Food and Agriculture Organization
of the United Nations

Update on FAO avian influenza activities

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FAO global early warning and surveillance system

EIOS
EPIDEMIC INTELLIGENCE FROM OPEN SOURCES

decentralized offices

feeds

FAO database

Activation

Calibration
Validation

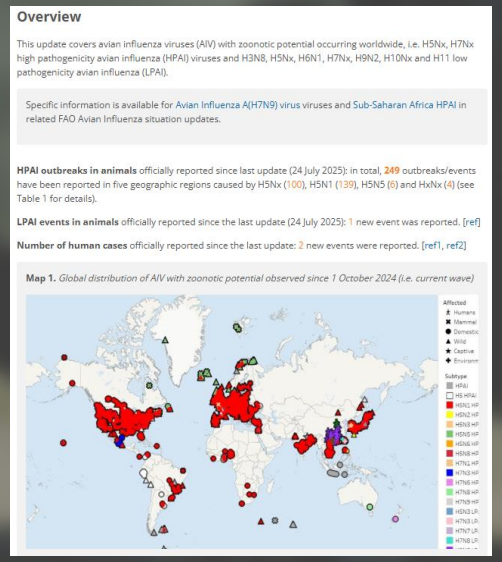
Joint FAO/WHO/WOAH
Global Early Warning System

GLEWS+

Modelling &
Forecasting tools

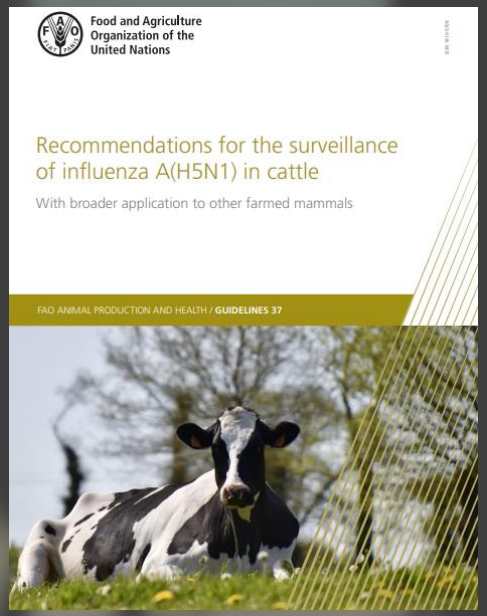
World Organisation for Animal Health
Founded as OIE

