

ACTION AGAINST WORMS

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The prevalence and intensity of *S. mansoni* infection are particularly high among those who live close to the lakes and rivers and those who cannot avoid contact with water, such as women during domestic work and fishermen.

WELCOME TO UGANDA!

Uganda, described by Winston Churchill as “truly the pearl of Africa”, is a land-locked country in east-central Africa. Lying east of the Great Rift Valley, it forms part of the central African plateau. The country’s five major lakes – Victoria, Albert, Edward, George and Kyoga – and two major rivers – the Victoria and Albert and the White Nile – provide the perfect habitat for the intermediate snail host of *Schistosoma mansoni*. This organism is responsible for the African intestinal type of schistosomiasis (or bilharzia). Schistosomiasis is no newcomer to Uganda – for the past 50 years people have suffered its damaging effects. Until recently, nothing had changed: the latest data indicate that 4 million people are infected with schistosomiasis, made worse in many cases by concurrent infections with soil-transmitted helminths (STH), particularly hookworm.

A NATIONAL WORM CONTROL PROGRAMME UP AND RUNNING IN 5 YEARS

Now, Uganda has woken up to worm control – but why, when the three “heavy-weight” diseases, HIV/AIDS, malaria, tuberculosis, are commanding so much attention? The answer is simple. Evidence from isolated fishing communities showed that schistosomiasis alone was the biggest threat to people’s health. This fact, combined with the new and simplified strategy (see *Action Against Worms*, Issue 1), convinced the government to embark on comprehensive worm control activities.



We very much hope that **Action Against Worms** is both enjoyable and informative. If you have any comments on existing issues or suggestions for areas you would like to be covered in the future, please do not hesitate to contact us by e-mail at: wormcontrol@who.int

THE "SNOWBALL" OF MOMENTUM IN WORM CONTROL

Following the commitment by the Government of Uganda to tackle the problem of worm infections, WHO and the Danish Bilharziasis Laboratory (DBL) stepped in to assess the nature of an appropriate strategy. As a part of their work, they provided training to district health teams in integrating deworming activities into their regular work. And this is exactly what the new strategy is all about – delivering deworming treatment through existing infrastructures rather than setting up costly new programmes.

After the training, a "snowball" effect became apparent, with health personnel from some of the high-burden areas motivating local aid agencies and NGOs to also invest in worm control. For example, the Italian Ministry of Foreign Affairs came on board in Nebbi District, the Italian NGO Collegio Universitario Aspiranti Medici Missionari in Arua District, and the Victory Outreach Church (United Kingdom) and New Covenant Church (Uganda) in Apac, Kotido, and Lira. At the same time, the World Food Programme (WFP) was instrumental in shaping the programme, sharing its infrastructure, staff, and resources. However, the greatest boost to the programme came in June 2002, when the Schistosomiasis Control Initiative¹ (SCI; see www.schisto.org) chose Uganda to be the first recipient of a grant from the Bill and Melinda Gates Foundation award for worm control in Africa.

Uganda's programme was officially named the National Bilharzia and Intestinal Worm Control Programme. It was formally launched on 4 March 2003 by the Deputy Prime Minister, Brigadier Moses Ali, in Nebbi District on the northern shore of Lake Albert. The choice of this district, which is particularly badly affected, was especially appropriate – the local Member of Parliament, the Honourable Fred Omach, has campaigned tirelessly for more attention to be paid to bilharzia in his constituency.



Brigadier Moses Ali, Ugandan Deputy Prime Minister, gives the first dose of praziquantel to a schoolchild, watched by the Minister of Health, Jim Muwhezi, at the launch of the National Bilharzia and Intestinal Worm Control Programme.



Children are often infected at a very early age and develop chronic disease, with severe complications as adults.

HOW CHEAP IS IT TO DEWORM?

To treat both schistosomiasis and STH infections costs less than US\$ 0.50 per child/year.

To treat only STH costs less US\$ 0.25 per child/year.

An insecticide-treated bednet for preventing malaria costs US\$ 3*.

Five days of paediatric antibiotic treatment costs US\$ 0.27*.

To administer 1 dose of measles vaccine costs US\$ 0.26*.

* Massive Effort against diseases of poverty. Winterthur Health Forum 2000 (WHO/CDS/2000.3)

¹ Based in the Department of Infectious Disease Epidemiology, Imperial College, London, England.

