

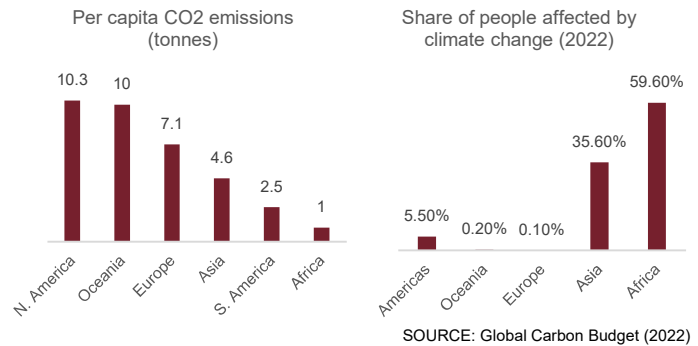
Towards Climate-resilient Health Systems and Programs for Africa

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Climate Change: A Health Emergency - Malaria as a Pathfinder

“*The Africa We Want*” is seriously threatened by climate change. The world is not on track to reduce carbon emissions by 45%,¹ as required to keep global warming below the 1.5°C threshold agreed to in Paris. The Intergovernmental Panel on Climate Change warns that inaction has already “caused widespread adverse impacts and related losses and damages to nature and people.”²

Africa’s carbon footprint remains small—contributing 4% of carbon emissions—but the human toll of climate change is disproportionately high.³ Heatwaves, heavy rains, floods, tropical cyclones, wildfires, and prolonged droughts are having devastating impacts on Africa’s communities and economies. Climate change is decimating our infrastructure and our health and education systems. Increasing numbers of people are at risk of lost livelihoods, vector-borne diseases (e.g., zika, dengue, yellow fever, malaria), respiratory diseases, and drowning. Droughts associated with climate change increase the risk of malnutrition and famine, resulting in physical stunting, neurological development issues, and death. Low-income countries in Africa are particularly vulnerable; 55-62% of Africa’s labour force works in climate-dependent agriculture. Low-income families and women face the greatest risks to their livelihoods.⁴ Extreme weather events in 2021 resulted in \$253 billion USD in damages, especially in low-income countries.⁵ In 2022, 110 million people on the continent were directly affected (60% of the global total).⁶



There is urgency to address loss and damage, as well as introducing and ramping up adaptation strategies. In 2013, the United Nations Economic Commission for Africa, the African Union, and the African Development Bank recommended quality health infrastructure, enhancing preventative measures for diseases driven by climate change (e.g., malaria), and improved regional modelling.⁷ During the 2023 Africa Climate Summit, H.E. William Ruto, President of the Republic of Kenya and Chair of the Committee of the African Heads of State and Government on Climate Change (CAHOSCC), made it clear that all these actions and others require developing appropriate financial mechanisms to build resilience against climate-induced insecurity.⁸

The World Health Organisation describes climate change as “a threat multiplier, undermining and potentially reversing decades of health progress.”⁹ The global health community, working with other sectors and partners, has a responsibility to respond aggressively to counter and reverse this trend—enhancing well-being and reducing both morbidity and mortality.

	Climate Changes	Health Impacts
Direct	Extreme weather events	High levels of mortality and morbidity, changes in disease prevalence and patterns
	Temperature	Thermal stress, skin cancer, eye diseases
	Air quality	Cardio-respiratory diseases, allergic disorders
Indirect	Temperature	Food availability, malnutrition, infectious diseases of migrants, droughts
	Precipitation	Water-borne diseases, vector-borne diseases, droughts, food and water availability
	Extreme weather events (+ rainfall + temperature + ecosystem)	Diseases of migrants, conflicts, food and water availability, malnutrition, famine
	Ecosystem composition and function	Food yields and quality, aeroallergens, vector-borne diseases, water-borne diseases

SOURCE: Africa Climate Policy Centre

1. IPCC, Climate Change 2023 Synthesis Report: Summary for Policy-Makers (2023).
 2. IPCC, Sixth Assessment Report, Summary for Policy-Makers, B.1 (2022).
 3. WMO, State of the Climate in Africa 2022.
 4. IPCC, Sixth Assessment Report, Ch. 9 (2022).
 5. Dr. Marina Romanello *et al.*, The 2022 Report of the Lancet Countdown on Health and Climate Change: Health at the Mercy of Fossil Fuels (Oct. 2022).
 6. WMO, Africa Suffers Disproportionately from Climate Change (Sept. 2023).
 7. African Climate Policy Centre, Climate Change in Africa: Issues & Options (2013).
 8. Remarks by H.E. Dr. William Ruto, President of the Republic of Kenya, at the Opening of the Africa Climate Summit Ministerial Conference (Sept. 2023).
 9. WHO, Climate Change (Oct. 2023), <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>.

