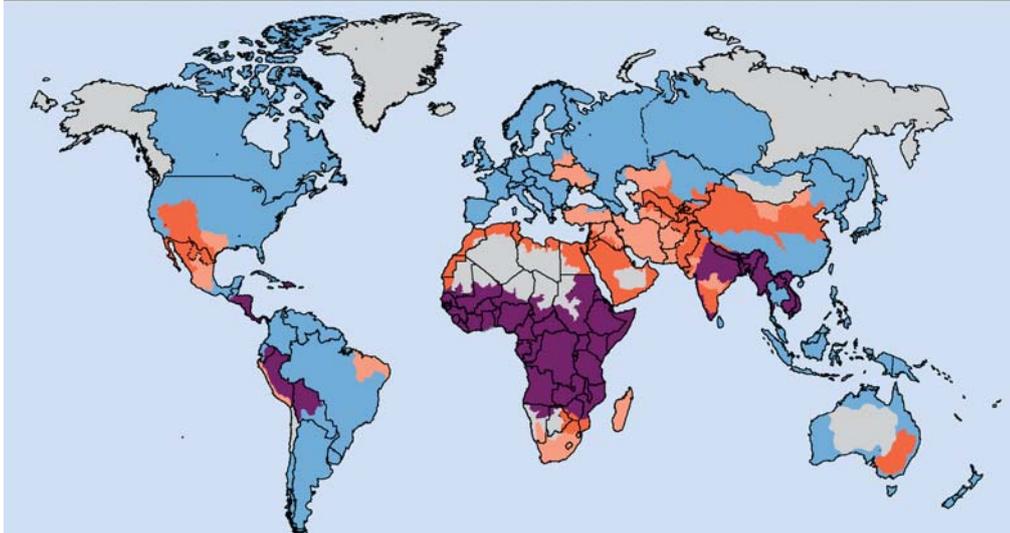


Areas of physical and economic water scarcity

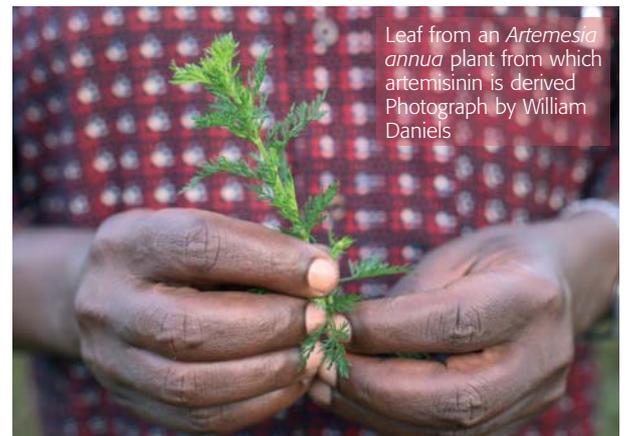
■ Little or no water scarcity
 ■ Approaching physical water scarcity
 ■ Not estimated
■ Physical water scarcity
 ■ Economic water scarcity



will only succeed if investment in agriculture and natural resources management is seen as the key to a more prosperous and stable future for the poor and a basis for helping poor countries increase their gross domestic product and thus move up the development pathway.

¹ The Comprehensive Assessment of Water Management in Agriculture was led by the International Water Management Institute. Results of the five-year long study was published in "Water for Food; Water for Life: A Comprehensive Assessment of Water Management in Agriculture" (2007).

THE ANCIENT SCOURGE OF MALARIA: IS THE END IN SIGHT OR IS THE PARASITE ABOUT TO STAGE A COMEBACK?



Stephen O'Brien MP Chairman of the All Party Parliamentary Group on Malaria & Neglected Tropical Diseases; Chairman of the Malaria Consortium; Vice-Chairman, Liverpool School of Tropical Medicine; and Prudence Hamade from Malaria Consortium

Malaria has been described in medical literature for over 2000 years and has seriously impeded the economic and social development of endemic countries. Nearly one million deaths are recorded each year, and in 2009 half the world's

population remains at risk. In Africa, where transmission is highest, deaths are most common in pregnant women and children under five, but older children and men are also affected by malaria that can lead to chronic anaemia and result in loss of school attendance and work.

Malaria disproportionately affects the poor, particularly where housing is inadequate and where there are many breeding sites for mosquitoes. High numbers of cases and deaths are found in conflict and

post-conflict settings such as Democratic Republic of Congo and in countries with weak health systems such as Nigeria. However, we have excellent tools to control malaria such as long-lasting insecticidal nets, easy to use rapid diagnostic tests, efficient insecticidal sprays and effective treatments, in addition to an increase in funding for malaria programmes over the last few years. In Parliament the All Party Parliamentary Group on Malaria & Neglected Tropical Diseases has dedicated its energies to

establishing the evidence and opportunities to tackle this devastating scourge by advocating, with authority, the need to highlight and prioritise this battle and win it – it is achievable with sustained effort.

