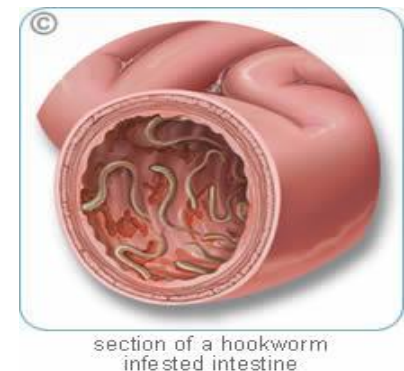
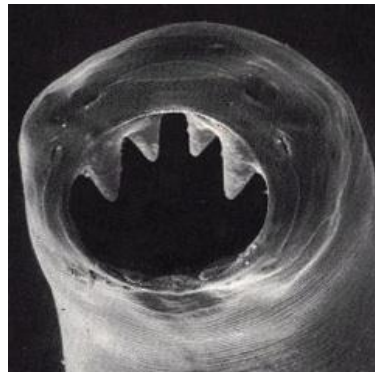
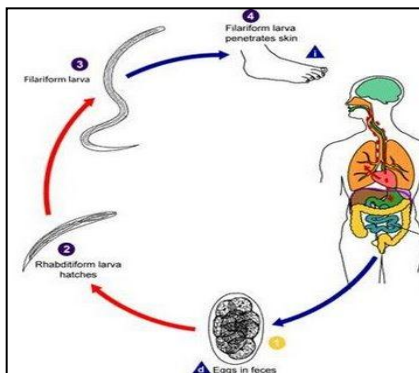


Global health - the work of the London Centre for Neglected Tropical Disease Research - in partnership with countries throughout the world

Roy Anderson

***London Centre for Neglected Tropical Diseases Research (LCNTDR)
Faculty of Medicine
Imperial College London***



Aims of the London NTD research centre



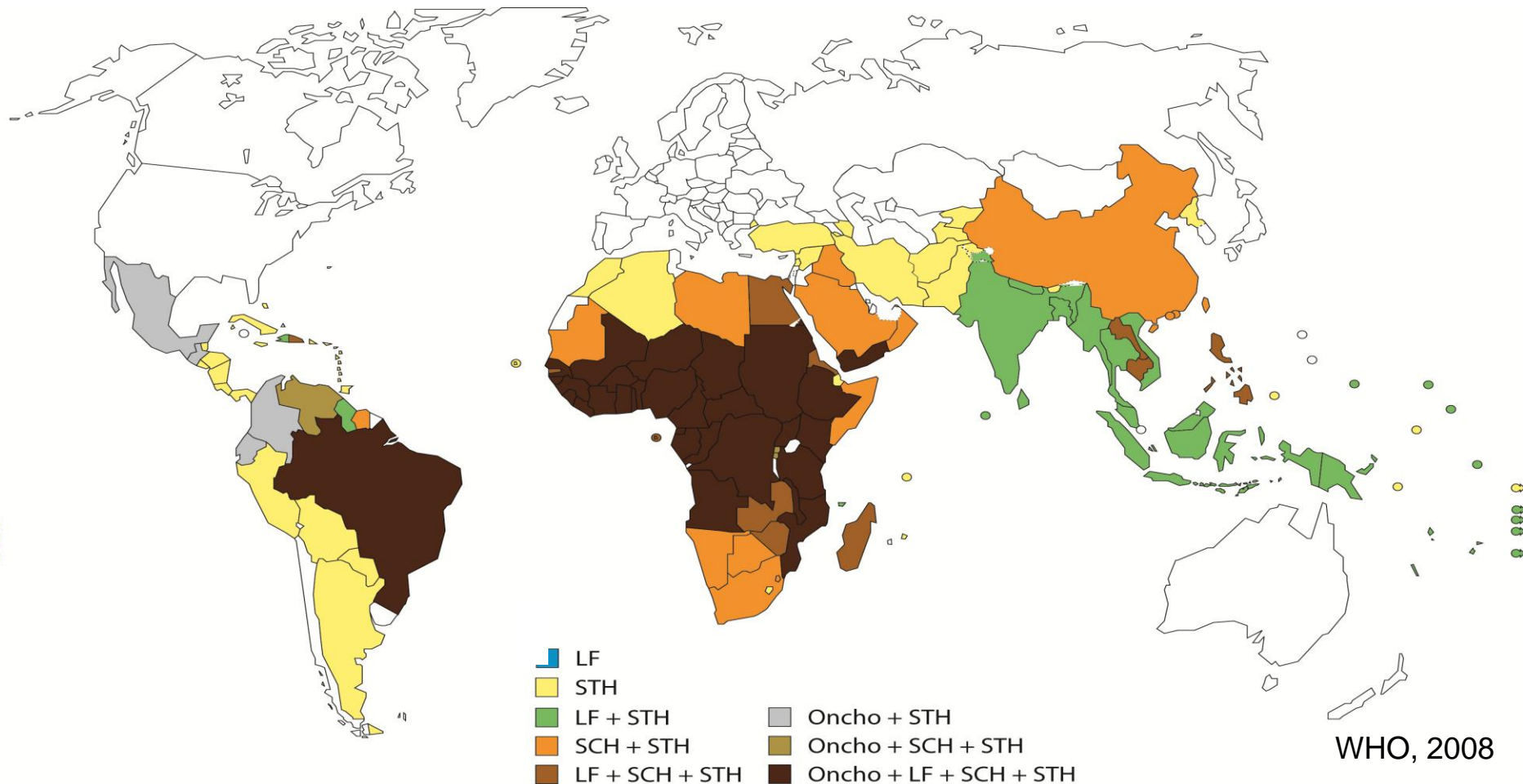
- The Department of Infectious Disease Epidemiology in the School of Public Health at Imperial College London, the London School of Hygiene and Tropical Medicine (LSHTM) and the Natural History Museum (NHM) have **jointly created a new Centre for the Neglected Tropical Disease Research (LCNTDR)**. This builds on their combined strengths in research on tropical infectious disease epidemiology and control.
- The new centre will act as an **umbrella structure to provide research support** for implementation, monitoring and evaluation of control programmes for infectious diseases in resource poor settings.

