Sabah's Experience in Establishing and Maintaining FMD-free Zones Without Vaccination

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PRESENTATION COVERS

1. Sabah journey to achieving and maintaining FMD-Free Without Vaccination status.



2. Key success factors and critical control measures.



3. Governance framework and stakeholder roles.



4. Industry participation and public–private collaboration.



5. Challenges and strategies for sustaining freedom.



6. Lessons learned and best practices.



7. Recommendations for countries pursuing FMD-free status.



8. Future priorities in an evolving disease risk landscape.



FMD-FREE JOURNEY

Historical Freedom: Sabah has recorded no occurrences of Foot and Mouth Disease (FMD) for over 25 years.

Official Recognition: Along with Sarawak, Sabah has been recognized by the World Organisation for Animal Health (WOAH) as an FMD-free zone without vaccination since 2004

Ongoing Maintenance: The state maintains this status through annual reconfirmation reports to the WOAH Assembly, adhering to the Terrestrial code

SUCCESS FACTORS

Natural Geography: Natural physical barriers like the South China, Sulu, and Celebes Seas, along with mountainous terrain (Crocker Range), limit internal and external livestock movement

Rigourous Surveillance: In 2025, 2,711 serum samples were tested using NSP-ELISA with zero evidence of FMD.

Strict Import Control: Imports are restricted to approved FMD-free origins (primarily Australia and New Zealand) and vetted by a Risk Analysis Committee (RAC)

SUCCESS FACTORS

Rapid Response: Framework guided by Sabah FMD Management and Guidelines Policy 2022

Validation through Simulation Training: Regular simulation exercises, recently in May 2026 in Beaufort, Sabah test the state’s outbreak response.

NATURAL GEOGRAPHY

Natural physical barriers like **the South China, Sulu, and Celebes Seas**, along with mountainous terrain (Crocker Range), limit internal and external livestock movement.

MARITIME BARRIERS
Surrounded by seas that act as natural barriers to entry and spread of diseases.

MOUNTAINOUS TERRAIN
The Crocker Range and other highlands limit livestock movement.

LIMITED ACCESS POINTS
Few entry points by land and sea facilitate effective monitoring and control.



RIGOUROUS SURVEILLANCE

A comprehensive surveillance system provides the evidence base to demonstrate and maintain Sabah's FMD-free status.

1 CLINICAL SURVEILLANCE

Ongoing active inspections and passive reporting by farmers and veterinary staff.

ACTIVE SURVEILLANCE

Regular inspections at farms, markets, abattoirs and animal gatherings.



PASSIVE SURVEILLANCE

Farmers and veterinary staff promptly report suspected cases of FMD.



REPORTING CHANNELS

- Farmers / Livestock Owners
- Veterinary Officers
- District Veterinary Offices
- 24/7 Hotline and Online Reporting

Early detection and rapid response are key to preventing FMD introduction and spread.

2 SEROLOGICAL SURVEYS

Annual surveys use 0.5% design prevalence in high-risk buffer zones (e.g., Tawau and Beaufort) to ensure early detection.

TARGETED SURVEILLANCE
0.5% design prevalence in high-risk buffer zones.

STRATIFIED SAMPLING AND RISK-BASED TARGETING
Based on species, location and risk level.

EARLY DETECTION
For rapid response and protection.



- 0.5% design prevalence in high-risk buffer zones
- Stratified sampling and risk-based targeting
- Early detection for rapid response and protection

Ensures early detection of virus circulation before clinical signs appear.

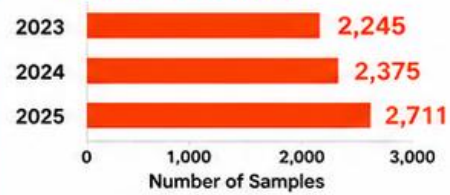
3 RECENT PERFORMANCE

Strong surveillance performance supports Sabah's FMD-free claim.

OVER
7,331
SAMPLES TESTED
BETWEEN 2023 – 2025

ZERO
POSITIVE FMD RESULTS

SAMPLES TESTED BY YEAR





Consistent, science-based surveillance confirms the absence of FMD virus in Sabah's livestock population.

SAMPLES FROM 2025

2,711 serum samples collected and tested for FMD surveillance in 2025.

- Strengthens early detection and risk assessment
- Enhances disease intelligence and decision-making
- Protects Sabah's FMD-free status

STRICT IMPORT CONTROL

Imports are restricted to **approved FMD-free origins** (primarily Australia and New Zealand) and vetted by a Risk Analysis Committee (RAC)

FMD-FREE
ORIGINS ONLY

- Protecting animal health and biosecurity
- Science-based risk assessment
- Safe trade, sustainable livestock industry

APPROVED FMD-FREE ORIGINS



RISK ANALYSIS COMMITTEE (RAC)



- Risk assessment
- Scientific evaluation
- Import conditions
- Approval decision

FOLLOWING RAC ENDORSEMENT

Following technical assessment and endorsement by the Risk Analysis Committee (RAC), the proposed import conditions are subsequently presented to the Import and Export (EXIM) Meeting.

IMPORT AND EXPORT (EXIM) MEETING

The EXIM Meeting, chaired by the Director of the Department of Veterinary Services Sabah, serves as the final decision-making platform for the approval and adoption of import requirements before implementation.

Chaired by the Director, DVS Sabah

APPROVED IMPORTS

From FMD-free origins under strict conditions

RAPID RESPONSE

Framework guided by the Sabah FMD Management and Guidelines Policy (2022).
It provides a clear framework for preparedness, response and recovery, defines roles, responsibilities and coordination mechanisms and aligned with national regulations and international standards (WOAH).

POLICY-DRIVEN FRAMEWORK

Guided by Sabah FMD Management and Guidelines Policy (2022)

- Defines roles, responsibilities and coordination mechanisms
- Aligned with national regulations and international standards (WOAH)
- Enables effective preparedness, response and recovery

1 SUSPECTED CASE
Farmer or public reports signs of disease.



2 IMMEDIATE NOTIFICATION
Report is received and alert issued.



3 RAPID INVESTIGATION
Rapid Action Team (RAT) activated immediately for field investigation.



4 SAMPLING & TESTING
Samples collected and sent for laboratory testing.



5 RESULTS & ACTION
Results reviewed and control measures implemented immediately.

6 FOLLOW-UP & MONITORING
Ongoing monitoring to ensure the situation is under control.

24 HOURS

INVESTIGATED ASAP / WITHIN 24 HOURS

RAPID ACTION, SAFE LIVESTOCK, STRONGER BIOSECURITY

Protecting Sabah's FMD-free status.

WHEN THERE IS A CASE: Rapid Action Team (RAT) will be activated immediately for field investigation of suspected case.

COORDINATED RESPONSE
Multi-disciplinary teams working together with clear roles and communication.

VALIDATION THROUGH SIMULATION TRAINING

Regular simulation exercises, recently in **May 2026 in Beaufort, Sabah** test the state's outbreak response

PRACTISED TODAY, PREPARED FOR TOMORROW.









BUILDING A RESILIENT SABAH.
READY TO RESPOND. READY TO PROTECT.

GOVERNANCE & COLLABORATION

Competent Authority: The Department of Veterinary Services (DVS) Sabah, under the Ministry of Agriculture, Fisheries and Food Industry (MAFFI), manages all FMD-related activities.

Legal Empowerment: Primary legal authority is derived from the **Animal Enactment 2015**, which grants powers for disease control, quarantine, and enforcement.

Inter-agency Coordination: DVS collaborates with Customs, Immigration, and security forces to monitor borders and ports of entry for illegal animal movements

COMPETENT AUTHORITY

The Department of Veterinary Services (DVS) Sabah, under the Ministry of Agriculture, Fisheries and Food Industry (MAFFI), manages all FMD-related activities.

ONE AUTHORITY.
ONE COMMITMENT.
Protecting Sabah's FMD-free status.

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD INDUSTRY (MAFFI)

DEPARTMENT OF VETERINARY SERVICES (DVS) SABAH
Competent Authority for FMD



MANAGES ALL FMD-RELATED ACTIVITIES

SURVEILLANCE
Ongoing monitoring to ensure early detection

RISK ANALYSIS
Assess risks and inform decision-making

CONTROL MEASURES
Implement biosecurity, movement control and response measures

DIAGNOSTICS & TESTING
Laboratory testing and confirmation

TRAINING & CAPACITY BUILDING
Strengthen skills and preparedness of field teams and stakeholders

COMMUNICATION & COORDINATION
Engage stakeholders and ensure effective information sharing

LED BY DVS SABAH.
COORDINATED ACTION. STRONGER PROTECTION.

Working with local authorities, industry partners and communities to safeguard Sabah's FMD-free status.

LEGAL EMPOWERMENT

Primary legal authority is derived from the **Animal Enactment 2015**, which grants powers for **disease control, quarantine, and enforcement.**

DISEASE CONTROL

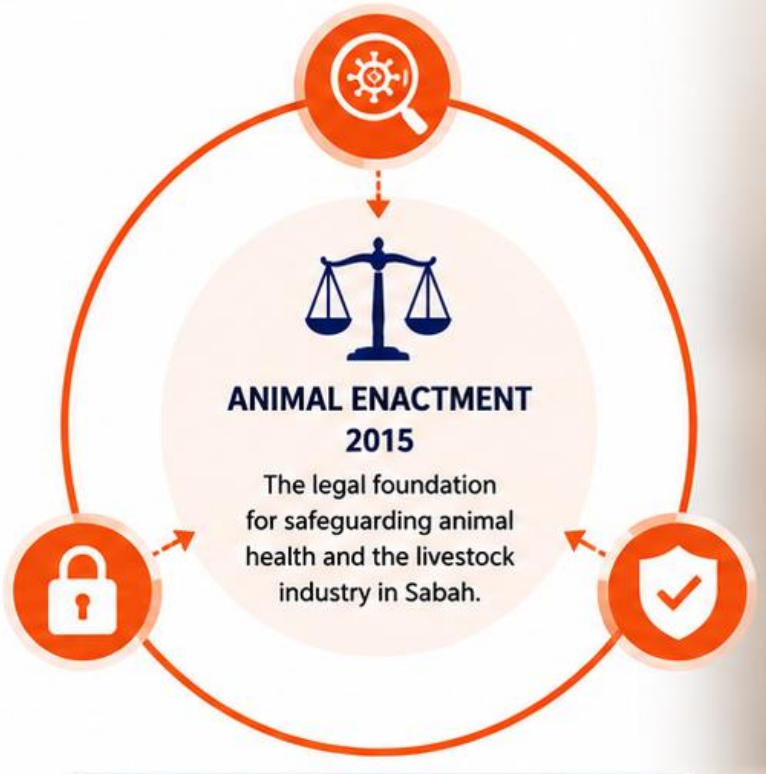
Empowers the Department to implement measures to prevent, control and eradicate animal diseases.

QUARANTINE

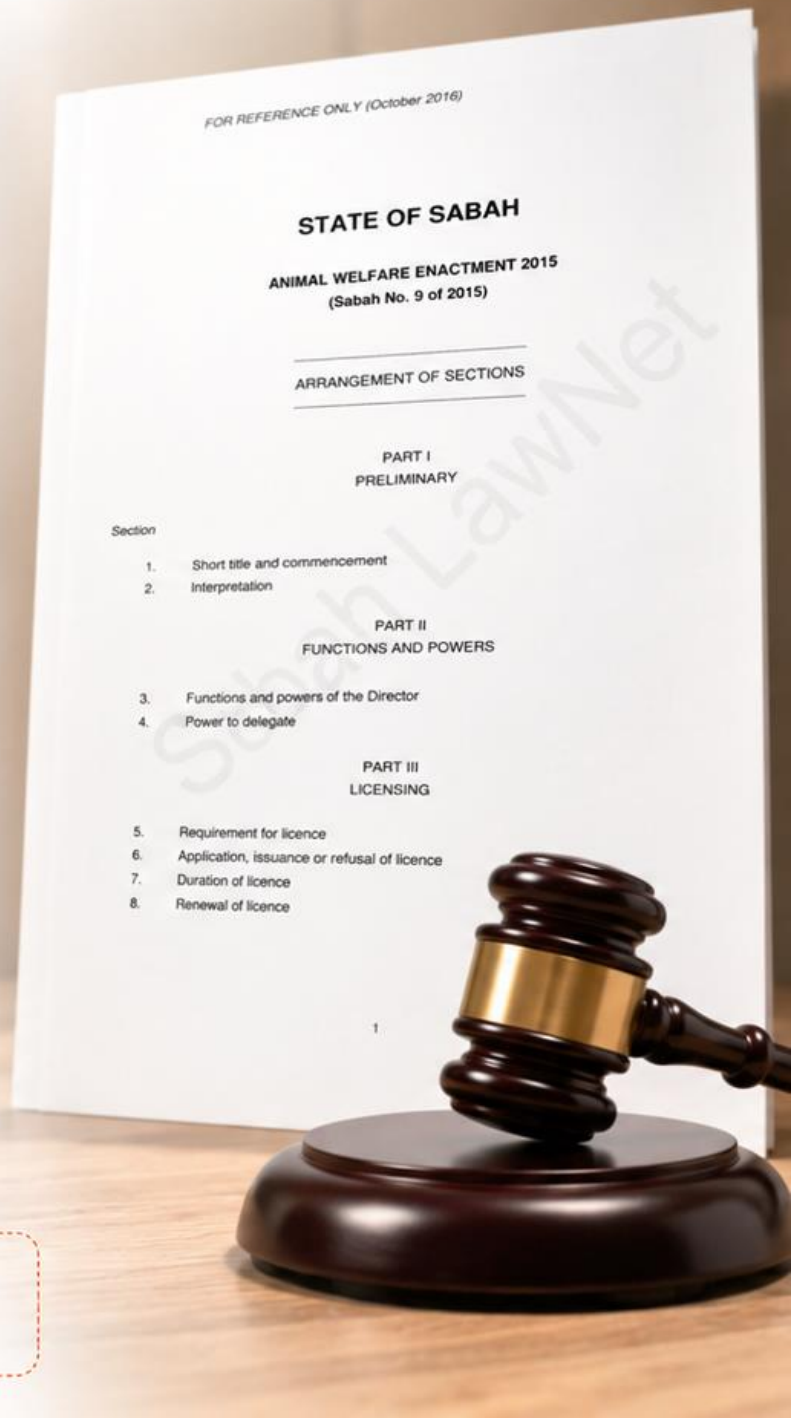
Authorises the establishment of quarantine, movement restrictions and other necessary steps to contain disease threats.

ENFORCEMENT

Provides the legal basis for inspections, compliance actions, penalties and prosecution when required.



ENABLING EFFECTIVE DISEASE PREPAREDNESS, RAPID RESPONSE AND BIOSECURITY ACROSS THE STATE.



The Animal Enactment 2015 equips DVS Sabah with the legal authority to **protect animal health**, **ensure public safety** and **maintain Sabah's FMD-free status**.

INTER-AGENCY COORDINATION

DVS collaborates with Customs, Immigration, and security forces to monitor borders and ports of entry for illegal animal movements.

WORKING TOGETHER FOR A STRONGER BORDER DEFENCE

Preventing illegal animal movements. Protecting Sabah.

CUSTOMS DEPARTMENT

- Inspect consignments of animals and animal products
- Enforce import/export regulations
- Detect and deter illegal trade

IMMIGRATION DEPARTMENT

- Monitor movement of travellers
- Prevent smuggling of animals/animal products
- Verify travel documents and declarations

SECURITY FORCES (POLIS, APMM, RELA)

- Patrol and monitor borders and entry points
- Conduct surveillance and intelligence gathering
- Intercept and respond to illegal activities

BORDERS & PORTS OF ENTRY

- Joint inspections and monitoring
- Risk-based surveillance at checkpoints
- Rapid information sharing and response



KOTA KINABALU

Pelbagai barangan makanan sejuk beku dianggarkan bernilai lebih RM19.6 juta dirampas dalam serbuan ke atas dua gudang di Penampang, dekat sini, Sabtu lalu.

Timbalan Pesuruhjaya Polis Sabah, Datuk Shahurinain Jais berkata, status halal semua produk makanan terbabit juga meragukan dan dipercayai melanggar peraturan-peraturan kebersihan makanan.

Serbuan jam 10 pagi oleh polis bersama pelbagai agensi itu dilakukan selepas premis berkenaan disyaki memiliki produk dan hasil haiwan tanpa lesen yang sah.



PENAMPANG

Pasukan Polis Marin (PPM) Wilayah 4 Sabah merampas pelbagai produk ayam dan daging sejuk beku seberat 552,851.24 kilogram bernilai kira-kira RM14.56 juta dalam satu operasi bersepadu.

Pemeriksaan mendapat terdapat sebahagian produk ayam dan daging yang sudah tamat tempoh serta ketidakpatuhan terhadap peruntukan undang-undang keselamatan makanan dan peraturan veterinar.

STRATEGIC ENTRY POINTS ACROSS SABAH



LEGEND

- Airports
- Sea Ports
- Land Border Posts
- District Boundary
- International Boundary
- Major Roads

AIRPORTS (3)

1. DVS Kudat
2. Kota Kinabalu International Airport (KKIA)
3. Sandakan Airport (SDK Airport)
4. Tawau Airport

SEA PORTS (6)

1. Sandakan Port (SDK Port)
2. Lahad Datu Port
3. Tawau Port
4. Kunak Port
5. Semporna Port
6. Menumbok Port

LAND BORDER POSTS (4)

1. Kudat (Entry Point)
2. Menumbok (Entry Point)
3. Sindumin (Entry Point)
4. Pulau Sebatik (Entry Point)

TOTAL ENTRY POINTS
13

13 STRATEGIC ENTRY POINTS ACROSS SABAH

Land, Air & Sea ports monitored for the protection of Sabah's FMD-free status.

AIRPORTS	3
SEA PORTS	6
LAND BORDER POSTS	4

STRONG PARTNERSHIPS.
SAFER BORDERS. HEALTHIER LIVESTOCK. STRONGER SABAH.

Through coordinated efforts, we prevent the introduction and spread of animal diseases.

INDUSTRY ENGAGEMENT

Frontline Observers: Small-scale farmers actively participate in community surveillance by notifying the District DVS Officer in Charge (OIC) via WhatsApp whenever unusual disease signs are observed.

Commercial Compliance: Large-scale commercial swine and dairy producers implement biosecurity measures and maintain detailed health records essential for traceability.

Public-Private Partnership: DVS Sabah provides the regulatory and animal health framework while private farmers participate in surveillance, disease reporting, movement control, and biosecurity compliance. This shared responsibility forms the foundation of FMD freedom.

FRONTLINE OBSERVERS

Small-scale farmers actively participate in community surveillance by notifying the **District DVS OIC** via **WhatsApp** whenever unusual disease signs are observed.

COMMUNITY INVOLVEMENT
Farmers are our eyes on the ground

RAPID REPORTING
Quick notification enables quick action

STRONGER PROTECTION
Early detection prevents disease spread

1 FARMER OBSERVES
Be alert to unusual signs in animals



Look for signs such as:
- Fever
- Loss of appetite
- Drooling
- Lameness
- Blisters in mouth, feet or udder

2 NOTIFY DISTRICT DVS OIC VIA WHATSAPP
Send details and location of the case.



- WhatsApp message
- Photo / Video
- Location
- Details
- Send

3 DISTRICT DVS OIC RECEIVES & VERIFIES
Verifies information and escalates if necessary.



- Verify information
- Contact reporter if needed
- Escalate case

DISTRICT DVS OIC
The first point of contact at district level, ensuring rapid verification and escalation.

4 DVS RESPONDS
Investigation and action on the ground



Actions may include:
- On-site investigation
- Sampling and testing
- Control measures
- Farmer guidance and support

TOGETHER, WE STAY FMD-FREE

- Early detection saves lives and livelihoods
- Rapid reporting stops disease spread
- Stronger communities, stronger borders
- Working together for a FMD-free Sabah

PUBLIC–PRIVATE PARTNERSHIP

DVS Sabah provides the regulatory and animal health framework while private farmers participate in surveillance, disease reporting, movement control, and biosecurity compliance.
This **shared responsibility** forms the foundation of **FMD freedom.**




Veterinary Services


Laboratory Support


Training & Extension

DVS SABAH
(PUBLIC SECTOR)

REGULATORY FRAMEWORK
Policies, legislation, import control and movement regulation

ANIMAL HEALTH SERVICES
Surveillance, disease investigation, vaccination (where applicable), and veterinary services

LABORATORY DIAGNOSIS
Quality assured testing for early detection and confirmation

RISK MANAGEMENT
Risk assessment, zoning, emergency preparedness and response

CAPACITY BUILDING & EXTENSION
Training, advisory services and awareness programmes

WORKING TOGETHER FOR A HEALTHY HERD AND FMD FREEDOM



SHARED RESPONSIBILITY SHARED SUCCESS

PRIVATE FARMERS
(PRIVATE SECTOR)

SURVEILLANCE & EARLY DETECTION
Monitor animal health daily and report unusual signs promptly

DISEASE REPORTING
Notify DVS immediately through district OIC via WhatsApp

MOVEMENT CONTROL
Comply with movement permits and transport regulations

BIOSECURITY COMPLIANCE
Implement biosecurity measures on farms and during animal handling

GOOD FARM MANAGEMENT
Maintain records, animal welfare and responsible farming practices


Farm Surveillance



Report via WhatsApp



Biosecurity on Farm

CHALLENGES & SOLUTIONS

CHALLENGES & SOLUTIONS

Several practical solutions to address the challenges and strengthen the efficiency, traceability and emergency response in maintaining Sabah's FMD-free status.

CHALLENGE	CURRENT SITUATION	PROPOSED SOLUTION
Human & Financial Resource Constraints	• Limited manpower and financial resources affect surveillance, field operations, and programme implementation across Sabah.	Adopt risk-based surveillance, strengthen workforce capacity, expand training, utilize digital tools, and enhance collaboration with private veterinarians and livestock associations.
Manual Traceability & Documentation	• Animal movement still relies heavily on paper-based movement permits and manual record keeping.	Implement the **DaVetSa Animal Registry System**, electronic movement permits (e-Permit), QR-coded animal identification, and centralized digital traceability.
Technical Gaps in Wildlife Surveillance	• Limited wildlife population data and insufficient understanding of the wildlife–livestock interface.	Strengthen collaboration with the **Sabah Wildlife Department, Sabah Forestry Department**, and research institutions for wildlife surveillance, disease monitoring, and population mapping.
Legislative & Eradication Limitations	• Existing legislation provides limited provisions for large-scale FMD eradication measures and emerging disease risks.	Periodically review and strengthen veterinary legislation, emergency response policies, contingency plans, and regulatory frameworks to improve preparedness.
Diagnostic & Field Sampling Issues	• Limited confirmatory testing capacity and inconsistent sample quality can delay diagnosis.	Expand laboratory accreditation, improve sampling protocols, enhance regional laboratory capacity, and strengthen competency training.
Biosecurity & Community Practices	• Variable farm biosecurity standards, illegal animal movement, and inconsistent disease reporting remain challenges.	Increase farmer awareness programmes, strengthen farm biosecurity audits, promote community-based disease reporting, and intensify border enforcement.