Demonstrating Mitigation and Adaptation for Health Using Malaria

Since 2013, the impact of climate change on malaria has become increasingly glaring. The malaria community is well positioned to demonstrate this, as well as the wisdom of using malaria as a pathfinder in addressing the effects of climate change.



“Climate change threatens the progress that has been made in the fight against malaria, a leading cause of lost productivity, illness, and death in Africa—a continent which already shoulders 96% of the global malaria burden.”

H.E. Umaro Sissoco Embaló

President of the Republic of Guinea-Bissau
Chair of the African Leaders Malaria Alliance (ALMA)

A warmer and wetter climate increases the number of people at-risk and the number of repeat infections by accelerating the development of the malaria parasite and mosquitoes; increasing their survival; and expanding the range of breeding sites. This includes areas that previously had a low or no malaria burden. Already, the number of months suitable for malaria transmission in Africa’s highlands has increased by 14%.¹⁰ By the 2030s, an estimated 147-171 million additional people will be at risk of malaria in Africa.¹¹ Severe storms and other climate disasters that displace populations will leave them unprotected by insecticide-treated nets and indoor residual spraying and with no access to diagnosis and early treatment. Countries’ ability to respond to climate disasters is limited by the lack of additional resources (i.e., human, infrastructure, logistics and financial) and the

long lead time to procure malaria commodities. Vulnerable women and children, who account for 80% of global malaria deaths,¹² will be the face of this looming catastrophe.



Climate-fueled disasters are already occurring. Cyclone Freddy, which impacted Southern Africa in 2023, was the longest-lasting cyclone in recorded history. It disrupted health services (233 health facilities damaged or destroyed), vector control, and surveillance. Cyclone Freddy was only the latest of many cyclones that have impacted the region.

Positioning Malaria as a Pathfinder

Malaria offers “the opportunity-driven lens” that was called for at the 2023 Africa Climate Summit. H.E. President William Ruto called for Africa to be “a continent that offers an economic backbone for a decarbonized world. A continent that thrives and shapes a climate-proof future for all.”¹³ Malaria is an ideal candidate to contribute to Pillar I (Disaster Risk Knowledge & Management) and Pillar IV (Preparedness & Response Capabilities) of the “Early Warning for All – African Action Plan” launched during the summit.¹⁴ The actions that the malaria community must take to contribute to these pillars have already been prioritized in the strategic objectives and principles of the AU’s Catalytic Framework to End AIDS, TB and Eliminate Malaria in Africa by 2030.

Both the Catalytic Framework and the Pharmaceutical Manufacturing Plan for Africa underscore the importance of local manufacturing, a priority for the CAHOSCC. Tremendous progress is being made by the malaria community with enhanced focus on technology transfer and manufacturing of malaria commodities in Africa (next-generation nets, medicines, and vaccines). There is an opportunity

Malaria Opportunities Under the Early Warning For All – African Action Plan

Pillar	Malaria Opportunity
I Disaster Risk Knowledge & Management	Effective malaria surveillance integrated with climate and weather modelling, monitoring and analytics can help predict increased malaria transmission, including anticipating outbreaks and disasters, and support targeted subnational tailoring and pre-positioning of commodities. Malaria surveillance is also an opportunity to develop a “One Health” surveillance approach given the unique challenges of biodiversity.
IV Preparedness & Response Capabilities	Strong leadership, monitoring and accountability, engagement with other sectors and strong coalition with communities (which contribute to building preparedness and response capabilities) are all being implemented through national ‘Zero Malaria Starts with Me’ campaigns, End Malaria Councils, community-level dialogues and scorecards, and malaria youth corps.