The United Nations Millennium Development Goals (MDGs)

1. Eradicate extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote gender equality and empower women.
4. Reduce child mortality.
5. Improve maternal health.
6. **Combat HIV/AIDS, malaria and other diseases.**
7. Ensure environmental sustainability.
8. Develop a global partnership for development.

NTDs are included
in “other diseases”

Countries requiring preventive chemotherapy interventions for LF, STH, SCH and ONCHO



The London Declaration – January 2013



What Bill Gates Jnr had to say about de-worming and schools at the meeting on Neglected Tropical Diseases in London on Monday Jan 30th 2012, which resulted in the “London Declaration”.



***Verbatim transcript, Monday 30th January
11.30am....Bill Gates Jnr***

"... the parasite load that the young kids [have] of these worms...means that they are malnourished in a way so that their brain never fully develops... and so for the rest of their lives they are permanently impacted by this. These health interventions have a huge impact on allowing school children to be able to achieve.”.




The London Declaration – one year on

- The world's leading pharmaceutical companies have donated 1.12 billion treatments for NTDs, an increase of 150 million treatments from 2011.
- Twenty-nine countries began receiving drugs to treat or prevent soil-transmitted helminths, increasing from 46 million treatments in 2011 to 238 million in 2012.
- Many donors committed funds to support integrated NTD control.

This wormy world - mapping

A Global Atlas of Helminth Infections

Mapping this wormy world



The screenshot shows the GAHI (Global Atlas of Helminth Infections) website. At the top, there's a search bar with 'Find a map' and dropdown menus for 'Region' (set to 'Africa'), 'Infection' (set to 'Soil-transmitted helminths'), and 'Map type' (set to 'World map'). Below the search bar are navigation links: 'Home', 'About worms', 'Maps', 'Publications', and 'About us'. The main heading is 'GLOBAL ATLAS OF HELMINTH INFECTIONS'. Below this is a world map with Africa highlighted in yellow. A text box on the left of the map says 'Click on Africa to view or download the available maps'. Below the map, there are three columns of text. The first column says 'All maps are free to use and download under terms of Creative Commons License.' and includes the CC BY-NC-SA logo. The second column says 'Submit your data (published or unpublished)' and includes a small image of a person. The third column says 'More than a third of the world's population is infected with worms. There are many different types of worm infection, but the most common are soil-transmitted helminths (roundworm, whipworm and hookworm) and schistosomiasis which can negatively affect children's health, nutrition and education. Periodic deworming helps avoid the worst effects of infection, leading an increasing list of countries to develop and implement national deworming programmes. Implementation of these programmes must be guided by reliable, up-to-date maps of worm distributions. Although thousands of surveys have been done, such maps have generally not been widely available to policy-makers and the managers of control programmes until now.'

A new open-access, global information resource for public health professionals and managers of deworming programmes.

www.thiswormyworld.org

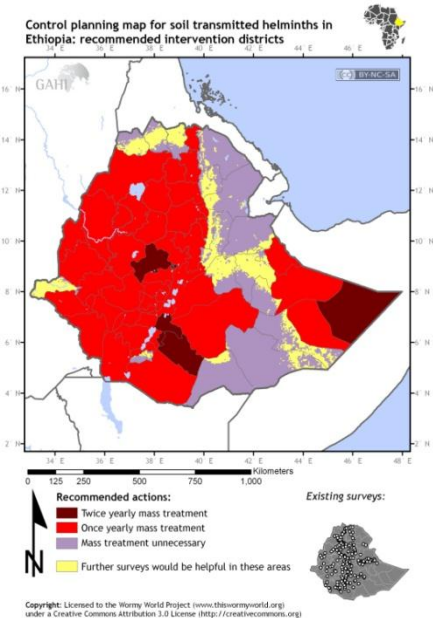
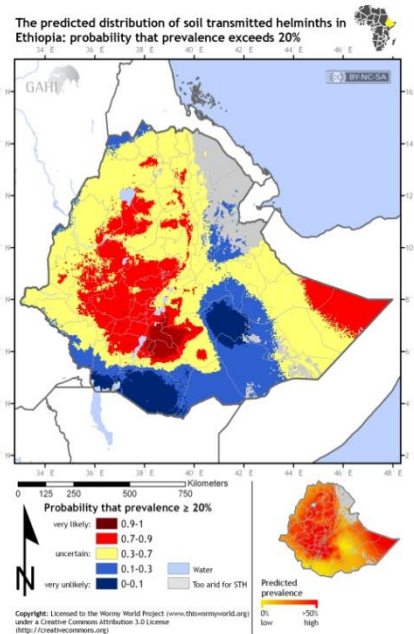
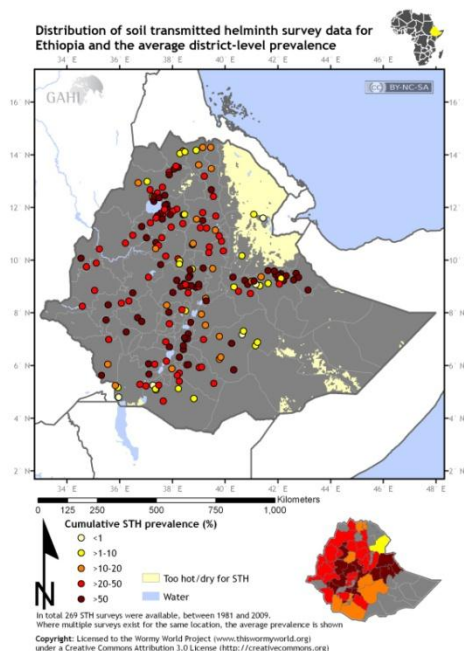
Provide an information resource to governments, planners and development partners to guide control efforts

Highlight areas where further survey information is required.

