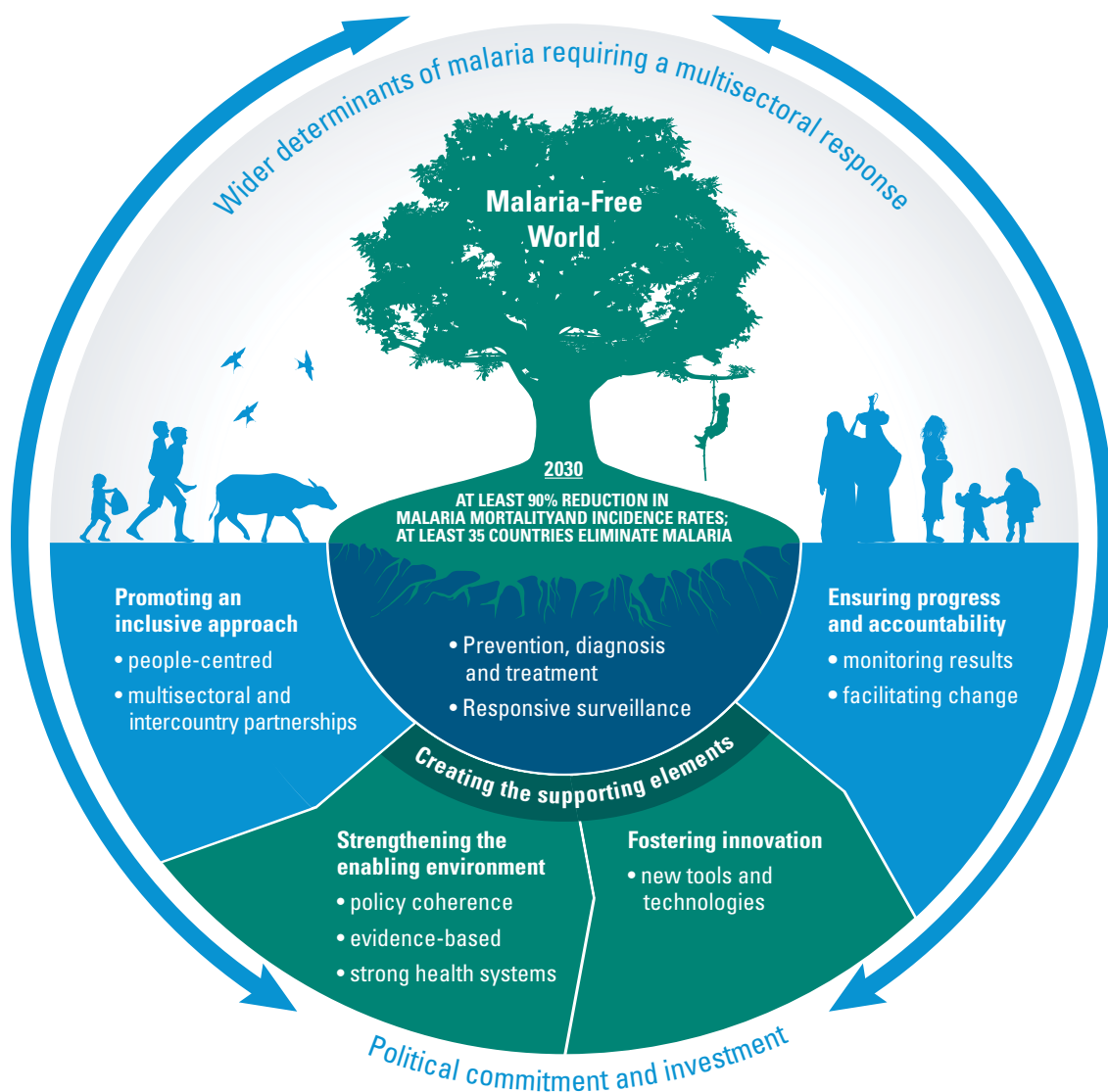


# LESSONS LEARNED FROM FIFTEEN YEARS OF RESPONDING TO MALARIA GLOBALLY

## A PROTOTYPE FOR SUSTAINABLE DEVELOPMENT



*The past 15 years illustrate how increased international and domestic financing, political commitment, strong country leadership, multi-sectoral partnerships, technical knowledge, effective execution by national governments, the reach and flexibility of civil society organizations and faith-based organizations, and the contributions of research and academia have transformed the fight against malaria into an exemplary 'gateway' to sustainable development.*