Why, then, is the disease continuing to devastate communities? There are several reasons, and at present the main ones are that the systems to make sure these excellent tools reach the people who need them are very deficient. Lack of skills, lack of resources and sometimes lack of interest

mean we are not making the most of the methods we have. Past efforts to bring malaria down have eventually been blocked by technical obstacles, especially resistance of the parasites to the drugs and resistance of the mosquitoes to insecticides. We need to make the most of the good interventions we have while they are still working by supporting delivery systems, and at the same time always keep a pipeline of new interventions under development.

Drugs such as chloroquine and Fansidar (sulphadoxine/pyrimethamine) developed decades ago were very effective for up to 30 years but are now virtually useless against the main killer parasite *Plasmodium falciparum*. Highly effective drugs, based on artemisinin extracted from a plant *Artemisia annua* were rediscovered in the 1970s by Chinese scientists. The World Health Organization advises that they should be taken in combination with another longer acting drug to prevent resistance developing.

Artemisinin Combination Therapies (ACTs) are one of the mainstays of malaria control programmes. They act rapidly to

clear parasites reducing the risk of transmission and the progression of the disease to more severe forms such as cerebral malaria. They rapidly reduce fever and have few side effects.

Research on the Thai-Cambodian border (long a nursery for emerging resistance to antimalarials) has recently demonstrated reduced efficacy of artemisinin based drugs. The drugs are still curing patients but this first sign of parasite tolerance is a warning to the malaria community that we need to act quickly to prevent resistance from spreading outside the area, especially to high burden countries in Africa. No genetic change has yet been demonstrated but the search continues; if a genetic marker can be found it will be easier to detect and manage the parasite. If resistance spreads to Africa we could see the resurgence of malaria and reversal of the decline in morbidity and mortality in countries such as Rwanda, Ethiopia and Eritrea.

A containment project funded by the Bill & Melinda Gates Foundation and led by the World Health Organization has been rapidly launched.

Partners include the National Programmes in Thailand and Cambodia, Mahidol-Oxford Tropical Medicine Research Unit (MORU) and the UK-based organisation Malaria Consortium, a specialist in malaria control. This group hopes to eliminate malaria on the Thai-Cambodian border and thus completely destroy the resistant parasite before it spreads to the rest of the world. Challenges encountered thus far include inadequate funding in the region and weak health delivery systems – especially in post conflict Cambodia where poverty, lack of infrastructure and poor surveillance restrict rapid progress.

In recent years many new drug combinations are being developed. Public-private partnerships have been created such as Medicines for Malaria Venture, and biotechnology companies have been funded to develop semi-synthetic drugs to reduce dependence on growing the plant. Agricultural research institutions such as at the University of York seek to produce better plants with more artemisinin per leaf and with shorter growing times. However, almost all these drug

developments depend on artemisinin and it will be at least ten years before a non-artemisinin alternative can be developed.

Even if we have the tools we still need to deliver them rapidly to those most in need. They have to be affordable, accessible and acceptable to affected populations. And we must use the full range of tools available, as there is no 'magic bullet'. Moreover, wherever malaria control is producing successful results, the world community must recognise that the resources required to keep the lid on malaria transmission do not lessen as the rate of transmission is reduced.

Governments and their partners are exploring innovative ways of getting commodities to the people including innovative finance mechanisms to make drugs cheaper, such as the Affordable Medicines Facility malaria, and the use of community volunteers who have been trained by organisations such as Malaria Consortium to provide diagnosis and treatment at village level.

TACKLING PNEUMOCOCCAL DISEASE - THE WORLD'S BIGGEST KILLER OF CHILDREN

Dr Desmond Turner MP

Chairman, All Party Parliamentary Group on Pneumococcal Disease Prevention in the Developing World

Pneumococcal disease kills up to 1 million children under age 5 each year, 98 per cent of whom are from the developing world. It is the leading cause of childhood pneumonia, the world's biggest killer of children, and a primary cause of

meningitis which kills and disables many hundreds of thousands. Pneumococcal disease has a devastating impact on social and economic structures in the developing world. However, the ultimate tragedy is that pneumococcal

disease is preventable by immunisation.

Western nations, such as the UK, have access to a childhood pneumococcal vaccine and indeed, it is part of the UK immunisation rota. However, children in the developing world