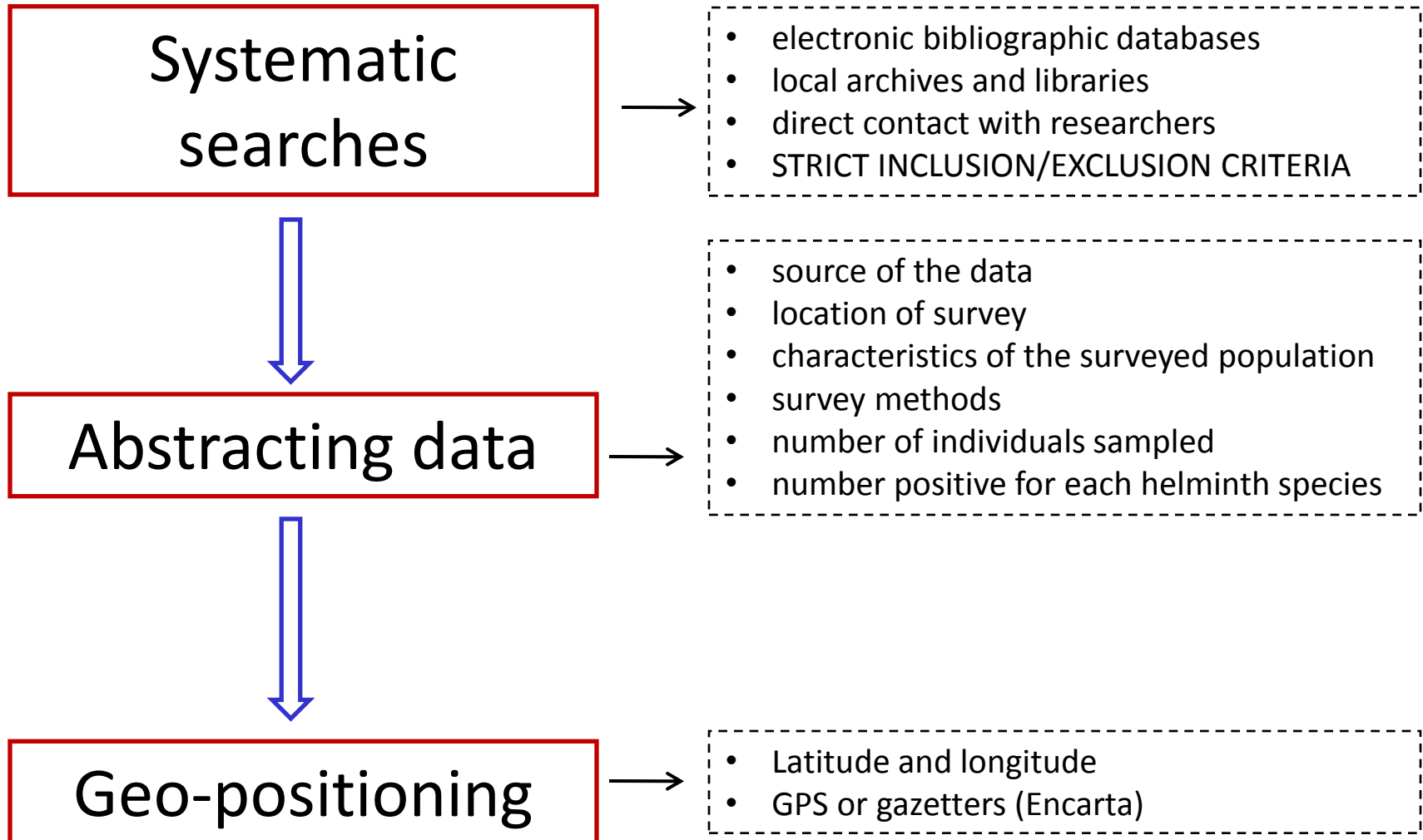
an obvious information resource when offering technical assistance re the sampling and targeting of deworming

The Maps

1. Three types of map are presented per country:
2. a **survey data map** showing the prevalence of worm infection based on survey data
3. a **predictive risk map** showing the probability that infection prevalence warrants mass treatment according to recommended WHO thresholds
4. a **control planning map** showing which districts require mass treatment or where further surveys are probably needed

