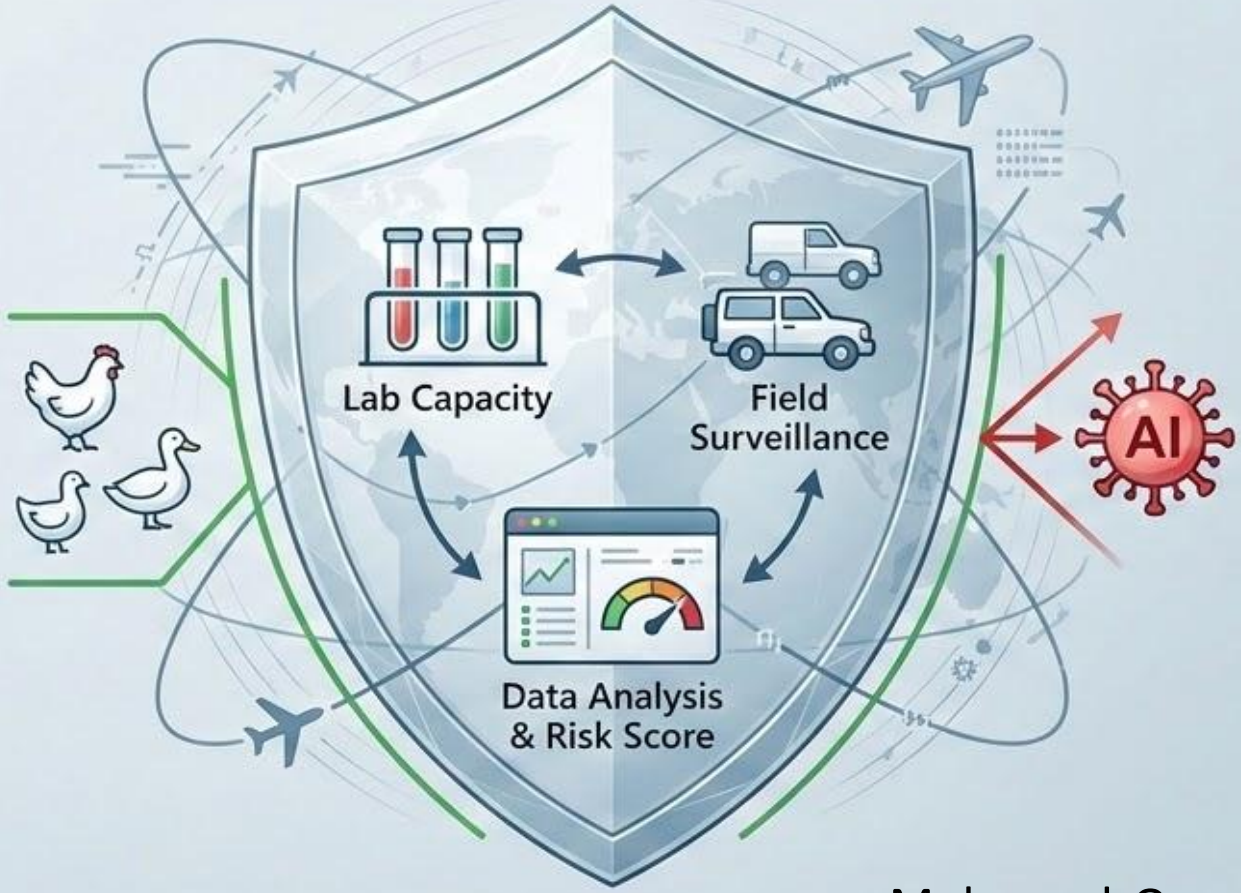
Beyond Disease-Free Status

Integrating Veterinary System Capacity into Avian Influenza Risk Assessment



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Current International Classification

Countries experiencing outbreaks of **Highly Pathogenic Avian Influenza (HPAI)** are generally regarded as infected until they regain disease-free status under WOAH standards, which commonly requires a defined period after eradication activities (often six months depending on the pathway and standard applied).

> This binary system categorises countries strictly as either Disease-Free or Not Disease-Free.

DISEASE-FREE

OR

NOT DISEASE-FREE

THE UNINTENDED CONSEQUENCE

SYSTEM PARADOX

STRONG SURVEILLANCE

Countries with excellent surveillance systems often appear "worse" than countries with weak surveillance.

