



Notice the two torn LLINs on this shelter



Closing the gap

Jason Richardson, Michael Macdonald (IVCC)



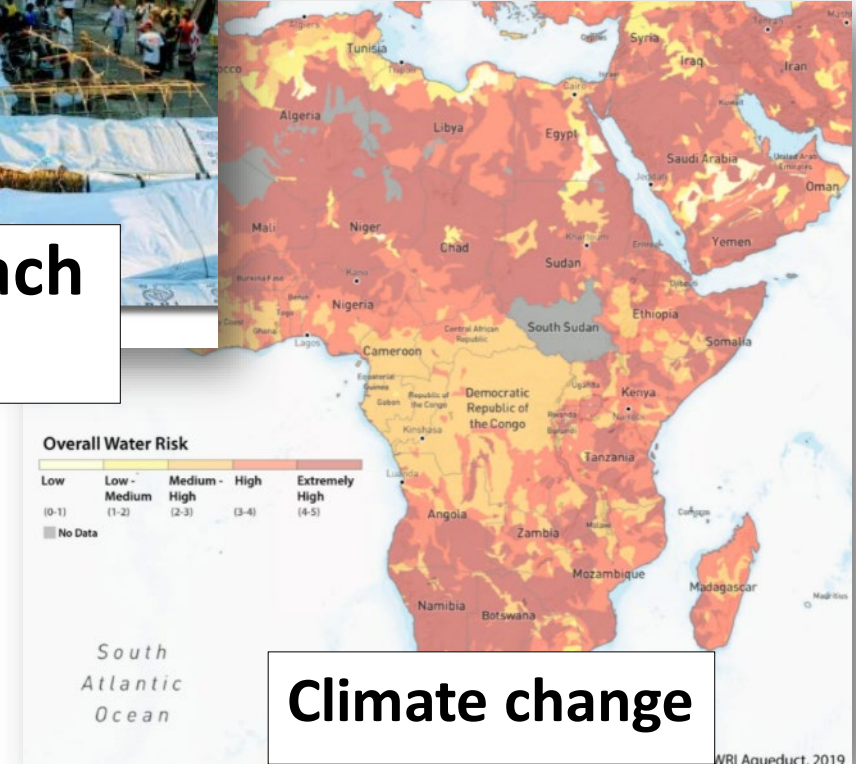
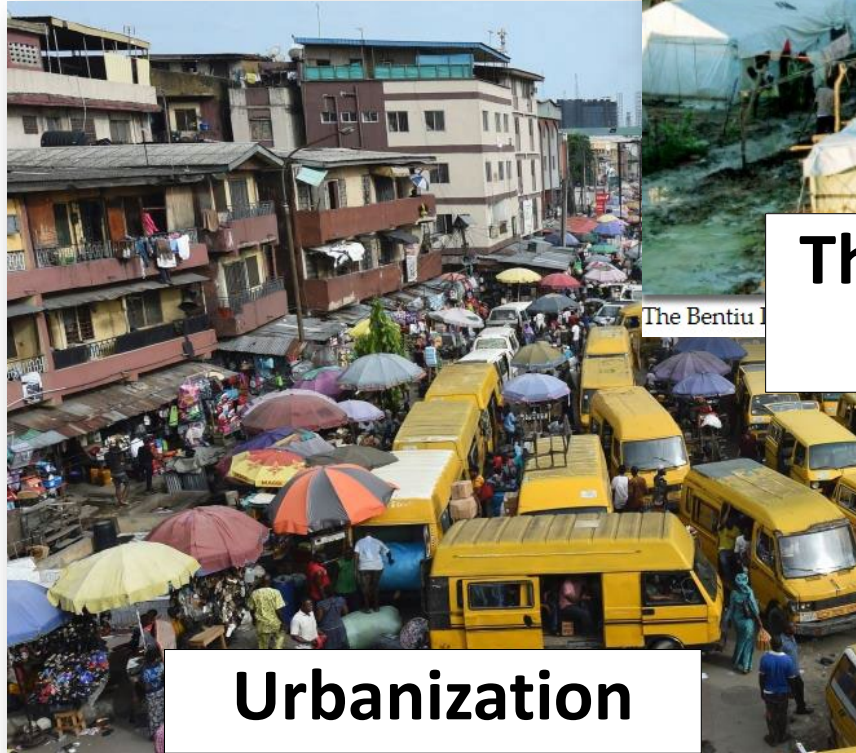
Outline

Three major global trends contributing to the “gap”
Practical approaches and tools to help close the “gap”