Disease monitoring



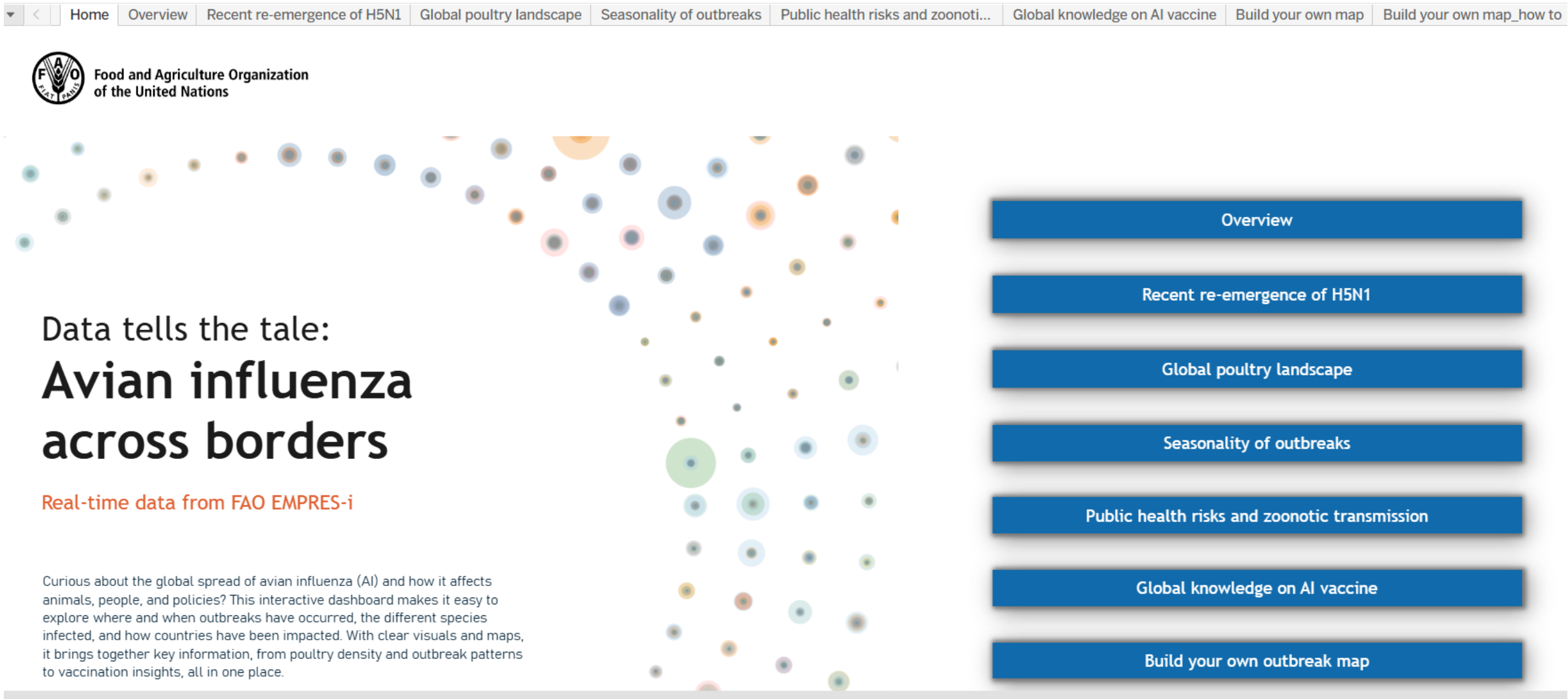
Risk assessment Risk

Technical guidance

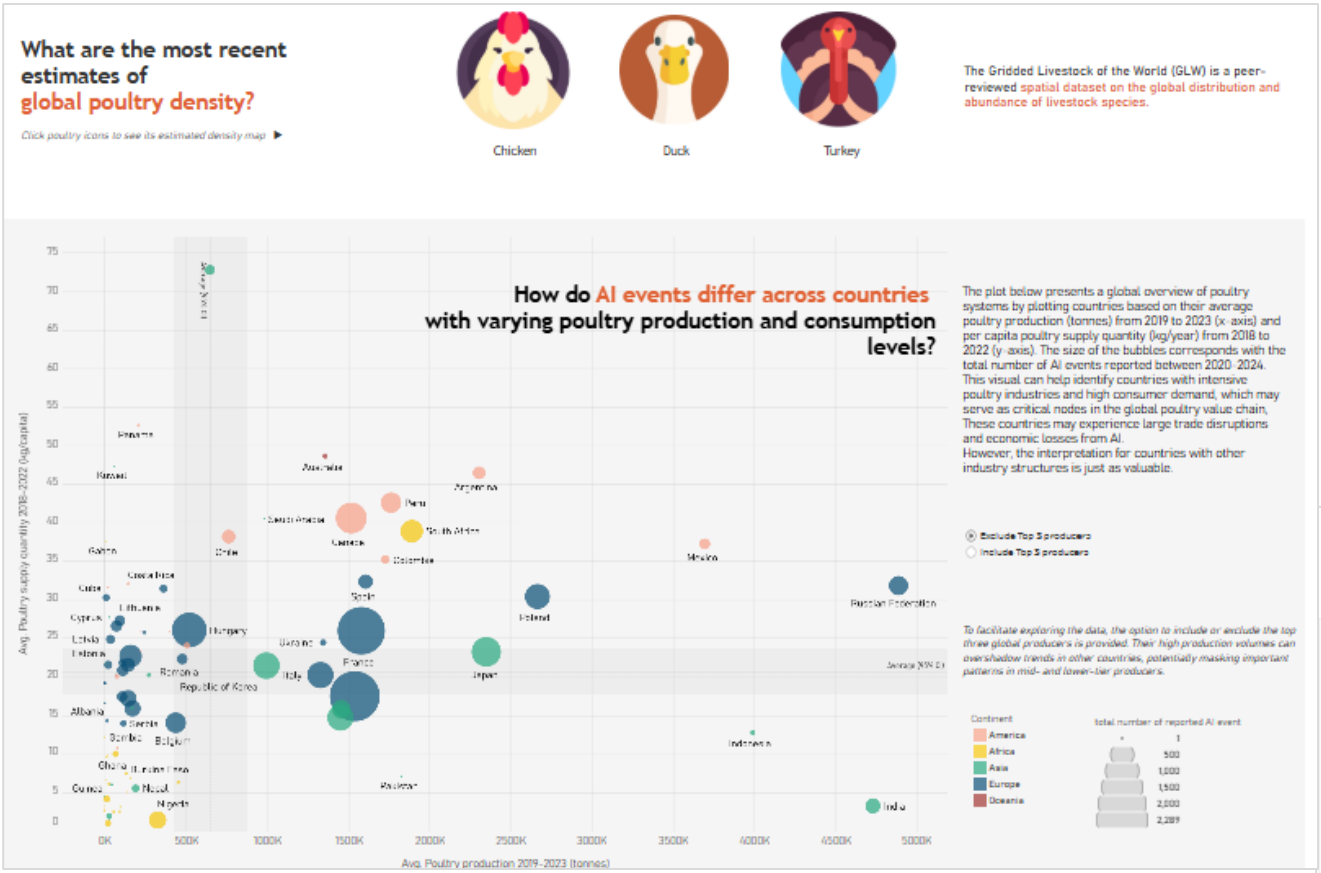


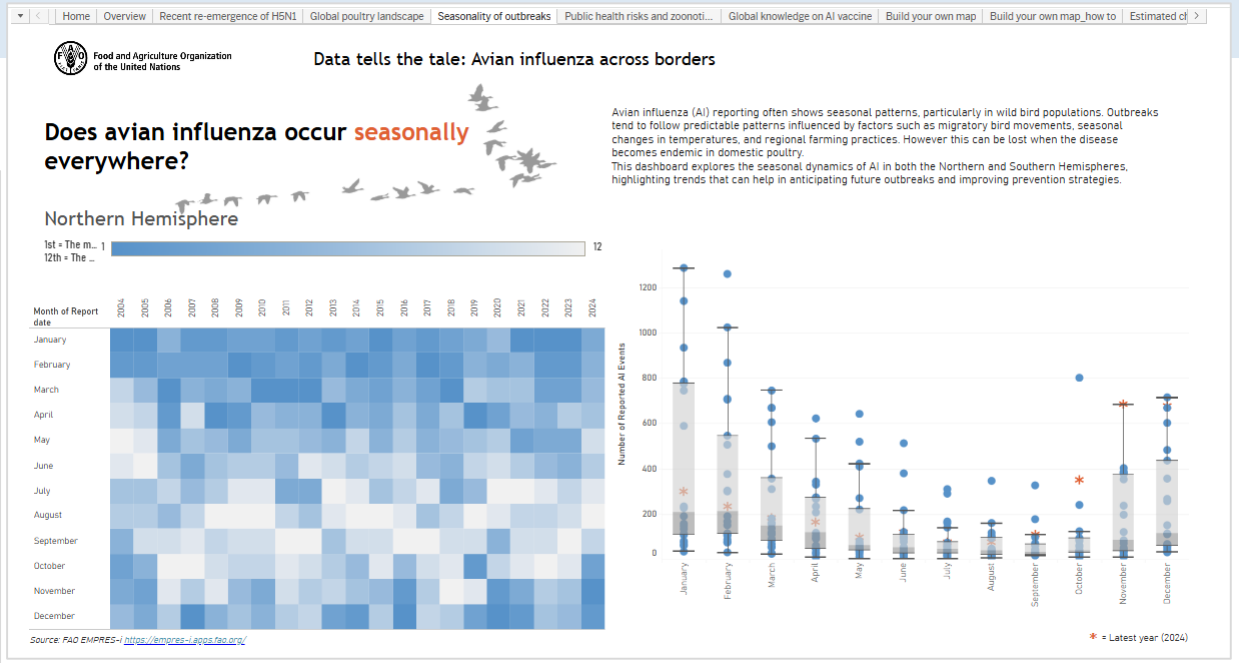
Multisectoral action

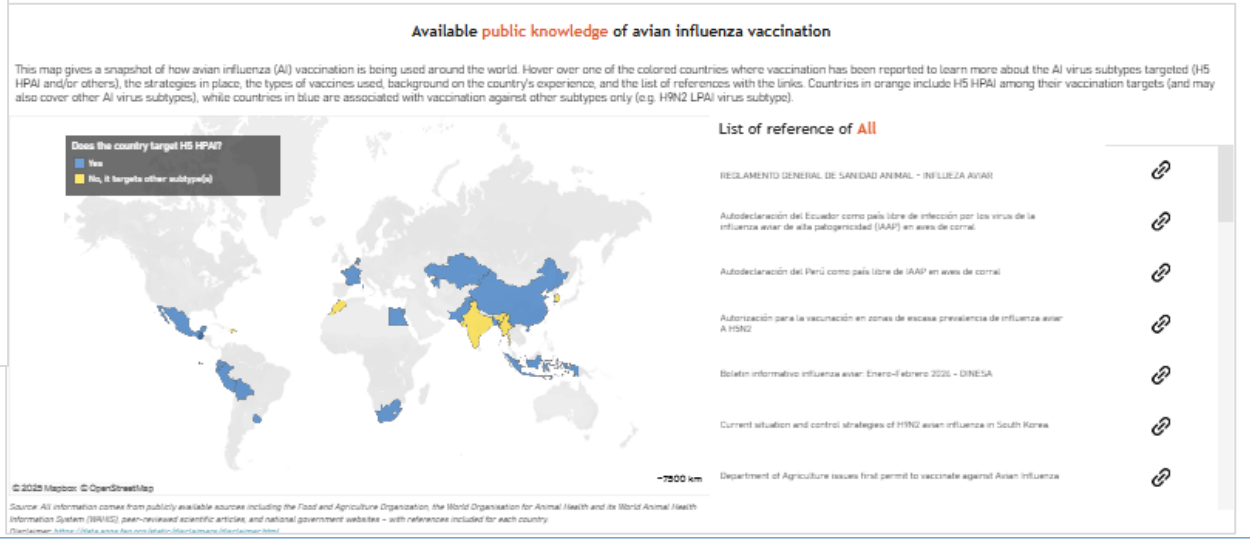
Avian influenza dashboard – Launching soon!



Avian influenza dashboard – Launching soon!

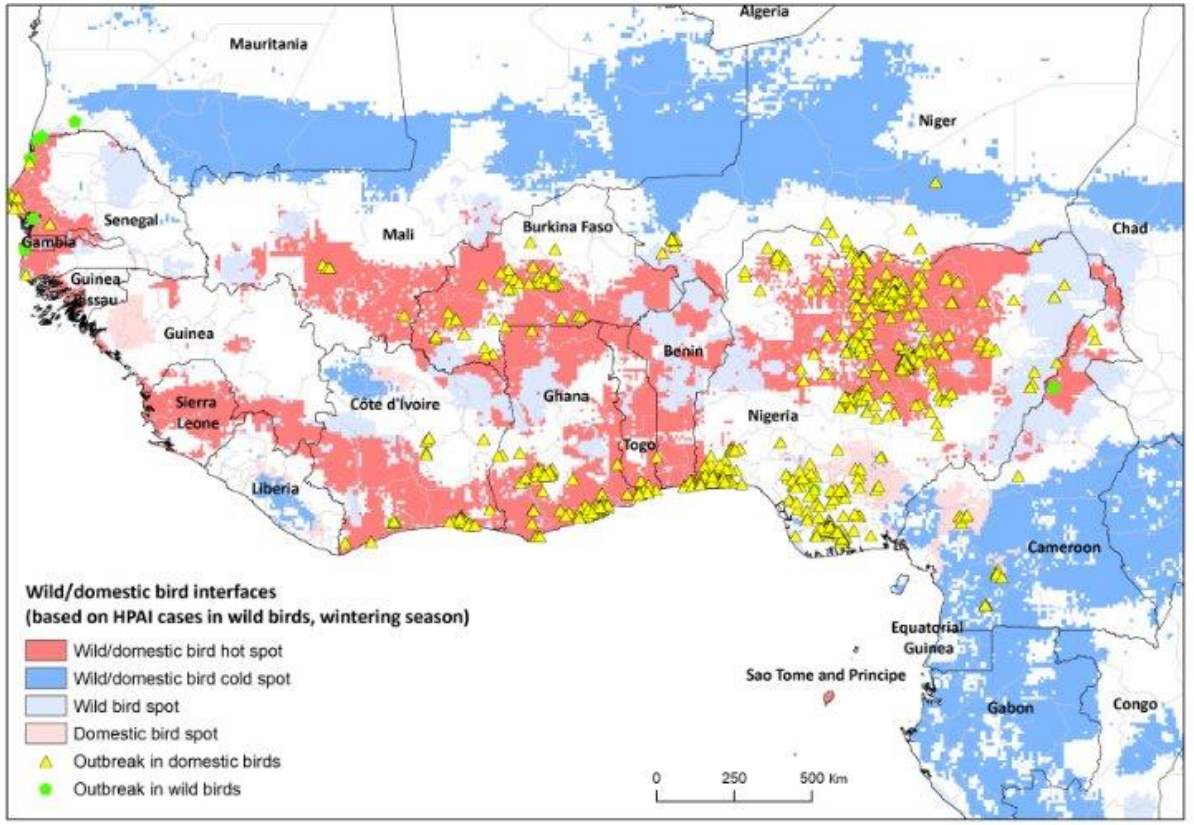






HPAI spillover risk and Avian Influenza Decision Support Tool (AI DST)

N. of maps (baseline model)	Africa	Asia	Europe	Latin America	Total
Wild bird family	35	4	3	11	53
Species Richness	22	3	3	11	39
Hotspots/Interfaces	6	3	3	3	15



FAO interactive story on AI

The spread of the virus

Since 2003, when the H5N1 virus first spread between continents, HPAI has led to hundreds of millions of birds being culled globally. For the $300 billion global poultry industry, economic losses amount to billions due to poultry deaths, trade restrictions, and control measures.