Countries that:

- ✓**Detect outbreaks quickly**
- ✓**Report transparently**
- ✓**Control outbreaks efficiently**

➔ **May lose disease-free status immediately.**

WEAK SURVEILLANCE

Meanwhile countries with:

- ×Poor surveillance networks
- ×Limited laboratory capacity
- ×Weak reporting systems

➔ **May appear disease-free simply because outbreaks remain undetected or unreported.**

Transparency becomes a disadvantage under current rules.

WHY THIS MATTERS

The current classification may unintentionally discourage reporting. Countries may fear:

- Trade restrictions
- Export losses
- Reputational damage
- Prolonged recovery periods

Yet early reporting is exactly what protects global animal health.

As a result, incentives may shift away from early reporting.

THE REAL MEASURE OF RISK

COMPREHENSIVE EVALUATION

The actual international risk is determined less by whether a country has detected an outbreak than by how effectively it responds.

- Early detection
- Laboratory confirmation
- Traceability
- Movement control
- Rapid stamping out

- Vaccination strategy (where applicable)
- Surveillance intensity
- Compensation systems
- Veterinary workforce capacity
- Emergency preparedness

These factors determine whether outbreaks remain localised or spread internationally.

PROPOSED NEW FRAMEWORK

TIERED SYSTEM

Instead of relying solely on disease status:

Introduce a Veterinary System Performance Classification

TIER A

Excellent surveillance and outbreak control

TIER B

Strong veterinary services with minor gaps

TIER C

Developing systems requiring support

TIER D

Limited surveillance capacity

Disease occurrence would be interpreted alongside veterinary capability.

EXAMPLE

PRACTICAL APPLICATION

Country	Outbreak?	Veterinary Capacity	Reporting	Actual Risk
Country A	Yes	Excellent ★★★★★	Immediate	Low
Country B	Unknown	Weak ★★☆☆☆	Minimal	High
Country C	No	Excellent ★★★★★	Continuous surveillance	Very Low
Country D	No	Poor surveillance ★☆☆☆☆	Limited reporting	Unknown

Current classification: Country A appears worse than Country D. A capacity-based approach provides a more realistic picture.

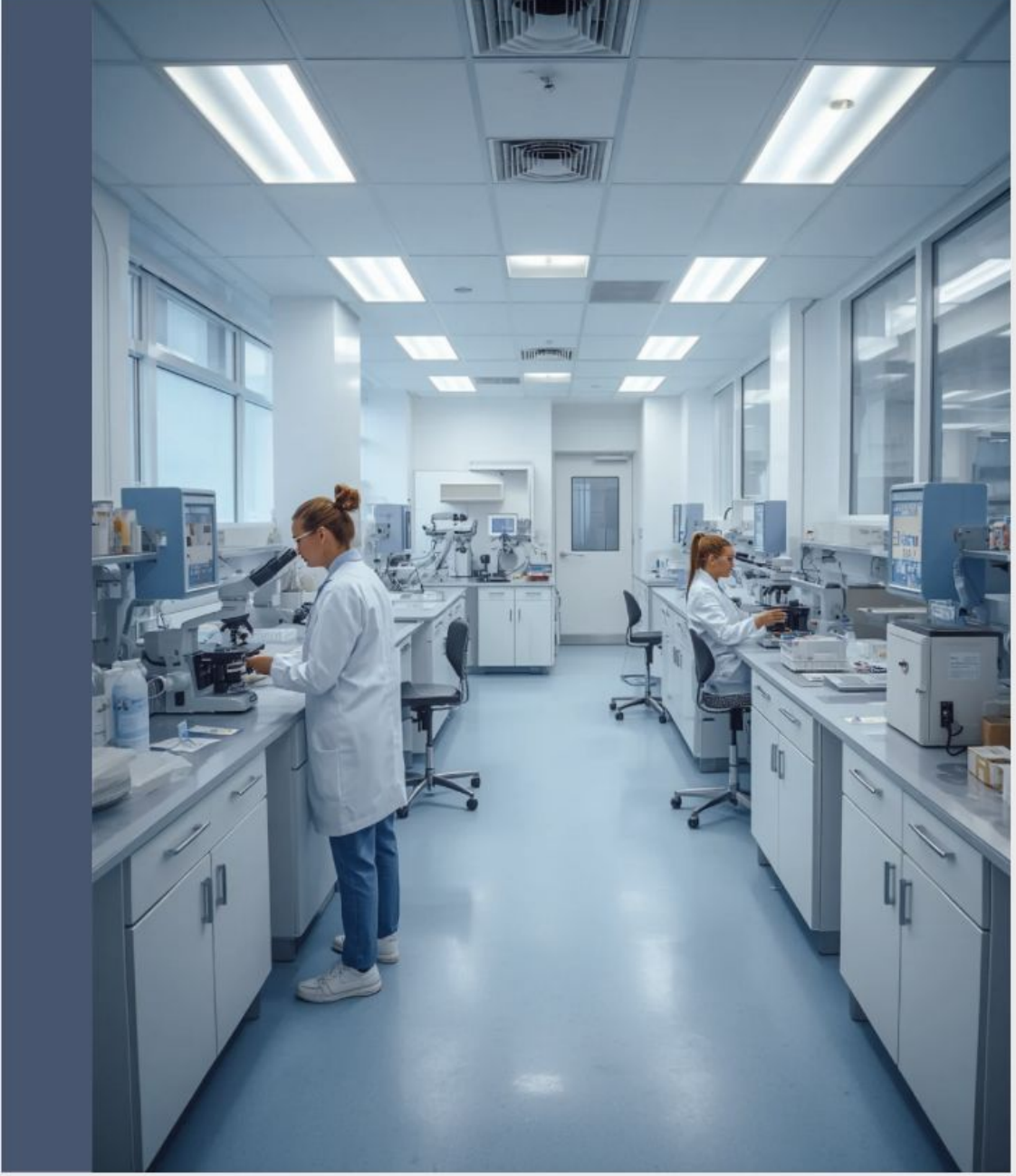
REAL EXAMPLE: NETHERLANDS (2022–2023)

