

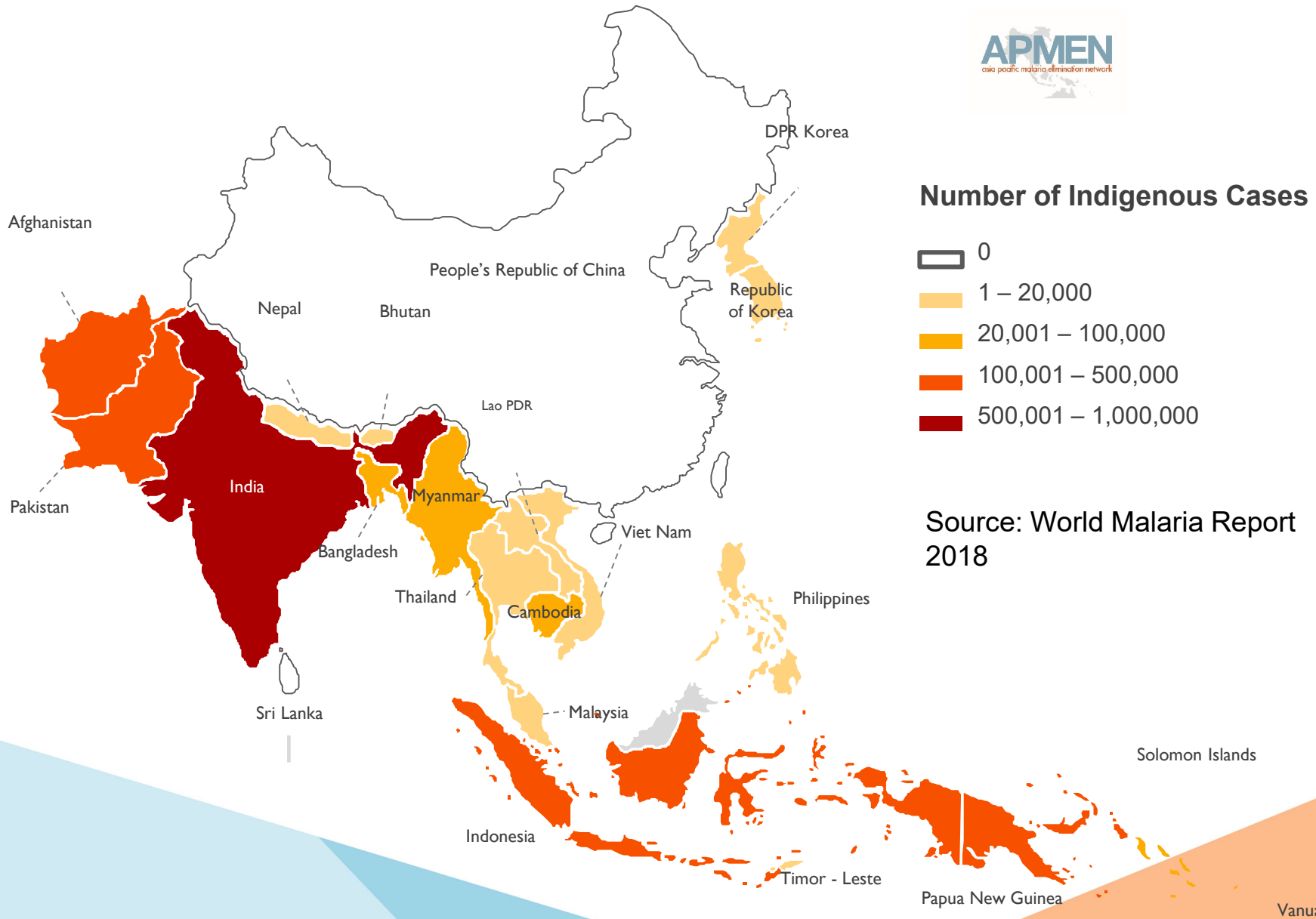


Vector Control **Capacity Building and Information Sharing**: *how APMEN's accelerating malaria elimination in Asia Pacific*

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RBM VCWG 15, Geneva, 4 February 2020



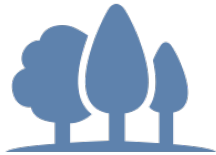
Key vector control challenges in Asia-Pacific



High species diversity of vectors in many morphologically indistinguishable species groups/complexes



Outdoor biting and animal feeding



Forest transmission and cross-border migration



Shortfalls in **entomological expertise** and **capacity**



Online Resources Exchange Network for Entomologists (ORENE)
Website for information exchange

Key Features of ORENE



Forum & ask the experts



Directory of entomologists and institutions



Resource center for latest guidelines, SOP, case studies



Receive latest news, articles, and updates

APMEN Online Resource Exchange Network for Entomology (ORENE)

A Community of Practice for Vector Biologists in the Asia Pacific Region



Vector surveillance
guidelines,
strategies, and
SOPs



Anopheles: Vector
control guidelines,
strategies, and
SOPs



Laboratory and
insectary SOPs



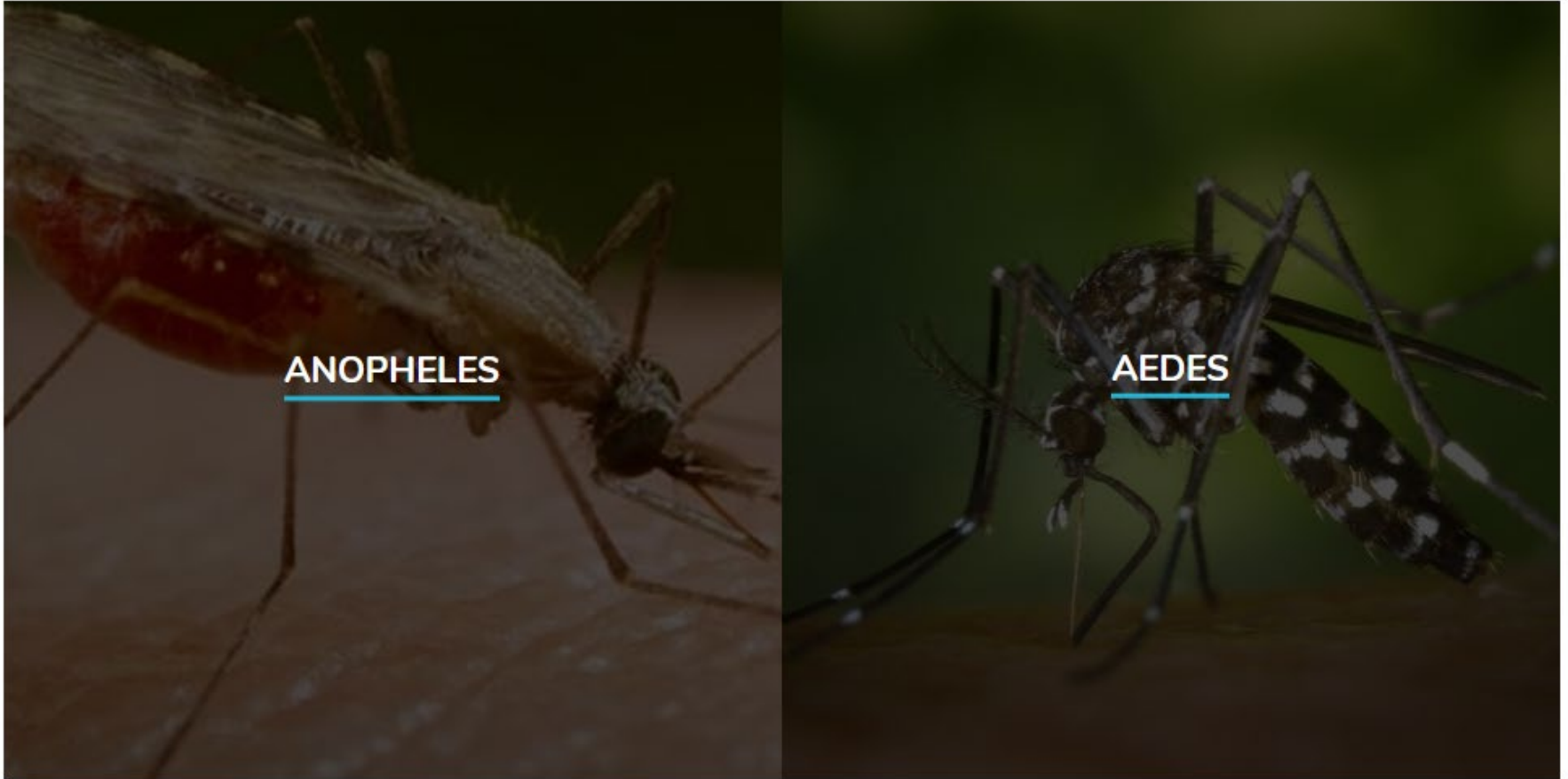
Anopheles: Study
design



Publications

<https://orene.org>

CASE STUDIES



<https://orene.org>



Vector surveillance
guidelines, strategies,
and SOPs



Laboratory and
insectary SOPs



Publications



Anopheles: Vector
control guidelines,
strategies, and SOPs



Anopheles: Study
design

Vector surveillance guidelines, strategies, and SOPs

Understanding and documenting the presence and characteristics of local mosquito populations in malaria endemic regions is crucial for the development of targeted and meaningful vector control (VC) interventions. Breeding habitats and behaviours vary according to different Anopheles vectors, and can also be affected by changing epidemiological, ecological, and structural features...

<https://orene.org>



MALARIA VECTOR SURVEILLANCE FOR ELIMINATION (MVSE)

2nd Malaria Vector Surveillance for Elimination (MVSE)

1st Malaria Vector Surveillance for Elimination (MVSE)

MVSE is the flagship training program initiated by APMEN. It specifically targets capacity gaps in vector identification (morphology and molecular) and mapping, insecticide-resistance testing, and data-informed decision making for vector control strategies

MVSE-BriefDownload
2nd MVSE Course Booklet-2019SEP26Download
Lecture Notes for Day 1Download

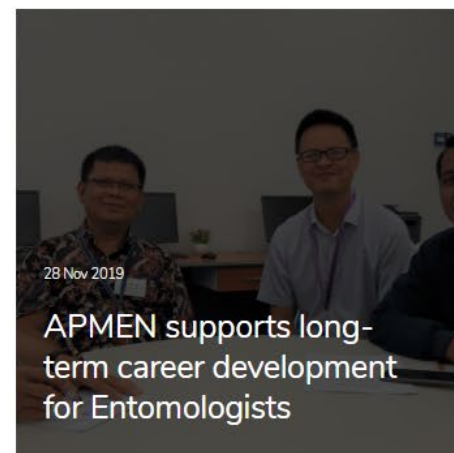
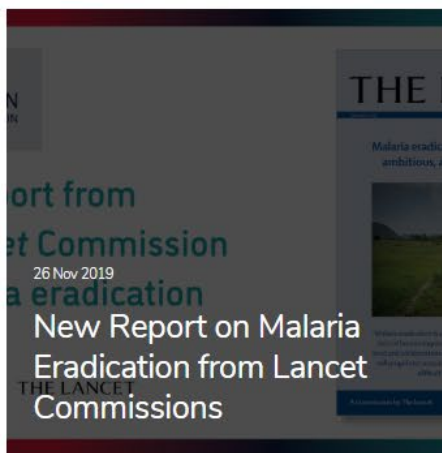
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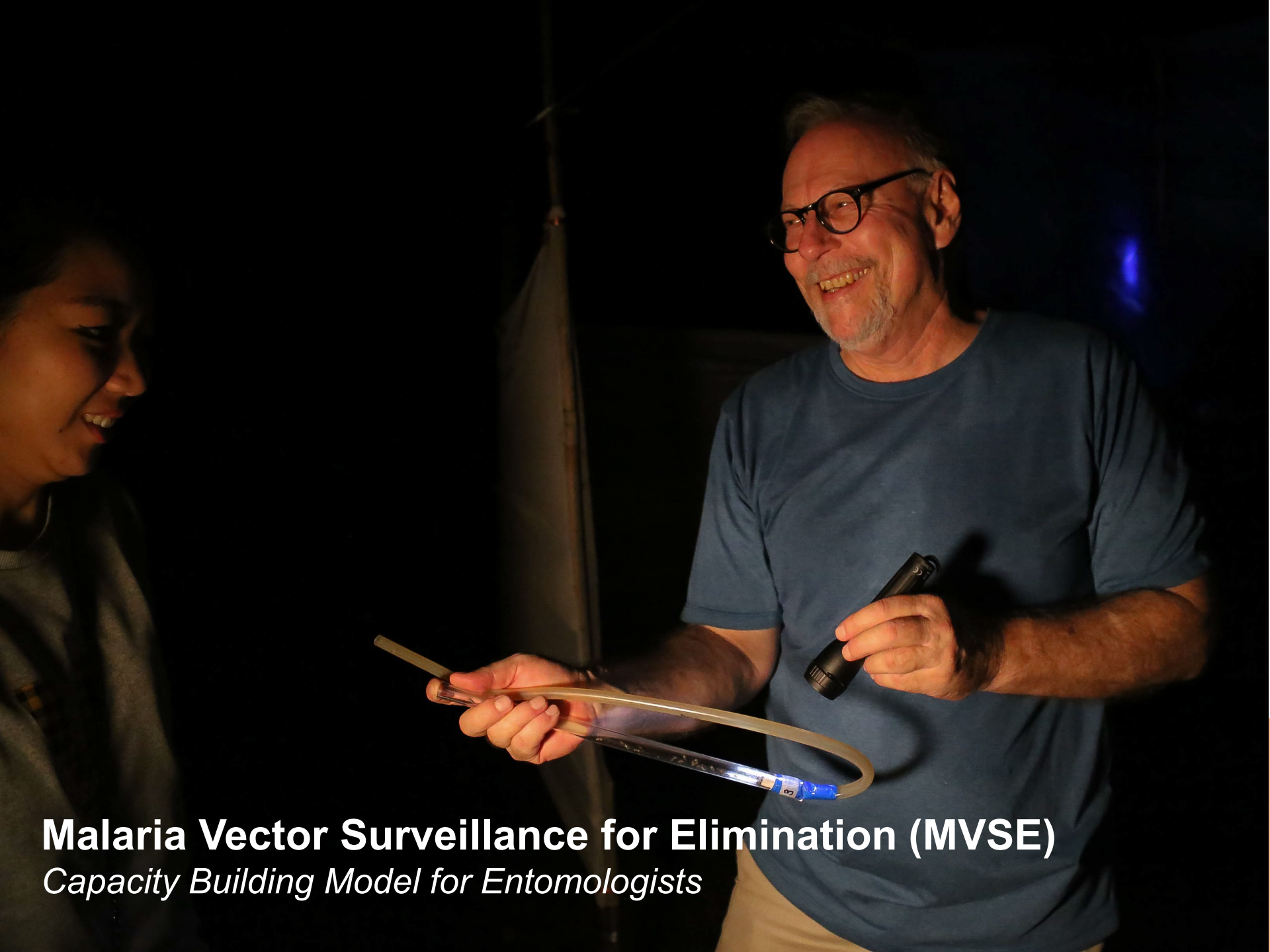
Useful Links

Vector Learning*Xchange*



<https://orene.org>





Malaria Vector Surveillance for Elimination (MVSE)
Capacity Building Model for Entomologists

Malaria Vector Surveillance for Elimination (MVSE)

- Capacity building model to improve **vector surveillance skills**
- 14-days course, 1st MVSE hosted by Institute of Medical Research (IMR), Malaysia, 2nd MVSE hosted by Kasetsart University, Thailand



