



Pacific Mosquito Surveillance Strengthening for Impact



### May 2025 EVALUATION OF ONLINE COURSE

### **Executive summary**

The **PacMOSSI Online Course evaluation** included course statistics and survey feedback from 146 participants, most of whom were environmental health officers or vector staff working in Pacific ministries or departments of health. The evaluation revealed that the course has been highly effective in delivering relevant, accessible, and engaging content. Knowledge gains were evident across all eight modules. Participants reported strong comprehension and knowledge acquisition, with over 90% agreeing they understood the concepts and language, and that the course enhanced their understanding of vector surveillance and control. Most respondents found the content directly applicable to their professional roles, with many reporting they had already applied what they had learned.

Participants praised the course's design, highlighting its ease of navigation, multimedia functionality, and flexible, self-paced structure. The use of real-world examples, animations, and interactive quizzes contributed to high engagement levels, with 91% stating they enjoyed the course and found the content presentation interesting. Overall satisfaction with the course was reported as high, with a very high course rating (8.9 out of 10) and very high likelihood of recommending the course to others (9.1 out of 10). The course was also seen as inclusive and considerate of diverse perspectives, though some respondents were neutral about its perceived accessibility for people with disabilities, suggesting they were unsure about this dimension.

Suggestions for improvement included expanding the course content to cover operational vector control and outbreak preparedness, incorporating more practical and hands-on training, and offering live sessions or face-to-face components. Participants also requested clearer guidance on Statements of Completion and enhanced support for course completion, such as reminder emails and access to devices or data credits. Some respondents expressed interest in further study opportunities and greater collaboration across regions.

Overall, the evaluation indicates that the PacMOSSI online training is a valuable and impactful resource, and identified opportunities to further enhance reach and effectiveness through targeted refinements.

### PacMOSSI online course overview



See: <u>https://pacmossi.org/online-course/</u>

### PacMOSSI online course modules



See: <a href="https://pacmossi.org/online-course/">https://pacmossi.org/online-course/</a>

# Methodology

#### **User survey**

A survey form was designed using Microsoft Forms and was distributed via email to all 727 individuals who had enrolled in the PacMOSSI online course, irrespective of progress made through course content. Respondents accessed the survey through a secure link embedded in the email invitation. The survey was open from 14 March to 31 March 2025 to allow sufficient time to respond. Responses were collected anonymously to encourage honest and constructive feedback. One reminder email was sent to all 727 individuals a week prior to the survey closing.

The survey included both closed- and open-ended questions and was comprised of multiple sections:

- **Demographics**: Age, gender, education level, organisation type, job role, region, country of origin, First Nations origin, and disability status.
- **Course participation**: Enrollment and completion status for each of the eight modules.
- Learning experience: Likert-scale items assessing understanding of content, relevance to professional roles, inclusivity, accessibility, and technical performance.
- **Application and impact**: Questions on the application of knowledge gained and intentions for future use.
- **Satisfaction and recommendations**: Overall satisfaction, course rating, likelihood to recommend, and open-ended feedback.

#### **Quiz results**

Results of module quizzes were accessed via the Moodle platform. These included the % of answers correct on pre- and post-module quizzes for each individual who undertook the respective quiz. Data were analysed to determine the average rate of improvement for each module across all individuals (noting that pre- and post-module quizzes were not completed by everyone).

# Respondents

### 75% from PICs

110 indicated a Pacific origin, with 16 PICs represented. 38 respondents were from Fiji, 20 from PNG and 14 from Solomon Islands.

### 68% work in MoH

100 worked in ministries or departments of health. 17% were from uni or research institutes.

### 73% aged 25-44yo

107 were in this age band.22% were aged 45-64 years old.

### 43% female

64 women and 81 men responded.



### 26% identified as ATSI or First Nations

39 respondents identified as Aboriginal or Torres Strait Islander or other Indigenous or First Nations people.

### 1.4% had a disability

Respondents who identified as having a disability indicated it was either a physical or hearing disability.

# 58% were EHOs or vector staff

51 respondents were environmental health officers and 37 were entomology or vector control officers. 8% were program managers.

# 76% university educated

113 had a bachelor-level and/or postgraduate degree. 15% had a post-secondary school qualification.

### 70% major English speakers

102 indicated English as a major language & 130 reported use of English for work or study.

## Course participation

Not enough time due to work: **61** (41.8%)

Not enough time yet (recently enrolled): 6 (4.1%)

Limited internet access: 23 (15.7%)

**Reasons for not completing** 

Reported enrollment, start and completion rates were highest for the foundational modules but declined progressively across later modules.