## OVERVIEW

The world has reached a critical juncture in the fight against malaria. There is both an opportunity and an urgent need to accelerate progress towards global development goals by reducing malaria cases and related deaths in all countries, by increasing the number of malaria-free countries, territories and areas, and by identifying approaches that aim to reduce transmission.

Efforts to prevent and control malaria both contribute to and benefit from sustainable development. The objectives of reducing the disease burden and eliminating malaria are intrinsically linked to most of the Sustainable Development Goals (SDGs), as they were to nearly all of the Millennium Development Goals (MDGs). The SDGs recognize that many of the challenges facing the global community transcend national borders, and implicitly call upon countries to work together for the global public good. Continued progress in the fight against malaria will depend on the ability to work together, building inclusive partnerships within and across boundaries and development silos to address inequalities everywhere, and promote dignity and prosperity for all mankind.

Forward thinking for the global response to malaria will be largely shaped by two newly adopted strategy documents, which share the same 2030 malaria goals, and have been aligned to the 2016–2030 timeline of the SDGs:

- In May this year, the World Health Assembly endorsed the WHO *Global Technical Strategy for Malaria 2016–2030*, to guide the further reduction and elimination of malaria. The strategy sets ambitious yet feasible global targets, including a further 90% reduction in malaria incidence and mortality rates by the year 2030.<sup>1</sup>
- *Action and Investment to defeat Malaria 2016–2030 (AIM) – for a malaria-free world* builds on the success of the first *Global Malaria Action Plan* and complements the Technical Strategy by positioning malaria in the broader health and development agenda. It serves as both a clarion call and a guide for advocacy and collective action for all those engaged in the fight against malaria. Developed and adopted by the RBM Partnership in 2015, AIM is the result of an extensive, multisectoral consultative process.<sup>2</sup>

The global malaria story of the past two decades is a remarkable prototype for a sustainable development approach. Malaria is both a result and a cause of a lack of development. The malaria burden is highest in the countries with the lowest human development; in the least developed and poorest areas within countries; and among the most disadvantaged within populations.<sup>3</sup>

## THE TRANSFORMATIVE SUSTAINABLE DEVELOPMENT APPROACH

The Sustainable Development Goals (SDGs)<sup>4</sup> capture and express a development mindset that has been more than two decades in the making. First specifically proposed in the outcomes of the Rio+20 Conference in 2012, the SDGs bring together the two major threads of development thinking from the past 20 years or so: one based on the Brundtland Commission (1987) and the Rio Earth Summit (1992), which focused on development and protection of the human environment and natural resources; the other rooted in major social development and equity discourses, such as those addressed by the International Conference on Population and Development (1994), the World Summit for Social Development (1996) and the Millennium Summit (2000).

1 Global Technical Strategy for Malaria 2016–2030. Geneva: World Health Organization; 2015. [http://www.who.int/malaria/areas/global\\_technical\\_strategy](http://www.who.int/malaria/areas/global_technical_strategy)

2 Action and Investment to defeat Malaria 2016–2030. Geneva: Roll Back Malaria Partnership; 2015. <http://www.rollbackmalaria.org/about/about-rbm/aim-2016-2030>

3 Multisectoral action framework for malaria. Geneva: United Nations Development Programme/Roll Back Malaria Partnership; 2013. <http://bit.ly/1hKirWe>

4 United Nations Department of Economic and Social Affairs. Sustainable development goals. <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

Seen in this light, the SDGs build on the Millennium Development Goals (MDGs), but are materially distinct in terms of content, level of ambition and attitude. For the first time, the SDGs address and incorporate *in a balanced way* the interlinkages between the two major development discourses mentioned above, as well as today's major concerns about global economic development, growth and equity. In addition, these new, overarching and collective goals have been developed through a broad-based, global consultation and are universally applicable to all countries, while taking into account different national realities, capacities and levels of development.