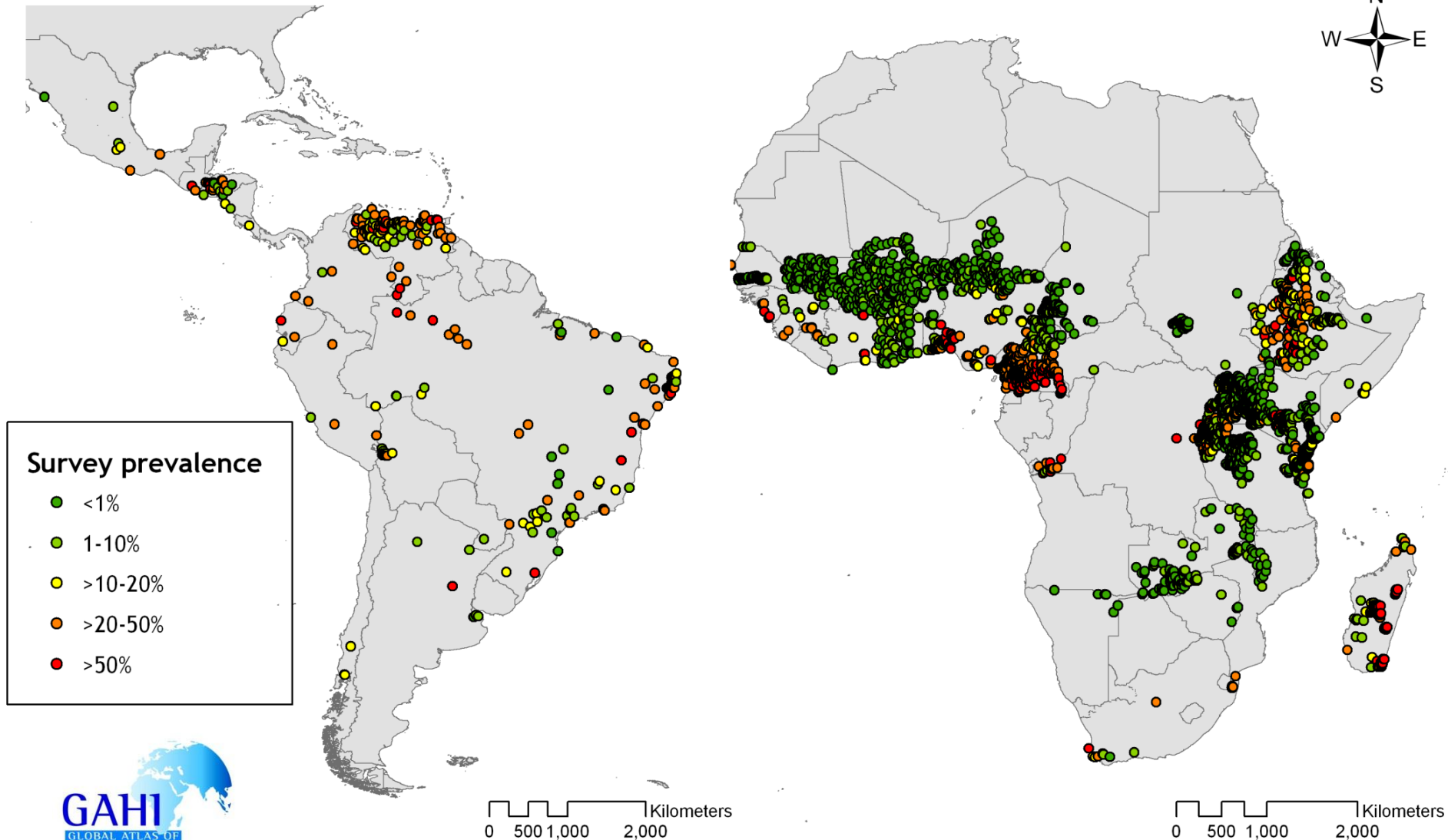


Developing a Global Atlas of Helminth Infection



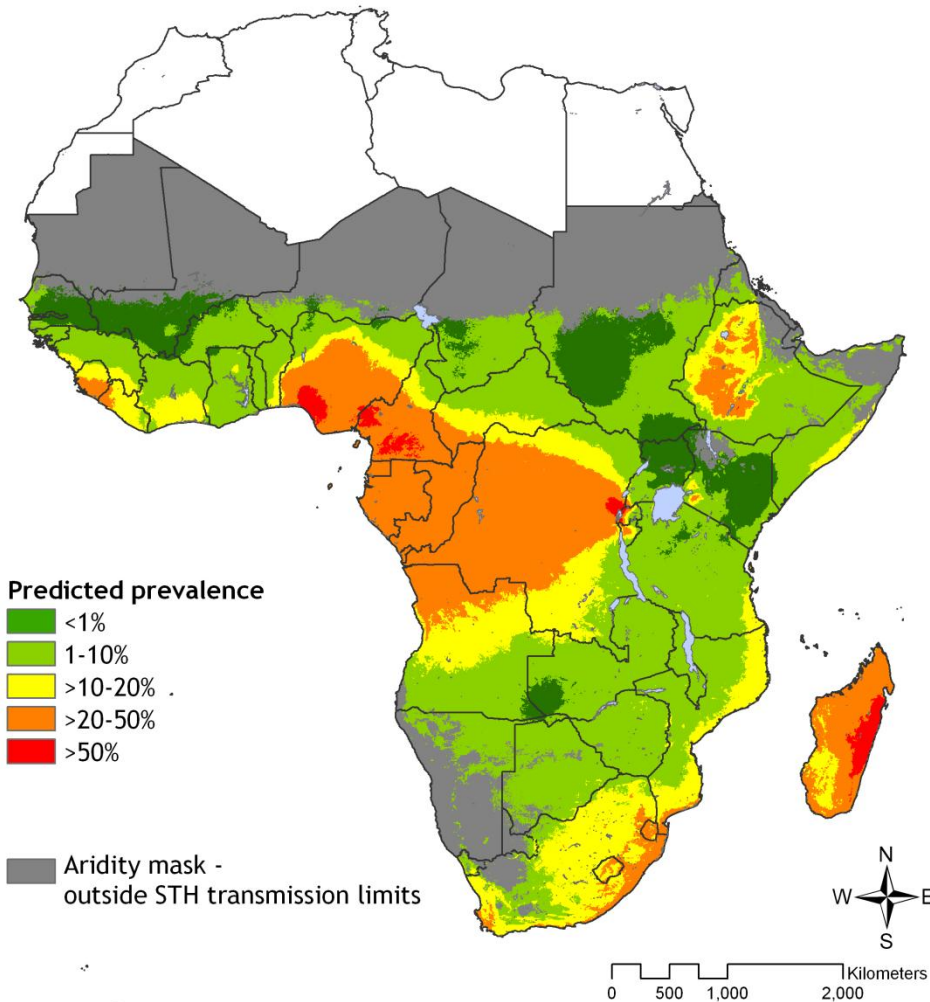
Global Atlas of Helminth Infection:

Ascaris lumbricoides in Latin America & sub-Saharan Africa

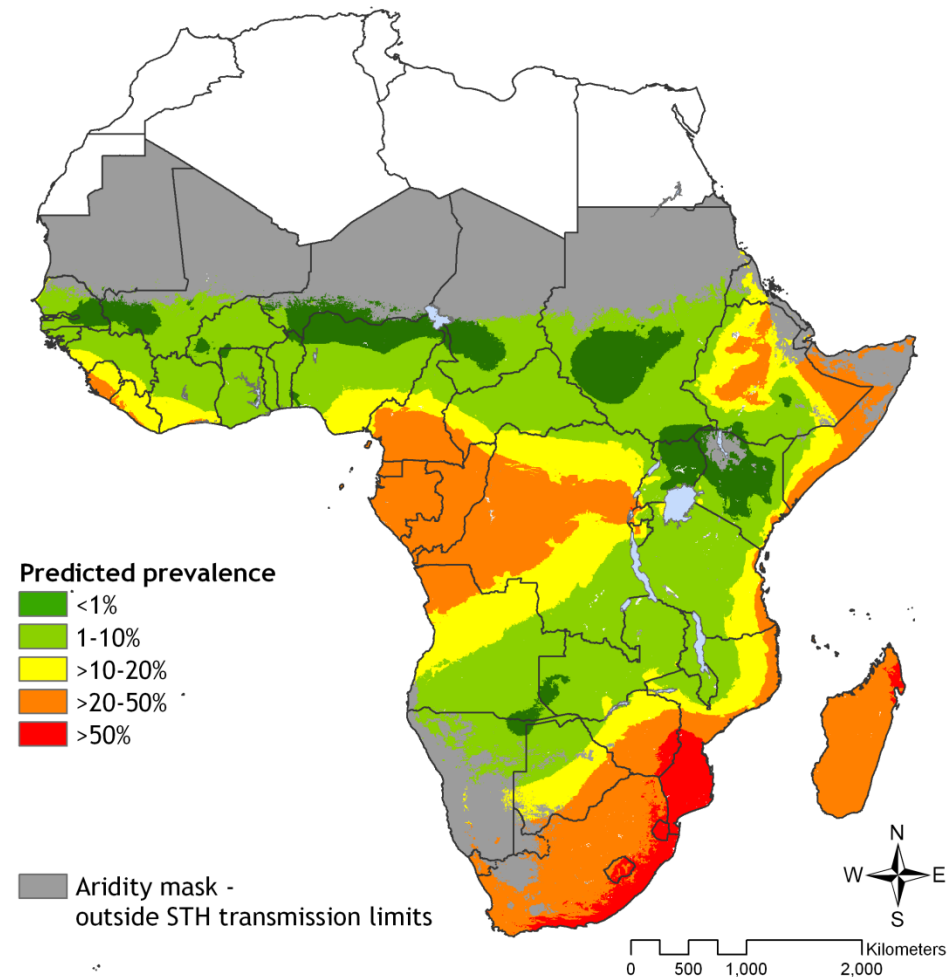


Spatial modelling of the prevalence of STH infection, 2010

Bayesian geostatistical modelling

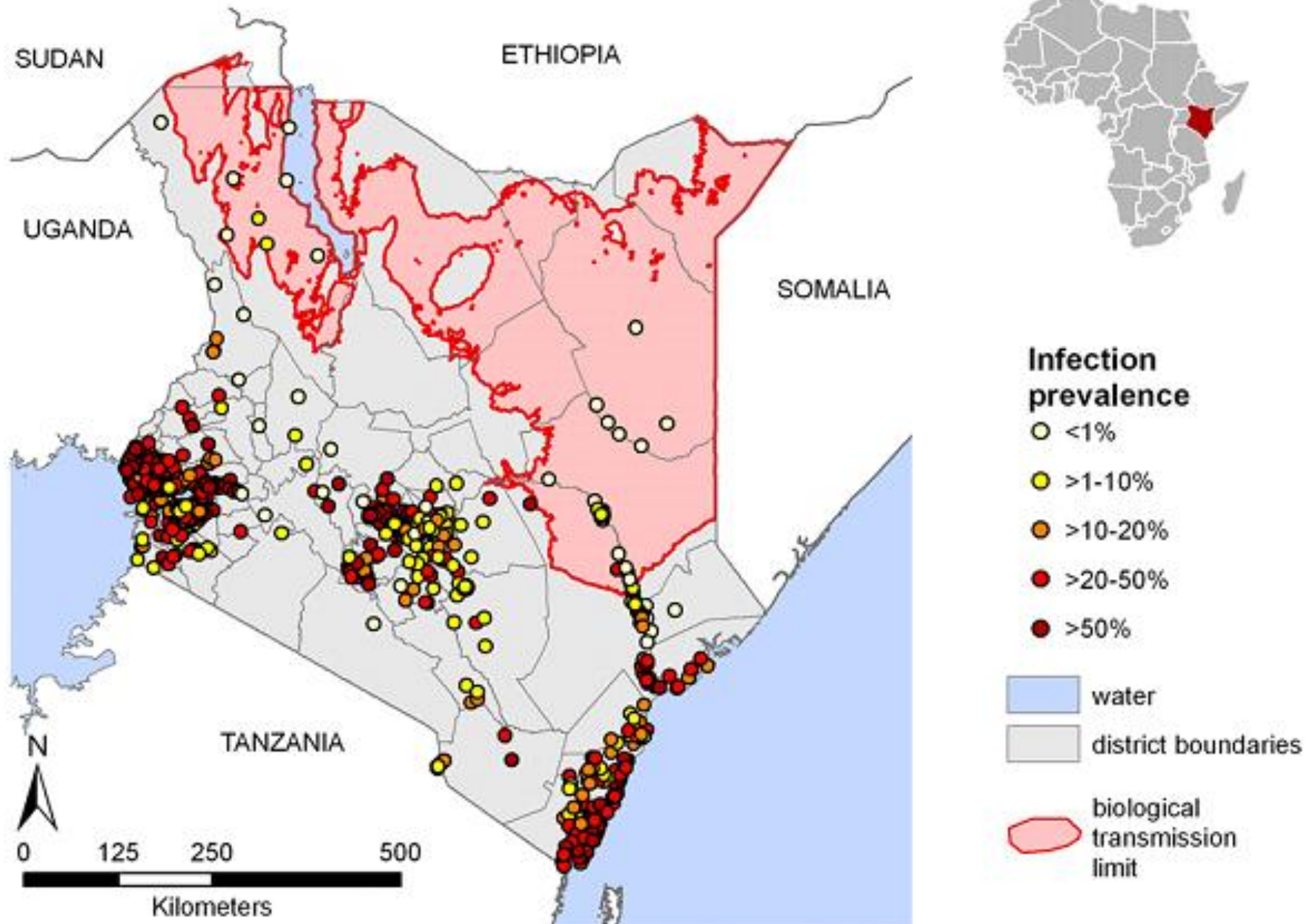


A. lumbricoides

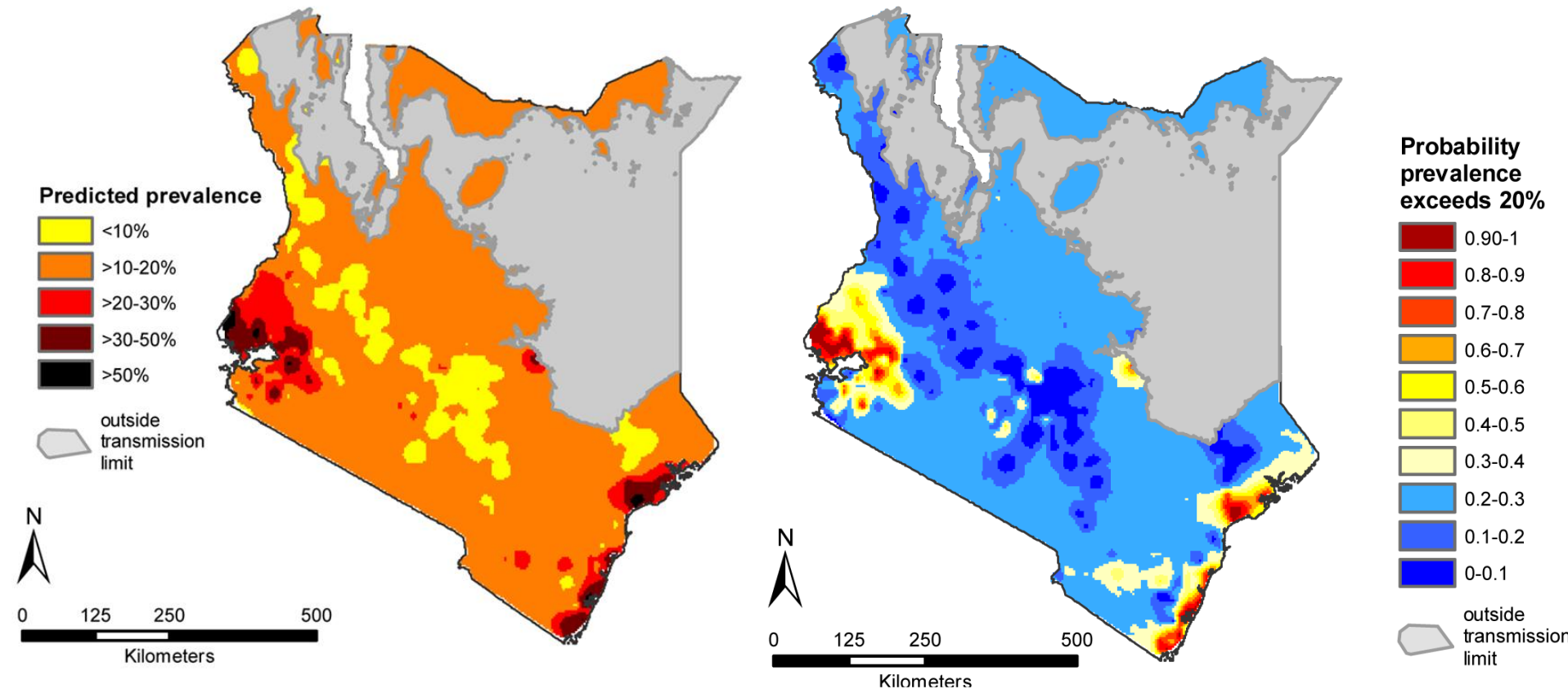


T. trichiura

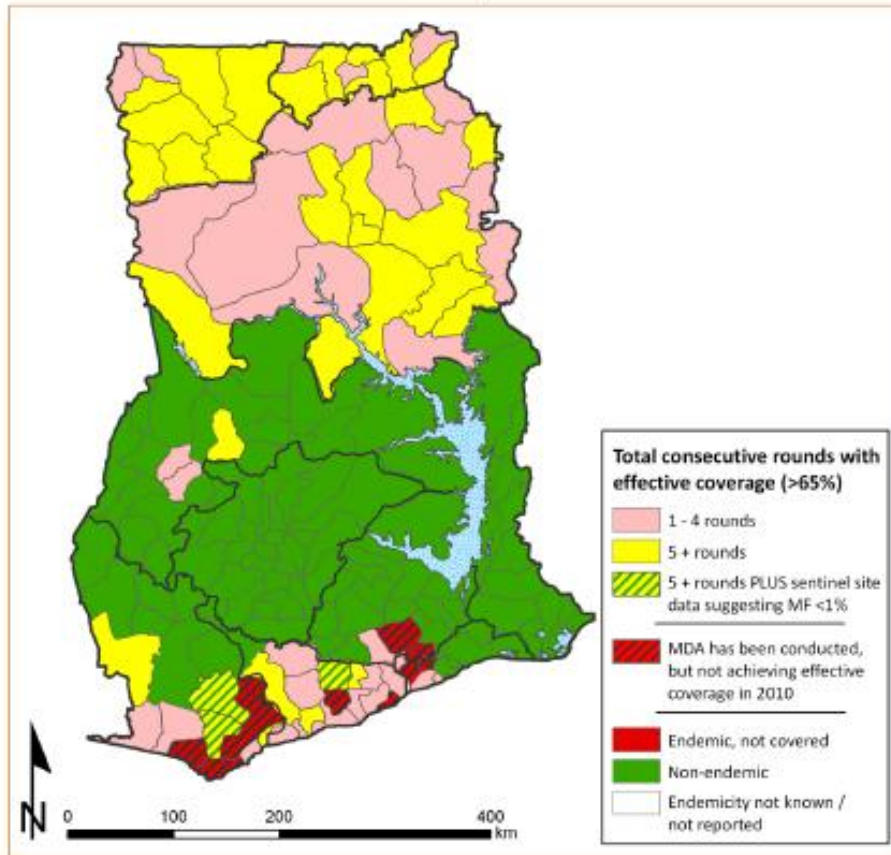
Targeting STH control in Kenya



Spatial modelling of STH in Kenya: a control planning tool

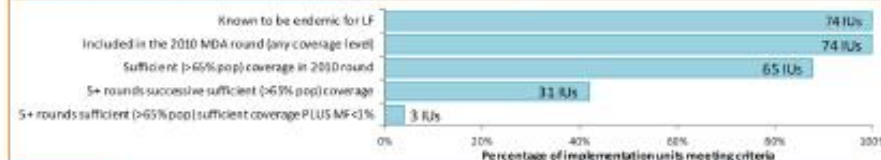


Understanding the context: LF treatment coverage

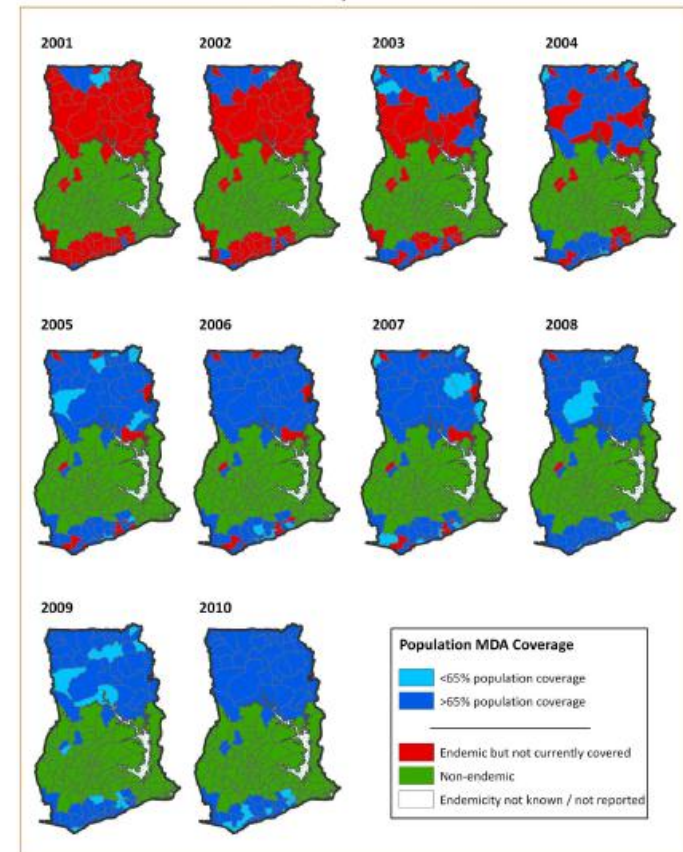


Coverage Data Summary

Total population living in known endemic areas: 11.9 million
Population receiving treatment / targeted in most recent round: 8.8 million / 11.7 million



Progress of the LF elimination programme by district in Ghana, 2001-2010



Data source: Public Health Division, Ministry of Health, Ghana; compiled by the World Health Organization-Regional Office for Africa. Maps and profiles developed by WHO-AFRO in collaboration with the Global Atlas of Helminth Infection, London School of Hygiene and Tropical Medicine.



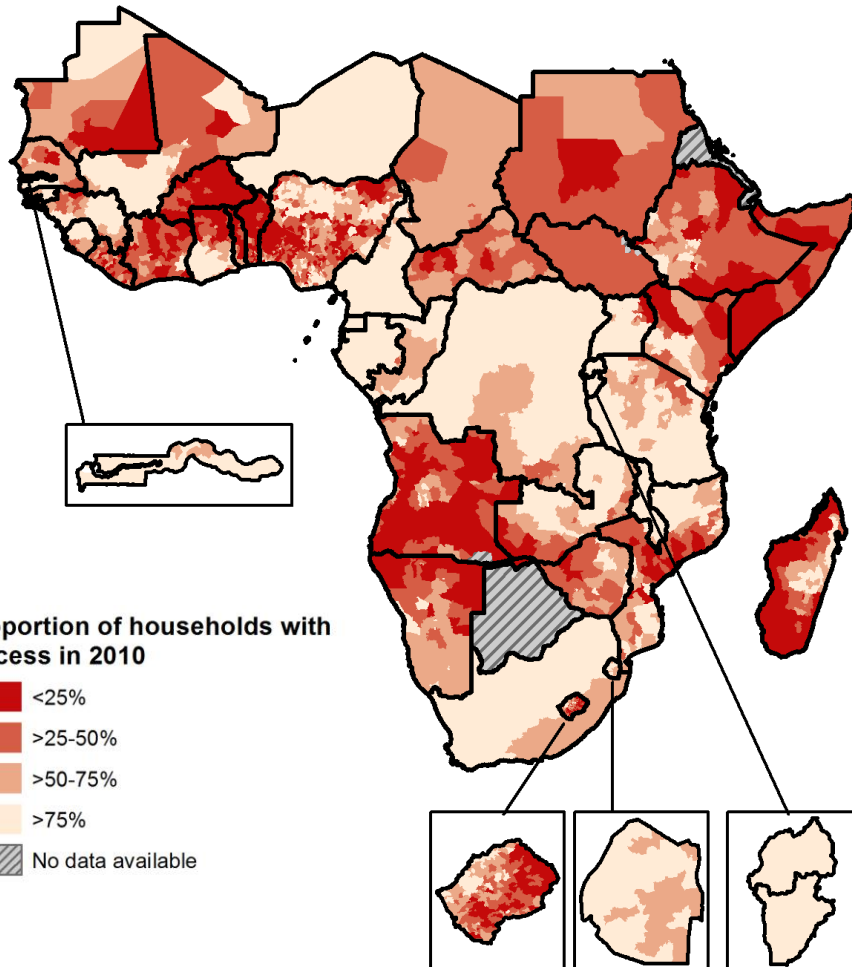
Data source: Public Health Division, Ministry of Health, Ghana; compiled by the World Health Organization-Regional Office for Africa. Maps and profiles developed by WHO-AFRO in collaboration with the Global Atlas of Helminth Infection, London School of Hygiene and Tropical Medicine.