The launch ceremony was attended by the Ministers of Health and Education, officials from central government and endemic districts, and overseas guests from SCI, WHO, DBL, the UK Department for International Development (DFID), and Save the Children Fund (SCF). The entire day was marked by a carnival atmosphere, the local community having turned out in force to watch their children perform dances, songs, and poems and to support their MP, the charismatic Fred Omach.



Hon Minister Jim Muhwezi

"Bilharzia is very close to malaria and HIV/AIDS in the threat of public health. But it is never given the prominence it deserves partly because the infected people do not know about it. In addition many of them are in rural areas, and it affects the poorest of the poor. The people who are poor are likely to be unhealthy, and the people who are unhealthy will definitely be poor, and poorer. So we need really to fight the disease in order to break this vicious trap".



Fred Omach,
MP for Jonam
County

Dr Alan Fenwick, Director of SCI, described his personal pleasure in being able to support Uganda's National Worm Control Programme. "By creating a successful prevention and treatment programme that can be replicated in countries around the world, we have the opportunity to make a major impact in the fight against worms. We hope that this partnership and similar ones elsewhere will result in the prevention of unnecessary suffering and disability for many millions of people."



Arriving guests were greeted by a lively procession of local schoolchildren and a musical fanfare from a trumpet and drum band.



The Vector Control Division Exhibition stand showing education materials and information on schistosomiasis as well as field microscopes to show visitors the parasite eggs.

THE “NUTS AND BOLTS” OF THE PROGRAMME

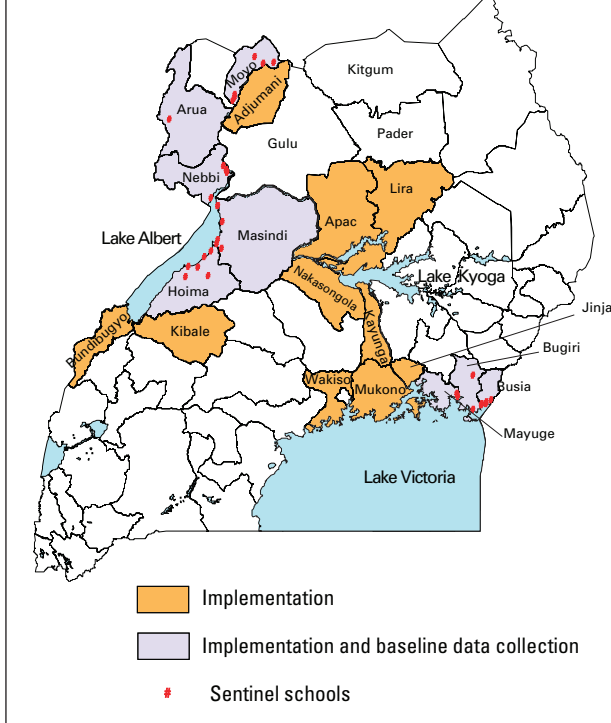
Uganda’s worm control programme has three primary objectives, which support the global targets set by WHO:² to ensure that deworming drugs are regularly and efficiently supplied to the districts; to regularly treat at least 75% of school-age children in endemic areas; and provide mass treatment to the entire community in areas where more than 50% of the people are infected.

To achieve these objectives and evaluate the intervention, four main activities are planned: baseline data collection, health education and community sensitization, regular treatment starting in 18 selected high-burden districts, and monitoring by re-examination of the baseline cohort.

BASELINE DATA COLLECTION: DEWORMING DRUGS AND BUNS

In 8 of the 18 districts selected, baseline data collection has already been completed (see map above). The process was as follows: five schools with a total of 120 children per school in aged cohorts were identified. In addition at least one community in each district was chosen, and 120 members of that community were selected. Each person was then examined, given a treatment card and a single dose of praziquantel and either mebendazole or albendazole with food, usually a bun. Over the next 5 years, these cohorts will be re-examined and treated annually; in 4 years’ time, the impact of the whole programme will be assessed. In fact, there is already extensive evidence of the cost-effectiveness and enormous health benefits of deworming programmes – but additional evidence of success is always valuable, especially if we want to encourage other countries to follow the Uganda example.