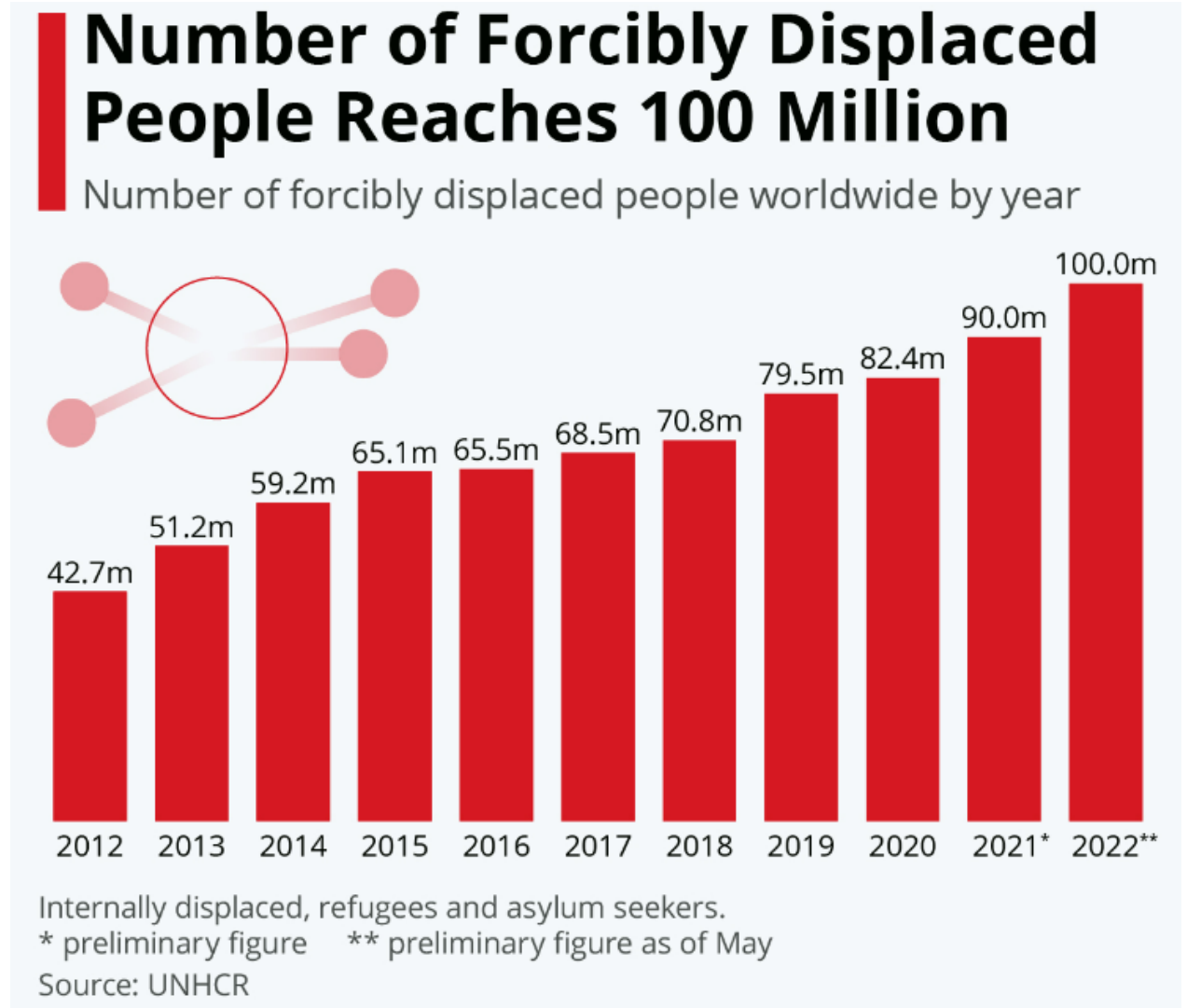
Looking forward: we need to adapt to emerging threats:

“Prepare for the next war, not the last”



