



# Are we ready for arbovirus threats? Self-assessment of national preparedness in four African countries

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Further efforts are needed to enhance surveillance and control measures for *Aedes*-borne arboviral diseases and develop related policies to boost countries' preparedness for disease outbreaks in Burkina Faso, Cameroon, Côte d'Ivoire and Tanzania.

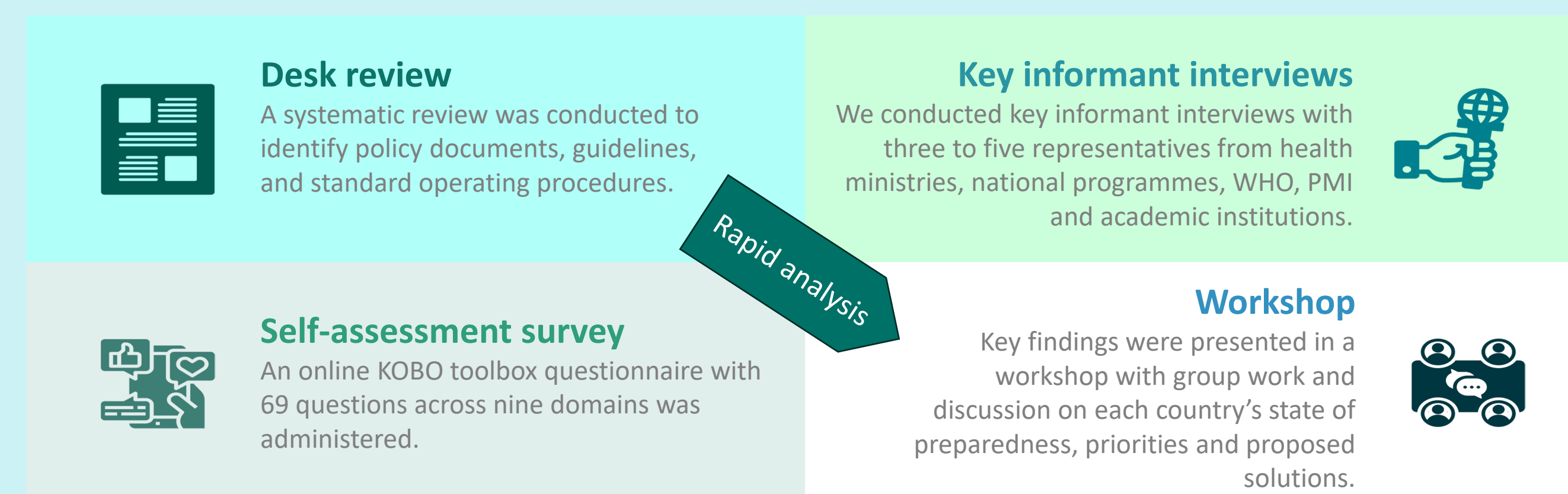
## Introduction

Vector-borne diseases represent approximately 17 percent of the global burden of communicable diseases, with a disproportionate impact on low-income countries. In recent years, several West African countries have experienced significant resurgences of both yellow fever and dengue. In 2021, a World Health Organization (WHO) survey revealed significant gaps in the African region's capacity to combat arboviruses, including dengue. To understand countries' capacity in preparedness for arbovirus surveillance and response, we undertook an assessment of country readiness in capacity and preparedness in Burkina Faso, Cameroon, Côte d'Ivoire and Tanzania in 2024, under the Resilience Against Future Threats (RAFT) initiative.

## Methods

- The self-assessment comprised 20 key informant interviews and four self-assessment surveys completed by 14 representatives (Burkina Faso: 5, Cameroon: 1, Côte d'Ivoire: 7, Tanzania: 1) from relevant departments in each country.
- A two-day workshop with national stakeholders was also conducted, supported by a scoping review of 27 policy documents and 132 articles published from 2019 to 2024.

