PacMOSSI
Pacific Mosquito Surveillance Strengthening for Impact

PNGIMR PAPUA NEW GUINEA INSTITUTE OF MEDICAL RESEARCH

PARTICIPANT WORKBOOK

How to Implement *Aedes* Vector Control

PacMOSSI Regional Practical Workshop 2026
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PARTICIPANT DETAILS	
Name	
Country	
Organisation	
Role / position	
Email / preferred contact	

Introduction

Welcome to the PacMOSSI Regional Practical Workshop on How to Implement *Aedes* Vector Control in the Pacific.

Workshop purpose

This workshop aims to build participants' practical knowledge, skills and confidence to plan and implement *Aedes* vector control activities using approved operational procedures, field guides, safety requirements, risk assessment processes, community engagement approaches and appropriate documentation.

How to use this workbook

Bring this workbook to each session and use it to:

- Record key learning points and important information from presentations and demonstrations.
- Complete individual and group exercises.
- Document findings from practical activities and field observations.
- Note questions for facilitators and areas where further guidance is needed.
- Identify how workshop learning can be applied in your local setting.
- Develop a realistic 90-day action plan to guide follow-up activities after the workshop.

Participate actively in discussions, practical demonstrations and group activities. Use the workbook to reflect on how the approaches and tools introduced during the workshop can support your local vector control program.

Important note

This workbook supports learning, discussion and practical application. It does not replace current locally approved Larval Source Management (LSM), Indoor Residual Spraying (IRS) or Outdoor Residual Spraying (ORS) options, SOPs, field guides, product labels or other applicable guidance.

Always follow the relevant risk assessment requirements, product instructions, locally authorised procedures and directions from authorised supervisors. Use only approved products for their authorised purposes and ensure that activities are conducted by appropriately trained personnel.

Table of Contents

Introduction 2

Workshop learning outcomes 4

Creating a safe and respectful learning environment 4

Workshop program at a glance 5

Abbreviations used in this workbook 5

Setting learning goal 5

DAY 1 | Foundations and Larval Source Management 6

ACTIVITY 1.1 – *Aedes* in my setting 6

ACTIVITY 1.2 – Choosing an intervention 7

ACTIVITY 1.3 – Container or larval habitat management 8

ACTIVITY 1.4 – Introduction to larvicides 10

ACTIVITY 1.5 – Label-rate tests for three larvicide products 12

DAY 2 | LSM Field Implementation 15

ACTIVITY 2.1 – LSM household engagement roleplay 15

ACTIVITY 2.2 – Deployment planning checklist for premise inspection and LSM 16

ACTIVITY 2.3 – Debrief and data quality 17

DAY 3 | Spatial Emanators and Residual Spraying Operations 18

ACTIVITY 3.1 – Spatial emanator demonstration 18

ACTIVITY 3.2 – Sprayer inspection and technique 19

ACTIVITY 3.3 – Introduction to insecticide products for residual spraying 20

ACTIVITY 3.4 – Household briefing for residual spraying 21

DAY 4 | Residual Spraying Field Implementation 23

ACTIVITY 4.1 – Deployment planning checklist for residual spraying 23

ACTIVITY 4.2 – Debrief and quality review 24

ACTIVITY 4.3 – ORS mist-sprayer demonstration 25

DAY 5 | Applying *Aedes* Control Back Home 27

ACTIVITY 5.1 – Where are we now? 27

ACTIVITY 5.2 – What do we have? 28

ACTIVITY 5.3 – Pacific solutions exchange 29

My First 90 Days Back Home 30

Field Notes and Questions 33

Resource Pack and Follow-up 36

Final Workshop Messages 37

Workshop learning outcomes

1. Describe *Aedes* mosquito biology, behaviour and disease risk in the Pacific context.
2. Identify appropriate *Aedes* vector control options and the situations in which they may be considered.
3. Use the LSM SOP, field guide, premise inspection form and daily summary form during planning and field work.
4. Assess containers, select suitable management actions and complete larvicide calculations using approved product information.
5. Communicate respectfully with households and communities and explain the purpose of planned activities.
6. Recognise the operational and safety requirements for spatial emanators, indoor residual spraying (IRS) and outdoor residual spraying (ORS).
7. Document field activities, review implementation quality and identify the next practical steps for the home program.

Creating a safe and respectful learning environment

To make the most of the workshop, we encourage participants to:

- Share experiences and learn from one another, recognising the value of local knowledge and operational experience.
- Ask questions and seek clarification whenever a procedure or safety requirement is unclear.
- Participate in practical activities while following facilitator guidance and relevant safety requirements.
- Undertake insecticide application and equipment operation only when appropriately authorised, trained and supervised.
- Respect household privacy and seek permission before inspections, photographs or other data collection.

Workshop program at a glance

Day	Theme	Main activities / outputs
1	*Aedes* control foundations and LSM	*Aedes* refresher; intervention overview; LSM SOP and forms; container management; larvicide safety and calculations.
2	LSM field implementation	RCCE roleplay; household LSM practical; debrief; field data review; 24-hour larvicide assessment.
3	Spatial emanators and residual spraying operations	Spatial emanator demonstration at Belna NATNAT Centre; IRS/ORS SOPs and safety; sprayer inspection and technique; household briefing.
4	Residual spraying field implementation	Team deployment; supervised field exercise; equipment cleaning; quality and safety review; mist sprayer demonstration.
5	Applying *Aedes* control back home	Country priorities and resources; Pacific Solutions Exchange; regional priorities; individual 90-day action plan and commitments.

Abbreviations used in this workbook

Abbreviation	Meaning
Aedes VC	*Aedes* vector control
BNC	Belna NATNAT Centre
IRS	Indoor residual spraying
LSM	Larval source management
ORS	Outdoor residual spraying
PacMOSSI	Pacific Mosquito Surveillance Strengthening for Impact
PPE	Personal Protective Equipment
RCCE	Risk communication and community engagement
RS	Residual Spraying
SDS	Standard Data Sheet
SE	Spatial Emanators
SOP	Standard operating procedure
SVD	Society of the Divine Word
WG/WDG	Water granules/Water-dispersible granules

Setting learning goal

My main learning goal for this week:

DAY 1 | Foundations and Larval Source Management

Purpose

Build a shared understanding of *Aedes* mosquitoes in Pacific Island Countries and areas, available vector control interventions, PacMOSSI support, and the LSM SOP and Field Guide.

Time	Session
08:30–09:30	Opening, introductions and workshop overview
09:30–10:30	Refresher: *Aedes* biology, behaviour, disease risk and vector control interventions
10:30–10:45	Morning tea
10:45–11:45	Introduction to LSM operational processes
11:45–12:30	Protocol Presentation: LSM SOP, field guide, and forms
12:30–13:30	Lunch
13:30–14:30	Group exercise: container/larval habitat management
14:30–15:15	Larvicides: products, safety and calculations
15:15–15:30	Mobility break
15:30–16:30	Larvicide practical: dose estimation exercises and treatments
16:30–17:00	Wrap-up and Day 2 briefing

ACTIVITY 1.1 – *Aedes* in my setting

Purpose: Connect the refresher to your local program.

What *Aedes* species or *Aedes*-related risks are most relevant in my setting?

What local environmental or household conditions can support *Aedes* breeding? *(e.g. frequent rainfall & warm temperature)*

What do I most need to understand or improve about *Aedes* control? *(e.g., Improve identification and recording of potential larval habitats and adult mosquito resting sites)*

ACTIVITY 1.2 – Choosing an intervention

Purpose: Compare key *Aedes* vector control interventions and identify factors that influence their selection.

Instructions: Complete the table using the information introduced during the session. Keep your answers brief.

1. Compare the interventions

Fill in the blanks.

Intervention	What does it target?	Where might it be used?
Source reduction and container management		e.g., water storage tanks
Larviciding		
Residual spraying (IRS/ORS)		IRS: ORS:

2. What should be considered when choosing an intervention?

Tick the factors that should inform the decision.

☐ Local surveillance findings and larval habitats
☐ The location and accessibility of target areas
☐ Availability of trained staff, equipment and resources
☐ Product approval, safety requirements and operational procedures
☐ Community participation, acceptance and cooperation
☐ Evidence that the intervention is appropriate and likely to be effective in the local setting

3. Identify one limitation or important consideration for each intervention.

Intervention	One limitation or important consideration
Source reduction and container management	
Larviciding	
Residual spraying (IRS/ORS)	

Key message: No single intervention is suitable for every situation. Select and coordinate interventions according to local surveillance findings, the target habitat or mosquito behaviour, operational capacity, safety requirements and community context. Follow current national guidance and approved procedures.

ACTIVITY 1.3 – Container or larval habitat management

Purpose: Identify potential *Aedes* mosquito larval habitats, estimate their water-holding capacity, and recommend appropriate habitat-management measures.

Instructions: Rotate through the habitat stations and photographs. At each station:

1. Observe how water collects or is retained.
2. Estimate the water-holding capacity.
3. Decide whether the habitat could support *Aedes* breeding.
4. Select an appropriate management measure.

Record your answers using ticks and short phrases. No physical management actions will be carried out during this exercise.

Management options

Use one or more short phrases in the table, as appropriate:

1. Remove or dispose of the container.
2. Empty, drain or turn upside down.
3. Cover or seal the container.
4. Repair or replace damaged covers, screens or mesh.
5. Clean or scrub the container.
6. Modify or repair the habitat to prevent water accumulation.
7. Improve drainage or remove stagnant water where appropriate
8. Consider larviciding where physical management is not feasible or sufficient
9. Further inspection or surveillance to determine appropriate action

Station / habitat	**Estimated water-holding capacity**	**Could support *Aedes* breeding?**	**Recommended management measure**
Physical observation stations			
1. Tyres	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
2. Pot plant bases	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
3. Drums	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	

4. Coconut shells / small containers	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
5. Buckets	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
6. Tarpaulins / canvas	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
Habitats shown in photographs			
7. Water tanks	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
8. Tree holes / bamboo stumps / crab holes / bromeliads	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
9. Roof gutters	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
10. Boats	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	
11. Other habitat: _____	☐ ≤2 L ☐ >2–20 L ☐ >20 L ☐ N/E	☐ Yes ☐ No ☐ Unsure	

N/E = Not readily estimated.

Important: Not every water-holding habitat requires insecticide treatment. Larvicide selection, label interpretation, dose calculations and treatment procedures are covered in a separate activity. Any larvicide use must follow approved product instructions and local program guidance.

Quick reflection

Tick the statement that best reflects your learning.

☐ I can identify potential *Aedes* larval habitats and recommend practical management measures.

☐ I need further guidance on estimating water-holding capacity or selecting management measures.

Key message: Identify the habitat, assess its potential to support breeding and select a practical, safe management measure. Where the appropriate action is uncertain, arrange further inspection or seek technical advice.

ACTIVITY 1.4 – Introduction to larvicides

Purpose: To introduce larvicide products used for mosquito control, their modes of action, suitable habitats and safety requirements.

Learning outcomes: By the end of this activity, you should be able to:

1. Identify larvicide active ingredients and formulations.
2. Interpret product labels and calculate application amounts.
3. Describe how different larvicides affect mosquitoes.
4. Record and interpret observations from a larvicide demonstration.

Larvicide Products

Always check the exact product label and safety data sheet (SDS). Products differ in formulation, approved habitats, application rates, safety precautions and assessment methods. Use only products approved for the intended purpose and follow the relevant label and SOP.

Examples of larvicide products are provided in the table below. Some of these products will be used or demonstrated during this practical activity. **Complete the table by filling in the missing information.**

Product	Active ingredient	General mode of action	Formulation
Aquatain AMF	polydimethylsiloxane (PDMS) (silicone-based liquid)	Spreads across the water surface, forming a thin film that interferes with the breathing and emergence of mosquito larvae and pupae.	liquid
VectoBac®	*Bacillus thuringiensis* var. *israelensis* (Bti)	Ingested by mosquito larvae; its toxins damage the larval gut causing death.	WG (water-dispersible granules) - small, dry, concentrated granules
Prolink™	s-methoprene	An insect growth regulator that disrupts normal development, preventing successful emergence of adult mosquitoes.	PELLET- sustained release solid cylindrical pellets BRIQUET XR- extended-release solid moulded brick/block

Remember: Never transfer an application rate from one product or formulation to another. Always check the approved label, target habitat, units, safety requirements and application method.

Calculating Prolink Briquet XR requirements

In Activity 1.3, you identified potential *Aedes* mosquito habitats and considered how they could be managed. Sometimes, a water-storage container may need larvicide treatment if it is appropriate and approved for use.

Scenario: The image shows a water-storage tank with a capacity of **15,000 litres.** According to the product information, one Prolink briquet treats **5,000 litres** of water.



1. Calculate the number of briquets required to treat the full tank.

Calculation: _____

Required number of briquets: _____

2. Before recommending treatment, what should you check?

Tick all appropriate answers.

☐ The product is approved for the intended use and type of water-storage container.

☐ The tank and its intended water use meet the conditions specified on the product label.

☐ The recommended application rate, product instructions and safety precautions have been checked.

☐ Non-chemical management options have been considered where practical.

Remember: This is a calculation exercise, not an instruction to treat the tank. Always follow the current product label, approved procedures and relevant national requirements. A suitable treatment rate alone does not mean that a product is appropriate for every water storage container.

ACTIVITY 1.5 – Label-rate tests for three larvicide products

Purpose: Practise identifying larvicide products, interpreting labels, calculating application amounts and observing larvicide effects.

Practical

In this practical session break into three groups of six people per group (Group A, B and C). On Monday, groups will rotate through the three larvicide stations. On the follow-up days, each Group will be stationed at one table (no rotation) when assessing and recording the larvicide treatments on the test larvae.

Exercise 1 – Identify the product and key safety information

Use the product labels and SDS provided by the facilitator. Record only the key information.

Information	Product 1	Product 2	Product 3
Product name and active ingredient			
Formulation			
Approved habitat/use			
Label application rate and units			
One key safety precaution			

Exercise 2 – Larvicide label-rate test on *Aedes aegypti* larvae

Monday - Day 0

- Follow the instructions given by the Facilitator at each test table.

Tuesday - Day 1 (24 hours post treatment)

- Follow the instructions given by the Facilitator and complete the Larvicide Record Form.
- Transfer data to Larvicide Summary Table below. Note that you will need results data from the two other groups to complete the summary.

