Concept Note: Malaria Elimination in the **SADC Region**

I. Executive Summary

The SADC Region has demonstrated and reaffirmed its commitment to improving the health of its population. Articles 9 and 11 of the SADC Protocol on Health (Maputo, August 1999) call upon Member States to harmonize and standardize policies pertaining to malaria control for efficient use of resources, and harmonization of goals and interventions for the effective control of malaria. This concept note provides an overview of the concept of malaria elimination, and the prospects for attainment of this goal in the SADC sub-region. As SADC progress towards this goal, the following are the key requirements for success.

i) Sustainable financing: sustained and predictable levels of financing provide stability and consistency to malaria interventions. When countries have experienced a decline in funding, malaria has resurged, eroding the gains of previous investments made.

ii) Multi-sectoral approach: Increased interagency collaboration within national governments (ministries of health, finance, agriculture, environment and tourism) play a critical role in the national drive towards elimination.

iii) Cross-border collaboration: Population movement across SADC borders facilitates importation of malaria from more highly endemic countries, into lower transmission areas that are aiming to eliminate transmission. Cross-border diplomacy to facilitate sharing of information on transmission patterns and high-risk populations is an important element of a collaborative regional elimination strategy.

iv) Regulation: Malaria elimination is a complex and ambitious programme, relying on constant innovation and redesign of programmes to catch up with the ongoing disease intelligence. Bureaucracy often causes lags in the introduction or adoption of new medicines, new operational systems, or policy guidelines. Malaria programmes will benefit from government regulation that mandates compliance with the malaria elimination strategy by various actors, expedited review and approvals of new policies, as well as waiving of some regulatory practices that constrain innovation.

v) Human Resource development: National malaria programmes are often understaffed and struggle to identify expertise for some specialist roles such as entomology.

II. Achieving a Malaria Free Southern Africa by 2030

a. Global Progress

Remarkable progress has been made towards alleviating the burden of malaria globally. Between 2000-2015, there were substantial reductions in both the number of malaria cases and the number of deaths, with global incidence rates and death rates declining by 37% and 60%, respectively. This progress was aligned to the Millennium Development Goals (MDGs) Target 6.C, *To Have Halted by 2015 and Begun to Reverse the Incidence of Malaria*. Figure 3 below illustrates the estimated malaria case incidence and death rates globally, between 2000–2015, demonstrating the effectiveness of malaria control and elimination strategies.