Figure 1. Assessment methodology



## Conclusions

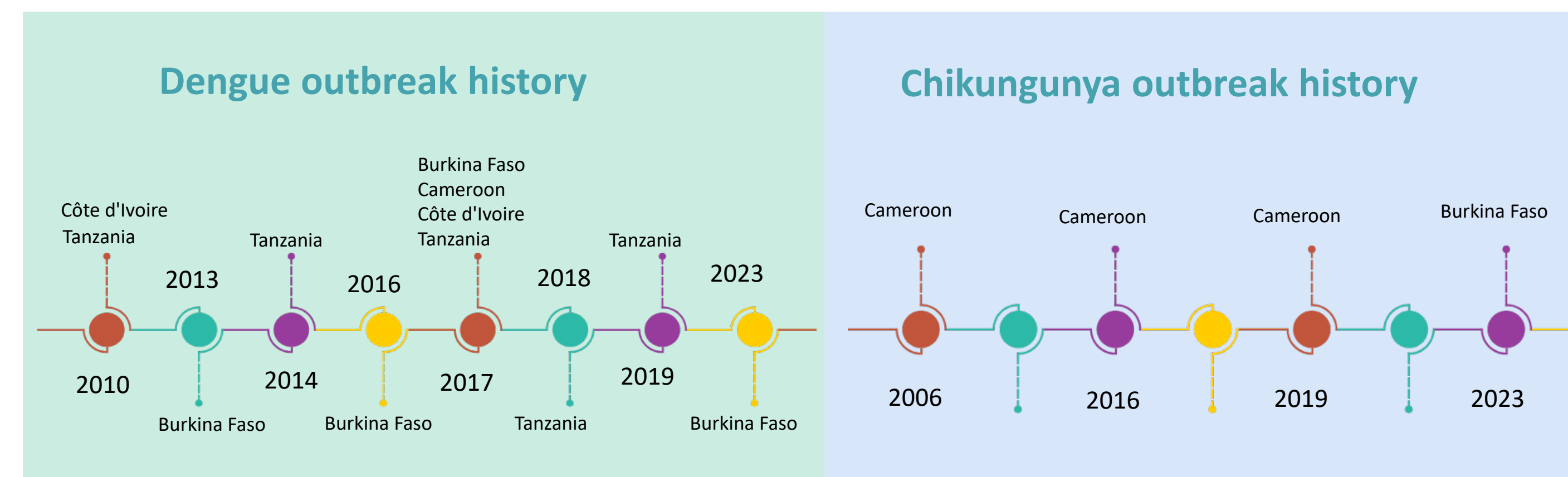
- This study identified common critical gaps in preparedness for arboviral outbreaks across Burkina Faso, Cameroon, Côte d'Ivoire and Tanzania.
- The development of national strategic plans, strengthening surveillance systems, building diagnostics capacity and adopting a multidisciplinary approach to support cross-sectoral collaboration, is an essential step towards improving country readiness to respond to arbovirus threats.

## Acknowledgements

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## Results

Figure 2. Outbreak history from scoping review



### Diagnostic limitations

- Absence of dedicated arbovirus surveillance systems that function effectively during inter-epidemic periods.
- Surveillance activities triggered by outbreak events rather than providing early warning for prevention.

### Inadequate arbovirus surveillance

- Significant bottleneck in laboratory capacity across the region, with testing capabilities concentrated at national reference laboratories.
- Limited availability of rapid testing at operational levels; delayed case confirmation.

Figure 3. Total number of cases for dengue in four countries (2019–2023)