Larvicide Summary Table

24 hours							
	A	B	C	D		(B/A)*100	((C+D)/A)*100
Treatment	**Total larvae added**	**24hr dead/moribund larvae/pupae removed**	**24hr live larvae remaining**	**24hr live pupae removed**		**% mortality**	**% alive**
VectoBac low	60						
VectoBac high	60						
Aquatain	60						
Prolink pellets	60						
Untreated control	60						

48 hours							
	A	B	C	D		(B/A)*100	((C+D)/A)*100
Treatment	**Total larvae added**	**24hr + 48hr dead/moribund larvae/pupae removed** (add total from previous day)	**48hr live larvae remaining**	**24hr + 48hr pupae removed** (add total from previous day)		**% mortality**	**% alive**
VectoBac low	60						
VectoBac high	60						
Aquatain	60						
Prolink pellets	60						
Untreated control	60						

72 hours							
	A	B	C	D		(B/A)*100	((C+D)/A)*100
Treatment	**Total larvae added**	**24hr + 48hr + 72hr dead/moribund larvae/pupae removed** (add total from previous day)	**72hr live larvae remaining**	**24hr + 48hr + 72hr live pupae removed** (add total from previous day)		**% mortality**	**% alive**
VectoBac low	60						
VectoBac high	60						
Aquatain	60						
Prolink pellets	60						
Untreated control	60						

Wednesday - Day 2 (48 hours post treatment) and Thursday – Day 3 (72 hours post treatment) – *noting that longer observation times and assessment of emergence rates are needed for insect growth regulators)*

- Continue to monitor larvae and record observations in the Larvicide Record Form and Larvicide Summary Table.

Brief reflection

1. What difference, if any, did you observe between the treated groups and the untreated?

_____

_____

2. Why might different larvicide products require different observation periods or assessment methods?

_____

_____

3. What will you communicate to householders when you use products with s-methoprene?

_____

_____

Key takeaway

Select and apply larvicides according to the target habitat, approved product instructions, correct application rate and safety requirements. Use appropriate monitoring to assess effects. Larvicides are one option within larval source management; where practical and appropriate, consider habitat removal or management without insecticides first.

Day 1 – Key Learning and Questions

One key learning point:

_____

_____

One question or issue requiring follow-up:

_____

_____

DAY 2 | LSM Field Implementation

Purpose

Conduct larval source management in the community including community engagement, premise inspection, container assessment, intervention selection and documentation.

Time	Session
08:30–09:45	RCCE for LSM: engaging households and delivering key messages; discussion and roleplay
09:45–10:15	Field exercise briefing, team assignments and LSM SOP refresher
10:15–10:30	Morning tea
10:30–10:45	Travel to field
10:45–12:45	Household LSM practical
12:45–13:00	Return to SVD facility
13:00–14:00	Lunch
14:00–15:00	Team debrief and facilitator feedback
15:00–15:45	Field data review and LSM documentation
15:45–16:00	Mobility break
16:00–16:30	Larvicide practical: 24-hour assessment
16:30–17:00	Wrap-up and Day 3 briefing

ACTIVITY 2.1 – LSM household engagement roleplay

Purpose: Practice a respectful, clear household conversation before an inspection.

Use Annex 6 of the LSM SOP as a resource.

Break into teams of three people. One person takes the role of the Vector Control Officer, one person is the Householder, and the third person is the Observer who provides feedback.

Using the LSM Scenario Prompt Cards, nominate roles then act out the scenario. Practice introducing yourselves, explaining the purpose of the visit and requesting permission to inspect the property, explaining LSM, responding to concerns and agreeing on practical control measures.

Swap roles for each of the three scenarios.

During the roleplay, check that you:

- Introduce yourself and explain the purpose of the visit.
- Request permission before proceeding.
- Explain what the inspection involves and listen to concerns.
- Correctly explain *Aedes* larval habitats and dengue prevention
- Suggest feasible source reduction or safe water-container management; do not insist on removing essential containers.
- Do not dismiss reports of harm or claim that insecticides are harmless; explain reporting and follow-up.
- Explain any appropriate next steps without pressuring the household member.

Key message: Communicate respectfully, request permission, listen to concerns and follow the approved procedure if access is not granted. Encourage people to take responsibility for mosquito habitats around their home.

ACTIVITY 2.2 – Deployment planning checklist for premise inspection and LSM

A. Pre-deployment checklist

Before deployment, confirm that the following have been addressed.

☐ The objective, target area and team roles are clear.
☐ Relevant operational documents are available, including the ***LSM SOP, LSM Field Guide*** and applicable larvicide product labels.
☐ ***Form A – Individual Premise Mosquito Inspection and Contro***l and ***Form B – Daily Summary of Premises Visited*** are available.
☐ Permission, household briefing and community communication are planned.
☐ Potential *Aedes* larval habitats and inspection priorities are understood.
☐ Risk assessment, safety precautions and required PPE are reviewed.
☐ Inspection equipment and source reduction/container management supplies are available.
☐ Approved larvicides and application equipment are available, where applicable.
☐ Arrangements for waste management, equipment cleaning and incident reporting are clear.