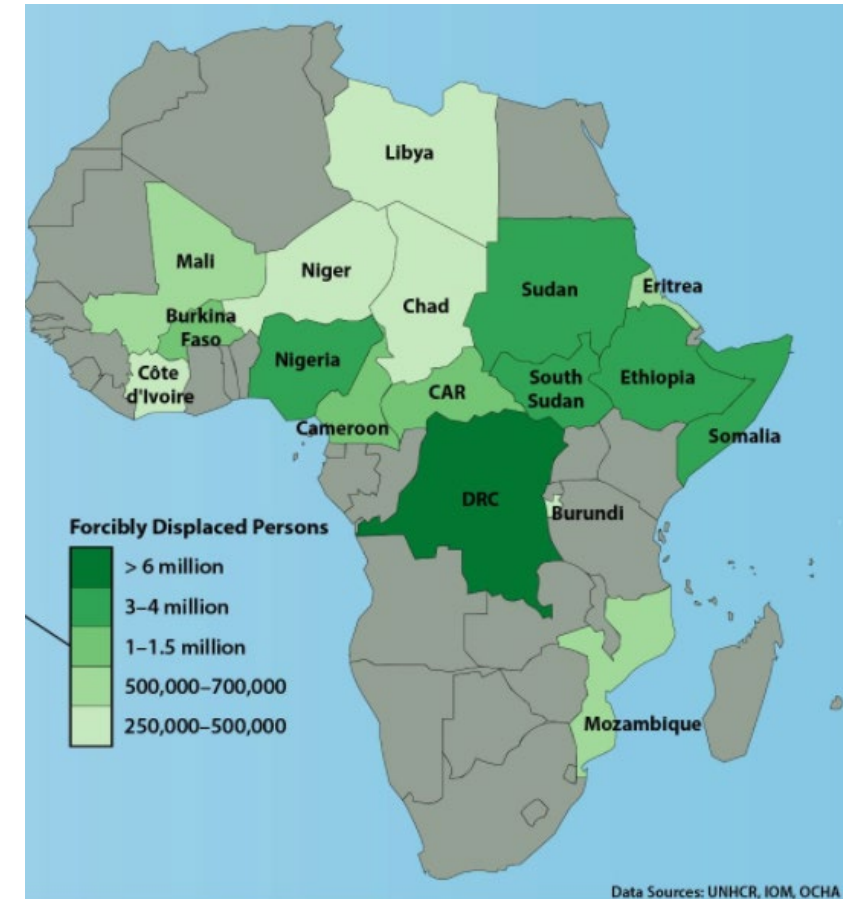
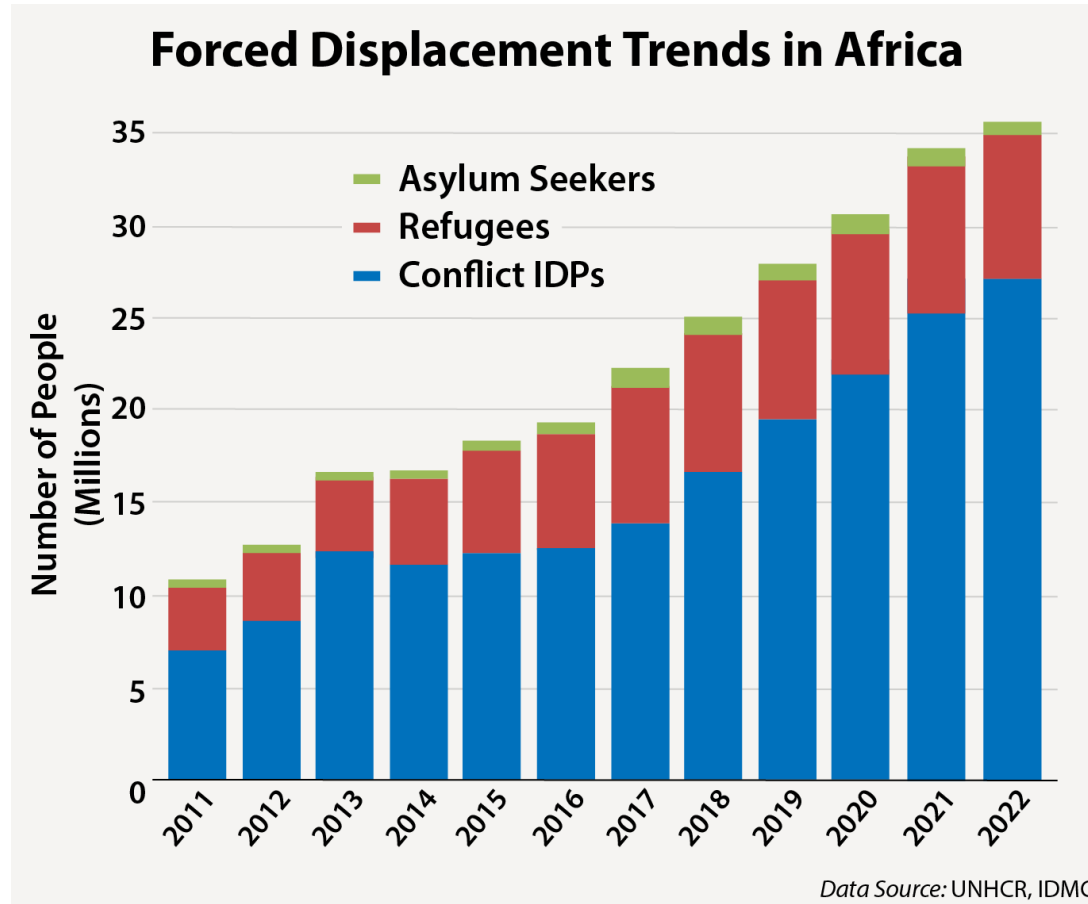
Looking forward: Protecting the world's displaced population