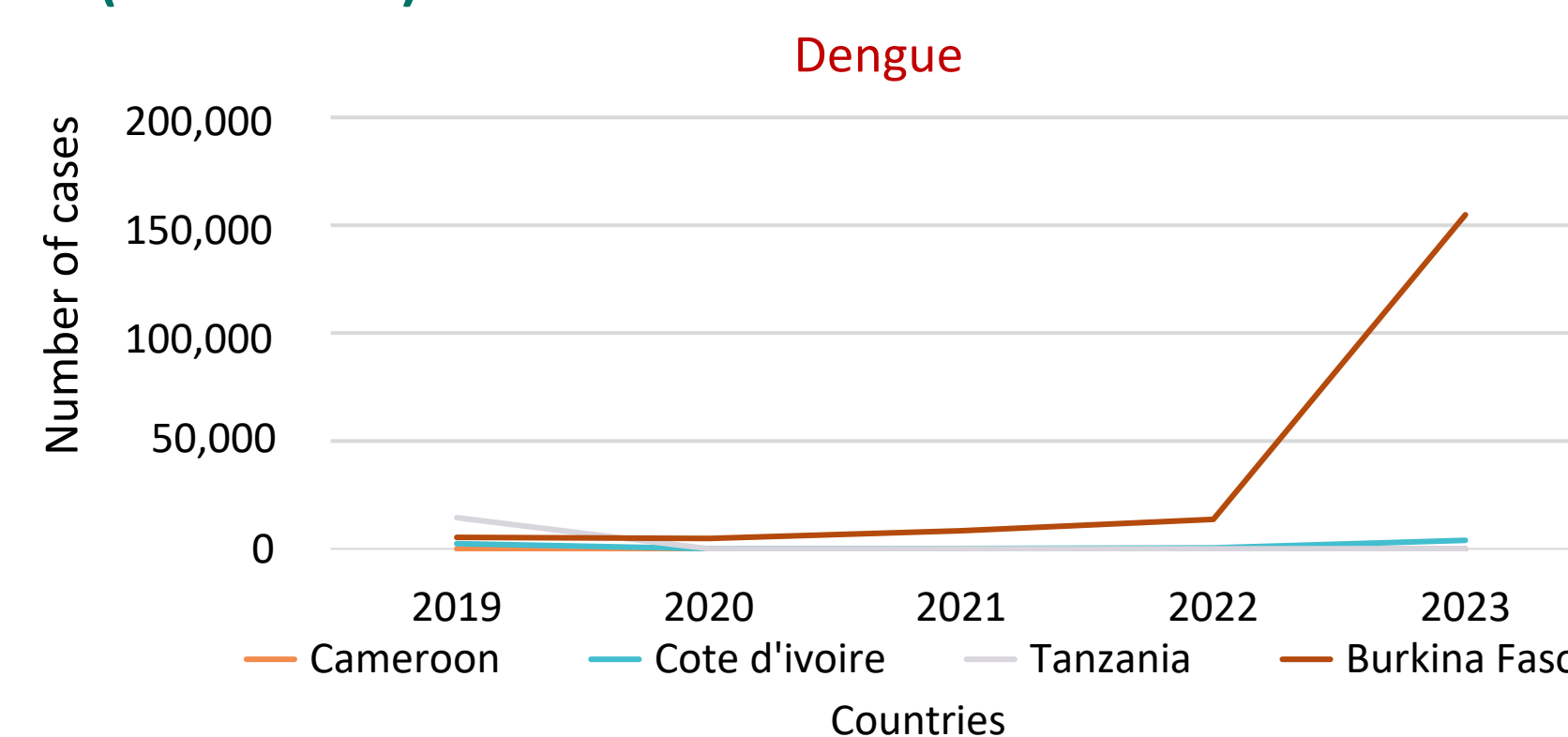


Figure 4. Total number of cases for yellow fever in four countries (2019–2023)

