

# Sustaining Lymphatic Filariasis Elimination in Kenya: Evidence from Transmission Assessment Surveys (TAS) in Kilifi and Kwale Counties

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## INTRODUCTION

- Lymphatic Filariasis (LF) is a vector-borne neglected tropical disease targeted for elimination by 2030 under the WHO NTD roadmap (2021–2030).
- In Kenya, approximately 4.3 million people remain at risk across 23 endemic implementation units (IUs), primarily in the coastal region.
- Sustained Mass Drug Administration (MDA) has been implemented since 2002, significantly reducing transmission.
- Transmission Assessment Surveys (TAS) are critical for determining whether transmission has been interrupted and if MDA can be stopped.

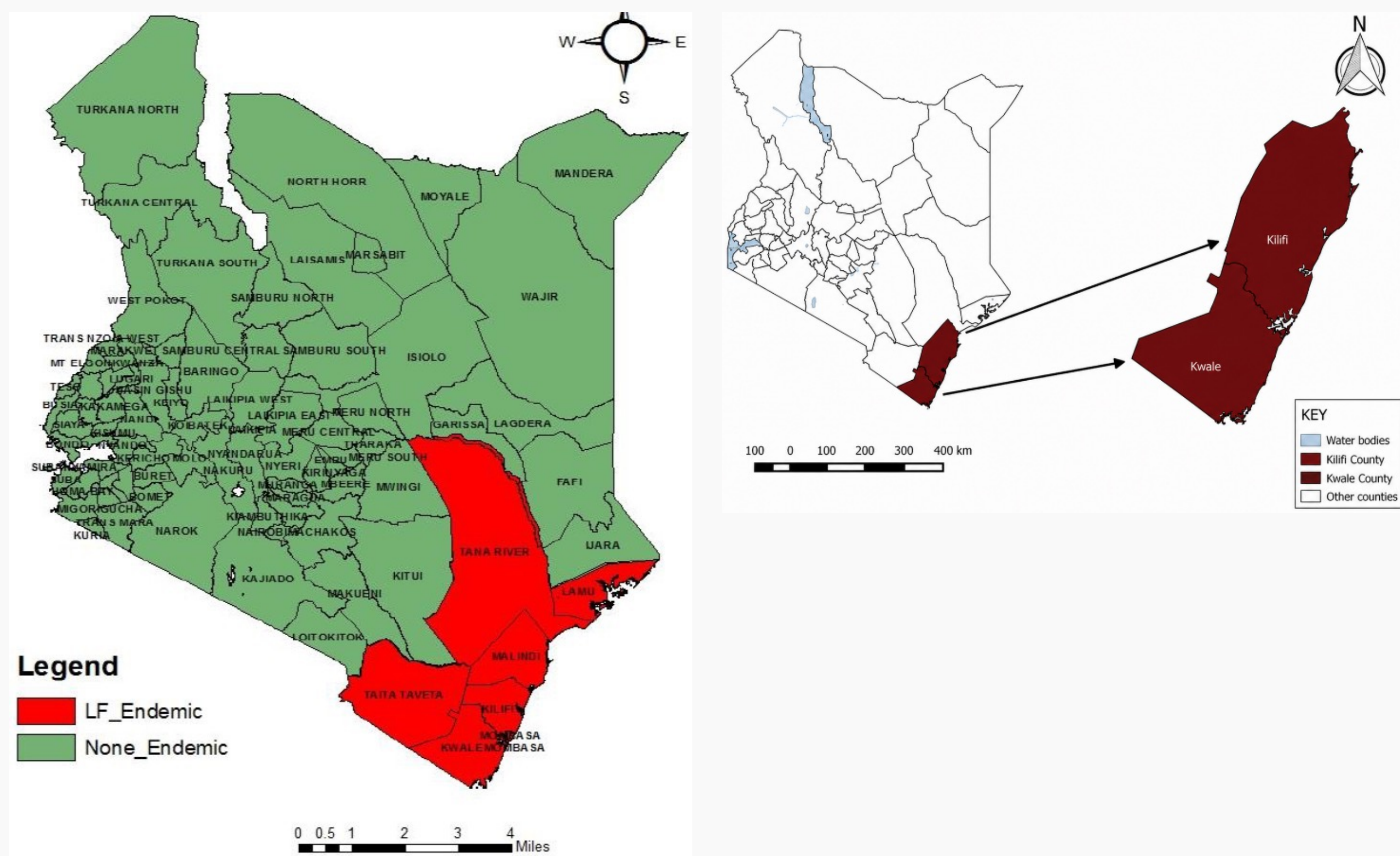


Figure 1: Distribution of LF in Kenya | Figure 2: Survey sites for TAS: Kilifi and Kwale Counties on Kenya's coast



Figure 3: Mosquito vector responsible for LF transmission in endemic regions | Figure 4: Microscopic image of Wuchereria bancrofti, the causative parasite of LF