- This large, hard-to-reach population is growing...the number of people fleeing their homes has doubled in a decade
- Malaria and other vector-borne diseases are a major threat to populations in hard-to-reach areas



Looking forward: Protecting Africa's displaced population

36 Million Africans Forcibly Displaced by Conflict and Repression



<https://africacenter.org/wp-content/uploads/2022/07/Displacement-2022-01.png>

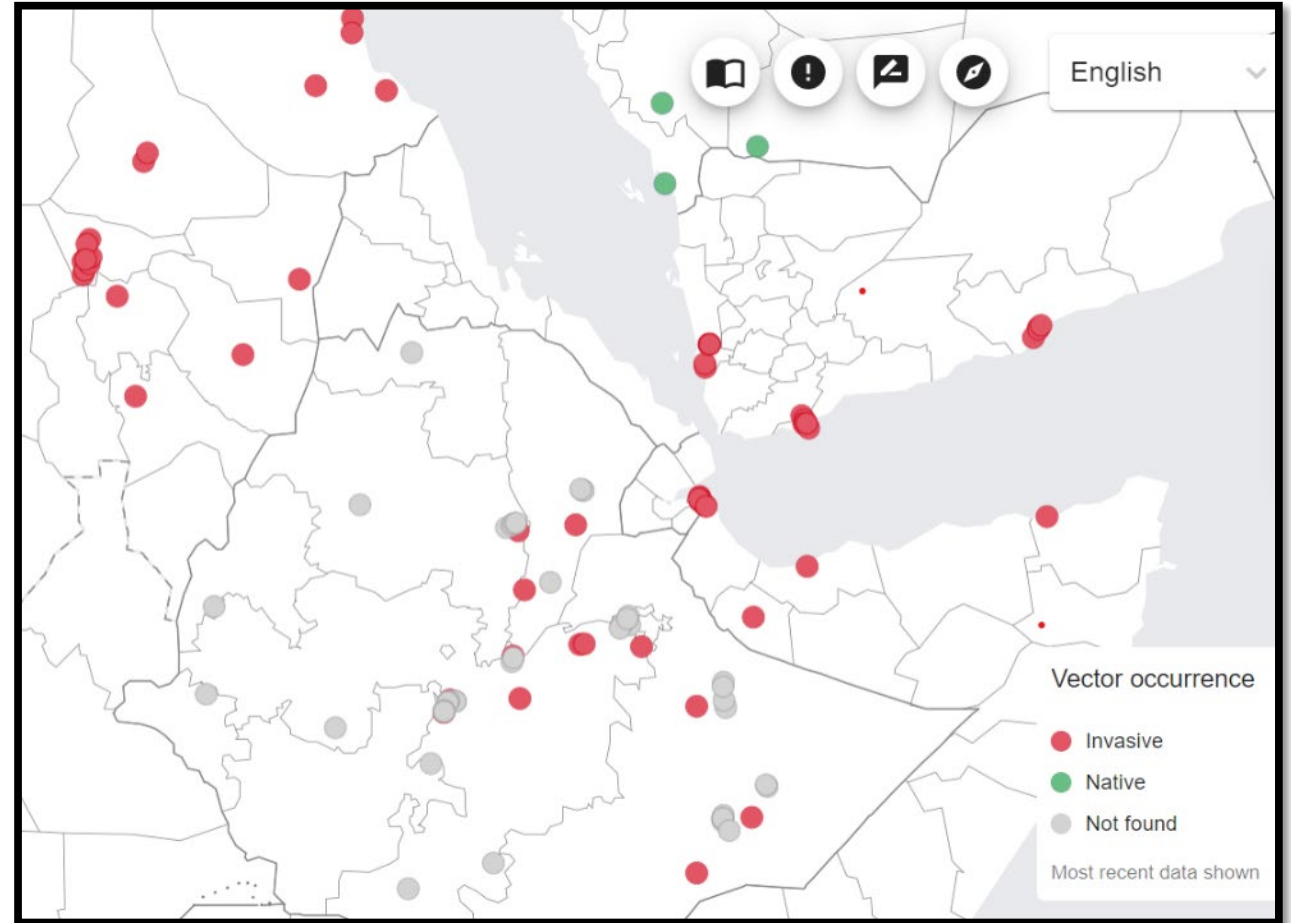
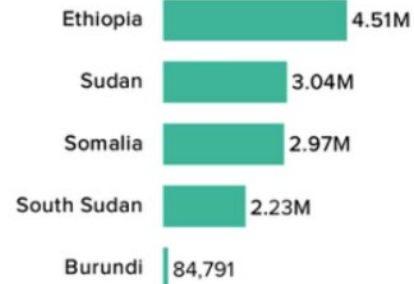
Looking forward: Overlapping humanitarian crises and the *An. stephensi* invasion