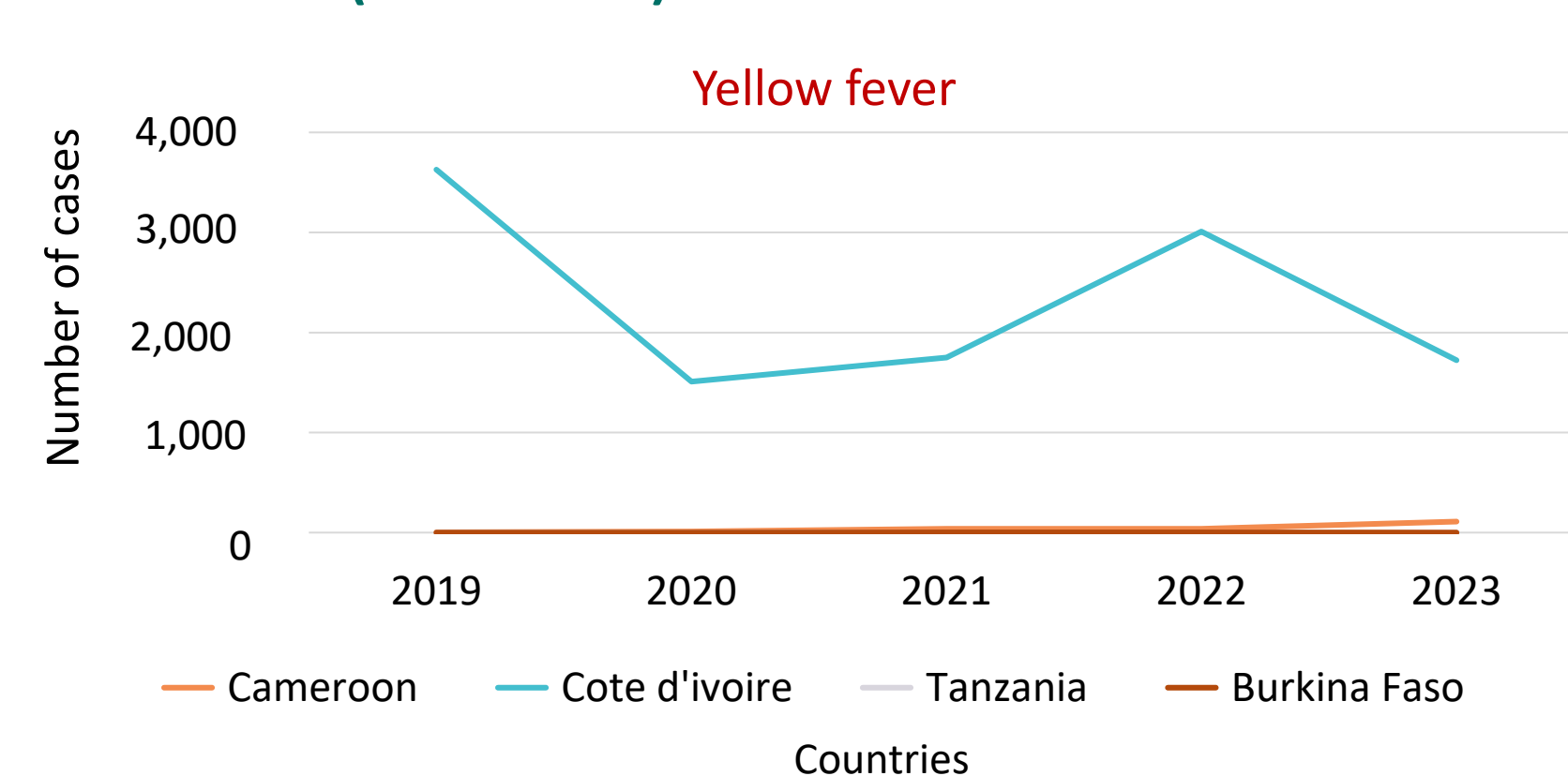


Figure 5. Key priority areas for improvement of preparedness in four countries

| Burkina Faso   | Cameroon  | Côte d'Ivoire   | Tanzania   |
|--|---|---|--|
| <ol style="list-style-type: none"> <li>Virological surveillance</li> <li>Vector surveillance and control</li> <li>Community sensitisation and participation</li> </ol> | <ol style="list-style-type: none"> <li>Disease surveillance practices and systems</li> <li>Case diagnosis and case notification</li> <li>Vector surveillance and control</li> </ol> | <ol style="list-style-type: none"> <li>Case diagnosis and case notification</li> <li>Virological surveillance</li> <li>Vector surveillance and control</li> </ol> | <ol style="list-style-type: none"> <li>Case diagnosis and case notification</li> <li>Community sensitisation and participation</li> <li>Vector surveillance and control</li> </ol> |

### Community engagement and mobilisation challenges

- Insufficient community engagement in arbovirus prevention.
- Low awareness of transmission risks and limited participation in preventive measures.
- Underfunded community sensitisation programmes.

### Vector control challenges

- Growing resistance among *Aedes* populations to pyrethroids and carbamates.
- Fragmented response system and reactive approach of vector control activities coordinated by malaria elimination programmes.

### Limited personnel capacity

- Challenge in maintaining adequate numbers of trained personnel.
- Insufficient distribution and availability of skilled epidemiologists, entomologists, clinicians (doctors and nurses) and laboratory technicians for comprehensive arbovirus response and preparedness.

### Core recommendations

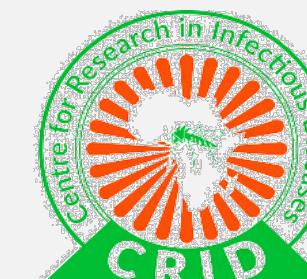
- Develop national strategic plan and specific guidelines for arboviruses.
- Create plans for surge laboratory capacity mechanisms for outbreak situations.
- Consider integration of arbovirus surveillance into existing surveillance networks.
- Develop affordable and sustainable capacity building programmes.
- Develop standardised outbreak definitions and response plans.
- Facilitate research into policy integration through strong partnerships.
- Enhance community engagement and mobilisation for arbovirus prevention.

Figure 6. Larva source management gaps in an urban city



### Available infrastructure — the malaria connection

- All four countries possess strong malaria surveillance networks with established sentinel sites, trained personnel and regular data collection systems to be able to integrate for arbovirus response.



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disease control, better health

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