The last four years have seen an important shift in the geographical spread of the virus, with highly virulent forms of the virus reaching every continent, including Antarctica. At the same time, over 3400 outbreaks of H5N1 HPAI were reported globally. For example, in the first year following the introduction of this new clade of virus into South America, the deaths of almost 600 000 birds of more than 80 species were reported.

The spread of HPAI has led to significant die-offs among wildlife, including birds and mammals, disrupting ecosystems globally. For example, in the one year between the first detection of HPAI H5 virus in South America in 2022, the deaths of almost 600 000 birds of more than 80 species have been reported.

Risk mitigation with PMP-TAB: Progressive Management Pathway for Terrestrial Animal Biosecurity

Strategic & systemic process, not a scoring tool

4/11 countries

selected poultry as a priority

Bottom-up

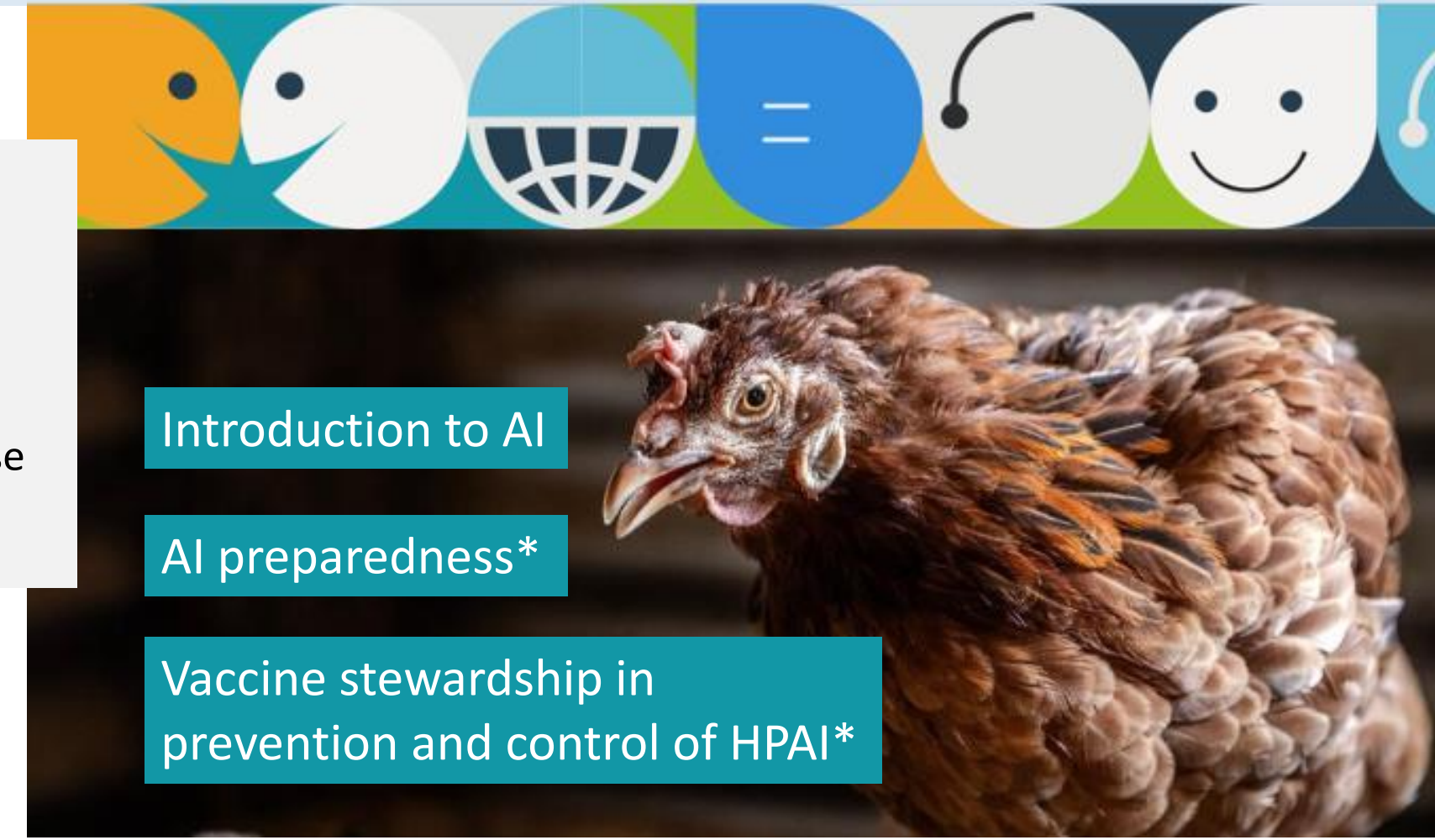
Engaging local actors to co-create solutions