REGIONAL BUREAU FOR EAST, HORN OF AFRICA AND THE GREAT LAKES
Internally displaced persons (IDPs)
30 June 2022

 **12.83M**

INTERNALLY DISPLACED PERSONS (IDPs)*



WHO Invasive Species Threats Map Jan 2023



Humanitarian Emergencies driven by climate and conflict

Pakistan

Floods of June 2022 impacted 33m people, with large increase in malaria and dengue



Myanmar

1.7m IDPs, many in malaria endemic areas with limited access to LLINs and IRS

Sudan

>3m IDPs in Sudan contributed to an estimated 1.9m cases of malaria in 2022

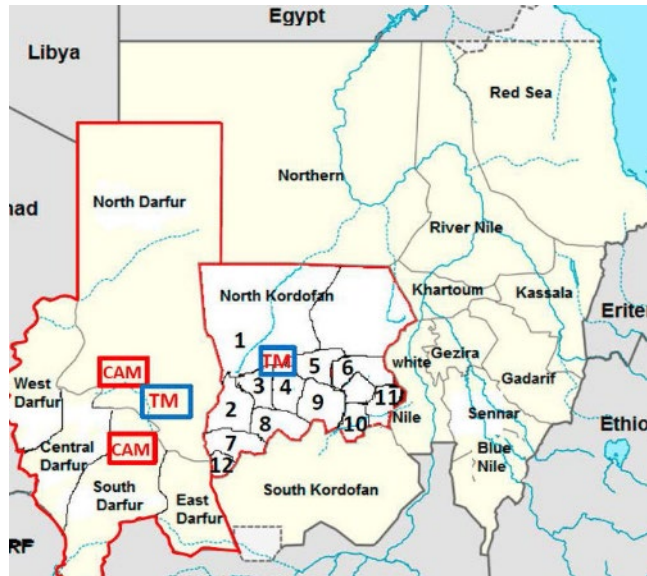


Photo: Partners Relief & Development
<https://www.partners.ngo/>

Looking forward: Climate change in Africa

- **Climate disasters will continue to increase vulnerability, potentially causing more migration**
 - The African continent is facing a faster rate of natural disaster events than the rest of the world. From droughts to floods to cyclones to pandemics, the continent faces many natural drivers of instability.
 - The World Bank projects there will be 86 million climate change migrants in Africa by 2050.



<https://africacenter.org/spotlight/african-migration-trends-to-watch-in-2022/>

<https://www.weforum.org/agenda/2023/01/climate-change-is-adding-to-a-growing-infectious-disease-burden-our-healthcare-systems-need-coordinated-action-now/>

Looking forward: Urbanization

- Urbanization is **one of the leading global trends of the 21st century that has a significant impact on health**
- Potential massive increased transmission should *An. stephensi* become established
- Likely increase in Aedes-borne virus transmission
- Africa has experienced rapid urbanization in recent years



Health Topics ▾

Countries ▾

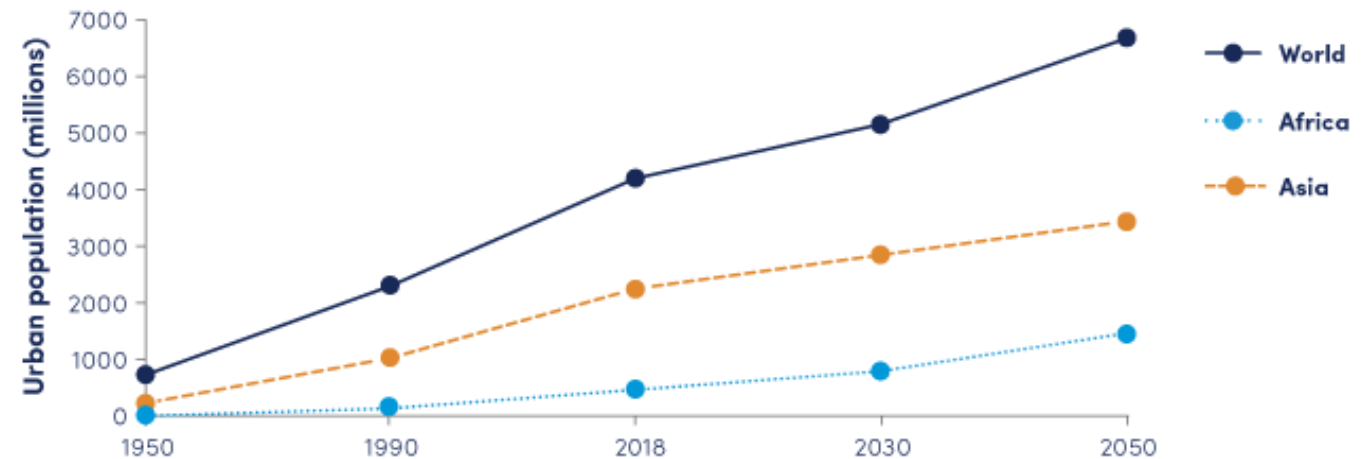
Newsroom ▾

Emergencies ▾

[Home](#) / [Publications](#) / [Overview](#) / Global framework for the response to malaria in urban areas