B. Field documentation

Use the PacMOSSI field forms during supervised premise visits.

- **Form A – Individual Premise Mosquito Inspection and Control:** Complete one form per premise visited. Record inspection findings, potential *Aedes* habitats, control measures undertaken and larvicide application details, where applicable.
- **Form B – Daily Summary of Premises Visited:** Summarise the relevant information from Form A, including daily totals, indicators and calculations.

Remember:

- Record identified habitats, even if no control measure is implemented.
- Record only activities actually undertaken.
- Check that records are accurate and complete.
- Follow the relevant SOPs and facilitator guidance.

Use the completed forms during the team debrief. Do not duplicate operational records in this workbook.

ACTIVITY 2.3 – Debrief and data quality

Discuss your team's experience with the facilitator.

1. What went well, and what was challenging during the household visit?

For example: introducing yourselves, explaining the purpose of the visit, identifying potential Aedes habitats and discussing appropriate control measures.

2. What would you improve next time to strengthen safety, household communication or data quality?

Consider household communication, habitat inspection, selection of control measures, safety and completion of Forms A and B.

Day 2 – Key Learning and Questions

One key learning point:

One question or issue requiring follow-up:

DAY 3 | Spatial Emanators and Residual Spraying Operations

Purpose

Introduce spatial emanators as an additional adult mosquito control intervention and introduce residual spraying operations.

Time	Session
08:00–08:15	Travel to Belna NATNAT Centre (BNC)
08:30–09:30	Spatial emanator demonstration at BNC
09:30–10:15	Morning tea at BNC
10:15–10:30	Travel back to SVD facility
10:30–11:30	Introduction to residual spraying operations
11:30–12:30	Protocol presentation: Residual Spraying - SOPs, spray field guide and form
12:30–13:30	Lunch
13:30–16:00	Sprayer inspection and spray technique: demonstrations and practical exercises
16:00–17:00	RCCE: household preparation and briefing for residual spraying

ACTIVITY 3.1 – Spatial emanator demonstration

Purpose: This demonstration familiarises participants with spatial emanators (SEs) as a potential tool for *Aedes* control (which are currently under WHO evaluation for use against dengue). By the end, participants should be able to deploy SEs correctly in a household and explain the key considerations to community members.

During this demonstration, participants will break into three groups and practise how to estimate room requirements and hang spatial emanator devices according to product labels or other guidelines.

1. In one or two sentences, how would you explain to a householder how a spatial emanator works?

2. What factors may affect spatial emanator performance?

Consider room structure, dose rates, mosquito resistance status etc

3. Which product type (short or long duration) would you choose for an outbreak response and which for a full transmission season? Why?

Key reminder: Spatial emanators are an additional vector control option, not a replacement for source reduction, container management, LSM or other locally recommended measures.

ACTIVITY 3.2 – Sprayer inspection and technique

Purpose: Observe the facilitator's demonstration of sprayer inspection, safe operation and application technique.

Instructions: Tick the items demonstrated. Record only important observations or questions that require follow-up.

1. Pre-use inspection

Check	Observed
Tank, lid, seals and straps checked	☐
Hose, trigger valve, lance and nozzle checked	☐
Equipment checked for damage, leaks or blockages	☐
Equipment prepared according to approved instructions	☐

2. What faults or safety concerns would require work to stop?

Tick the examples discussed during the demonstration.

Check	Discussed
Leaks or damaged components	☐
Blocked or damaged nozzle	☐
Equipment not operating correctly	☐
Missing or unsuitable PPE	☐
Unsafe working conditions or an uncontrolled exposure risk	☐

3. Application technique and quality

Tick the techniques demonstrated and relevant to the spraying method.

Technique or quality check	Observed
Inspect the area and identify approved treatment surfaces	☐
Check equipment settings and calibration as required	☐
Demonstrate the correct spraying technique for the method	☐
Maintain the required application distance, speed and pattern	☐

Check application quality and document the work	☐

4. Key observation or question

What is one important technique, safety point or quality check you want to remember?

Safety reminder: Follow the applicable IRS or ORS SOP, equipment instructions, approved product guidance and risk assessment. Stop work and seek advice if equipment is faulty or conditions are unsafe.

ACTIVITY 3.3 – Introduction to insecticide products for residual spraying

Purpose: Observe the facilitator's demonstration of sprayer inspection, safe operation and application technique.

Instructions: Complete the table by filling in the blanks.

Always check the exact product label and safety data sheet (SDS). Products differ in formulation, approved application surfaces, residual activity, application rates, safety precautions and assessment methods. Use only products approved for the intended purpose and follow the relevant label and SOP.

Examples of residual spraying insecticide products used in this practical.