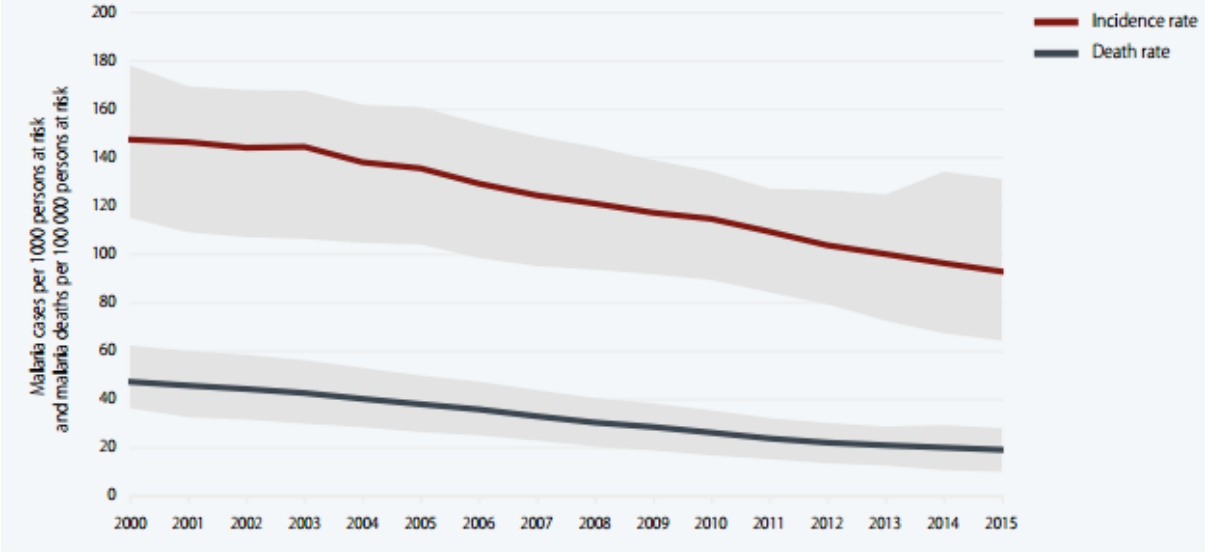


Figure 1: Estimated malaria case incidence and death rate globally, 2000-2015

Source: WHO Global Malaria Report, 2015

Despite impressive progress at the global level, the current global malaria burden remains highly concentrated in the sub-Saharan Africa region. It was estimated that in 2015, 15 countries, most of which are in sub-Saharan Africa (of which 3 are in SADC – Democratic Republic of Congo, Mozambique, Tanzania), accounted for 80% of global malaria cases and 78% of deaths. Sub-saharan Africa continues to lag behind in decreasing malaria incidence rates, therefore prompting the need for accelerated initiatives to control and eliminate malaria.

b. SADC Progress Towards Malaria Elimination

Although sub-Saharan Africa as a whole has not experienced rapid rates of decline commensurate with the global progress, the SADC sub-region has registered stronger progress in the control of malaria prevention and control. Between 2000 and 2012, malaria incidence in the SADC region reduced by 31% and the death rate decreased by 49%.

Notably, **Mauritius** is the one Member State in the SADC region that has successfully eliminated malaria and does not have local transmission. Mauritius is now primarily focused on preventing re-introduction of malaria through targeted interventions such as port health activities, training of health workers and case management strategies. **Lesotho** and **Seychelles**

have historically not had malaria due to climate and ecological conditions that do not support the transmission of the disease.

Swaziland recorded 490 confirmed cases of malaria reported in 2015 – 75 of them local, and the rest being imported by travelers. As the country works to drive down its malaria cases to zero, cross-border collaboration is critical. Significant decline in the malaria cases has been achieved in **Botswana** since 2000, whose incidence has declined from approximately 71, 000 cases in 2000 to 340 cases in 2015. The two countries are expected to continue on this positive trajectory and have the potential to be the first mainland African countries to eliminate malaria in 2018.

South Africa and Namibia have sustained strong declines in transmission as a result of scale up of control interventions. However, the persistence of malaria cases is geographically concentrated along their borders with their more highly endemic neighbours.

Mozambique and **Zimbabwe,** although they still have a significant number of cases, have declared sub-national malaria elimination goals, and are working towards gradual establishment of malaria free zones, starting with their southern provinces.

Notwithstanding the successes recorded, **Angola, the Democratic Republic of Congo, Madagascar, Malawi, the United Republic of Tanzania, Mozambique, and Zambia** still have a significant number of locally transmitted malaria cases.

III. Malaria Elimination Goals

The first Abuja Declaration, signed on April 25, 2000, committed African Heads of State to halving malaria deaths by 2010, provide financial resources and incentives to access goods and services, and support malaria research. The second Abuja Declaration, signed April 24, 2001, committed African Heads of State to allocating 15 percent of their national budgets to health as well as mobilizing resources for improved access to HIV medications, vaccine research, and prevention programs.

By 2007, during the third session of the African Union (AU) Conference of Ministers of Health, member states launched the Africa Malaria Elimination Campaign, committing to transition eligible countries from malaria control to malaria elimination. Later that year, the Southern Africa Development Community (SADC) followed suit, similarly pledging to eliminate malaria from southern Africa. The SADC Ministers of Health approved the SADC Malaria Strategic Framework and subsequent Malaria Elimination Framework which urged member states to identify potential areas for elimination and to develop national malaria elimination strategic plans. African Heads of State, in 2016, went further to endorse a goal of an Africa free of malaria by 2030.

Like many other global health problems, the malaria burden impacts many aspects of sustainable development. Investing in health (and malaria in particular) contributes to attainment of many of the sustainable development goals (SDGs). The economic gains of moving from high malaria burden to low burden are well demonstrated by indicators such as economic, social, political and cultural benefits.