10. Dr. Marina Romanello et al., The 2022 Report of the Lancet Countdown on Health and Climate Change: Health at the Mercy of Fossil Fuels (Oct. 2022)
11. Sadie J. Ryan et al., Shifting Transmission Risk for Malaria in Africa with Climate Change: A Framework for Planning and Intervention, Malaria J. (May 2020).
12. WHO, World Malaria Report 2022. Africa accounts for 96% of global malaria cases and 98% of global malaria deaths.
13. Remarks by H.E. Dr. William Ruto, President of the Republic of Kenya, at the Opening of the Africa Climate Summit Ministerial Conference (Sept. 2023).
14. WMO, Early Warnings for All Action Plan for Africa is Launched (Sept. 2023), <https://public.wmo.int/en/media/press-release/early-warnings-all-action-plan-africa-launched>.



“With new global challenges, the need to increase our ambitions in mitigating the effects of Greenhouse Gases, and in promoting the other two Pillars, namely Finance and Adaptation, becomes even more urgent.”

H.E. Umaro Sissoco Embaló
President of the Republic of Guinea-Bissau
Chair of the African Leaders Malaria Alliance (ALMA)

here also for the malaria community to lead by example by ensuring that this revolution is driven by clean energy. The health sector must push towards zero carbon emissions for manufacturing, health facilities and institutions (public and private), and commodity supply chains (including the cold chain).



“The green transformation of both production and consumption is not optional—it’s an imperative.”

H.E. Dr. William Ruto
President of the Republic of Kenya
Chair of the Committee of the African Heads of State and Government on Climate Change (CAHOSCC)

An All-sector Approach

Catastrophic climate change related losses are expected unless urgent action is taken now. Africa’s leaders must lead an integrated effort to reduce our countries’ carbon emissions and combat the effects of climate change on health and wellbeing. The African Leaders Nairobi Declaration on Climate Change calls for “taking early action to protect lives, livelihoods and assets and inform long-term decision-making related to climate change risks. We emphasise the importance of embracing indigenous knowledge and citizen science in both adaptation strategies and early warning systems.”¹⁵ The declaration further calls for collective global action to mobilise the necessary capital for both development and climate action. This echoes the statement of the Paris Summit for a New Global Financing Pact that no country should ever have to choose between development aspirations and climate action.

Using malaria as a pathfinder in our response makes sense. As malaria transmission increases and additional populations face the threat of the disease, the impact on every sector grows and the costs of inaction and lack of collaboration multiply.

Existing resources, however, are insufficient to fully implement national malaria strategic plans and deploy the full toolkit of interventions to combat the disease. At least \$1.5 billion USD additional funding is needed over the next three years just to sustain current (and insufficient) levels of malaria interventions.¹⁶ Avoiding and dealing with the increased burden driven by climate change means that spending on malaria needs to increase by at least \$6.3 billion USD annually by 2025 and \$7.3 billion USD annually by 2030.¹⁷ This does not account for the need to recruit additional health workers, increase management capacity, improve health information systems, and ensure the availability of interventions for a larger at-risk population and those displaced by climate disasters.

We have been asked to imagine a pathway for different financial structures that can deliver on Africa’s goals. Malaria offers a viable pathfinder for a fully integrated approach where every sector contributes to accelerating progress. We must mobilise additional domestic funding for health and climate and support multisectoral financing mechanisms like End Malaria Funds. We must work with bi-lateral donors, funds and foundations,¹⁸ and development banks¹⁹ to align and coordinate their support of country health and climate priorities. Existing funding mechanisms, such as World Bank IDA, can also be used to finance the adaptation of malaria programmes and full implementation of the malaria toolkit, including next-generation commodities and vaccines.

15. AU, The African Leaders Nairobi Declaration on Climate Change and Call to Action (Sept. 2023), https://au.int/sites/default/files/decisions/43124-Nairobi_Declaration_06092023.pdf.

16. Analysis of country grant applications to The Global Fund.

17. WHO, Global Technical Strategy for Malaria 2016-2030 (2021 Update).

18. E.g., The Global Fund, Green Climate Fund.

19. E.g., The World Bank, African Development Bank, Islamic Development Bank.