Product*	Active ingredient	Insecticide class	General mode of action	Formulation
Demand® 100CS	lambda-cyhalothrin	pyrethroid	A synthetic pyrethroid that acts on the insect nervous system by disrupting sodium channel function, causing paralysis and death.	capsule suspension
Actellic® 300CS	pirimiphos-methyl	organophosphate	An organophosphate that inhibits acetylcholinesterase, disrupting normal nerve signal transmission and causing paralysis and death.	
Seclira® WSG	dinotefuran	neonicotinoid	A neonicotinoid that binds to nicotinic acetylcholine receptors in the insect nervous system. This causes continuous nerve stimulation, leading to paralysis and death.	

** Note that products may not be WHO pre-qualified for vector control*

Remember: Never transfer an application rate from one product or formulation to another. Always check the approved label, target surface, formulation, application rate, safety requirements and application method. Residual activity and effectiveness can vary depending on the product, treated surface and environmental conditions.

ACTIVITY 3.4 – Household briefing for residual spraying

Purpose: Identify and practice the key information residents need before conducting authorised residual spraying operations in the community

1. What should residents be told?

Stage	Key information to communicate
Before spraying	Explain the purpose of the operation, which surfaces will be treated, what residents need to do to prepare, and confirm agreement in accordance with program procedures.
During spraying	Explain that residents and animals must stay away from the active work area and follow the operator's instructions.
After spraying	Explain the product-specific requirements for drying, ventilation, cleaning restrictions and re-entry, following approved guidance.

2. What would you check before spraying begins?

Tick the items that need to be confirmed.

- Residents understand the purpose of the operation and which surfaces will be treated.
- Residents know how to prepare the household and where people and animals should stay.
- Residents understand the safety precautions and applicable re-entry instructions.
- Questions, concerns or special circumstances have been addressed or referred to the authorised supervisor.

3. How will you check that residents understand?

Write one approach you could use.

4. Roleplay exercise

Break into teams of three people. One person takes the role of the Vector Control Officer, one person is the Householder, and the third person is the Observer who provides feedback.

Using the RS Scenario Prompt Cards, nominate roles then act out the scenario. Practice introducing yourselves, explaining the purpose of the visit and requesting permission to inspect and spray the property, explaining RS and responding to concerns.

Swap roles for each of the three scenarios.

Safety reminder: Always follow the current IRS/ORS SOP, approved product instructions, risk assessment and authorised operator guidance. Do not give product-specific safety, drying or re-entry instructions unless they have been confirmed against the approved guidance.

Key learning: A household briefing should be clear, practical and appropriate to the local context. Residents should understand what will happen, what they need to do, and how to follow the relevant safety instructions.

Day 3 – Key Learning and Questions

One key learning point:

_____

_____

One question or issue requiring follow-up:

_____

_____

DAY 4 | Residual Spraying Field Implementation

Purpose

Apply the IRS SOP, ORS SOP and Residual Spraying Field Operator Guide in a supervised field setting. Practise deployment planning, risk assessment, premise inspection, household engagement, spraying technique, safety and documentation.

Time	Session
08:30–09:30	Mission/Deployment briefing, team preparation
09:30–09:45	Morning tea
09:45–10:00	Travel to field
10:00–12:15	Residual spraying field exercise
12:15–12:30	Return to SVD facility
12:30–13:00	Clean equipment
13:00–14:30	Lunch
14:30–15:00	Reflection on IRS field exercise
15:00–16:00	Feedback on spray quality, safety, RCCE and documentation
16:00–17:00	ORS mist sprayer demonstration: safe operation and application technique

ACTIVITY 4.1 – Deployment planning checklist for residual spraying

Purpose: Ensure preparedness prior to deployment.

Instructions: Before deployment, confirm that the following have been addressed.

☐ The objective, target area and team roles are clear.

☐ Relevant operational documents are available including ***IRS SOP, ORS SOP, Residual Spraying Spray Operator Guide, Risk Communication and Community Engagement (RCCE) for Residual Spraying*** and applicable product labels.

☐ Required field recording forms are available, including ***Form A – Individual Premise Mosquito Inspection and Control Form*** **and** ***Form B - Daily Summary of Premises Visited***.

☐ Permission, household briefing and community communication are planned.

☐ Risk assessment and control measures are reviewed.

☐ Operators are authorised, trained and equipped with required PPE.

☐ Equipment condition, calibration / settings and supplies are checked as required by the SOP.

☐ Weather, site conditions, access and other operational constraints are considered.

☐ Documentation, waste management, equipment cleaning and incident reporting arrangements are clear.

ACTIVITY 4.2 – Debrief and quality review

Purpose: Identify what went well and what could be improved, using your observations and facilitator feedback.

Instructions: During the debrief, discuss the areas below and record brief notes.

Field documentation and recording forms

During this practical, focus on the adulticide/residual spraying sections of the following forms:

- **Form A – Individual Premise Mosquito Inspection and Control:** Focus on premise access, household acceptance, indoor and outdoor spraying activities, areas treated, insecticide product details, application information and any operational issues or follow-up requirements.
- **Form B – Daily Summary of Premises Visited:** Focus on daily premises visited and sprayed, IRS and ORS coverage, access and refusal rates, insecticide products and quantities used, and relevant daily indicators.