Community of Practice

>500 members from +70 countries

FAO Virtual Learning Centers - Capacity building for AI preparedness and vaccination

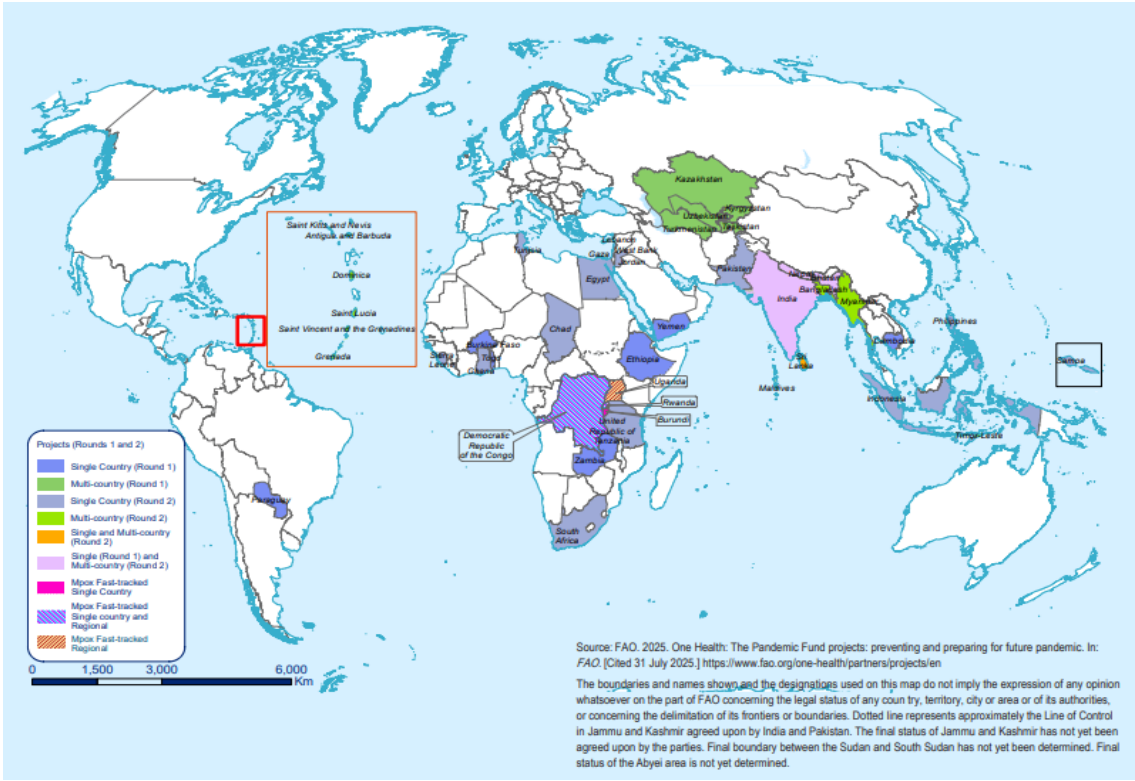
- Open access starter course
- Tutored courses*
- Webinars on HPAI vaccination
- Multiple languages for intro and preparedness courses
- **>5 300 people** have completed these courses since March 2022
- Launched for NENA in Sept 2025