These gains have been documented and they include,

- Productivity gains such as increased human capital and increased productivity of factors of production
- Macroeconomic gains from increased foreign direct investment (FDI) i.e. high human productivity rates in a country; increase in tourism revenues (contributing positively to economic gross domestic product, GDP)
- Developmental, educational and cognitive effects (having malaria as a child substantially affects lifetime cognitive development)
- Reduced costs to health care systems as per evidence that demonstrates that treating malaria imposes a higher financial burden compared to prevention

Malaria Elimination: Strategy and Approach

As of 2015, 33 countries globally have achieved malaria elimination certification as defined by the World Health Organization (WHO). The WHO accords malaria elimination status when a country has achieved at least three consecutive years of zero indigenous cases. (Although only 33 have been WHO-certified as malaria free, more than 200 countries have also achieved zero local malaria cases, although not certified through the very rigorous WHO certification process).

Malaria elimination is the interruption of local mosquito-borne malaria transmission in a defined geographical area. Eliminating malaria requires the absence of the malaria parasite from the population, even though the mosquito population (the vector) may continue to be present. Attaining malaria elimination in a particular country means that there is no local transmission of malaria occurring within that country, although there may continue to be cases of malaria that are imported from outside the country; these need to be identified and acted upon to prevent triggering of onward infection in the country that has eliminated.

Achieving elimination does not alter the intrinsic potential for malaria transmission; if malaria is re-introduced through human movement, ecological and other factors may still exist that allow an imported case to trigger additional locally transmitted cases. After elimination has been achieved, countries need to maintain robust surveillance systems that are able to identify imported cases and to contain potential new outbreaks.

Eliminating malaria therefore involves three key concepts:

a. Parasite clearance, largely through drugs or a vaccine (a malaria vaccine does not yet exist, but some promising vaccines are under development);
b. Keeping out the mosquito vector that facilitates transmission (such as spraying techniques) or blocking it from biting (such insecticide-treated nets or repellents);
c. Minimizing the importation of the parasite that can be imported through human movement.

IV. Eliminating Malaria in SADC

Eliminating malaria requires a fundamentally different approach when compared to controlling malaria. Since 2000, when Africa began an aggressive effort to control malaria, significant achievement has been made in controlling malaria to the point where, in many SADC countries, it is no longer a significant public health problem. Where malaria is being

controlled, a reorientation towards eventual interruption of malaria transmission is recommended in order to create a malaria-free future. Whereas controlling malaria requires a more routine approach to scaling up coverage of proven interventions such as insecticide-treated nets, indoor residual spraying of households, as well as effective treatment, elimination requires a more complex, data-driven, and more operationally exacting strategy. Elimination involves a more investigative approach, driven by robust analysis of data, and carefully planned responses to the disease trends.

The table below outlines the main strategic and conceptual differences that a country must take into consideration when controlling malaria, and when eliminating malaria.

	Malaria Control	Malaria Elimination
Coordination	Integrated into the Ministry of Health	Special Council may be established, with access and reporting to the Minister of Health, and under the Office of Head of State
Financing and Visibility	Significant levels of donor financing have typically complemented domestic financing	Increasing contribution of domestic financing required to mitigate against risk of resurgence following donor withdrawal.
Coordination and Legislation	Small, centralized malaria control center in the Ministry of Health. Routine public health interventions require limited/no legislation required in support	Robust coordination capacity with analytical and technical expertise, supported by satellite control centers across the country. Legislation may be required to facilitate mandatory reporting by the private sector, cross-border transmission control, and mass drug administration
Core Interventions	Disease transmission is widespread and homogenously distributed. Focus on achieving wide national coverage of insecticide-treated nets, indoor residual spraying of households, and access to anti-malarial treatment	Disease transmission is limited to foci or "hotspots" requiring more targeted deployment of resources. Requires military-like precision in microplanning, continual gathering of disease intelligence to inform response tactic. Focus on surveillance and investigation of each case of malaria, new diagnosis methods to detect every infection in the population (even if carrier is without symptoms). High reliance on rapid data and detailed analysis to inform targeted action.
Surveillance, Data and Reporting	Passive system of surveillance that relies on cases that present to the health facility. Limited reporting of cases that present through the public health system, often aggregated and reported monthly.	In addition to relying on patients to present at the health facility, active surveillance is conducted to detect infections that may otherwise not present to the health system. New cases must be reported and investigated; data collected at least weekly, even on a real-time basis.
Borders and Region	Focus on control efforts that are internal to the country	Need for cross-border collaboration and efforts to limit cross-border transmission of malaria. Regional efforts to harmonize policies to ensure mutually reinforcing strategies across the region.

