



## Climate change could jeopardize the elimination of malaria in Africa

### Context

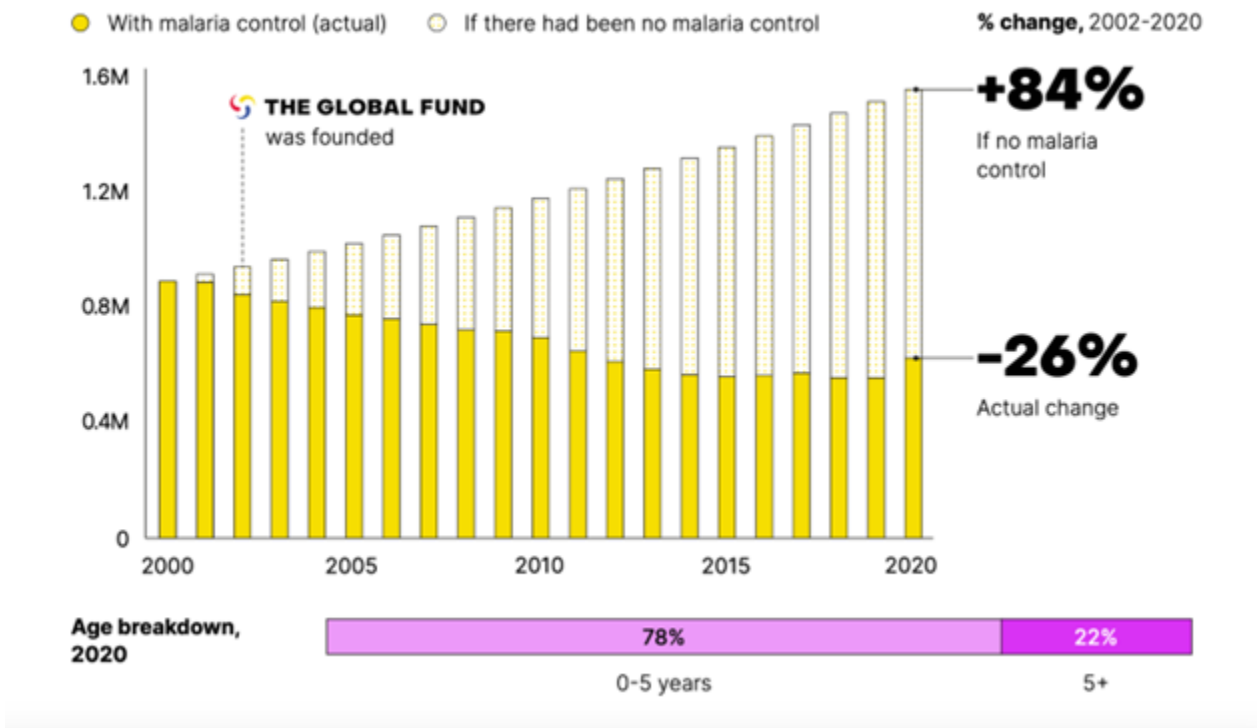
World Environment Day on 5 June 2023 was an opportunity to reflect on the implications of environmental degradation for human health. In particular, explaining the links between climate change and malaria in Africa. It emerges that rising temperatures on a global scale could compromise the possibility of eliminating malaria as a public health threat in sub-Saharan Africa.

Before highlighting this cause-and-effect relationship, let's briefly recall where the fight against malaria currently stands. This will undoubtedly give us a better understanding of what we have to lose and why the fight against climate change is inextricably linked to the fight against malaria, i.e., a fight to save the lives of thousands of people.

### The current state of the fight against malaria

Since 2002, when the Global Fund was established, significant progress has been made in the fight against malaria. The countries hardest hit by the disease have recorded significant reductions in the overall number of deaths and have succeeded in lowering their incidence rates. In fact, in the countries where the Global Fund invests, the number of deaths attributable to malaria fell by 27% between 2002 and 2021. The incidence rate has fallen by 28% and the mortality rate by 48% since 2002.