“Sustainable Development” is both an analytical and normative approach.<sup>5</sup> As an *analytical framework* for a rapidly changing world, it attempts to make sense of the interactions of several complex global systems: the world economy, the global society, and the Earth's physical environment. As a *normative approach* – or method for solving global problems – the focus is on a holistic combination of economic development, social inclusion, and environmental sustainability, together with an essential fourth objective for action: good governance.

Two years ago, the Rio+20 outcome document *The Future We Want* resolved to establish an inclusive and transparent process to generate the SDGs, and mandated the creation of an inter-governmental Open Working Group (OWG) to develop a proposal for the SDGs in consultation with national governments. The OWG submitted its proposal in August 2014, which included the 17 SDGs now on the UN table.<sup>6</sup>

Like the interconnected realms and issues it is designed to tackle, sustainable development is a complex system. Problems associated with complex systems are typically difficult to solve and often hard to understand because the causes and effects are not obviously related. Making progress through any complex system requires an understanding of indirect effects, and recognizing that all parts of a system give rise to its collective behaviours.<sup>7</sup> This is why finally bringing the different dimensions of development together is so vital: such that they can be seen as an **integrated whole** and be understood collectively.

The most innovative aspect of the Sustainable Development approach is that it aims to maximize the ‘emergent’ solutions and innovative ideas that can only materialize through the integration of previously separate and divergent development silos. This is Sustainable Development's greatest promise – and its greatest challenge.<sup>8</sup>

Barriers include institutionalized ‘silo-ization’ and personal identification with individual fields, the deep-rooted fragmentation and operational design of existing information- and experience-sharing platforms, and the sudden cross-learning requirement for capacity-building across disciplines and entire sectors that integration demands.

The rapid realization and delivery of the sustainable development approach will be significantly catalysed by sharing the stories of cross-disciplinary exemplars to help model navigation, lateral thinking and active identification of critical, emergent interlinkages across the SDGs.



While it appears a modest goal in principle, achieving widespread integration across diverse disciplines is arduous.

5 Typology adapted from: Sachs J (2015). *The Age of Sustainable Development*. New York: Columbia University Press; 2015.

6 Open Working Group report: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/68/970&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/68/970&Lang=E)

7 The New England Complex Systems Institute (NECSI): <http://www.necsi.edu/>

8 Waage J and Yap C. *Thinking beyond sectors for sustainable development*. London: Ubiquity Press; 2015. DOI: <http://dx.doi.org/10.5334/bao>

## POSITIVE SYNERGIES BETWEEN ADVANCES IN MALARIA AND PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS

### 17

#### Goal 17: PARTNERSHIPS FOR THE GOALS.

The many multisectoral partnerships in place to reduce and eliminate malaria have a positive collateral effect, and also bring progress to other domains of development.

### 1

**Goal 1: NO POVERTY.** Sustained investment in health and malaria unlocks the potential of human capital to generate growth. A 10% reduction in malaria has been associated with a 0.3% rise in annual GDP. At household level, reducing malaria protects household income from lost earnings and the costs of seeking care.

### 10 16

**Goals 10, 16: REDUCED INEQUALITIES and PEACE AND JUSTICE STRONG INSTITUTIONS.** A targeted response to malaria actively improves the health of the poorest, enabling vulnerable families to **break the vicious cycle of disease and poverty**, and helping to make sure that no one is left behind. Investing in malaria reduction contributes to the creation of more **cohesive, inclusive societies**. Stable countries are more likely to attract international investment and overseas development aid.

### 13

**Goal 13: CLIMATE ACTION.** Given that climate change is predicted to increase the range and intensity of malaria transmission, plans to **mitigate the effects of climate change** are likely to include an increased commitment to controlling and eliminating malaria, and vice versa.

### 9 11 15

**Goals 9, 11, 15: INDUSTRY, INNOVATION & INFRASTRUCTURE, SUSTAINABLE CITIES AND COMMUNITIES and LIFE ON LAND.** By ensuring that major construction and development projects do not introduce or increase malaria transmission, the benefits of progress can be reaped, while also **protecting human health and ecosystems**. **Well-planned infrastructure and improved housing** help reduce exposure to mosquitoes, and facilitate greater access to health and malaria services.