- 98% of respondents reported enrolling in Module 1. This generally declined with additional modules, to reach 74-76% for Modules 6 to 8.
- Start rates were highest for Module 1 and declined with additional modules to be 68% for Module 8.
- Completion rates for those who started were 82-85% for Modules 1 to 4 and were 66-77% for Modules 5 to 8.
- Overall, 75% of enrollees completed Module 1 and 43% of enrollees completed all the modules they enrolled in.



#### Did not enrol Enrolled and did not start Started but did not complete Completed Don't know

Figure 1: What was your status for each of the 8 modules?

# Comprehension & knowledge acquisition

Results indicate the course was effective in delivering content that was both accessible and educational, with a majority of participants affirming strong comprehension and knowledge acquisition.

#### Results for strongly agree/agree



# Results: PacMOSSI Vector Surveillance & Control for *Aedes* Mosquitoes

Quiz results showed consistent learning gains across 7 of 8 modules:

- Modules 3 & 4: scores increased by 38-39%
- Modules 1, 3, 5, 7 & 8: scores increased by 12-20%
- Module 6: scores decreased by 12% because more people took the pre-test (n=10) than the post-test (n=4), although the two people who did both had either the same or a 15% improved score.



\* The averages are based on those who took the quizzes. Learners don't always take both the pre- and post test.

# Results: PacMOSSI Vector Surveillance & Control for Aedes & Anopheles Mosquitoes

### Quiz results showed consistent learning gains across all 8 modules.

- Modules 3, 4 & 5: scores increased by 30-35%
- Modules 1, 2, 6, 7 & 8: scores increased by 11-23%

Results suggest that participants engaged with the material and significantly enhanced their understanding of vector surveillance and control as they progressed through the course.



\* The averages are based on those who took the quizzes. Learners don't always take both the pre- and post test.

### Relevance to professional role

Results indicated that the course was effective in delivering content that was both relevant and applicable to the participants' professional roles and future endeavours.

#### Results for strongly agree/agree



Most respondents considered course content relevant to their professional role or study.



A majority of respondents had already applied what they learned in the course to their day-to-day work or study. **91%** Plan to apply to work or study

Most respondents plan to apply the knowledge gained from the course to their future work or study.

## Inclusivity and accessibility

The findings suggest that the course was broadly accessible and inclusive, however, the higher number of people recording neutral for this dimension may indicate that they are unsure about the experience for individuals with a disability.

#### Results for strongly agree/agree

86% Inclusive & considerate of diverse perspectives

Most respondents agreed that course content was inclusive and considerate of diverse perspectives. 13% were neutral.



A majority of respondents indicated that the course promoted gender equality through its examples and discussions. 22% were neutral. 74% Perceived ease of access

A majority of respondents viewed the course as accessible to people with a disability. 24% were neutral.

### User experience

Participants reported positive experiences with the technical aspects of the courses in terms of ease of navigation, load times, multimedia functionality, and resuming the course where they left off.



## Engagement

The majority of participants reported enjoying the course and found the content and the way it was presented to be engaging.

#### Results for strongly agree/agree



Most participants enjoyed working through the course content.



The way the content was presented including audio, images and graphics kept most participants interested. **93%** Type of content was interesting

The type of content presented such as real-world examples and case studies kept most participants interested.

# Satisfaction

95% of respondents were satisfied with the knowledge they gained from the course. The average rating for the course was very high (8.9 out of 10) with around half of all respondents (n=71) rating the course as 10 out of 10. Respondents indicated the likely of them recommending the course to colleagues or classmates as very high (9.1 out of 10).



# What's working well

"I really enjoyed how interactive the course was and how the material was presented in a way that kept me engaged. The practical examples were especially helpful in applying what I was learning to real-world scenarios."

### 1 Content

- There was strong appreciation for content related to mosquito behaviour, species identification, and vector surveillance methods.
- The detailed and informative coverage of topics was appreciated.
- Relevance to day-to-day work in vector-borne disease control was frequently mentioned.

#### Knowledge gain

 Respondents emphasised that the course expanded their understanding, especially in areas like operational research, mosquito biology, and disease transmission dynamics. 3

#### Course design & accessibility

The course was praised for:

- Ease of access and navigation
- Simple presentation of concepts
- Use of audio and animations
- Flexible and self-paced delivery
- Multiple attempts on quiz to reach passing grade

#### Content relevance

- Learners found the modules highly applicable to their roles, particularly for environmental health officers.
- The inclusion of real-world examples and practical applications was valued.