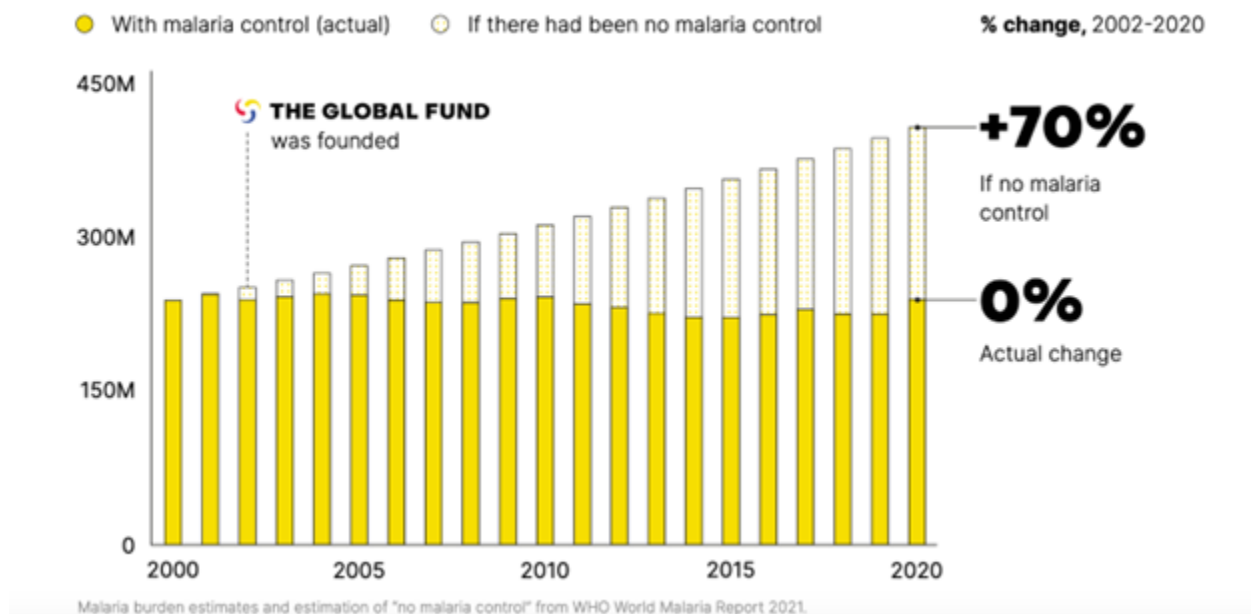
Figure 1. Trends in malaria deaths in countries where the Global Fund invests



Source: [2022 Results Report](#), p. 49

It should be noted that without the various combined initiatives to combat malaria on a global scale, the number of deaths would have risen by 91% and the number of cases by 76% over the same period.

Figure 2. Trends in malaria cases in countries where the Global Fund invests



Malaria burden estimates and estimation of "no malaria control" from WHO World Malaria Report 2021.

These many advances, which augur well for the possibility of putting an end to malaria as a public health threat, particularly in Africa where the disease is most rampant, are far from guaranteed. Climate change could hamper or even wipe out all the work done and the successes achieved so far. In fact, according to Peter Sands, Executive Director of the Global Fund, [“the next global health crisis may not be a new pandemic caused by a new respiratory infection. On the contrary, we could see climate change dramatically increase the threat of an existing infectious disease, such as malaria, a disease that kills a child every minute of every day.”](#)

The impact of climate change on the fight against malaria

While it is true that the link between climate change and malaria is complex and not yet fully understood, and also true that the spread of the disease depends on a number of factors (socio-economic conditions, sanitation systems, farming methods, access to healthcare, etc.), it is now widely established that the climate crisis has a direct impact on the outbreak or development of infectious diseases.

Some studies suggest that [climate change could lead to changes in the earth’s hydraulic systems, favoring the reproduction of malaria-vector mosquitoes](#) by creating environmental conditions that are more favorable to their survival, proliferation and, consequently, transmission of the disease. Higher temperatures would, above all, lengthen the malaria transmission window, according to [a study recently published in The Lancet](#).