## 2

**Goal 2: ZERO HUNGER.** People who suffer less from malaria can work their fields more consistently, resulting in better harvests and improved food security.<sup>8</sup> Well-nourished people, especially children, are better able to fight malaria.

## 4

**Goal 4: QUALITY EDUCATION.** Reducing malaria enables children to **attend school regularly and learn more effectively.** This significantly improves their school performance, and later wage-earning capacity.<sup>11</sup> As a mother's or caregiver's level of education increases, so do the chances that their children will access malaria prevention and treatment services, and survive childhood.

## 6

**Goal 6: CLEAN WATER & SANITATION** leads to decreased mosquito breeding and a reduction in the rate of malaria transmission. It also improves water quality, generating further health benefits.

## 8 12

**Goal 8, 12: DECENT WORK & ECONOMIC GROWTH and RESPONSIBLE CONSUMPTION & PRODUCTION.** Reducing malaria creates **healthier, more productive workforces** which can help to attract trade and commerce. When combined with pro-poor policies, these factors **drive job creation, inclusive growth and shared prosperity.** Enterprises that invest in their workers reduce the costs of doing business, increase their **competitiveness** and enhance their reputation.

## 3

**Goal 3: GOOD HEALTH & WELL-BEING.** The scale-up of malaria interventions **averted at least 670 million bouts of malaria illness and 4.3 million malaria deaths** between 2001 and 2013. Preventing malaria in pregnancy reduces maternal mortality and **gives newborns a far healthier start in life.** Lowering the burden of malaria makes a substantial contribution to **improvements in child health,** and thus often to a decline in fertility rates, and an associated increase in the investment that parents can make in their children.

## 5

**Goal 5: GENDER EQUALITY.** Freeing **women and school-age girls** from the burden of caring for family members when they fall sick with malaria increases their likelihood of completing school, entering and remaining in the workforce, and participating in public decision-making.

## 7

**Goal 7: AFFORDABLE & CLEAN ENERGY.** In resource-constrained malaria endemic regions, **access to sustainable energy will stimulate prosperity** and increase the adoption of more sophisticated personal protection measures. It will also mean greater access to electric lighting and cooling, enabling people to increase time spent indoors, where vectors are more easily controlled through insecticides, bed nets and temperature. These developments are likely to result in a reduced burden of malaria.

## TWO DECADES OF SUSTAINABLE PROGRESS AGAINST MALARIA<sup>9</sup>

Tremendous progress has been made in reducing the burden of malaria and achieving elimination in a number of countries. Since 2000, global malaria mortality rates have declined by 60% in all age groups. This equates to an estimated 6.2 million malaria deaths averted between 2000 and 2015, of which 5.9 million (95%) were in children aged under five years.<sup>10</sup> The latest WHO *World malaria report* shows that 55 countries are on track to reach the World Health Assembly target of a 75% reduction in the global malaria burden by the end of this year.<sup>2</sup>

Much of this progress has been made despite imperfect health systems. Indeed, malaria programmes have instigated many improvements – for example, in procurement and supply management, surveillance, and collaboration between public and private health providers – that have brought wider benefits to health systems.<sup>2</sup> As countries move along the path to malaria elimination, resource requirements, processes and services change, requiring national systems to adapt and improve, and to deepen their level of community engagement.



Malaria is also shaped by many interlinked social, economic and environmental determinants

Highly cost-effective malaria interventions are one of the highest returns on investment in public health. In countries where the disease is endemic, efforts to reduce and eliminate malaria are increasingly viewed as high-impact strategic investments that generate significant returns for public health, help to alleviate poverty, improve equity and contribute to overall development.

As well as averting the human cost of malaria cases and deaths, defeating malaria generates household and health system cost savings, and macroeconomic savings from the economic output that will be generated because people not killed or incapacitated by the disease are able to enter and remain in the productive

workforce. In sub-Saharan Africa, where the vast majority of malaria still occurs, successfully tackling the disease has the potential to unlock transformative and inclusive growth across the continent.