Malaria resurgence is inevitable if control activities are halted in a place where intrinsic transmission potential remains. Figure 4 below illustrates the resurgence effect of relaxed

malaria control efforts - particularly reduced financing - after countries had significantly reduced malaria levels.

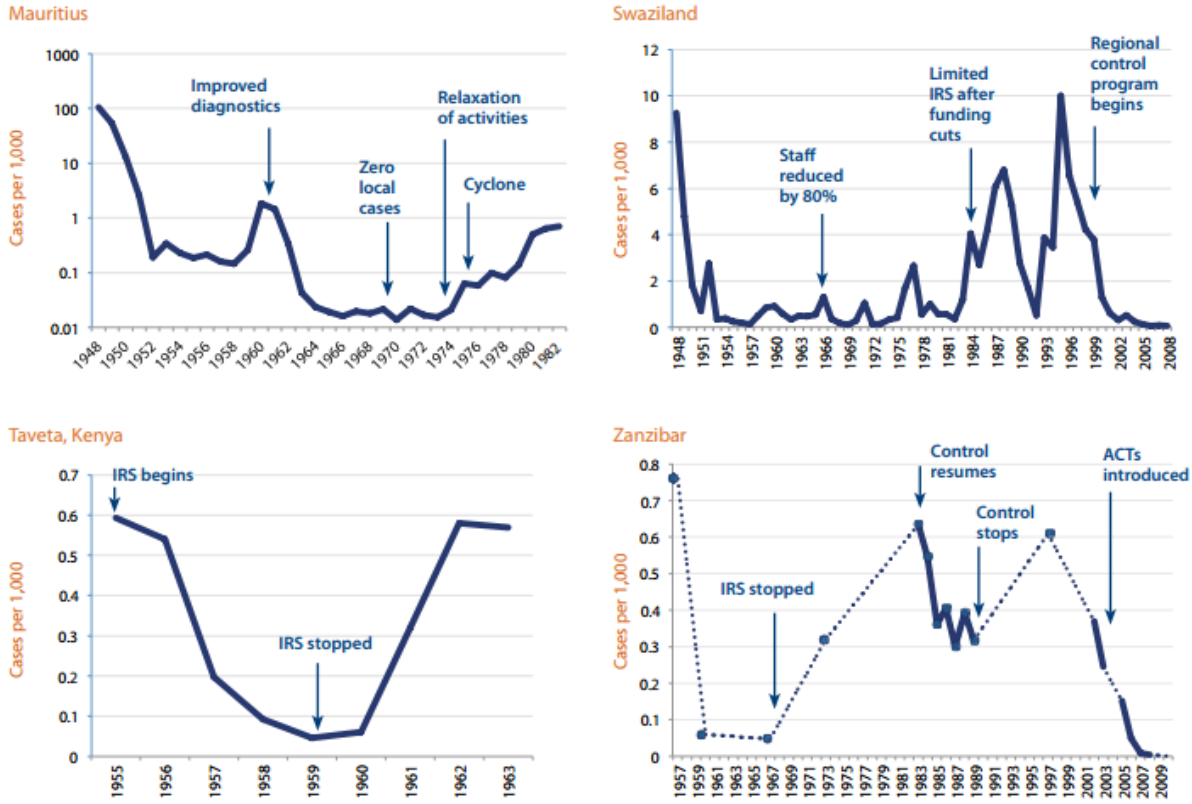


Figure 2: Malaria resurgence in Africa after deterioration or cessation of control activities[1]

SADC countries have experienced a "decade of success" in malaria control, reaping very large public health rewards from achieving high coverage of control tools. However, these gains are fragile, and will require sustained effort in order to avoid the resurgence.

Experience suggests that the resurgence of malaria can largely be attributed to the lack of sustainable measures in order to protect the gains made in controlling malaria. The table below summarizes the main causes of malaria resurgence.