For this exercise, concentrate on the residual spraying components of the forms. Larval habitat assessment, source reduction and larvicide recording are covered separately during the LSM practical.

Review area	Key observation or improvement action
Planning and team roles	
Household engagement and RCCE	
Risk management and PPE	
Equipment and application technique	
Spray quality and quality checks	
Field Documentation and use of forms	
Follow-up and reporting	

Quick reflection

What was one important safety or operational check before spraying? _____

_____

What is one improvement your team would make next time? _____

_____

ACTIVITY 4.3 – ORS mist-sprayer demonstration

Purpose: Record the demonstrated operating principles, application techniques and safety considerations for outdoor residual spraying (ORS).

Instructions: Observe the safe operation, application technique and maintenance requirements demonstrated for outdoor residual spraying (ORS).

1. Pre-use and post-use checks

Tick the checks demonstrated. Follow the applicable SOP and equipment instructions.

Check	Observed
Inspect the tank, hoses, seals, nozzle and connections for damage or leaks	☐
Check the engine, controls and other components as applicable	☐
Confirm equipment settings and readiness according to the SOP	☐
Use the required PPE and check the work area for hazards	☐
Shut down the equipment safely after use	☐
Clean and maintain the equipment as instructed	☐
Check for damage or faults and report any problems	☐
Handle leftover product, washings and waste according to approved procedures	☐

One important check to remember: _____

_____

2. Selecting outdoor target sites

Which factors should be considered when selecting ORS target sites? Tick those discussed during the demonstration.

- Evidence or knowledge of where target mosquitoes rest.
- Whether the surface or vegetation is approved for treatment.
- Whether the site can be accessed and treated safely.
- Potential exposure of people, animals and non-target areas.
- Weather and environmental conditions.
- Product instructions, the ORS SOP and the risk assessment.

One target-site consideration to remember: _____

_____

3. Environmental, exposure and access considerations

Which conditions could affect safe application or treatment performance? Tick those discussed.

- Rain or other weather conditions.
- Wind and potential spray drift.
- Presence of people, animals or other potential exposure hazards.
- Nearby water sources or other environmentally sensitive areas.
- Difficult access, uneven ground or other site hazards.
- Other restrictions specified in the SOP or product instructions.

4. Before implementing ORS

Confirm that you would check the following before field implementation.

- Product approval and permitted target sites.
- Product label instructions, application settings and required PPE.
- Equipment preparation, operation and maintenance requirements.
- Weather restrictions, exposure precautions and environmental safeguards.
- Required records, cleaning and waste-disposal procedures.

Remember: ORS must be conducted only by trained and authorised personnel using approved products, equipment and procedures. Follow the current ORS SOP, product instructions, risk assessment and supervisor direction.

Day 4 – Key Learning and Questions

One key learning point:

_____

_____

One question or issue requiring follow-up:

_____

_____

DAY 5 | Applying *Aedes* Control Back Home

Purpose

Translate workshop learning into practical action by identifying country priorities, reviewing available resources, sharing regional solutions and developing a realistic 90-day action plan.

Time	Session
08:30–09:00	Where do we start? Identify one or two realistic *Aedes* VC activities
09:00–10:15	What do we have? Identify resources, capacities and opportunities
10:15–10:30	Morning tea
10:30–11:45	Pacific Solutions Exchange: What can we learn from each other?
11:45–12:00	Regional implementation priorities: What do we need to do first?
12:00–13:00	Lunch
13:00–14:15	Capstone: My First 90 Days Back Home – Where do I go from here?
14:15–15:00	90-day action plan: refining my plan
15:00–15:15	Mobility break
15:15–16:00	Back-home implementation commitments: How will I make it happen?
16:00–16:45	Workshop review, key messages, evaluation and next steps
16:45–17:00	End of workshop

ACTIVITY 5.1 – Where are we now?

Purpose: Identify a practical *Aedes* vector control priority for your setting.

1. What is the main *Aedes* control challenge or opportunity in my area?

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2. Which one or two activities could we realistically start or strengthen?

☐ Source reduction and container management (e.g., removing, covering or managing water-holding containers).

☐ Larviciding of relevant *Aedes* larval habitats.

☐ Adult *Aedes* mosquito control (e.g., IRS or ORS), where appropriate.

☐ Community engagement and participation to support sustained mosquito control activities.

☐ Vector surveillance

☐ Staff training or operational capacity

☐ Other: _____

ACTIVITY 5.2 – What do we have?

Purpose: Identify existing resources, strengths and gaps before deciding what is feasible.

Complete the table with brief notes.

Area	What is available?	Main gap or support needed
Staff and skills		
Data and technical guidance		
Equipment, transport and funding		
Community networks and partners		
Existing plans and routine activities		

Which existing resource or partnership could help us get started?