## METHODS

### Study design & setting:

- » School-based cross-sectional Transmission Assessment Surveys (TAS 1: 2022; TAS 2: 2025)
- » Conducted in 11 Implementation Units (IUs) in coastal Kenya — Kilifi (7) and Kwale (4)

### Population & sampling:

- » Children aged 6–7 years (post-MDA cohorts, 2016–2022)
- » Cluster sampling per WHO TAS guidelines
- » All primary schools listed and geographically ordered using Ministry of Education data provided
- » 30 schools randomly selected per IU using Survey Sample Builder (SSB v2.3)
- » Children randomly selected from school enrolment registers

### Data collection:

- » Finger-prick blood samples collected
- » Circulating filarial antigen detected using Filariasis Test Strip (FTS) kits
- » Unique barcode identifiers assigned to participants
- » Results recorded after 10 minutes
- » GPS coordinates recorded for all schools

### Analysis:

- » LF prevalence calculated as the proportion of FTS-positive children
- » Results interpreted using WHO TAS critical cut-off thresholds (pass/fail per IU)



Figure 5: School-based screening of children using FTS kits during TAS.

## RESULTS

### TAS 1 (2022)

- » 17,599 children tested
- » 3 positive cases detected:
  - Rabai (2)
  - Magarini (1)
- » Prevalence: 0.02%

### TAS 2 (2025)

- » 15,996 children tested
- » 7 positive cases detected:
  - Ganze (3)
  - Rabai (1)
  - Lunga Lunga (3)
- » Prevalence: 0.04%

### Key Findings

- » Infection levels remained well below WHO threshold (2% antigenemia)
- » Evidence of sustained interruption of transmission

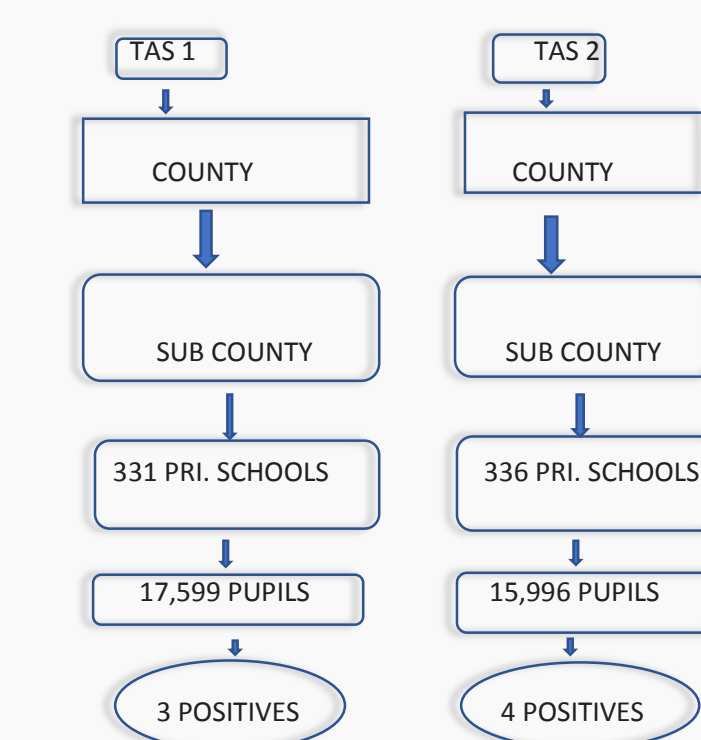


Figure 6: Schematic overview of Transmission Assessment Surveys (TAS 1 and TAS 2) showing sampling cascade and outcomes

### Programmatic Implications

- Kenya has made substantial progress toward LF elimination since 2002
- MDA (2016–2022) using diethylcarbamazine (DEC), albendazole, and ivermectin has significantly reduced transmission
- TAS findings confirm interruption of transmission in most IUs
- Residual hotspots persist (e.g., Rabai, Ganze, Lunga Lunga), requiring targeted follow-up
- Ongoing priorities include:
  - » Targeted treatment in hotspot areas
  - » Vector control (bed nets, repellents, environmental sanitation)
  - » Morbidity management (lymphedema care, hydrocele surgery)
- LF prevalence is declining, and elimination by 2028 is achievable with sustained efforts

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

- LF transmission in Kilifi and Kwale remains below WHO threshold, confirming sustained interruption.
- Findings support stoppage of MDA in surveyed IUs.
- Kenya is making significant progress towards elimination of LF as a public health problem.

### Recommendations

- Strengthen post-MDA surveillance systems
- Implement targeted treatment in with persistent antigenemia positives (Rabai, Ganze, Lunga Lunga)
- Sustain momentum towards LF elimination in Kenya

### Key Message

LF transmission in coastal Kenya remains below WHO thresholds, supporting MDA stoppage and demonstrating that elimination by 2028 is within reach.

### KEYWORDS

Lymphatic Filariasis, Transmission Assessment Survey, Mass Drug Administration, Kenya, Neglected Tropical Diseases, Post-MDA Surveillance, Antigenemia

### Acknowledgement