Table 1: Main Causes of Malaria Resurgence

Weakening of the malaria control programme	Increases in the intrinsic potential for malaria transmission	Technical problems including drug and insecticide resistance
• Funding shortages • Complacency and poor strategy execution • Cessation of control activities	• Movement of humans or mosquitoes • Development and land-use changes • Climate or weather pattern changes	• Vector and drug resistance

[1] Cohen, JM, Smith, DL, Cotter, C et al. Malaria resurgence: a systematic review and assessment of its causes. Mal J. 2012; 11: 122

V. Current Regional Efforts Underway

SADC Malaria Elimination 8 Initiative (E8)

In 2009, eight of the SADC countries convened as a SADC Ministerial Sub-Committee in order to deliberate on specific mechanisms for cross-border collaboration in order to accelerate the pace towards malaria elimination. The eight countries represent the countries that fall along the current boundary of malaria transmission within southern Africa. Namibia, Botswana, South Africa, and Swaziland are the "frontline" countries, expected to be the first to eliminate malaria by 2020; these four banded with their neighbours (Angola, Mozambique, Zambia, and Zimbabwe), whose common borders represent a technical and strategic opportunity to collaborate in order to minimize cross-border importation of malaria. There is now unprecedented momentum towards the ambitious goal of malaria elimination in southern Africa.

The E8, an initiative of the SADC Ministerial Committee, is a sub-regional platform for malaria collaboration, in line with the malaria elimination vision of SADC. The overarching concept of the E8 regional strategy is the interconnectedness between countries, which inherently undermines any country's prospects for independently attaining malaria elimination. The E8 operates within the framework of SADC Protocol on Health, the Malaria Strategy and the SADC Malaria Elimination Strategy. It aims to create an enabling regional environment that will allow the eight respective countries to achieve their elimination goals, thus accelerating progress towards a malaria-free southern Africa.

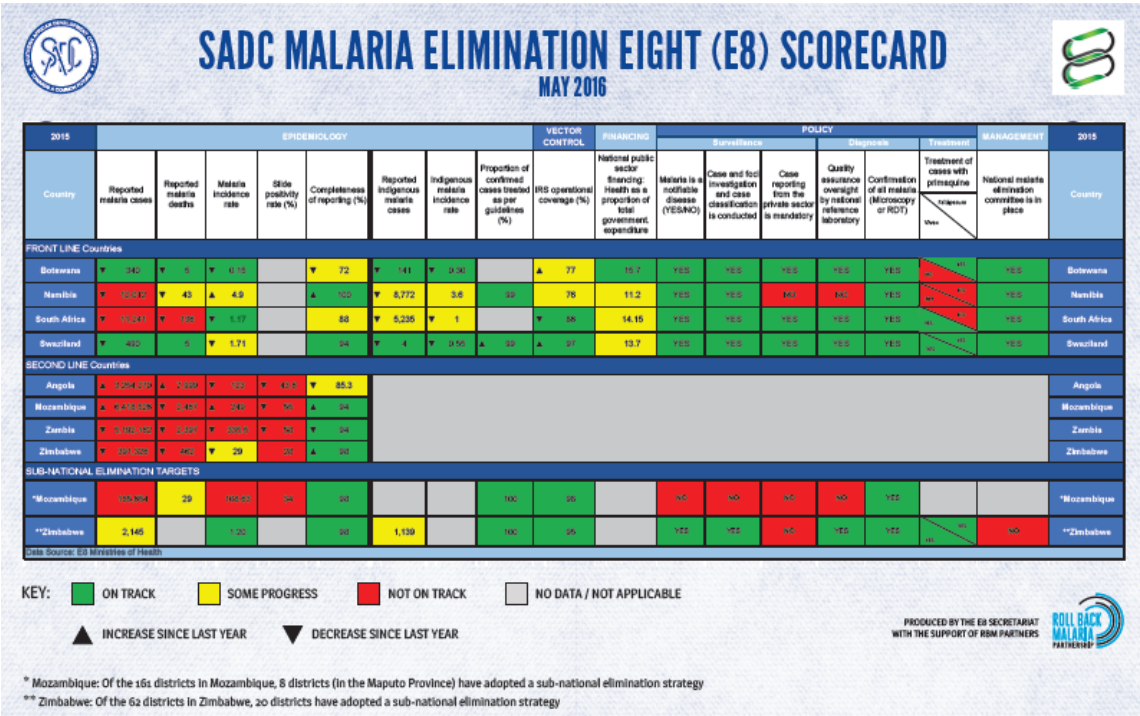
The E8 Secretariat – hosted by the Ministry of Health of Namibia in Windhoek – supports the implementation of the sub-regional malaria elimination strategy. Through support from the Global Fund, the E8 countries are rolling out key elimination initiatives in the border areas that will see health posts being placed along the border areas in order to provide testing and treatment services to mobile and migrant populations, thus stemming the importation of malaria across borders.