More specifically, global warming could change the geographical areas where malaria is present, by causing mosquito populations to move. [The proliferation of malaria-carrying mosquitoes, induced by increased temperatures, rainfall and humidity, could lead to an increase in transmission in areas not yet affected by malaria](#). In fact, there is clearly a growing risk of transmission in hitherto malaria-free areas, in areas where the disease has been controlled or even eradicated, and in areas considered to be at low risk. [A study](#) carried out by researchers at Georgetown University shows that what was previously presented as a prediction, a hypothetical case, a sort of future pattern, is already happening in Africa. They show that in the face of global warming, many tropical species, including the arthropods that carry several infectious diseases, have moved to higher latitudes and altitudes.

These shifts would be compatible with the local speed of recent climate change and could help to explain the incursion of malaria transmission into new areas in recent decades. Clearly, [climate change could affect the distribution of malaria hosts and reservoirs, which in turn could have consequences for malaria transmission](#).

On closer examination, the effects of climate change on public health will be felt mainly through changes

in interventions rather than through an expansion in the spread of disease. For example, the increase in night-time temperatures could have an effect on the amount of time people spend in mosquito nets.

In the light of the foregoing, the fight against climate change is very much like the fight against malaria. This equation is all the more necessary as it would enable us to fight more broadly against what is akin to “environmental racism”, an ecological injustice.

## Climate change and environmental racism

Environmental racism, also known as ecological racism or environmental injustice, refers to the disproportionate impact of environmental risks on communities of color/race, indigenous communities and low-income communities. It occurs when decision-making processes related to, among other things, climate change management, hazardous waste disposal, the siting of industrial facilities and the enforcement of environmental regulations result in environmental damage and health disparities along racial and socio-economic lines. Environmental racism is a form of systemic racism that perpetuates social inequalities, leads to health disparities and undermines environmental sustainability. Combating environmental racism requires a holistic and intersectional approach to environmental justice and ensuring that the communities most affected have a voice in the decision-making processes that impact their health and well-being.

Why talk about environmental racism? Quite simply because it is the populations and countries that have contributed least to global warming that will pay the heaviest price. In other words, we are not all equal when it comes to the causes and consequences of global warming. We are even less equal in the face of the coming pandemic. While rich countries may be able to avoid, circumvent or delay the damage caused by the predicted climate catastrophe, poor countries will bear the full brunt. It is in this sense that we should also read Peter Sands, when he states:

“As always, it is the poorest and most vulnerable who are most exposed to this dynamic [climate change]. There is already an almost perfect overlap between the communities designated by the Intergovernmental Panel on Climate Change (IPCC) as ‘highly vulnerable to the effects of climate change’ and those hardest hit by malaria. Ninety percent of malaria infections and 96% of malaria deaths occur in the World Health Organization’s Africa region. Children under the age of five account for more than 80% of deaths, with pregnant women being the adults most at risk.”

Source: <https://www.forbes.com/sites/petersands/2023/05/05/felled-by-a-warming-world-will-malaria-be-the-next-pandemic/?sh=4a539a732c9c>

While a return of malaria to Europe could be worrying, it should be noted that [“the region has relatively advanced health systems and would therefore feel less of an impact than in places where health systems are already under strain and lack resources”](#), says Peter Sands.

Beyond malaria, the entire health system in African countries, already precarious and vulnerable, is now on borrowed time. The UN's Intergovernmental Panel on Climate Change ([IPCC](#)) constantly reminds us of the need to limit global warming to 1.5°C by the end of this century to avoid total catastrophe. To limit global warming to 1.5°C, greenhouse gas emissions must peak by 2025 at the latest and fall by 43% by 2030.

In this context, the groping, procrastination, postponements and refusals by the rich countries, which are the main culprits of the environmental crisis, to take appropriate action to limit global warming is nothing short of a situation of non-assistance to a person in danger, a crime scene postponed. In short, combating climate change means not only combating malaria, but also refusing to allow climate change to become a stage for environmental racism that would condemn to death millions of Africans and the poor, who bear little or no responsibility for the environmental crisis.

In conclusion, the fight against global warming does not absolve governments of the need to invest, here and now, in more effective and resilient healthcare systems. Disease surveillance systems, laboratories, supply chains, a possible vaccine, the involvement of civil society and communities, access to healthcare and community health workers are also part of the solution to defeating malaria. This architecture is essential for detecting and responding to any future pathogens with pandemic potential.

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