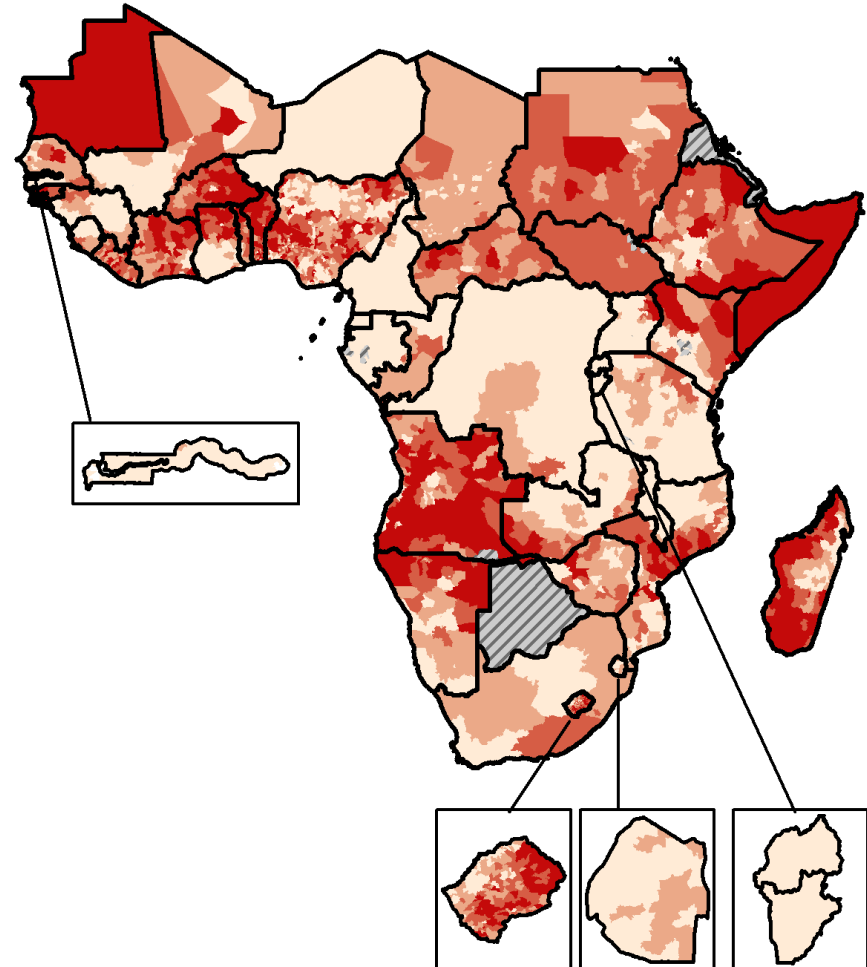
Spatial modelling of water & sanitation status

Use of geostatistical small-area estimation

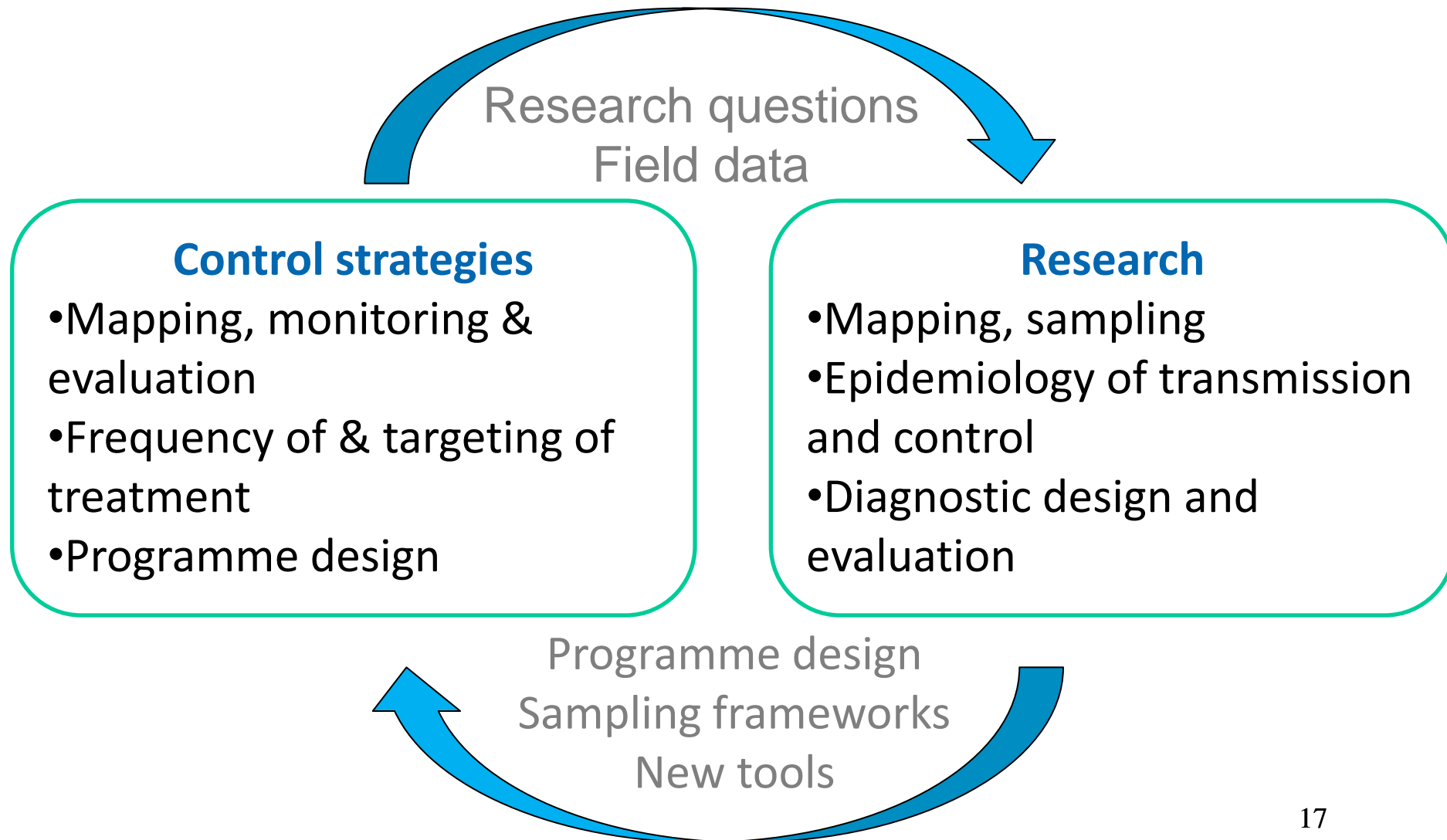
Basic sanitation - rural



Basic sanitation - urban



Responding to programmatic need



Conclusions

- Many unknowns (biological, clinical and epidemiological) even for the common NTDs, and how best to both treat, feed and educate.
- Increasingly, research improving the health of children requires a very interdisciplinary approach – e.g. behaviour, agriculture, economics, education and public health
- Partnership is essential across Institutes and countries.

End

*Joint work with Deirdre Hollingsworth
and James Truscott*