VLC HOMEPAGE

FAO Regional and Country Support- operationalizing at scale

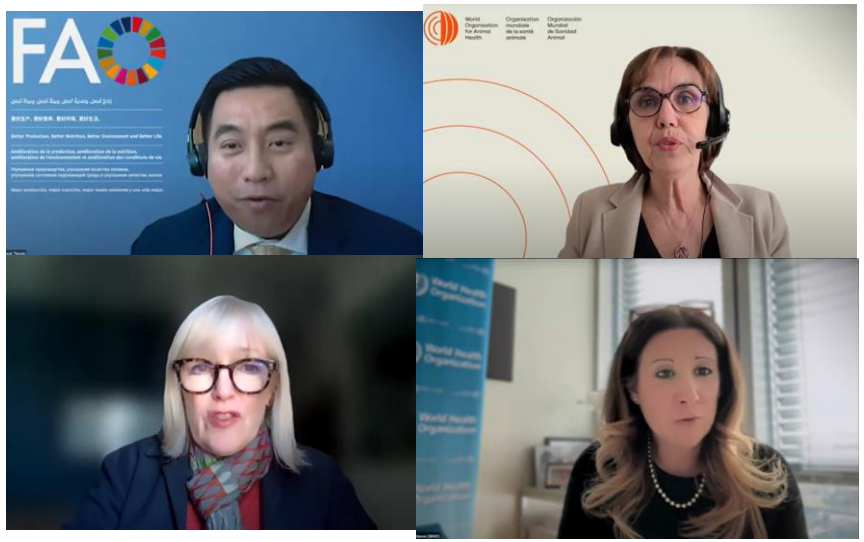
- **Support during peace time**
  - Design/implementation of risk-based surveillance
  - Capacity building
  - Simulation exercises
  - Development of SOPs, guidelines, guidance on risk reduction, surveillance, outbreak response
- **Support during disease outbreak**
  - Investigation/response to AI outbreaks
  - Provision of laboratory reagents, consumables and PPE (stockpile project)
  - Emergency response missions and GEMP trainings
  - Rapid response teams; One Health disease control; Enhanced surveillance



FAO is co-implementing 32 projects in 44 countries, under the Pandemic Fund (>USD 165 million)

Supporting and leading role in assessing new evidence and guiding science-based solutions