Global framework for the response to malaria in urban areas

31 October 2022 | Manual



Source: United Nations

| The threats are growing...so what can we do today?

- These are emergency situations so why not use all available tools now
- Be smart, be scientific, appropriately assess risk
- If warranted, authorize emergency use of promising tools
- But don't be hesitant...these most-in-need families can't wait



Looking forward: flexible and creative problem solvers needed

Routine prevention vs emergency response vector control require different approaches

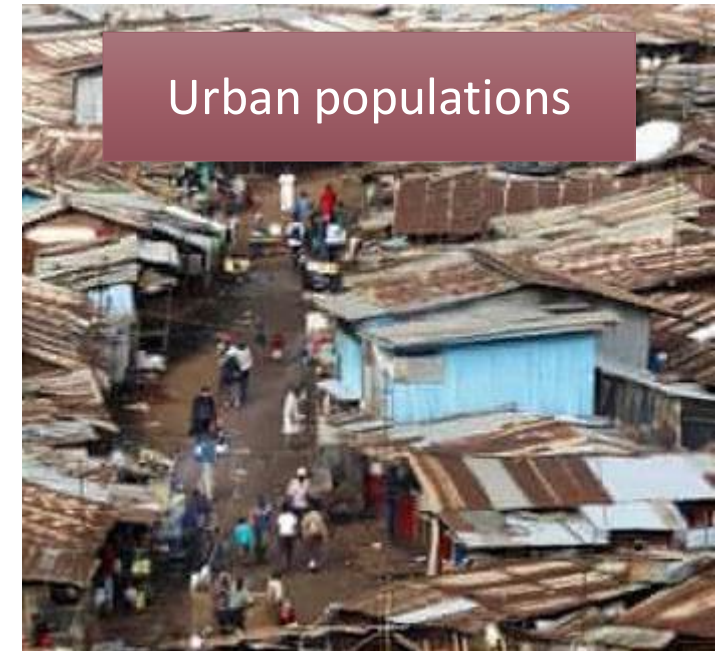
- Locally driven – solutions must be adapted to the setting
- Layered and aggressive – in crisis response, urgency and hard-hitting IVM package essential



Reachable rural communities



Displaced, mobile, hard-to-reach populations (includes border areas)