ACTIVITY 5.3 – Pacific solutions exchange

Purpose: Identify one useful idea from another participant or country that could be adapted to your setting.

Prompt	Brief notes
Useful practice or solution shared	
Problem it addressed	
What would need to change for it to work in my setting?	
Who could I contact or consult?	

Key message: Adapt solutions to local needs, resources, national guidance and community context rather than assuming that an approach used elsewhere will work unchanged.

Day 5 – Key Learning and Questions

One key learning point:

_____

_____

One question or issue requiring follow-up:

_____

_____

My First 90 Days Back Home

Choose one focused and realistic priority. Plan manageable steps, identify who needs to be involved and decide how you will measure progress.

Confirm that proposed activities align with national policy, relevant authorisations, approved procedures and available resources.

1. My implementation priority

Planning prompt	My plan
Priority activity	
Problem or opportunity being addressed	
Target area or population	
Why this is feasible and important now	
Existing resources or strengths to use	
Main gap or risk to address	
People, teams or partners to involve	
Support or approval needed from my manager	
How I will measure and document progress	

2. My 90-day timeline

When	Key action or milestone	Who will lead or support?	Evidence of progress
Days 1–30			
Days 31–60			
Days 61–90			

3. Main implementation risks

Identify up to four important barriers and how you will address them.

Risk or Barrier	How will I address it or seek support

4. My implementation commitment

My first step within seven days of returning:

The person I will speak to first and what I will ask for:

What I will report back to my team by Day 30:

How I will share progress with colleagues, peers or workshop facilitators:

Personal Learning Review

Before closing the workshop, reflect on the following.

Final reminder: A successful 90-day plan is realistic, locally appropriate and supported by the people and resources needed to implement it. Start with a manageable action, review progress and adjust as needed.

Reflection question	**My notes**
What is the most useful thing I learned this week?	
Which practical skill do I feel more confident using?	
What technical support or further practice do I still need?	

Field Notes and Questions

Use these pages to capture observations, questions for facilitators and follow-up tasks.

Notes page 1

Notes page 2

Notes page 3

Resource Pack and Follow-up

The following resources are provided for reference and follow-up. Before using any resource in operational work, confirm that you have the current, approved version applicable to your country or program.

Updated PacMOSSI SOPs, field guides and forms are available on the PacMOSSI Technical Guidance website.

Resource	Purpose / How I will use it
Participant Workbook	Refer to the agenda, activity summaries, practical exercises and participant notes to refresh workshop learning.
LSM SOP	Refer to approved procedures for planning and implementing larval source management activities.
LSM Field Guide	Use as a practical reference to identify and assess *Aedes* breeding habitats and select appropriate habitat-management measures.
IRS SOP	Follow approved procedures for planning and implementing indoor residual spraying operations.
ORS SOP	Follow approved procedures for planning and implementing outdoor residual spraying operations.
Residual Spraying Field Operator Guide	Refer to practical guidance for IRS and ORS implementation, including equipment use, application techniques and safety.
Premise Mosquito Inspection and Control Form	Use to record the inspection findings required during household visits.
Daily Summary of Premises Visited Form	Summarise daily inspection totals and calculate the required indicators.
Risk Assessment Form	Use the template in the relevant SOP annex to identify hazards, assess risks and document control measures before activities.
RCCE Materials	Adapt example household messages, briefing sheets and community engagement materials to support communication with communities.
Larvicide and Adulticide Product Information Sheets	Check product-specific instructions, calculation examples, approved uses and safety requirements before use.
90-Day Action Plan Template	Develop an individual plan for applying workshop learning after returning to your workplace.
Workshop Slide Decks (PDF)	Review workshop presentations to refresh knowledge and share key learning with colleagues.
Workshop Contact Directory	Connect with facilitators and participants for networking, troubleshooting and peer learning after the workshop.

Before implementing an activity, check the current national guidance, relevant approved SOPs, product instructions, risk assessment and authorisation requirements. Use each form according to its intended purpose and the applicable reporting procedures.

Final Workshop Messages

Select vector control responses according to the local situation, surveillance findings, operational capacity and national guidance. The examples below illustrate possible priorities; they are not a substitute for national protocols or a local risk assessment.

Situation	Priority Response
Routine *Aedes* prevention	Surveillance + premise inspections + LSM + RCCE
High vector densities	Enhanced surveillance + targeted LSM + RCCE
Localised transmission risk	Surveillance + LSM + RCCE + targeted adult mosquito control, where appropriate
Dengue outbreak	Surveillance + RCCE + targeted IRS/ORS where appropriate and authorised, + the addition of targeted LSM when possible
Post-outbreak recovery	Surveillance + LSM + preparedness
Long-term program strengthening	Training + SOP implementation + community partnerships

Key message: Use surveillance and local assessments to guide decisions. Select appropriate, feasible and authorised interventions, engage communities, follow approved procedures, and monitor and document activities to inform future action.