Morphological
identification



Applying GIS for
vector mapping



Field sample
collection



Insecticide
susceptibility assays

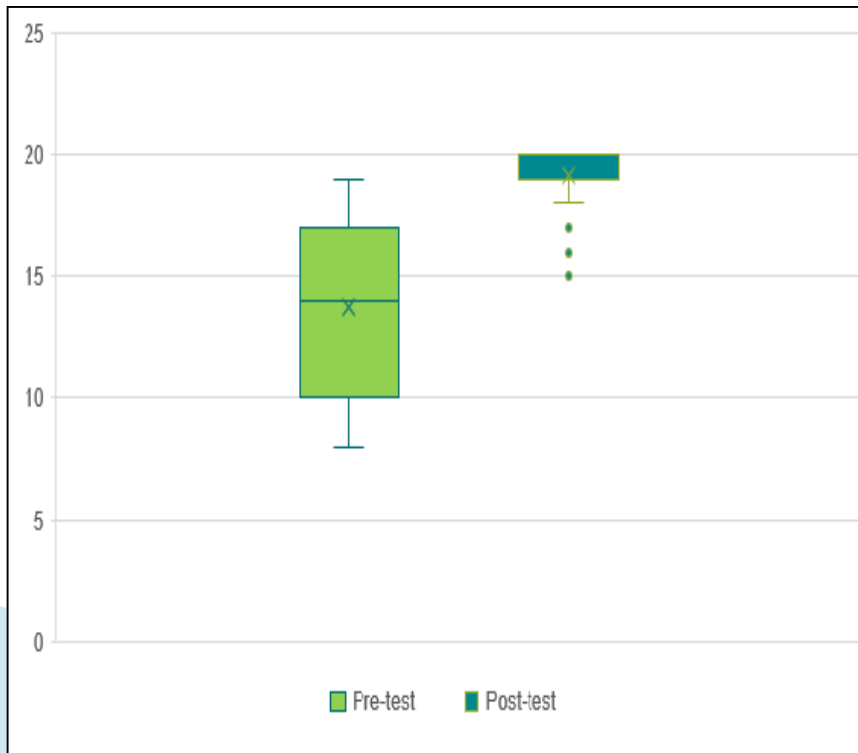
https://orene.org/training_group/malaria-vector-surveillance-for-elimination-mvse/

Course contents

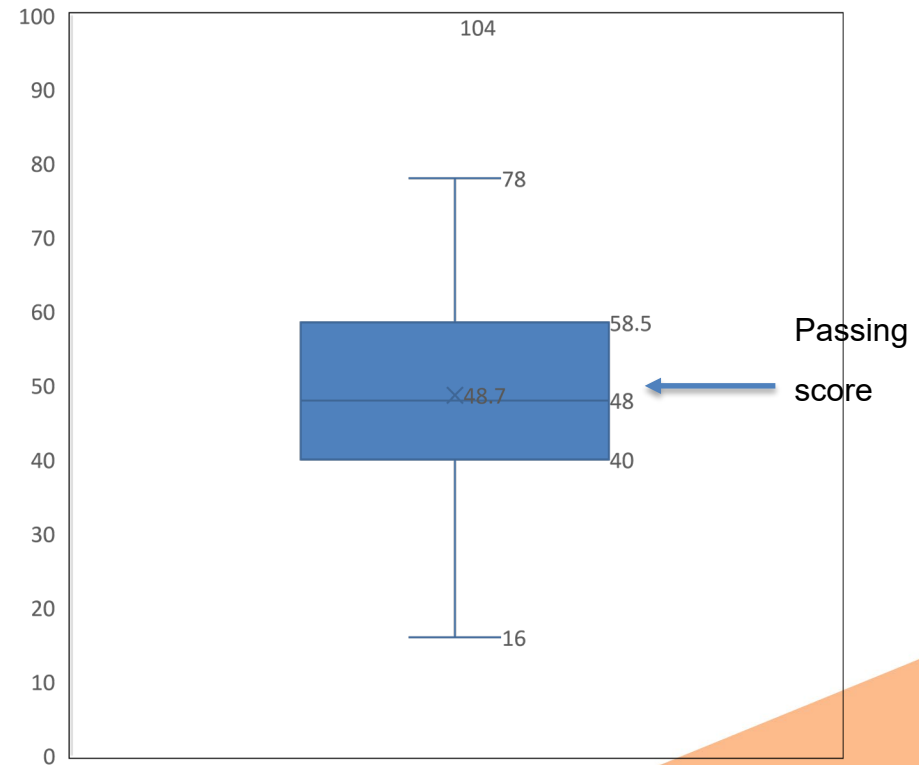
1. Malaria vector biology and identification
2. Basic GIS for vector mapping
3. Sampling and processing of malaria vectors
4. Mosquito identification using bench aids and pictorial keys
5. Malaria: Current status globally, regionally, background to malaria control – Elimination continuum and Challenges
6. Adult Mosquito Insecticide Susceptibility Bioassays (WHO tube and CDC bottle):
7. Methods and purposes of mosquito colony establishment and maintenance: Basic infrastructural considerations, egg, larval, pupal, adult considerations, Aedes, Culex and Anopheles
8. Quality control of Anopheles spp. identification