Districts selected for baseline data collection and implementation by the Uganda National Bilharzia and Intestinal Worm Control Programme.



Tonya primary school



Runga primary school



Kibiro primary school



Taking measurements at Kibaywa school



Children in Hoima school look at their treatment ID cards

BASELINE DATA

² At the World Health Assembly, resolution WHA54.19 was passed, outlining clear strategy on how to deliver deworming programmes. See: www.who.int/wormcontrol

HEALTH EDUCATION AND COMMUNITY SENSITIZATION

Health education was carried out in the schools and communities by schoolteachers, community health workers, nurses, district health staff and community development officers. In the schools, a formal health education session is now a standard part of the actual treatment day. To help the teachers explain all about worms, posters and pamphlets on how to avoid helminth infection are available, as well as a special "Question & Answer" booklet, specially designed for Uganda, that counters some of the common misconceptions about schistosomiasis, such as "the disease is caused by witchcraft" and "traditional medicine can cure bilharzia".



Training at Hoima



IMPLEMENTATION: SCALING UP BY DISTRICT

With baseline data collection complete, implementation begins! A phased approach is being used. The first, or pilot, phase has been completed; it involved selecting one of the worst-affected sub-counties in each of the 18 districts, training all the school and community drug administrators, and then distributing the drugs. This phase began on 10 April 2003 and covered more than 300 000 adults and children. The second phase is scheduled for late 2003 when another 500 000 individuals will be treated in all the sub-counties of the same 18 districts. The third phase, scheduled for 2004, will involve treatment of another 1 million individuals, and re-treatment of the 800 000 treated in 2003.

So far, the response from communities has been dramatic. The feeling of well-being that rapidly follows a deworming campaign has always made such programmes especially popular with communities – and, for Uganda, this simple type of health intervention was long overdue. Generally, the worst problem experienced is fitting all the trainers, district officials and supplies into the vehicle at the same time!



The survey team descending to the shoreline of Lake Albert, Hoima District



A member of the survey team talking with schoolchildren

We would like to thank the Bill & Melinda Gates Foundation for their generous financial assistance which has made this publication possible.

WORKING TOGETHER

Today, the number of donors and agencies working in worm control in Uganda is growing. With assistance from CIDA (Canadian International Development Agency), WFP has started giving out deworming tablets as part of its school feeding activities. SCF is assisting with drug delivery in Nakasongola District. The DBL, funded by DANIDA (Danish International Development Agency) provides extensive training at all levels. The Wellcome Trust provides funds for additional research. The London School of Hygiene and Tropical Medicine is involved with Geographical Information System (GIS) mapping. DFID has helped to improve laboratories. Cambridge University is carrying out a morbidity study funded by the European Union, and the University of Bangor, Wales, is working on new diagnostic techniques. Eventually the World Bank is likely to be a major contributor, providing support for school health projects that include a deworming component (according to the FRESH framework; see www.freshschools.org/).

SPIN-OFFS FROM THE UGANDA EXPERIENCE

The Ugandan programme is proving so successful that 10 more countries in sub-Saharan Africa, which have been closely watching its roll-out, have now confirmed their commitment to worm control. This is an extremely exciting development. Already each government has prepared a national plan and applied to SCI for funding. What is more, several partners from the Partners for Parasite Control (PPC; see www.who.int/wormcontrol) are already working in most of these countries. This is a major advantage and means that the essential infrastructure is already in place on which deworming can "piggy-back". The countries concerned are Burkina Faso, Cameroon, Ghana, Kenya, Malawi, Mali, Niger, Nigeria, United Republic of Tanzania and Zambia.

As in Uganda, an extra injection of funds would surely help to "kick-start" one of the most overdue and beneficial health interventions that any government or donor could hope to support.

The target agreed with the Bill & Melinda Gates Foundation by SCI is to treat regularly at least 15 million people over the next 4 years.

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This issue of *Action Against Worms* was written by Cara Kamenka, Alan Fenwick, Russell Stothard, Howard Thompson, and Narcis Kabatereine of the Schistosomiasis Control Initiative (SCI).

Photo credits: the writers



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WHERE WE ARE ... A child with severe schistosomiasis being examined with ultrasound. This type of suffering is unacceptable, and it is within our power to control it entirely.



WHERE WE ARE GOING ... Healthy worm-free children.