- Audio-visual components, animations, and quizzes were highlighted as engaging and effective.
- The interactive format helped reinforce learning and maintain interest.

#### Simplicity & clarity

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 Respondents appreciated the simplified presentation of complex topics, making the material easy to understand.



Certification & motivation

• The ability to earn certificates and the structured quiz system were motivating factors for some learners.

#### Comprehensive resources

 Availability of notes, resources, and supporting documents was seen as a strength.

"The course content was related to my day to day work and it was easy to understand."

# What could be improved

"I found the pace of the course a bit challenging at times, especially when covering more complex topics. It would have been helpful to have more time or additional resources or more variety could have kept things more engaging"

### 1

#### **Course delivery**

- Schedule monthly face-to-face sessions.
- Include presentations and lecturestyle classes.
- Add practical workshops for each module.
- Incorporate live Q&A sessions.

### 2 Content

- Expand beyond the current eight modules.
- Develop custom modules focused on vector control.
- Cover other vectors besides those found in Asia (presume they mean the Pacific).
- Include more content on preparedness for outbreaks.
- Add modules tailored to local surveillance and control contexts.
- Reduce the volume of notes.
- Suggest additional reading materials.

### Accessibility

• Assist learners with tablets/laptops and data credits to support course access.

#### Practical activities

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- Increase hands-on learning and field exposure.
- Ensure practical involvement in vectorborne disease control activities.



- Provide different quizzes after failed attempts.
- Add more quiz questions and exercises.
- Clarify how the Statements of Completion work. (One respondent completed all modules, but statements were locked because they didn't belong to a certain group).
- Provide signed certificates so they can be used for career development.

#### General suggestions

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- Improve clarity of instructions and course layout (e.g., Moodle interface).
- Send reminder emails for unfinished modules.
- Ensure continuous engagement and followup.
- Offer further studies or scholarships after course completion.
- Collaborate with universities to offer the course to students before graduation.

"To enhance the learning experience, it might be beneficial to incorporate more interactive elements, like group discussions, live Q&A sessions. Having more real-world examples."

## Recommendations

Based on findings from the **PacMOSSI Online Course evaluation**, several recommendations can be made to enhance the learning experience and extend the impact of the course.

**Expanding and diversifying course content** would address the needs of a broader audience and ensure continued relevance. This includes developing new modules covering additional vector species and outbreak preparedness, and tailoring content to local surveillance and control challenges. There is also some demand for more supplementary reading materials to help learners extend their knowledge beyond the foundational concepts presented in the course.

Learners could benefit from the integration of some **synchronous learning opportunities** if practical. This could include scheduling live Q&A sessions, and workshops that could also be filmed and shared via the discussion forum. Further investigations into why learners are only using the discussion boards minimally for Q&A should also be explored.

Conditions for the issue of **Statements of Completion** should be optimised. Providing verified certificates could further motivate participants to complete modules and support their professional development. Improving accessibility and learner support mechanisms is

recommended. This includes exploring how groups and groupings are affecting access and completion rates for modules, sending automated reminders for incomplete modules, and offering technical support such as data credits or devices for those with limited access.

**Strengthening collaboration** with universities and regional health bodies could also help institutionalise the training and extend its reach. It would be particularly useful if workplaces promoted the training and gave employees opportunities to complete the modules as part of their paid professional development, This could increase participation and completion of later modules.

Additionally, providing guidance on **further study pathways** could help learners build on what they have learnt and support their career development.

**Monitoring and communicating** the real-world impact of the training and fostering ongoing engagement with alumni would give the course added credibility and may lead to greater uptake and completion rates.

# Conclusion

The PacMOSSI online training has proven to be a **valuable and impactful learning tool** for vector surveillance and control professionals across the Pacific. With high satisfaction rates and demonstrable knowledge gains, the course is well-positioned for continued success. Implementing the suggested improvements – including expansion of content within the course – will further enhance its reach, relevance, and effectiveness.



#### Module 01:

Mosquito Biology and Behaviour

Introduction Unit: Module overview

DecMOREI



ITNs protect against mosquito bites indoors when people are resting or sleeping under them.

ITNs are a core intervention for malaria control and are recommended to interrupt Aedes-borne disease transmission by use in hospitals and by febrile patients.







eet WHO standards for durability and for ITNs impact on disease vectors

ITNs must retain toxicity for >20 washes and physical integrity for three years

> Left image: <u>The Global Fund</u> / John Rae Right image: <u>Medical Xpress</u>



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