) epidemiological and entomological investigation of all cases for appropriate actions; (d) emergency stocks, pre-positioning and financing for malaria epidemic response; (e) stakeholder coordination mechanisms; and (f) implementing appropriate interventions including targeted IRS and MDA.	X	X	XX	X

OBJECTIVES, PILLARS AND PRIORITY ACTIONS	PROGRAMME PHASES			
	Control	Pre-elimination	Elimination	Preventing re-establishment
<i>Supporting element 1: Harnessing Innovation and Expanding Research through</i>				
- Strengthening mechanisms for enhanced support of research and innovation to malaria programmes: (a) mechanisms for collaboration in harnessing innovation and expanding research capacity for national malaria programmes; (b) research and development of new technologies and tools – vector control, diagnostic testing and treatment, malaria vaccines.	X	X	X	X
- Strengthening systems for development and uptake of new technologies and tools: (a) capacity building for national regulatory authorities and advocacy for fast-tracking registration and licensing of new technologies including policy advocacy and training on adoption of new technologies; (b) monitoring and evaluation of the uptake and impact of new technologies; and (c) public-private partnership for north-south technology transfer and local manufacturing of new technologies and tools.	X	X		
- Developing and availing appropriate guidelines and tools: (a) updating existing technical guidelines and tools; and (b) development of new guidelines and tools as may be required.			X	
<i>Supporting element 2: Strengthening the enabling environment through</i>				
- Strengthening systems for effective malaria programme management: (a) Human resource and infrastructural capacity building at all levels; (b) procurement and supply management (PSM); (c) multisectoral and community involvement; (d) malaria programme- specific domestic and international financing; and (e) programme review, planning, coordination and accountability.	XX	X	X	XXX
- Strengthening systems for cross-border collaboration with neighbouring countries: (a) enabling political, management and logistical environment and harmonized policies; (b) border district(s) coordination mechanisms; (c) health services in border districts and monitoring of patient flows; and (d) malaria profiling at all border districts; (e) malaria monitoring and control/elimination strategies for ports of entry.	X	X	XX	XXXX
<b>Objective 3: To eliminate malaria from at least 20 African countries in which malaria was transmitted in 2015</b>				
<i>Pillar 2: Accelerated efforts towards malaria elimination through</i>				
- Adopting and implementing appropriate elimination programme structures and systems: (a) decentralization and deployment of operational field teams at district level (district malaria elimination teams, a comprehensive surveillance and response team in each malaria district); (b) updating policies and guidelines; (c) malaria elimination legislation; and (d) human resource capacity building and financing for malaria elimination at all levels.			XX	X
- Strengthening systems for regular programme reviews including the setting up of the Africa Malaria Elimination Expert Committee: <sup>16</sup> (a) malaria elimination feasibility studies using agreed frameworks and tools; (b) annual elimination data quality audits; (c) annual review and planning meetings and evidence-based programme reorientations; and (d) elimination databases developed through capturing and maintaining all information related to malaria elimination.			X	X
- Interrupting local transmission by decentralizing and operationalizing surveillance and response systems: (a) complete notification of all cases (local and imported) in public and private health facilities; (b) field investigation of all notified cases including screening of all persons around each index case and detection and mapping of all vector breeding sites within the defined radius; (c) determination of risk factors or transmission drivers associated with each index case; (d) implementation of response activities including treatment of all parasite positives, implementation of appropriate vector control interventions including management of breeding sites and emplacement of personal protection interventions and IEC/BCC activities; and (e) post-response reconnaissance of all transmission foci.			X	XX
- Strengthening systems for delivery of quality-assured case management interventions in both public and private sectors in elimination settings: (a) testing all fever cases with quality-assured and quality-controlled diagnosis; (b) treating all cases and implementing gametocytocidal treatments for <i>P. falciparum</i> and radical cure for <i>P. vivax</i> ; (c) monitoring therapeutic efficacy; (d) implementing chemoprophylaxis for targeted populations; and (e) optimizing screening and treatment.		X	XX	XXX

<sup>16</sup> The roles of the Africa Malaria Elimination Expert Committee shall be to: Regularly monitor implementation progress and further adapt the targets and milestones in consonance with our hopefully growing capacities over time; conduct annual independent country elimination systems audits and follow-up; support countries in the preparation of documentations for elimination certification; advise the Africa Malaria Taskforce and respective countries on readiness for elimination certification.

OBJECTIVES, PILLARS AND PRIORITY ACTIONS	PROGRAMME PHASES			
	Control	Pre-elimination	Elimination	Preventing re-establishment
- Strengthening vector control programmes to reduce human-vector contact and vectorial capacity of local vectors in elimination settings: (a) geographical reconnaissance in all active foci; (b) capacity enhancement for targeted implementation of vector control interventions; (c) effective coverage with LLINs and/or IRS in transmission foci; (d) larval source management (LSM) including environmental management initiatives where appropriate; (e) personal protection to complement IRS, LLINs and LSM; and (e) monitoring and managing insecticide resistance.			XX	XXX
- Mitigating vulnerability and receptivity in malaria risk areas: (a) regular vulnerability and receptivity assessment and mapping; and (b) vulnerability and receptivity mitigation and management.			X	XXX
<b>Objective 4: To prevent re-establishment of malaria in all countries that are malaria-free</b>				
- Sustaining malaria-free status: (a) maintaining appropriate capacities to detect and respond to reintroductions; and (b) conducting external and independent semi-annual elimination systems audit and strengthening elimination systems towards malaria-free certification by WHO.				XXX
- Maintaining appropriate capacities for sustaining malaria free status: (a) case investigation of all cases and cross- border collaboration; and (b) appropriate interventions such as targeted IRS and MDA.				XXX

**Key:** X = applicable; XX = more applicable; XXX = most applicable