Malaria is also shaped by many interlinked social, economic and environmental determinants, and therefore by the success or failure of the sustainable development approach.

### Society

How societies are developed and organized and how individuals are positioned within them exerts a powerful influence on the type, magnitude and distribution of health in societies. Factors determining position include class, gender, ethnicity, education, occupation and income. The relative importance of these factors is determined by the national and international contexts, which include governance, social policies, macroeconomic policies, public policies, culture and societal values.

The result is a direct correlation between the probability of dying from malaria and a country's socioeconomic development status. The ability of countries to eliminate malaria or enter into the elimination phase is closely linked to the degree of development of their economic and health systems. Recent progress in 34 malaria-eliminating countries has been driven by several factors, including more effective mosquito control and treatment, but also as a result of an average 3.5% per capita GDP increase in these countries.

<sup>9</sup> This section is largely adapted from Multisectoral action framework for malaria. Geneva: United Nations Development Programme/Roll BackMalaria Partnership; 2013.

<sup>10</sup> Achieving the malaria MDG target: reversing the incidence of malaria 2000-2015. Geneva: World Health Organization/United Nations Children's Fund; 2015.

Endemic malaria disappeared from most of Northern Europe and North America at the same time as general social and economic development, including better and less crowded housing, closed windows, improved land drainage and a reduced tendency for people to live close to their livestock.

## *Environment*

Malaria is governed by a number of environmental factors affecting its distribution, seasonality and transmission intensity, including:

- abundance of surface water, its chemical composition, pollution and vegetation, which determines the proliferation and density of mosquitoes;
- atmospheric humidity and temperature, determining the longevity of the malaria vector and the ability of the parasites to develop; and
- the preference for human or animal blood, the form of human aggregation and the type of shelter, which determine the contact between mosquitoes and people.

Given the association between malaria transmission and climate, long-term malaria efforts will be highly sensitive to changes in the world's climate. It is expected that – without mitigation – climate change will result in an increase in the malaria burden in several regions of the world that are endemic for the disease, particularly in densely-populated tropical highlands – and possibly spread the disease to areas that have already eliminated, if substantive investments in resilience and preparedness are not undertaken as soon as possible.

Increasing economic development, urbanization and deforestation are also expected to contribute to changes in transmission dynamics. Malaria transmission is generally higher in rural than urban Africa, and there are close links between malaria and agriculture, including intense farming, terracing, irrigation and drainage. Good agricultural practices may reduce mosquito presence, and improved farming productivity may indirectly contribute to increased incomes, improved nutrition and social development and thus reduced vulnerability of the people living in rural areas.

Urbanization, with its profound changes in the socioeconomic and physical landscapes, has contributed to reduced malaria transmission in many malaria-endemic countries, and the indication is that this trend could continue, particularly if supported by increased levels of direct malaria control. Movement between rural and urban areas greatly affects transmission. When people move to the city, they may bring the parasite with them in their bloodstream, and a presence of mosquitoes can spread infection within the household and community.

## *Economic inequity*

A clustering of risk factors in some population groups, such as social exclusion, low income, low education, malnutrition, cramped housing, poor sanitation and limited access to health services, have been consistently shown to increase malaria vulnerability and may be as important as exposure to the parasite itself.

Children with low socioeconomic status (SES) have double the risk of clinical malaria than those with higher SES within the same locality. Knowledge of malaria is positively associated with level of education, knowledge of appropriate malaria care-seeking behaviours is also highly positively correlated with a mother's (or other care-seeker's) education level and higher among those who are skilled or professional than among the unemployed or unskilled.

Crowded and flimsy shelters highly favour the transmission of malaria and other vector-borne diseases, resulting in serious epidemics. Malaria risks are significantly higher among children who live near hydrographic networks, in sparsely built-up areas or irregular built areas and peri-urban

areas characterized by a low SES. Household spending on malaria prevention and treatment increases with proximity to town centres compared to intermediate and outer zones, despite increasing malaria incidence in the outer zones.

