



Yombe waterfall (DR Congo) is 10 m away from the villagers' homes. Many of them spend much of their time here bathing, washing their clothes and dishes, and collecting water. The inhabitants of this village say that there are blackflies, which transmit river blindness, in this area. Photo credit: Junior Diatezua Kannah-DND/

> Onchocerciasis (River blindness)

About the disease

Filarial diseases are a debilitating group of diseases caused by parasitic worms transmitted by the bite of blood-feeding insects. People are infected with river blindness (also known as *onchocerciasis*) by repeated exposure to blackflies infected with *Onchocerca volvulus* worms and breeding in fast-flowing rivers.

River blindness is not usually fatal, but it inflicts hardship and misery on millions of people. In the human body, the adult worms produce embryonic larvae (microfilariae) that migrate to the skin, eyes and other organs. The worms can cause severe itching, disfiguring skin lesions, and repeated infection can lead to impaired vision or even blindness.

Epidemiological data: the disease in numbers



About 205 million people
at risk



21 million people infected
with river blindness



>1 million people
with vision loss

River blindness: The treatment challenge

The current approach for river blindness is based on the mass distribution of preventive chemotherapy, which has been successful in reducing the prevalence of the disease. But these treatments need to be repeated annually or biannually for many years because they only kill juvenile worms, not adult worms, which can live for more than 10 years in the human body. There are also major gaps in treatment coverage in regions where people are co-infected by both river blindness and *Loa loa*, another filarial disease also known as 'African eye worm'. The current treatment cannot be used in these settings because it can cause a potentially fatal inflammatory reaction in people with the co-infection.

DNDi aims to deliver a safe, effective, affordable, and field-adapted drug that can kill adult filarial worms (a 'macrofilaricide') and be used for prevention or individual treatment.

The HELP consortium

To target helminth elimination, a new consortium of research institutes, universities, not-for-profit organizations, and pharmaceutical companies have joined forces and expertise to establish a research and development pipeline for the development of anthelmintics targeting nematodes. The focus is on STH as well as onchocerciasis.

Called the Helminth Elimination Platform (HELP), this new multidisciplinary platform is funded through the European Union's Horizon 2020 research and innovation programme and will run to September 2024. HELP is led by the Swiss Tropical and Public Health Institute (Swiss TPH), and comprises the not-for-profit research and development (R&D) organization Drugs for Neglected Diseases *initiative* (DNDi), the pharmaceutical companies Bayer Animal Health GmbH (an Elanco company) and Celgene/Bristol-Myers Squibb, and the European and African academic institutions: Institute for Medical Microbiology, University Hospital Bonn, Germany; Muséum National d'Histoire Naturelle Paris, France; Ifakara Health Institute, Tanzania; and University of Buea, Cameroon.



Photo credit: DNDi/Cosmos/Sylvain Cherkaoui

<https://eliminateworms.org>