The E8 Secretariat collaborates with the SADC Secretariat on regional policy harmonization and alignment with the SADC malaria elimination strategy.

The E8 collaboration seeks to address the following strategic goals:

- Regional policy harmonization and establishment of minimum technical and implementation standards
- Regional surveillance, monitoring, and accountability
- Increased assess to diagnosis and treatment for mobile and migrant populations
- Advocacy for sustained domestic investment and external financing support

The E8 Scorecard is a tool for joint monitoring and accountability; it is produced annually, and provides a regional overview of malaria trends and policy implementation progress by country.



V. SADC Regional Policy and Collaboration

Policy positions by SADC on the following will accelerate the race to elimination by 2030:

a. Establishment of National Malaria Councils

In order to provide a platform for multi-sectoral collaboration and higher visibility, national malaria councils or advisory groups may be established. These may include participation of senior-ranking officials from the health ministry and other stakeholders. National malaria councils have been established in some countries, and where they are functioning, they have been able to support malaria programs and implementers to expedite policy adoption, to mobilize resources, and to facilitate collaboration across multiple sectors, for accelerated impact.

b. Sustainable Domestic Funding

The success of the region's elimination agenda hinges on maintaining sustainable domestic financing in both the health sector and particularly towards the elimination of malaria. This has further prompted the need to re-think financing mechanisms that achieve a common goal in the region, towards elimination, and maintenance of the gains previously made through control activities.

Domestically generated resources to pre-empt the expected downturn in global financing for the region. As SADC sees declining cases of malaria and more countries tend towards elimination, it is expected that external malaria resources will decline, requiring an urgent scale up of domestic resources to avoid resurgence, as the region has previously experienced. Innovative opportunities for financing should be further explored, such as a regional trust fund, capitalized through contributions from treasury, private sector, special levies, and other

financial instruments such as malaria bonds. Risk resurgence is the largest threat facing SADC, and urgent attention is required to pre-empt the inevitable donor withdrawal.

The lessons and experience of resurgence after the Global Malaria Eradication Programme (GMEP) clearly demonstrated the catastrophic results of reducing funding for malaria, after significant investments had been made in the programme. Thus SADC Secretariat, together with its partners, will take lessons from these experiences, supporting countries to put in place country plans and mechanisms for long-term financial sustainability.

c. Pooled Procurement and Local Production

Market-oriented strategies to reduce the costs of malaria elimination include local manufacture of insecticides, and other antimalarial commodities. The market of approved suppliers is primarily in Asia and Europe; SADC has an opportunity to pool resources and to leverage its regional policy frameworks to expand local manufacturing plants and to pool procurement for price negotiation.

The SADC Strategy for Pooled Procurement of Essential Medicines and Health Commodities, 2013-2017, demonstrates the region's common intent towards facilitating regional cooperation in the procurement of essential medicines and health commodities, to ensure access to affordable, safe, effective and quality-assured products.

This strategy recognizes and acknowledges key challenges and burdens of disease, unique to each member state, and is thus designed to provide an overall mechanism for efficient and effective procurement and advancing gains derived from economies of scale. According to the strategy, the recommended option for pooled procurement of essential medicines for SADC is a group-contracting model, delivered through a staged approach. The staged approach is in accordance with the principles of regional integration.

There is potential to leverage the SADC regional common procurement mechanism to support malaria elimination. Countries pursuing elimination can benefit from the local or regional production of malaria commodities and control technologies. Countries in Asia for example derive significant benefits from locally producing malaria medicines and exporting them to neighbouring countries. This has enabled such countries to have rapid response rates to outbreaks, while boosting the manufacturing sector.