Severe malaria is less common among well-nourished children, possibly because a well-nourished individual is better able to mount an immune response and more capable of withstanding and clearing infection. Over half of malaria deaths among children under five years of age have been found attributable to being underweight. This stresses the importance of addressing both food security and nutrition in connection with malaria. Pregnancy is also an important risk factor for malaria infection, due to reduced immune status, and adverse pregnancy outcomes include maternal anaemia, stillbirth, preterm birth and low birth weight. Each year, approximately 125 million women living in malaria-endemic countries throughout the world become pregnant.

It is estimated that almost 1 billion people are migrants—i.e. one in seven of the total global population. Of these, 214 million were international and 740 million internal migrants. Migrants, including internally displaced people, refugees, returnees and mobile populations are a heterogeneous group, with millions vulnerable to multiple health risks, poverty, exploitation, stigma, discrimination, social exclusion, language and cultural differences, separation from families and socio-cultural norms, administrative hurdles, and a legal status that frequently restricts access to health and other social services. Population movements play an important and complex role in malaria. When travelling from low- to high-transmission areas – and having no acquired immunity – they are much more vulnerable than the permanent residents of the high-transmission locations and those travelling in the opposite direction.

The SDGs recognize that many of the challenges facing the global community transcend national borders, and implicitly call upon countries to work together for the global public good. Continued progress in the fight against malaria is dependent on the ability to work together, building inclusive partnerships within and across boundaries and development silos to address inequalities everywhere, and promote dignity and prosperity for all mankind.

There are multiple opportunities to accelerate progress towards global human development goals in a sustainable and permanent way. Reducing malaria cases and related deaths in all countries, increasing the number of malaria-free countries, territories and areas, and identifying approaches that aim to reduce transmission are vital pieces of the puzzle towards eliminating this global scourge permanently. The need is urgent and pressing and this critical juncture to decisively move towards a malaria-free world will not come again in our lifetimes.



## Important social and environmental determinants for malaria

Analytical level and major determinants for malaria	Potential sector matches															
	Foreign affairs & int. cooperation	Finance & economy	Food & agriculture	Trade, Industry, etc.	Infrastructure, transport, works	Education	Social protection	Justice	Science & technology	Environment	Water & sanitation	Communication & information	Security (military & police)	Community development	Health	Public admin., including local government
<b>1. Society</b>																
• Inequitable distribution of power and resources across countries	✓	✓		✓				✓		✓		✓	✓			
• Demographic change: population growth, family/household size and structural population movements			✓			✓	✓	✓				✓	✓	✓	✓	✓
• Government's ability to manage land, tax revenues and to regulate	✓	✓		✓				✓							✓	✓
• Organization of societies and services		✓			✓	✓	✓	✓		✓	✓			✓	✓	✓
• Social status: gender, ethnicity, and distribution of power and resources within countries		✓			✓	✓	✓	✓					✓	✓	✓	✓
<b>2. Environment</b>																
• Agricultural practices and production systems			✓		✓					✓						
• Urban and peri-urban settings and infrastructures		✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓
• Housing					✓	✓	✓			✓	✓			✓		✓
• Land use/management			✓	✓	✓			✓		✓	✓	✓	✓	✓		✓
• Economic development projects		✓	✓	✓	✓			✓	✓	✓			✓	✓	✓	✓
<b>3. Population group</b>																
• Poverty and education		✓	✓	✓	✓	✓	✓	✓						✓	✓	✓
• Population mobility (internal and international migration)	✓		✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
• Nutrition		✓	✓	✓		✓	✓					✓		✓	✓	✓
• Occupation			✓	✓	✓		✓	✓				✓	✓	✓	✓	
• Community control							✓	✓						✓		✓
<b>4. Households and individuals</b>																
• Choice and adoption of malaria-safe habits		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
• Awareness and knowledge						✓	✓					✓		✓	✓	
• Access to and use of health care		✓				✓	✓					✓		✓	✓	✓
• Provision of health care		✓						✓	✓						✓	✓



This Briefing Paper was prepared by members of the RBM Partnership Malaria Advocacy Working Group (MAWG) Messaging Workstream.