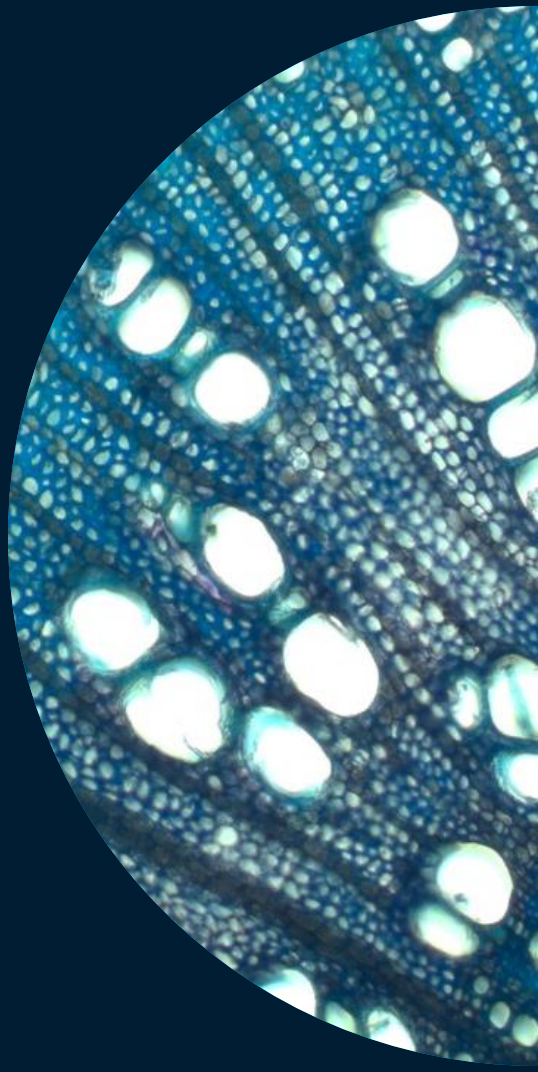
Strengthening FMD Diagnostic Capability Through Regional Collaboration

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ACDP Capabilities Relevant to Disease Diagnosis

High-containment science for a safer Australia and region



The Australian Centre for Disease Preparedness (ACDP), part of CSIRO, provides high-containment laboratory infrastructure and scientific expertise to support the diagnosis, research and preparedness for serious infectious animal diseases, including FMD.

High-containment laboratory facilities

- PC3 and PC4 laboratories
- Safe handling of high-consequence pathogens
- Diagnostic testing and research under controlled conditions

Supporting FMD preparedness and regional health

- Reliable and accurate diagnosis
- Improved diagnostic capability
- New tools and innovative methods
- Knowledge sharing and capacity building
- Strengthened preparedness for FMD and other transboundary diseases

Why Regional Laboratory Collaboration Matters

Working together for stronger FMD preparedness in Southeast Asia

Stronger regional networks

Improved diagnostic capability

Better preparedness and faster response

Sustainable animal health and livestock production

A more resilient Southeast Asia

Strengthening Diagnostic Capability

Robust tests. Reliable results. Prepared laboratories.



1 Assessing assay performance

Determine how well a test detects FMD virus under different conditions.

Analytical performance
Limit of detection, inclusivity, exclusivity, repeatability, reproducibility

Diagnostic performance
Sensitivity and specificity using well-characterised field samples

Performance evaluation
ROC analysis, agreement with reference methods, evaluation across virus serotypes and matrices

Reliable and accurate diagnosis

Comparable results across laboratories

Stronger regional laboratory capacity

Improved FMD preparedness and response across Southeast Asia

Australian Centre for Disease Preparedness (ACDP)

SEACFMD

CSIRO ACDP Activities in the Region

Supporting regional laboratory capacity through collaboration and knowledge sharing

1 ACDP Proficiency Testing Team

Bovine disease PT panel for the region

New **Newly introduced proficiency testing panel in 2026**

- Included 13 samples comprising:
  - Foot-and-Mouth Disease (FMD)
  - Lumpy Skin Disease (LSD)
- Participation supported through funding from DFAT and the IAEA, with additional fee-paying participants.

Assess laboratory performance and support continuous improvement.

Provide independent and objective evaluation of diagnostic capabilities.

Strengthen laboratory networks and confidence in test results.