Surveillance & Reporting

The Netherlands experienced numerous HPAI outbreaks during 2022–2023, yet maintained extensive active surveillance across poultry holdings. Every confirmed outbreak was immediately reported to WOAH with full transparency, demonstrating exemplary compliance with international notification obligations and a commitment to global animal health protection.

Veterinary Capacity & Confidence

Rapid culling operations, strict movement controls, and advanced laboratory diagnostics were deployed swiftly at each outbreak site. Despite holding “Not Disease-Free“ status under the current binary system, the Netherlands’ veterinary capacity is rated among the highest globally – representing very high confidence in detection, response, and containment. Actual international risk: Low.



UNITED KINGDOM (2021–2023)

Veterinary System Strengths

Continuous national surveillance with rapid detection and immediate WOAH reporting. Strict biosecurity protocols and swift movement controls enforced at outbreak sites. Advanced laboratory network with state-of-the-art diagnostics and sequencing. Transparent communication with trading partners throughout all outbreak events.

Classification vs. Reality

Current WOAH Status: Not disease-free during outbreak periods (2021–2023). Actual Veterinary Capacity: Among the strongest globally. The UK's repeated outbreaks reflect superior detection capability – not system failure. High confidence in reporting quality underscores the need for capacity-based risk assessment alongside binary disease status.

REAL EXAMPLES: JAPAN & AUSTRALIA

JAPAN

Rapid detection and immediate WOAH notification upon outbreak identification. Excellent national laboratory network enables swift confirmation and eradication programmes. Current classification: Not disease-free during outbreaks. Actual confidence: Very high veterinary capacity and response capability.

Australia

Rare HPAI outbreaks attributed to strong biosecurity, active surveillance, and robust veterinary services. High confidence in reporting quality and transparency. Immediate containment response when outbreaks occur. Actual confidence: Excellent – system strength reflected in outbreak rarity.

KEY TAKEAWAY

Both Japan and Australia demonstrate that high veterinary system capacity – rapid detection, strong labs, transparent reporting – provides genuine international confidence regardless of disease-free status at any given moment.

LIMITED SURVEILLANCE COUNTRY

Scenario Overview

A hypothetical country with few diagnostic laboratories, limited active surveillance programmes, and significant resource constraints. No HPAI outbreaks have been officially reported – the country currently holds disease-free status under the binary classification system.

Actual Confidence Level

Actual confidence: Uncertain. Absence of reported outbreaks does not reflect absence of disease – it reflects absence of detection. Limited surveillance means outbreaks may circulate undetected, posing an unquantified risk to regional and global animal health despite an officially “disease-free“ designation.

