Supporting the setup of a malaria entomological surveillance network in Angola toward sustainable local entomological capacity
Longitudinal Study of the Culicidae Population of the Provinces of Benguela and Cuanza-Sul, 2021 – 2024

**Objectives**

- Characterise local mosquito populations – focusing on *Anopheles* spp.
- Selection and training of entomology teams at provincial level
Introduction

CDC LT 3 night a month in 3 houses per night
Larvae collections → WHO bioassays

Beginning of implementation: January 2022
Opportunities

• How to leverage the opportunities open by the project to look for **sustainable and long-term local mosquito monitoring**?

• How to **engage** provincial teams for malaria entomological field work?

• How to ensure that provincial teams have all **necessary materials** and **logistical support** to implement the field work?
Selection and training of entomology teams at provincial level

- Develop a training course with focus on field work
- Develop a forum for routine data driven decision making and refresher sessions – Provincial Vector Control Groups (TWG)
- Integrate the trainees into regular mosquito monitoring activities
- Monthly supervision - on job training supportive supervisions
Training

• 5 days training session – theory and practical sessions
  • 7 chapters, from bionomics to mosquito collection and sample sorting and storing
    • Benguela and Cuanza-Sul (March / April 2022)
• Facilitated by trainers from Angola NMCP and MENTOR
• Evaluation of knowledge before and after the trainings
• Delivery of training materials
• Trainees: Malaria provincial and municipal supervisors (MMS)
24 provincial and municipal malaria supervisors trained

<table>
<thead>
<tr>
<th>Province</th>
<th>Trainees</th>
<th>Pre-training test approval</th>
<th>Post-training test approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benguela</td>
<td>11</td>
<td>7 (64%) Mean grade: 55%</td>
<td>11 (100%) Mean grade: 92%</td>
</tr>
<tr>
<td>Cuanza-Sul</td>
<td>13</td>
<td>5 (38%) Mean grade: 63%</td>
<td>13 (100%) Mean grade: 72%</td>
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</tbody>
</table>
Provincial Vector Control Groups

• Supported by a Term of Reference draft and approved by the NMCP

• Objectives:
  • A forum to debate the results of ongoing entomological surveillance
  • Experience sharing and bottlenecks
  • Re-training / Training sessions
  • Provincial authorities follow the results of the ongoing surveillance.
  • Planned for every 3 months

• Duration: half a day (morning)

• Production of minutes by the Provincial Health Directorate and forwarded to the central level.
Provincial Vector Control Groups

- **First meeting**: March and April 2022
- **Second meeting**: June 2022
- **Third meeting**: October 2022 (joint meeting with the two provinces)
Integration of the MMS

4 STEPS PROCESS

1º • January to March 2022: MMS supports the malaria entomological activities implemented by NMCP and MENTOR, taking part in all steps, from advocacy to setting up traps

2º • March / April 2022: Training

3º • April to May 2022: the MMS is integrated in the activates; training on the job in real life situation.

4º • June 2022 (onwards): Delivery of an entomological KIT so that the MMS can carry out monitoring activates by themselves. Regular supervisions
Integration of the MMS

• Entomological monitoring kit
  • 3 x CDC LT
  • 3 x 6 volts battery
  • 2 x 6 volts battery chargers
  • 1 x 50ml tube of silica gel
  • 300 x 1.5 ml microtubes and cotton
  • 1 x 125ml bottle of alcohol
  • 15 x field forms
  • 15 x plastic petri dishes
  • 1 x magnifier and tweezer

NDH / NMCP supporting the initiative
Monthly supervision

- After the **MMS start working by themselves**, a monthly supervision was implemented by NMCP and MENTOR entomological supervisors

- **Objectives:**
  - Replace consumables and materials (silica gel, microtubes, cotton, damaged batteries)
  - Problem solving (fixing and cleaning CDC traps)
  - Collect the samples sorted by the MMS.
  - Accompany the MMS in one night of work
Lessons learned

The MMS are responsible for many activities / overlap of activities

Training of municipal NTD and EpiSurv supervisors on field mosquito monitoring (June 2023)

Benguela: 19
Cuanza-Sul: 20

Malaria + ArboV and ONCHO

Integration in malaria entomological surveillance

Opening the door for an Integrated Vector Surveillance approach
Lessons learned

- The PVCG/TWG
  - opened the scope for deeper discussions about mosquito monitoring and control.
  - Joint meetings both provinces
  - Networking between municipal supervisors / sharing field experiences
    - Malaria, NTD and Ep surveillance MS
Lesson learned

• Monthly supervisions are pivotal to ensure:
  • good sampling collection, sorting and storing
  • only point of connection between field and the next step:
    • Laboratory processing (central level / international)

• Morphological identification training in every supervision
Conclusion & Next steps

• The municipal-supervisor based is an alternative for mosquito monitoring in Angola,
  • HR capacity and KNOWLEDGE TRANSFERENCE within the MoH structure
  • Lead to a greater autonomy and engagement from provincial/municipal health structures.
  • Anopheles morphological identification
• Study the impact of this strategy on the sustainability of an entomological monitoring network in Angola.
Acknowledgements

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