Course evaluation

Knowledge assessment (Pre/Post training)



Practical skill assessment (Post-training)



Impact

- Developed a much needed capacity building model for Vector Surveillance for NMCPs
- All front-line entomologists from all 21 APMEN countries trained

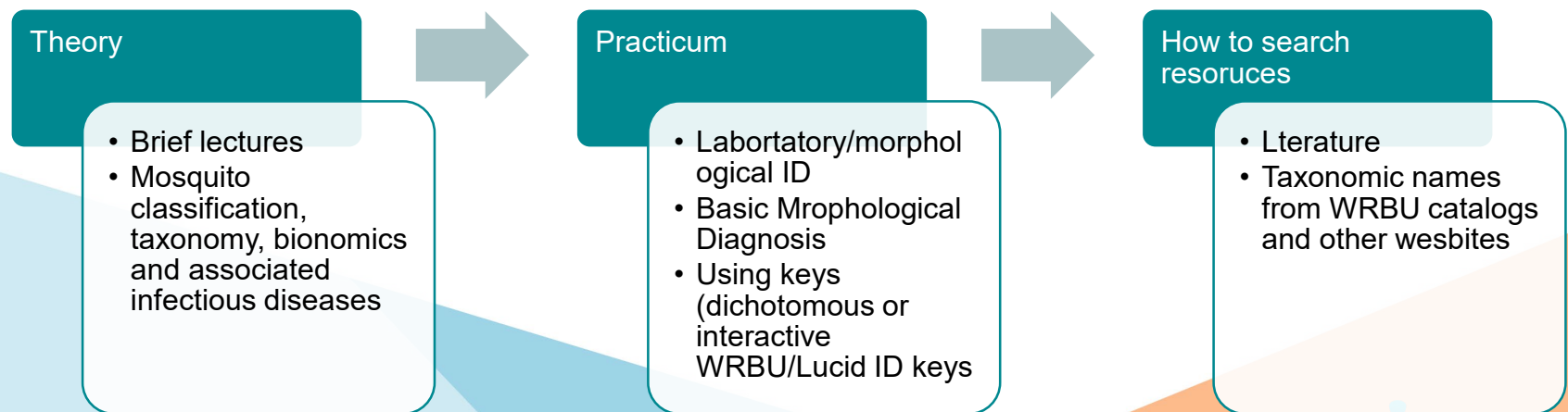
Future Strategies

- Improvements and refinement for the current model
- To replicate and integrate this model to in-country capacity building initiatives