CASE STUDY CONCEPT

COMPARATIVE SCENARIO

Imagine two countries:

COUNTRY A

- ✓Detects outbreak within 24 hours
- ✓Reports immediately
- ✓Laboratory confirms diagnosis
- ✓Culls affected flock
- ✓Traces contacts & completes surveillance

Loses disease-free status 😟

VS

COUNTRY B

- ✗Minimal surveillance
- ✗No active testing
- ✗Limited reporting
- ✗Unknown virus circulation

Retains disease-free status 😐

Which country poses the greater international risk?

A MORE BALANCED CLASSIFICATION

NEW STANDARD MODEL

Instead of

✓ DISEASE FREE or INFECTED

DISEASE STATUS COMBINED WITH VETERINARY SYSTEM CONFIDENCE RATING

EXAMPLE – COUNTRY X

Disease Status: Localised HPAI outbreak

Veterinary Capacity: ★★★★★

Transparency: ★★★★★

Containment Confidence: High

This gives trading partners a fuller understanding of actual risk.

BENEFITS

STRATEGIC IMPACT

Targeting True Biological Risk

- Reward transparency
- Encourage rapid reporting
- Improve international confidence
- Better support safe trade
- Direct technical assistance where needed
- Recognise investment in veterinary services
- Strengthen global disease surveillance

SUPPORTING EXISTING WOAH PRINCIPLES

FRAMEWORK ALIGNMENT

This proposal builds upon existing WOAH frameworks rather than replacing them. WOAH already evaluates:

- PVS Performance of Veterinary Services
- Laboratory quality
- Surveillance systems
- Emergency preparedness
- Veterinary governance

The proposal is to integrate these assessments more visibly into international disease status communication.

BENEFITS FOR INTERNATIONAL TRADE

SAFE COMMERCE

Importing countries need confidence that trading partners can rapidly detect and contain outbreaks.

A country with:

- ✓Strong surveillance
- ✓Transparent reporting
- ✓Rapid containment

May represent lower trade risk than a country with unknown surveillance quality despite officially being disease free.

Global Trade Risk Management

Risk should reflect system performance as well as disease status.

LONG-TERM IMPACT

GLOBAL VISION

Global Animal Health Security

- Encourage openness
- Reduce under-reporting
- Strengthen veterinary services
- Improve global surveillance
- Support science-based trade
- Enhance partner trust

Ultimately, it would improve global preparedness for transboundary animal diseases.

Pre-War Sudan Poultry Historical Growth

Year	Parent Stock (Imported / yr)	Layers (Domestic)	Broilers / year (Domestic)
1985	10,000	100,000	2,000,000
1995	100,000	2,000,000	20,000,000
2010	300,000	5,000,000	40,000,000
2022 (Peak Pre-War)	**800,000**	**8,000,000**	**150,000,000**

Data highlights exponential sector development: 800,000 Parent Stock birds sustained a 158 million commercial bird industry by 2022.

The Multiplication Power Ratios

158M

Commercial Birds Produced Annually

1 : 197 Leverage Ratio

Importing just **800,000 Parent Stock (PS)** enables local hatcheries to produce **150 Million Broilers** and **8 Million Layers** domestically.

Grandparent (GP) Leverage:
60,000 GP Stock is equivalent to 800,000 Parent Stock. Importing 60k GP stock provides total domestic multiplication autonomy.

Strategic Policy Options Compared

⚠ Option A: Restrict PS Imports

Imposing standard trade bans on Parent/Grandparent stock during AV outbreaks in source regions.

- Collapses domestic multiplication infrastructure
- Forces importation of 158M commercial birds/meat
- Exponentially increases transboundary pathogen spread risk
- Triggers severe national food insecurity

✔ Option B: WOAH PS Exemption

Granting AV status exemption/facilitation for certified compartmentalized GP/PS stock.

- Secures 158M commercial birds via 800k PS imports
- Maintains strict biosecurity and traceability
- Prevents commercial market dependency
- Ensures continuous national protein supply

Effective disease control should not be measured solely by temporary presence or absence of a virus it should also reflect a countries ability to:

The greatest threat is not the country that reports disease; it is the disease that goes undetected.

QUESTIONS AND DISCUSSION