Working together for stronger regional laboratory capacity and disease preparedness

Reliable diagnostics

Stronger laboratory systems

Improved biosafety and biosecurity

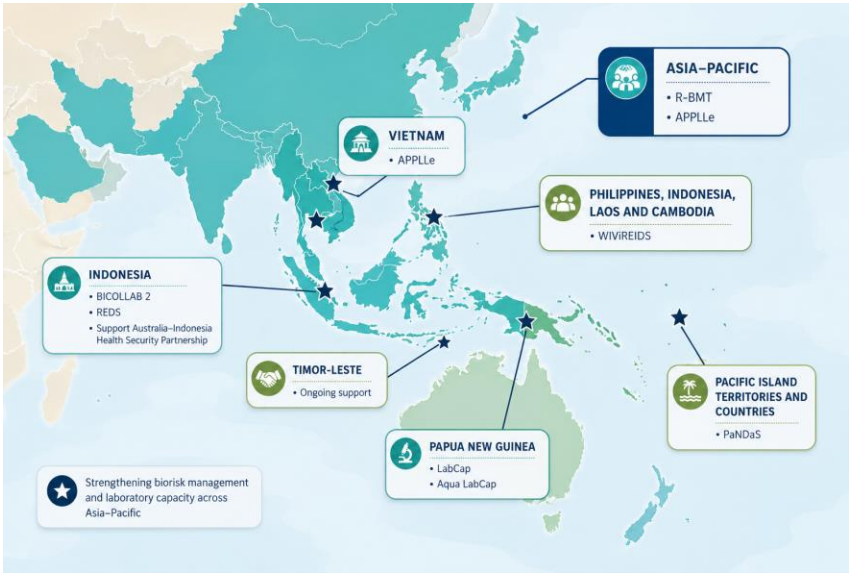
A more prepared and resilient Southeast Asia

ACDP-International Program

- **WIViREIDS** (Wildlife Interface Viromic Regional Emerging Infectious Disease Surveillance)

  REDS (Regional Emerging Disease Support)

- **R-BMT** (Regional Biorisk Management Training)
- **PaNDaS** (Pacific Network Diagnostics and Support)
- **LabCap PNG** (Laboratory Capacity, Papua New Guinea)
- **BICOLLAB** (Bilateral Laboratory Collaboration)
- **APPLLe** (Asia-Pacific Placements and Laboratory Leadership)



Strengthening biorisk management and building laboratory capacity across Asia-Pacific

New Tools and Research

Emerging methods, improved diagnostics and collaborative research opportunities.

Emerging methods

Innovative technologies for better detection and understanding of FMD.

Molecular and genomic technologies

- qPCR and RT-qPCR
- Whole-genome sequencing (WGS)
- Metagenomics

Point-of-care and field diagnostics

- Rapid antigen tests
- Lateral flow devices
- Portable PCR platforms

Digital and AI tools

- Bioinformatics and phylogenetics
- Predictive analytics
- Data integration and visualisation

Novel vaccines and immunoassays

- DIVA-compatible assays
- Improved ELISAs and multiplex tests
- Next-generation vaccines (research)

Priorities for Regional Collaboration

Practical opportunities to strengthen FMD preparedness through SEACFMD Lab Network



Working together through the SEACFMD Lab Network to achieve:

- More reliable and comparable diagnostics
- Stronger laboratory capacity
- Faster and coordinated outbreak response
- A more prepared and resilient Southeast Asia

Areas where we can work together

Building on existing strengths to address regional needs



Key Messages, Collaboration and Next Steps

Working together for a more prepared and resilient FMD-free region



Key messages

FMD remains a regional threat
Transboundary spread continues to impact animal health, trade and livelihoods.

Rapid and accurate diagnosis is critical
enables timely control measures and informed decision-making.

Harmonised and high-quality laboratory methods are essential
ensure comparable and reliable results across countries.

Regional laboratory networks strengthen outbreak preparedness
enable information sharing, capacity building and coordinated response.

Collaboration

Strengthen the SEACFMD Lab Network

Leverage complementary strengths

Foster knowledge exchange and training

Explore and evaluate new tools

Next steps

Panel discussion to refine

1. Identify priority areas for collaboration
   - Diagnostic method evaluation
   - Technical training
   - Training and capacity building
2. Develop joint work plans
   - Define objectives and expected outcomes
   - Support SEACFMD Lab Network Southeast Asia
3. Seek and secure funding and partnerships
   - Engage relevant SRR and donor agencies
   - Explore regional projects and sustainability
4. Implement, monitor and scale up
   - Track progress and impact
   - Support technical activities across the region

Together, through **WOAH SRR**, SEACFMD and regional partners, we can strengthen diagnostic capability, enhance FMD preparedness and support a healthier, more resilient Southeast Asia.

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CSIRO

Australian Centre for Disease Preparedness (ACDP)
CSIRO Biosecurity

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for providing the opportunity to attend the SEACFMD LabNet meeting.



Thank you for your continued support of regional collaboration and FMD preparedness.