BOVA

Building Out Vector borne diseases in sub-Saharan Africa
What’s the problem?

- Vector-borne diseases are a major environmental threat to countries in sub-Saharan Africa & their economies

- Building out vectors *and designing healthier homes in general* will lead to more resilient dwellings, villages, towns and cities

*Over 80% of the world’s population is threatened by at least one disease transmitted by insects or ticks, with 50% threatened by two or more.*

These diseases represent 17% of the global burden of infectious diseases and kill over 700,000 people each year, with much of the impact occurring amongst the poorest of the poor in sub-Saharan Africa.
The basic split

Rural/Peri-urban = malaria

Urban/Peri-urban = dengue & worse
Dengue, Zika, yellow fever and chikungunya are all *Aedes* transmitted diseases.

dengue haemorrhagic fever

Zika

yellow fever

chikungunya
What is the BOVA Network?

- Interdisciplinary network of researchers and practitioners working on insect-borne diseases and the built environment
- Aims to establish a new research discipline
What BOVA has achieved

• Our Network of nearly 500 members
• Eight pump-priming projects
• Seven grant writing workshops
• Continuing advocacy and contributions to high level reports and policy documents
• Publications
• Simple messages: what can be done now
BOVA Global Membership

We have nearly 500 BOVA Network Members worldwide
Eight pump-priming projects

- Basic science
- Multi-sectoral & Scale up
- New tools
Eight pump priming projects

- Computer Fluid Dynamic modelling of mosquito attractants - The Gambia
- Studying how house height affects mosquito entry - The Gambia
- Improving social housing design to prevent malaria - Ethiopia
- New floors for Chiggers flea control - Kenya
- Reducing mosquito habitats: trash to treasure - Kenya
- Spatial-repellent chairs - Tanzania
- Filming mosquitoes entering houses - Malawi
- Screening with novel insecticide-treated netting - Mozambique

Basic research
New tools
Multi-sectoral & Scale up
Seven grant writing workshops

**Basic science**
1. Knudsen: Rapid malaria mapping tool
2. Lobo: Modeling airflow

**New tools**
7. Wilson: Eave ribbons in combination with treated bednets

**Multi-sectoral & Scale up**
3. Altamirano: Healthy housing bridging the evidence gap
4. Ruel-Bergeron: Health through housing coalition
5. Peeters: Developing policies to build resilience and adaptation
6. Maks Davis: Chagas disease
We work in partnership
Advocacy, contributions to guidance documents and policy recommendations

**World Health Organisation (WHO)**
We are currently engaging with the WHO to advise on updates to their Healthy Housing Guidelines.

**UN-Habitat**
We are contributing to a UN-Habitat training manual designed to be used alongside their International Guidelines for Integrating Health into Urban Design & Planning.

**Commonwealth mayors**
We are working in partnership with the Commonwealth Local Government Forum, UN-Habitat and the Roll Back Malaria Partnership to find a means to support mayors in accelerating the healthy cities agenda.

**Pan-Africa Mosquito Control Association (PAMCA)**
We are in discussions with the directors of the PAMCA, with a view to working with them to promote improvements to the built environment as an important arm of mosquito control.

**Roll Back Malaria Partnership to End Malaria**
The BOVA Network has a strong presence within this partnership, contributing to two of the working groups: Vector Control and Multi-sectoral working groups.
Continuing advocacy and contributions to high level reports and policy documents

• Lancet Commission on mosquitoes, viruses and cities
• Working groups:
  - RBM work streams
  - Strategic Technical Advisory Group-NTDs
  - International Guidelines on Urban and Territorial Planning
• International meetings:
  - Roll Back Malaria, Switzerland
  - BOVA Open Network Meeting, Kenya
  - Healthy City Design, London
  - International Conference on Urban Health, China
  - American Society of Tropical Medicine & Hygiene, USA
Publications

More than 10 in the last two years…

“Recommendations for building out vector-borne diseases: the DELIVER mnemonic” in press
Publications


• Sim, S., Ng, L.C., Lindsay, S.W., Wilson, A.L. (2020) A greener vision for vector control: The example of the Singapore dengue control programme. *PLOS Neglected Tropical Diseases*, 14(8), e0008428.

• Authors (in press). Recommendations for building out vector-borne diseases: the DELIVER mnemonic. *Philosophical Transactions B*
Find out more about the network!

www.bovanetwork.org

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Acknowledgments: