

Indonesia's Experience in Controlling Foot and Mouth Disease (FMD)"

**TAFS Workshop: "Right Tools, Real Impact: Evaluation and
Use of FMD Vaccines and Diagnostics in the Field"**

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Introduction

Directorate General of Livestock and Animal Health Services,
Ministry of Agriculture of Indonesia



National Center For Veterinary Biologics
BBVF Pusvetma



- It serves as the **national reference laboratory for Foot and Mouth Disease (FMD)** in Indonesia.
- Pusvetma also functions as the Indonesia's national **veterinary vaccine producer**.
- supporting national disease control programs through:
 - ✓ Production of high-quality veterinary vaccines,
 - ✓ Laboratory diagnosis and surveillance of animal diseases, and
 - ✓ Development of diagnostic reagents and reference materials.

National Veterinary Drug Assay Laboratory
BBPMSOH



It is **responsible for the certification and quality control of veterinary drugs and for monitoring the distribution and use of veterinary products across Indonesia**, including post-vaccination monitoring.
BBPMSOH ensures that veterinary medicines and biological products circulating in the country meet national quality, safety, and efficacy standards, supporting animal health.

Role of Pusvetma as the National Reference Laboratory for FMD in Indonesia

- **Diagnosis and Case Confirmation**

Conducting RT-PCR, ELISA, Sequencing and virus isolation to confirm FMD cases from across Indonesia.

- **Surveillance and Virus Monitoring**

Each year, with technical support from FAO, selected samples are sent to The Pirbright Institute for genetic sequencing and confirmation. This collaboration helps ensure the accuracy of virus identification, supports vaccine matching, and provides valuable insights into the evolution and movement of FMD viruses across the country.”

- **Standardization and Quality Assurance**

Developing and harmonizing diagnostic methods, preparing reference materials, and implementing proficiency testing (PT) and network quality control programs for regional veterinary laboratories — supported by AIHSP through the REDS (Regional Emerging Disease Support) program.

- **Vaccine Production and Quality Control**

Producing FMD vaccines formulated based on the virus strains circulating in Indonesia, ensuring antigenic match and optimal field protection. Pusvetma performs comprehensive potency, safety, and efficacy testing to maintain vaccine quality, while continuously evaluating vaccine performance using post-vaccination monitoring and field data.

- **Capacity Building and Technical Support**

Providing training, mentoring, and technical assistance for provincial veterinary laboratories.

The Journey of FMD in Indonesia

01

FMD-Free Era

Indonesia was officially recognized as FMD-free without vaccination by WOA. For more than 30 years, Indonesia successfully maintained this FMD-free status

1990

02

Re-Emergence of FMD

FMD re-emerged in East Java after 32 years of freedom

May 2022

03

Government Responses

MOA Decrees on the Official Designation of FMD Outbreak Areas

Mass vaccination Program

2022-2025

04

Government Responses

Targeted Zonal Approach for FMD Control

2025-2029



LIVE UPDATE | Pedagang Sapi Hadapi Tantangan Wabah PMK,...
9 bulan yang lalu
[youtube.com](https://www.youtube.com)



Wabah PMK Terus Merebak
9 bulan yang lalu
[youtube.com](https://www.youtube.com)



Wabah PMK Merebak di Kediri dan Pacitan, Aktivitas Sejumlah Pasar...
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Waspada PMK Merebak
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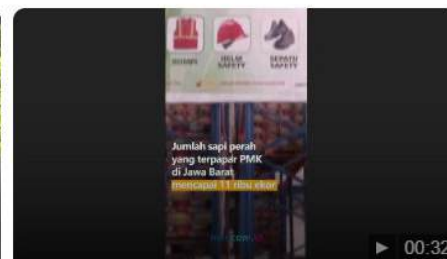
Wabah Penyakit Mulut dan Kuku (PMK) Pada Hewan Kembali...
9 bulan yang lalu
[youtube.com](https://www.youtube.com)



Akibat Wabah PMK! Peternak Sapi Lumajang Rugi Puluhan Juta
3 tahun yang lalu



Menjelang Hari Raya Idul Adha 1443 H, Harga Sapi Turun Akibat Waba...
3 tahun yang lalu



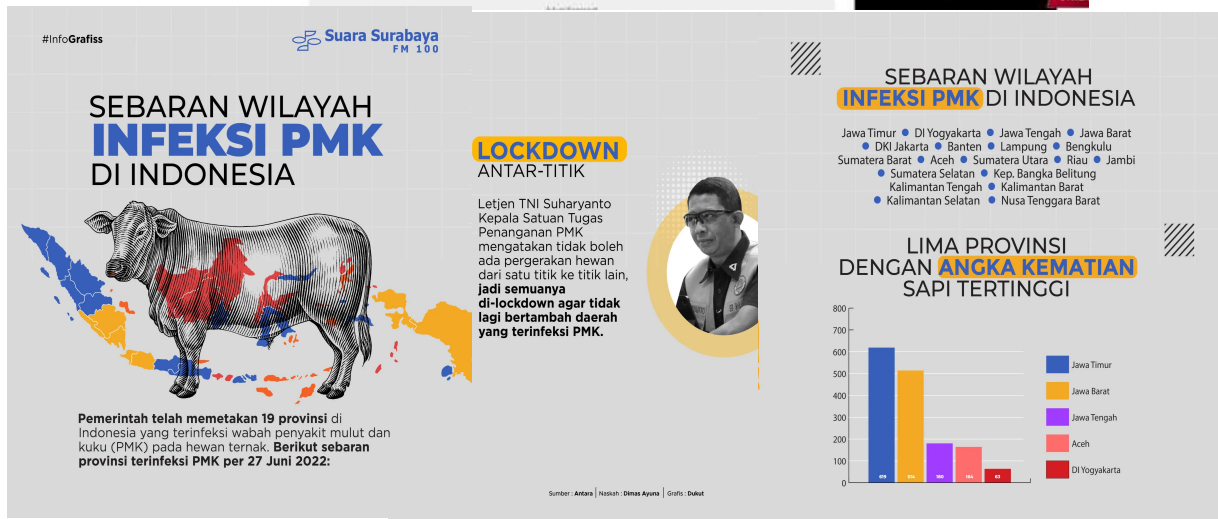
AKIBAT WABAH PMK, JUMLAH PRODUKSI SUSU NASIONAL...
2 tahun yang lalu



Dampak Ekonomi Akibat Wabah Penyakit Mulut dan Kuku
3 tahun yang lalu



Jumlah Sapi Mati Akibat Wabah PMK di Lumajang Bertambah...
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Dalam Sepekan, Sapi Terinfeksi PMK di Kuningan Naik 3 Kali Lipat

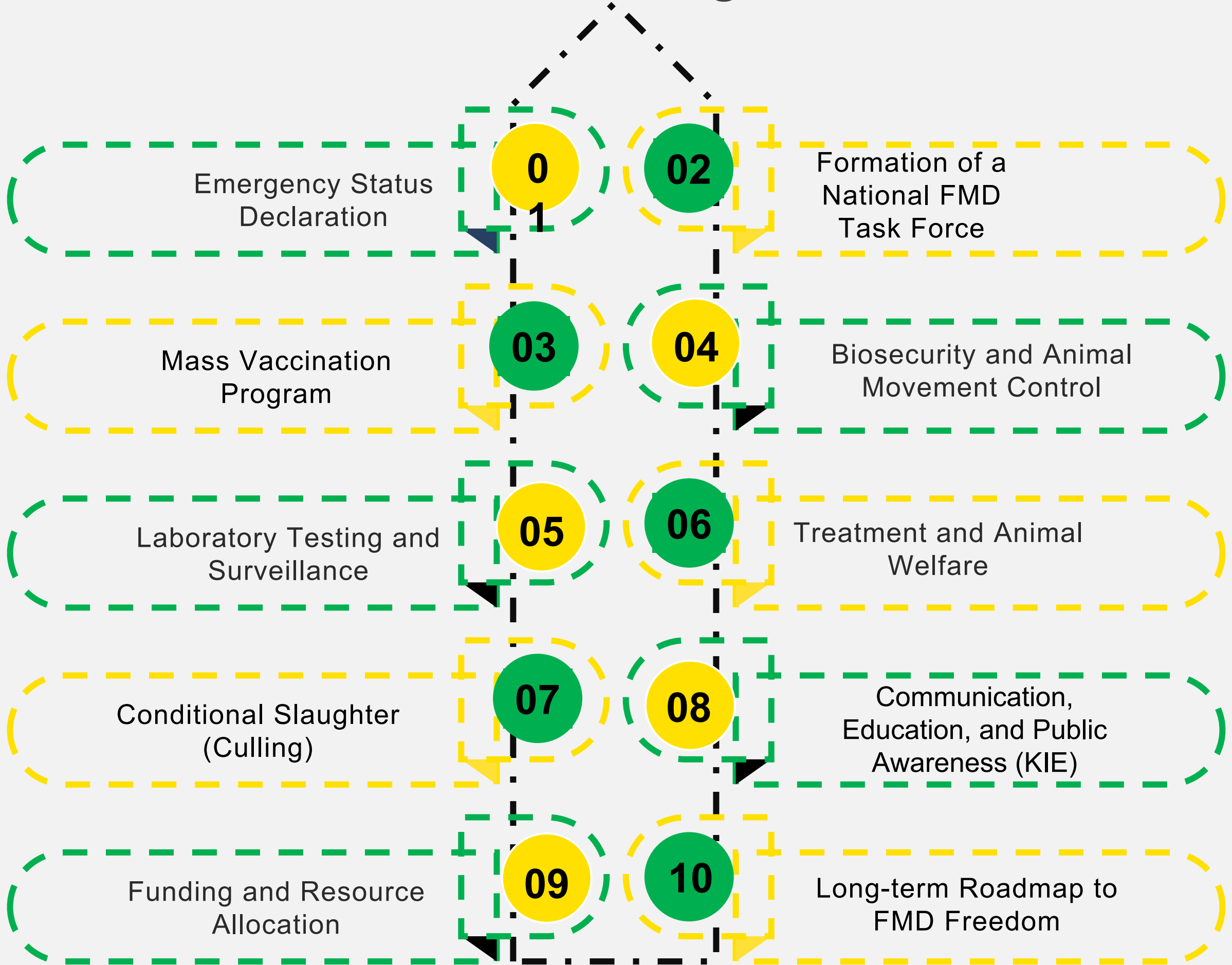
Kompas.com - 15/06/2022, 20:37 WIB

Muhamad Syahri Romdhon, Rendi Susanti



Social Media Panic during the FIRST Foot and Mouth Disease (FMD) Outbreak
Impact, Challenges, and Risk Communication Strategies in the Digital Era

Government Policies and Strategic Measures 2022-2024



Government Policies and Strategic 2022-2024

Emergency Status Declaration

1

The government declared a *specific emergency situation for FMD*:

- to accelerate prevention and response efforts.
- To mobilize resources and coordinate rapid response measures across all provinces.



Formation of a National FMD Task Force

2

A National FMD Task Force was established to ensure synchronized coordination among central and regional authorities, veterinary services, and security forces



www.pertanian.go.id



<https://pusvetma.ditjenpkh.pertanian.go.id/crisiscenter>



Mass Vaccination Program

3

1. The government issued **Minister of Agriculture Decree No. 510/KPTS/PK.300/M/6/2022** on FMD vaccination. Vaccines were selected based on circulating serotypes and administered under veterinary supervision (primary, booster, and follow-up doses).
2. Mass vaccination campaigns were launched nationwide to protect susceptible livestock populations and break the transmission chain



Government Policies and Strategic 2022-2024

Biosecurity and Animal Movement Control

Strict biosecurity measures and animal movement controls were enforced to prevent the spread of FMD between regions and islands



Disinfectant spraying



Temporary closure of animal markets and Restriction of animal movement

Laboratory Testing and Surveillance

- Diagnostic laboratories conducted large-scale FMD testing and active surveillance to monitor viral circulation and assess vaccine effectiveness
- Laboratory testing by **Laboratory network and Pusvetma**
- Network Quality Control (NQC) applied in every ELISA & PCR test for data reliability.
- Integration of results into **iSIKHNAS** (National Animal Health Information System)



Treatment and Animal Welfare

1. Supportive treatment was provided to infected animals to reduce suffering and ensure animal welfare while maintaining productivity
2. The government also distributed veterinary medicines, including vitamins, antihistamines, and disinfectants, to support treatment and recovery of affected livestock



4

5

6

Government Policies and Strategic 2022-2024

Conditional Slaughter (Culling)

- Government implemented a compensation scheme for farmers affected by the FMD outbreak..
- Aimed to reduce farmers' financial burden and support compliance with control measures.
- Reflected strong government commitment to livestock sector recovery
- This program aimed not only to reduce economic losses, but also to build trust and cooperation with farmers in disease control efforts



Communication, Education, and Public Awareness (KIE)

Public awareness campaigns through media, infographics, and local radio helped reduce panic and encourage farmers' participation in control efforts



Funding and Resource Allocation

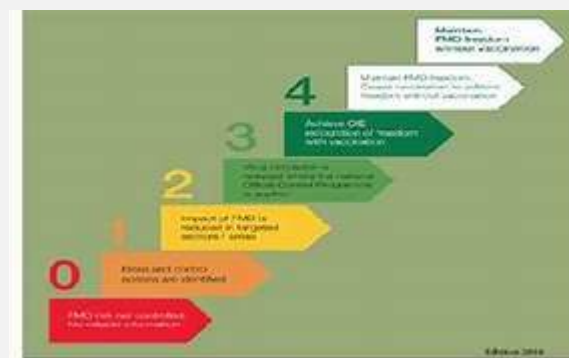
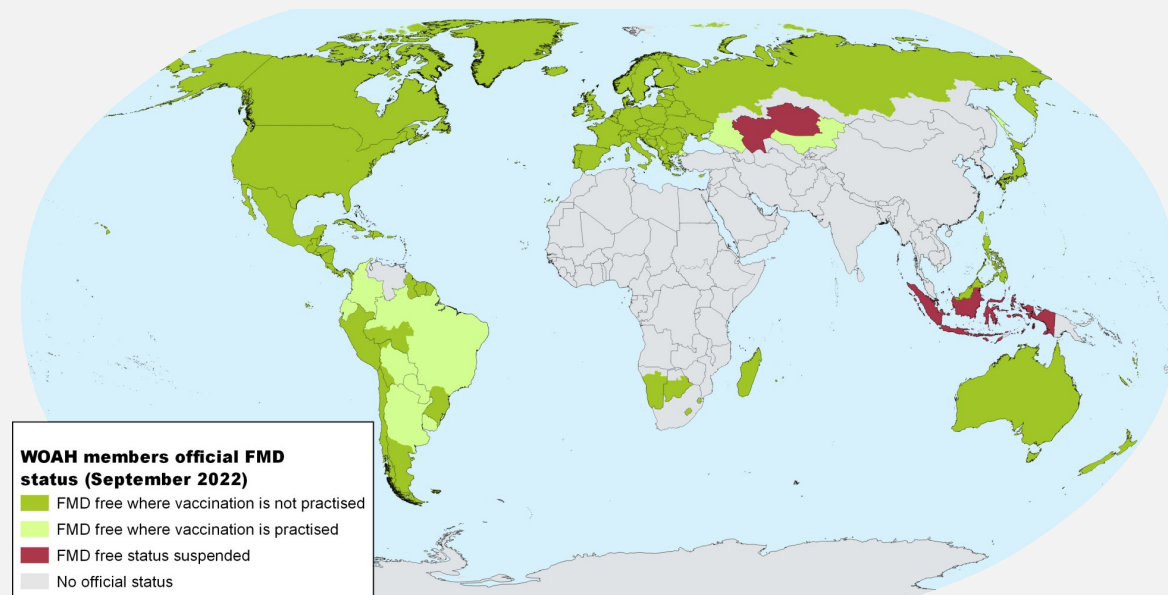
The government reallocated national and regional budgets to support vaccine procurement, logistics, and compensation for affected farmers.



Government Policies and Strategic 2022-2024

Long-term Roadmap to FMD Freedom

A comprehensive roadmap has been developed to guide Indonesia toward FMD freedom, aligning with OIE standards through sustained vaccination, surveillance, and biosecurity.”



After establishing a strong foundation through the 2022–2024 strategic roadmap, the government continues its commitment in 2025 with focused actions to accelerate recovery and sustain FMD control efforts.”

Government Policies and Strategic 2025

Transition from **Outbreak** to **Endemic** Status (2025)

- around 40 million doses (2022-2024) , 4 million doses in 2025.
- while the private sector was encouraged to continue vaccinations independently to sustain herd immunity.
- Targeted on high risk population

1. Serological monitoring
2. Integration of results into iSIKHNAS (National Animal Health Information System)
3. Network Quality Control (NQC) Evaluation of vaccine efficacy and field performance

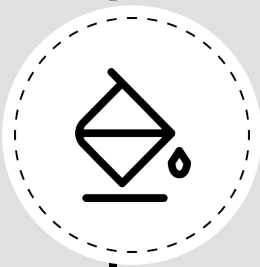
Effective communication and stakeholder engagement are key enablers of FMD control.



**mass
vaccination
program**



**Laboratory
Testing and
Surveillance**



**Communication,
Education, and
Public Awareness**

**Biosecurity
and Animal
Movement
Control**



**Treatment and
Animal
Welfare**



**Long-term
Roadmap to
FMD Freedom**

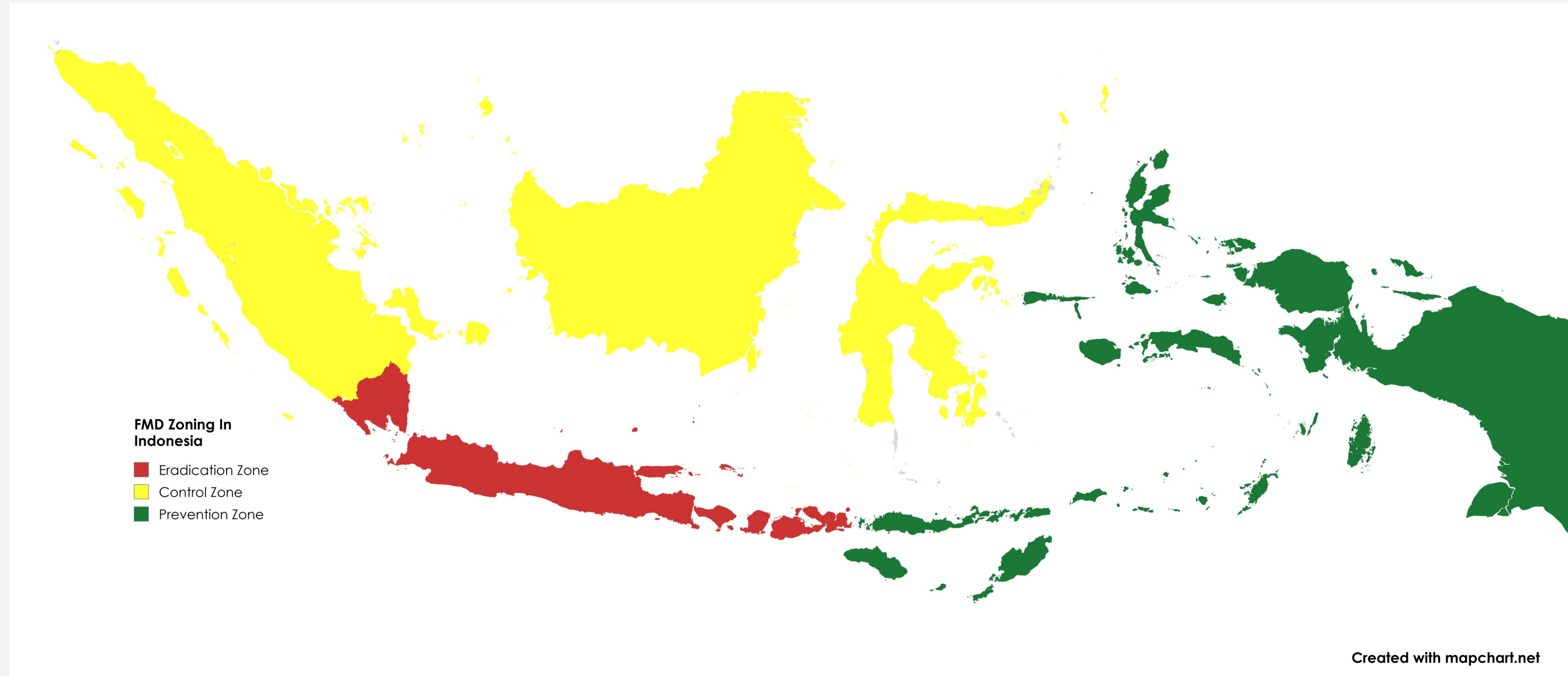


preventing the entry and circulation of the FMD virus
restrict the transfer of potentially infected animals, animal products, and contaminated materials

Ensuring proper treatment and welfare practices not only supports recovery and containment but also promotes public trust and compliance with FMD control programs

Achieve sustainable FMD freedom through a phased, data-driven approach in line with the WOAHP Progressive Control Pathway for FMD (PCP-FMD) framework — moving from control to freedom with vaccination.

FMD Zoning In Indonesia 2025-2029



The determination of FMD zones in Indonesia is based on the **priority level of disease control** in each region. Several key factors are considered, including:

1. **High livestock population density**, which increases the potential for rapid disease transmission.
2. **High number of reported cases**, indicating active disease circulation.
3. **Intensive animal movement and trade activities**, which elevate the risk of spread between regions.
4. **Current disease status and surveillance findings**, which reflect the overall epidemiological situation.

Based on these criteria, regions are classified into zones with different control priorities to ensure targeted and effective FMD management.

Targeted Zonal Approach for FMD Control

FMD Zoning In Indonesia

- Eradication Zone
- Control Zone
- Prevention Zone

Created with mapchart.net

Control Zone

- **Population:** 30% of national livestock
- **Characteristics:** Receive livestock from red zones; limited animal movement; extensive farming; sporadic disease occurrence
- **Action Plan:** Surveillance, case response, treatment, animal movement control
- **Estimated Population:** 3,683,422 head
- **Vaccination Targets (Yellow Zone):**
 - 2025: 6,739,560 doses
 - 2026: 7,030,035 doses
 - 2027: 7,333,030 doses
 - 2028: 7,649,083 doses
 - 2029: 7,978,759 doses

Eradication Zone

- **Population:** 60% of national livestock
- **Characteristics:** Major livestock production centers, high inter-island movement and density, high disease incidence, intensive farming
- **Action Plan:** Continuous 5-year vaccination (synchronized vaccination months), treatment, surveillance, animal movement control
- **Estimated Population:** 7,237,396 head
- **Vaccination Targets (Red Zone):**
 - 2025: 13,027,312 doses
 - 2026: 13,588,789 doses
 - 2027: 14,176,466 doses
 - 2028: 14,785,385 doses
 - 2029: 15,422,636 doses

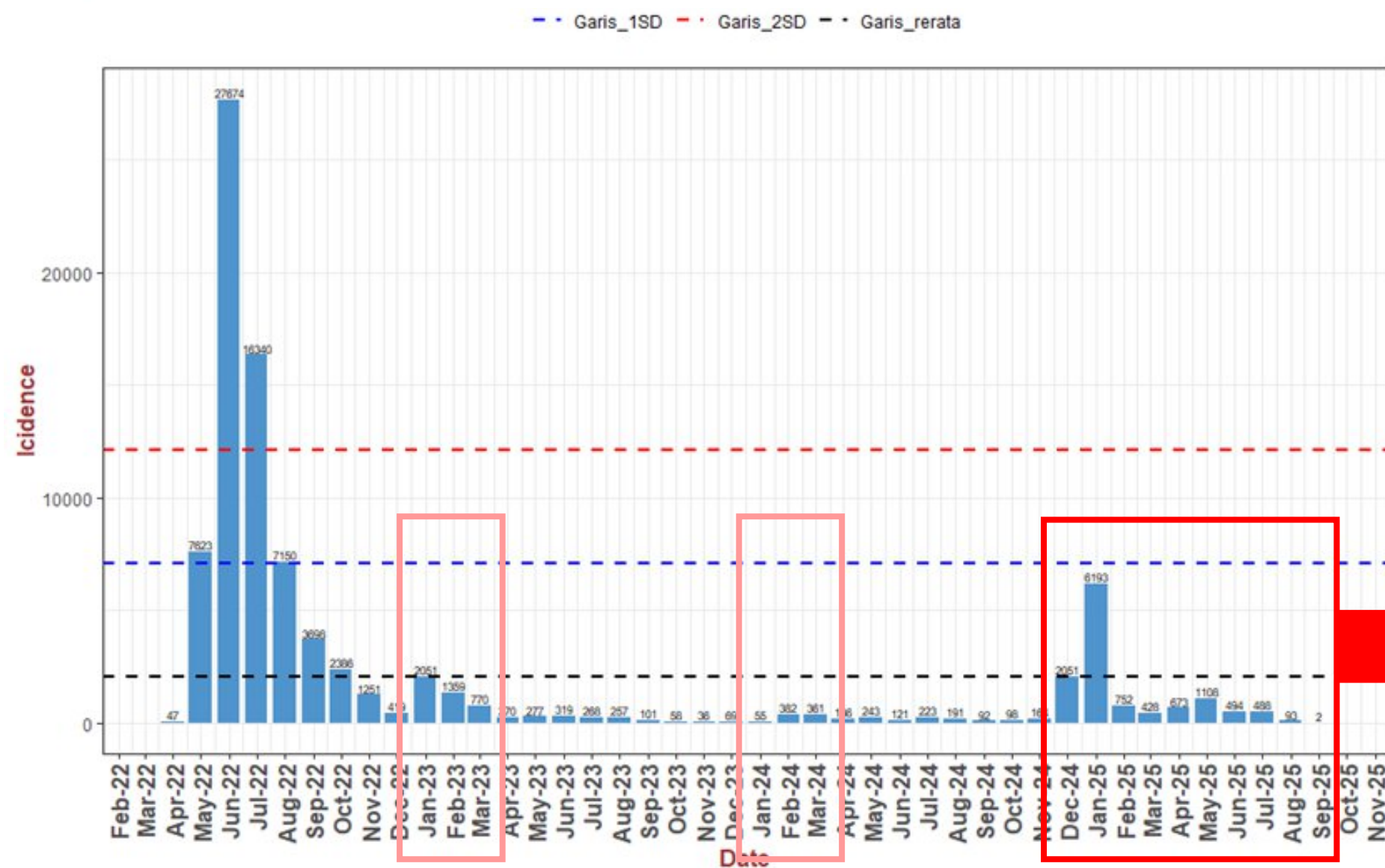
Prevention Zone

- **Population:** 10% of national livestock
- **Characteristics:** Limited livestock movement; extensive farming; FMD-free areas
- **Action Plan:** Surveillance, early detection, emergency preparedness, biosecurity measures
- **Estimated Population:** 825,194 head
- **Vaccination Targets (Green Zone):**
 - 2025–2029: 0 doses (no vaccination required)
- **Human Resources:** 313 livestock officers, 223 veterinarians, 736 para-veterinarians, 213,670 field staff
-

Foot and Mouth Disease (FMD) Situation Update

Period: 1 April 2022 – 1 September 2025

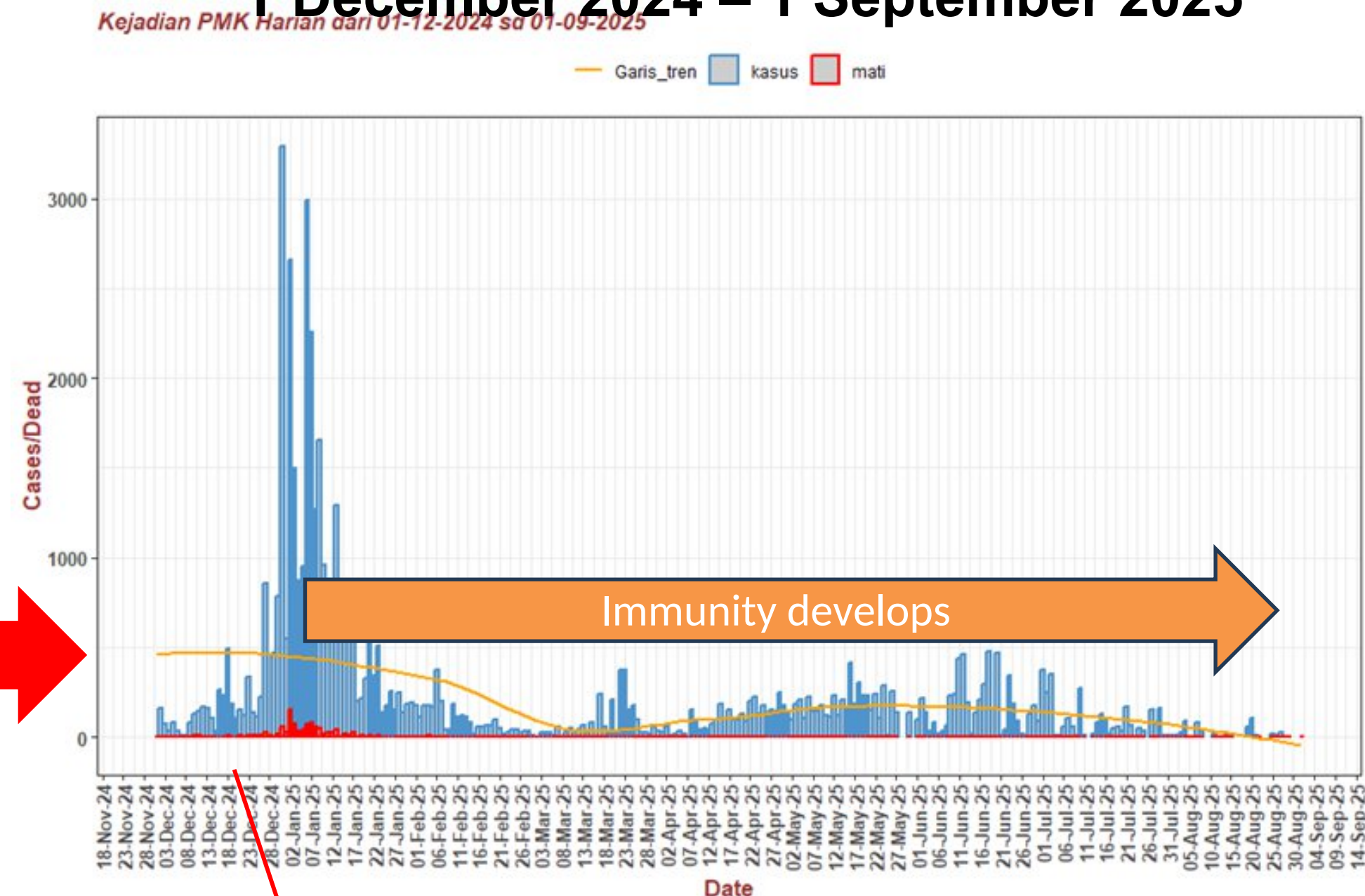
Monthly FMD Incidence 1 April 2022 – 1 September 2025



Sumber: ISIKHNAS per 01 September 2025 pkl 23:59
Root 383: Laporan Sindrom Prioritas

Since April 2023, the central government of Indonesia has no longer provided operational funding for FMD vaccination activities. The government continues to supply the vaccine doses, but the implementation of vaccination—including logistics, manpower, and field operations—is carried out using local government budgets or through community self-financing by farmers and private veterinarians.

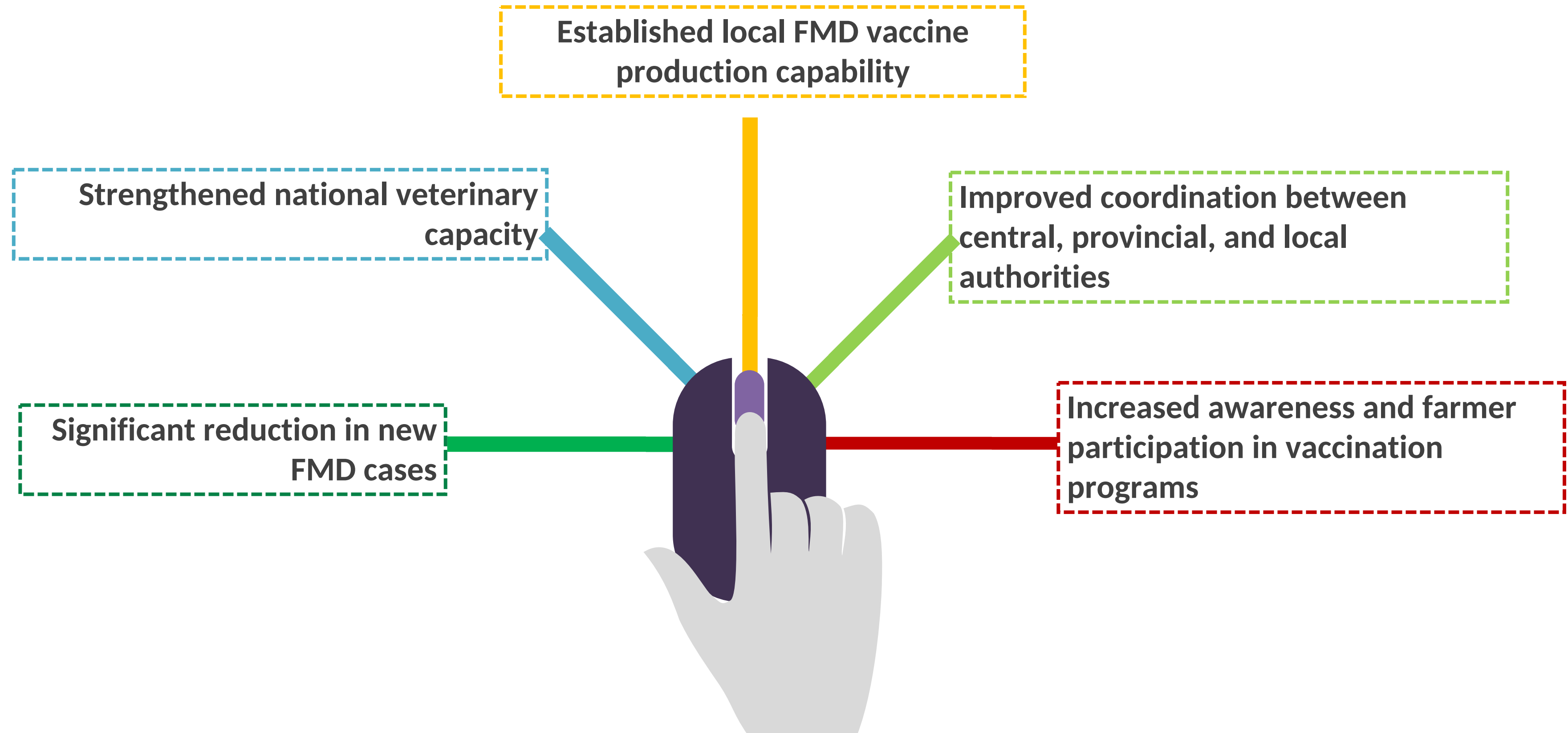
Daily Reported FMD Cases 1 December 2024 – 1 September 2025



Sumber: ISIKHNAS per 01 September 2025 pkl 23:59
Root 383: Laporan Sindrom Prioritas

Rapid Vaccination Response to (FMD) 2025

Key Achievements (2022–2025)



Conclusion – Indonesia's Experience in Controlling FMD

- After over 30 years of FMD freedom, the disease re-emerged in May 2022 (East Java).
- The government responded with a national emergency program: mass vaccination (>40 million doses), movement control, biosecurity, communication, and lab surveillance.
- Transition to endemic phase (2025): continued vaccination encourages private sector actors, large-scale livestock owners, and local governments to conduct independent vaccination programs within their regions. These initiatives complement the national vaccination campaigns, help increase overall herd immunity, and ensure timely protection for high-risk livestock populations.”
- serological monitoring integrated with iSIKHNAS, and local/private implementation funding.
- Adoption of Progressive Control Pathway (PCP-FMD) and zonal approach (2025–2029) to ensure targeted, data-driven disease control.
- Through strong coordination, scientific monitoring, and public engagement, Indonesia aims to achieve sustainable FMD freedom with vaccination.

Thank You