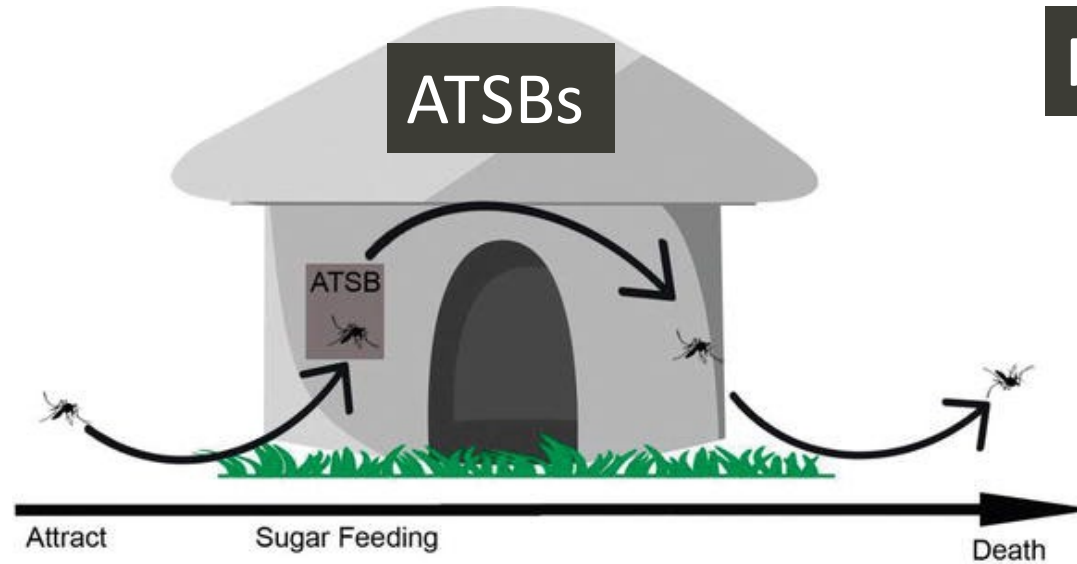
Urban populations

Selected tools with high potential

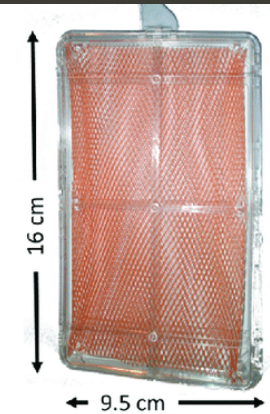
Larval control



ATSBs



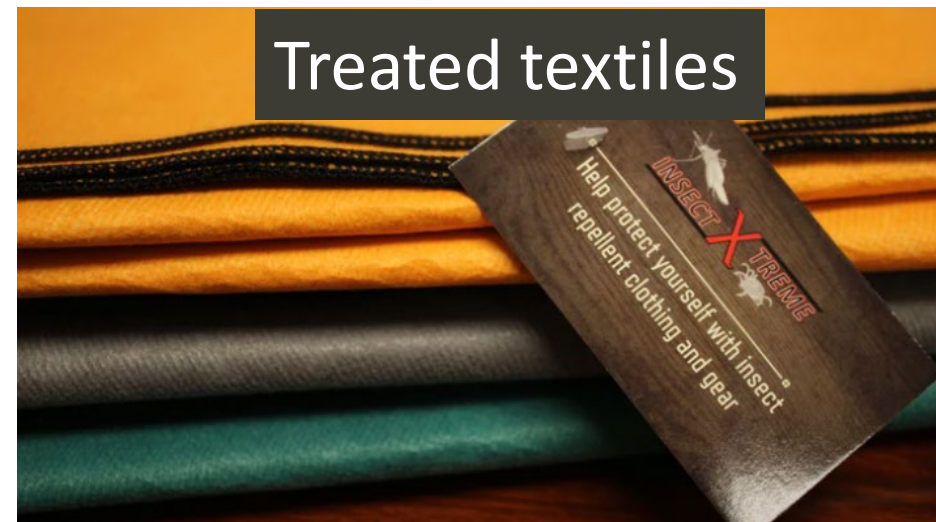
Passive emanators



Targeted IRS



Treated textiles

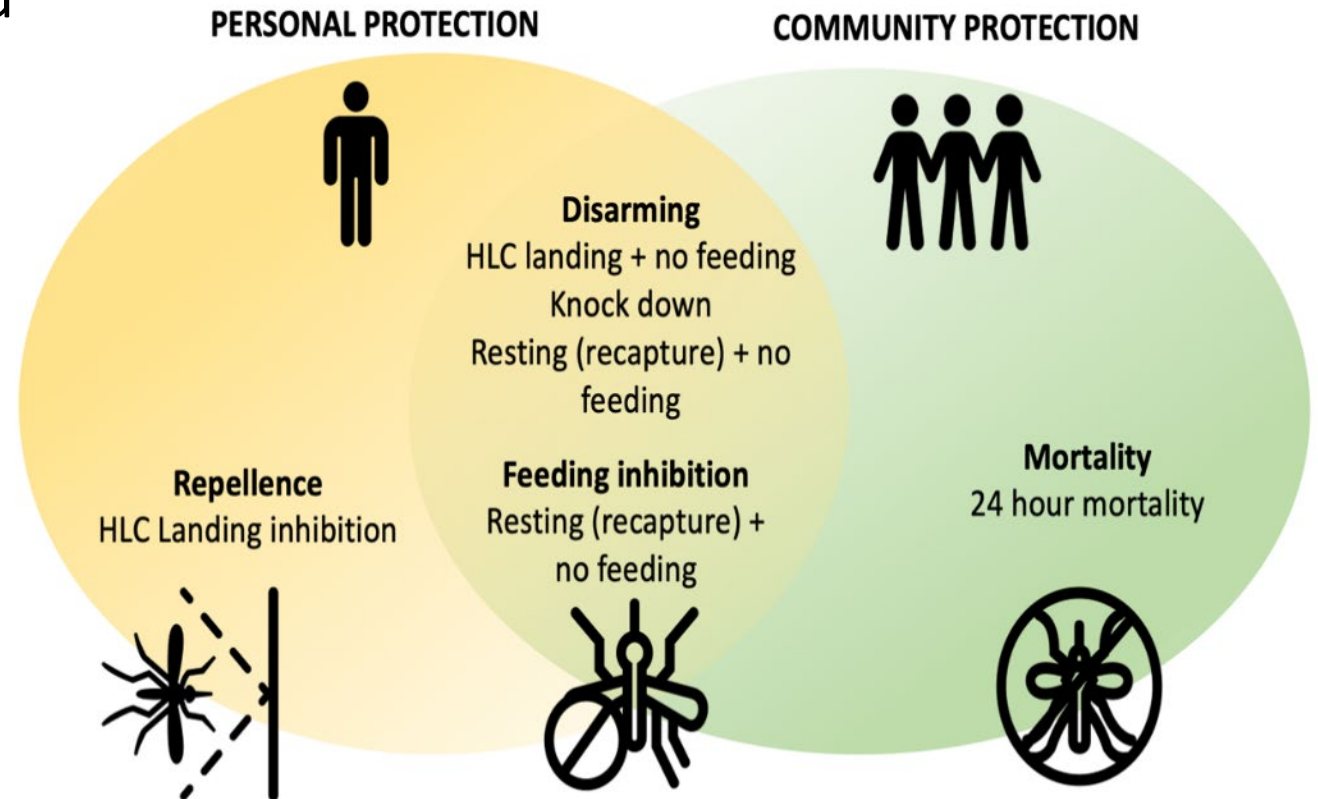


Volatile Emanators (spatial repellents)

- Strong evidence of community impact beyond “repellency”
- Clear reduction in vectorial capacity even in temporary shelters
- New product lasts more than 6 months
- Minimal behaviour change required



Temporary shelter use-case



Improved targeting and delivery of larvicides

- Multiple country programs, Goodbye Malaria, AGAMal, PMI and others are implementing or piloting larvicide programs
- Obstacles are limiting the potential impact
- This Workstream, PAMCA, IVCC and others are working together to clear these obstacles

Obstacle

- ☐ Product choice is limited in Africa
(but not elsewhere)
- ☐ Insecticide is expensive
(particularly when demand is low)
- ☐ A general lack of expertise to deliver
→ risk of wasted resources &
perception of low cost-effectiveness

Solution

- ☐ Efficacy testing to generate data on various products to support product choice
- ☐ Improve access to multiple PQ listed products
- ☐ Platform to share knowledge on products and best practice delivery methods
- ☐ Update technical manuals and build capacity and experience (including targeting and monitoring methods)

IRS in emergency settings