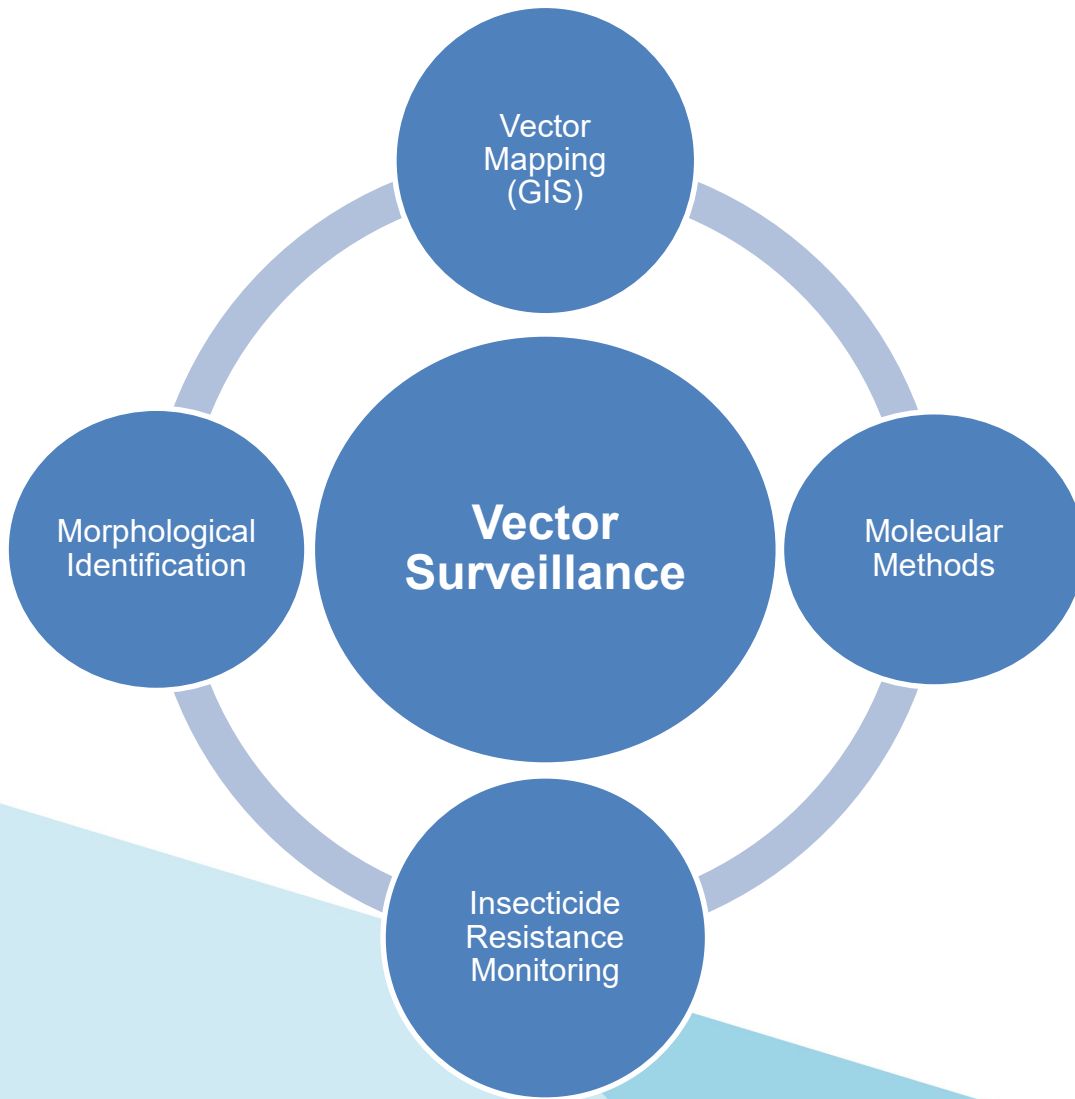


Key lessons learnt from this training

- Standardizing which keys to be used
- Wide species diversity makes difficult which specimens to be used for ID and making specimens more geographically representatives
- Need for adequate space, equipment, and facilitators
- Opportunity to include other genera of vector borne-diseases common to the region
- Opportunity to include molecular diagnosis methods
- Linking knowledge to practical application and decision making exercises



Conceptual model of future MVSE



Expand the focus from *Anopheles*

Geographic representation of Specimens

Problem-solving approach



*“**Entomologists** play a key role in the national malaria program. Having specifically trained at **MVSE Training Program**, it allows the entomologists within the National Department of Health as well as in our research arm is a step forward for PNG as this will highlight the interest and substantiate the importance of the entomological information produced in the vector surveillance movement towards vector-borne disease control and elimination in my country.” -- Ms. Naomi Vincent, Vector Borne Disease Surveillance Officer, National Department of Health, Papua New Guinea*

RBM – APMEN Linkages in Capacity Building

- South-to-South collaboration and sharing of resources
- Development of training manuals for field-level entomologists for NMCPs for foci investigation and response
- Development of curriculum for formal education medical entomology
- APMEN can assist in developing these curriculum and roll out of trainings



Thank you

VCWG acknowledges generous funding support from

BILL & MELINDA
GATES *foundation*

 **SUMITOMO CHEMICAL**