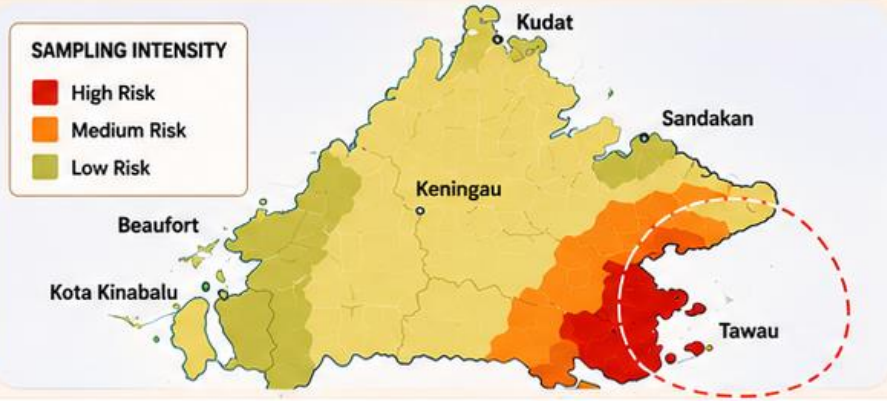
LESSONS LEARNED

LESSONS LEARNED

01 Risk-Based Surveillance:



Stratifying sampling based on geographical risk—with higher intensity in border "buffer zones"—ensures more effective use of resources in vulnerable areas like Tawau.





Focus sampling in high-risk border buffer zones

↓

Better resource allocation

↓

Stronger detection and prevention

02 The Value of Preparedness:



Tabletop and field simulation exercises provide valuable opportunities to identify operational gaps, validate contingency plans, and strengthen emergency response capabilities. Independent evaluators from states with previous FMD outbreak experience contribute practical insights and recommendations, enhancing the effectiveness of preparedness measures.



TABLETOP EXERCISE
Identify gaps and operational challenges

→



FIELD SIMULATION
Validate plans and test response capabilities

→



STRONGER PREPAREDNESS
Improved contingency plans and readiness

→



EXPERT EVALUATION
Insights from states with previous FMD outbreak experience

03 Transparency Matters:



Transparent, timely communication through digital platforms (WhatsApp, social media) fosters trust and ensures rapid reporting by stakeholders.



STAKEHOLDERS
Farmers, veterinarians, officers, communities

→



DIGITAL COMMUNICATION
WhatsApp, social media, announcements

→



TIMELY REPORTING
Quick sharing of information and incident reports

→



TRUST & RAPID RESPONSE
Stronger collaboration and effective decision-making

04 Traceability Gaps:



While manual systems (movement permits) are currently effective, there is a recognized need for digital transformation to enhance speed and accuracy.

CURRENT (MANUAL SYSTEM)



Paper permits and records → Manual verification → Time-consuming process → Risk of delays and errors

FUTURE (DIGITAL TRANSFORMATION)



Digital permits and records → Real-time data access → Faster processing and response → Improved accuracy and traceability

RECOMMENDATIONS FOR OTHER COUNTRIES



01 Establish a **strong legislative foundation**



02 Implement a **robust diagnostic laboratory network** accredited to international standards (ISO/IEC 17025)

ISO/IEC 17025



03 Prioritize **public-private partnerships** to ensure programme ownership and resource mobilization



04 Develop **comprehensive contingency plans** and validate them through regular field and tabletop simulations

FUTURE OUTLOOK

01 Digital Traceability:

Transitioning from manual documentation to digital platforms.





- Faster processing
- Improved accuracy
- Real-time monitoring
- Better decision-making

02 New Regulation for Control of Livestock Activities:



DVS is drafting a new regulation, namely **the CLA (Ruminant) Regulation**, under the Animal Enactment (Amendment) 2026 later.

- Strengthen livestock control and oversight
- Improve biosecurity and movement control
- Provide clear legal authority for enforcement
- Support long-term FMD-free status

03 Wildlife Vigilance:



Enhancing collaboration with wildlife departments to monitor potential reservoirs in an evolving disease landscape.

Collaboration with Wildlife Departments → Monitor potential reservoirs → Early detection and reporting → Stronger preparedness and response



THANK YOU