- Expanding sprayable structures to include IDP/refugee temporary shelters and tents
- Practical guidance needed for emergencies
- How do IRS teams adapt labels and spray methods to safely and effectively treat shelters?



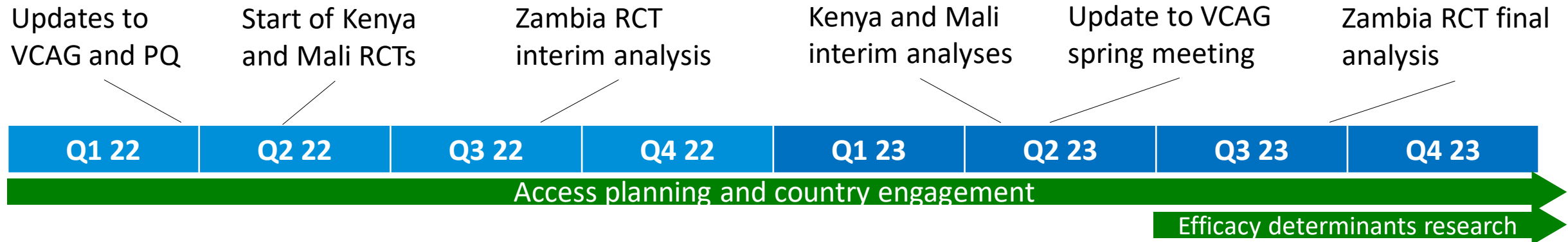
MENTOR Initiative South Sudan



MENTOR Initiative Northern Mozambique

ATSB: Opening a new product class

RCTs are running in Zambia, Kenya and Mali targeting a submission to VCAG & PQ by end of 2024



Bait station installation, Zambia. Credit: PATH/MRC



Bait station monitoring, Kenya. Credit: KEMRI



Bait station distribution, Mali. Credit: USTT-B

In conclusion

- **Local solutions:** All ideas rely on local entomologists to test and adapt the IVM package based on observations of what works.
- **Act now:** While we wait for results from multi-year epidemiological studies and the development of new tools, let us use known and promising new mosquito control tools to make an impact today.
- **We have options:** Local teams need to test current and close to market tools which might include:
 - Smart use of larvicides with good targeting and monitoring
 - Spatial repellents indoors and in temporary shelters
 - IRS for temporary shelters
 - Insecticide treated textiles
 - ...and even smartly delivered space sprays in emergency settings

“Where there is the will there is the way”

Funding Partners

BILL & MELINDA
GATES foundation



www.ivcc.com



ivcc-innovative-vector-control



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Image Credit: Goodbye Malaria