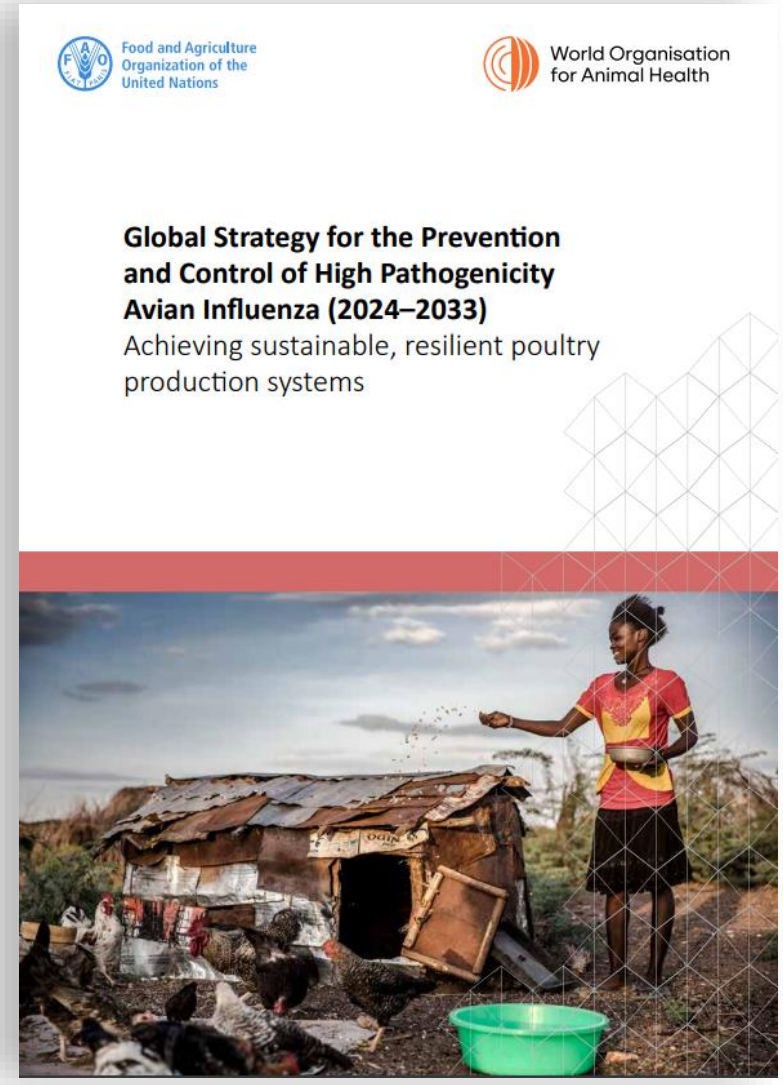
OFFLU meeting
Rome, July 2024



Launch webinar of the GF-TADs
Global Strategy for HPAI
Online, March 2025

Update to FAO Members on AI
and the Pandemic Fund
Rome, March 2025

Strategy and policy - FAO and WOAH united for leading the fight against HPAI



PREVENT

PROTECT

TRANSFORM

Through

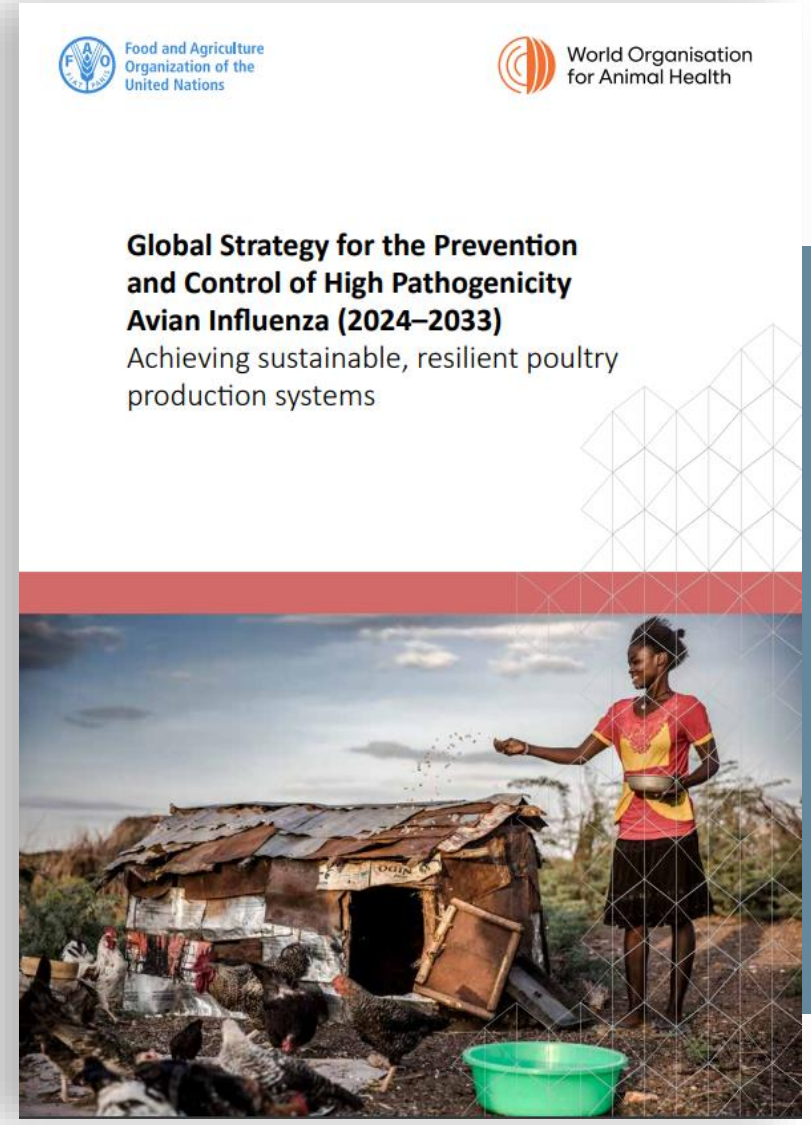
One Health approach

Public-private partnerships

Long-term, transformative changes

GF-TADs
GLOBAL FRAMEWORK FOR THE PROGRESSIVE CONTROL OF TRANSBOUNDARY ANIMAL DISEASES

Strategy and policy - FAO and WOAH united for leading the fight against HPAI



Domains addressed by the strategy

- Surveillance and reporting
- Laboratory capacity
- Preparedness planning and business continuity
- Biosecurity in value chains
- Uptake of vaccination
- Outbreak response and emergency support
- Regional and International Cooperation
- Awareness and advocacy

FAO Global Dialogue on HPAI – Collective action is key!

Iguaçu Statement

Tackling High Pathogenicity Avian Influenza Together

Foz do Iguaçu, Brazil – 11 September 2025

We, the representatives of governments, international organizations, scientific institutions, civil society, the private sector, and poultry producers, gathered in Foz do Iguaçu from 9 to 11 September 2025 under the auspices of the Food and Agriculture Organization of the United Nations (FAO);

Recognizing the global threat of highly pathogenic avian influenza (HPAI) to animal health, biodiversity, livelihoods, trade, and public health;

Acknowledging the urgent need for coordinated and sustained global action;

Stressing the vital role of the private sector, poultry producers, and value-chain actors in prevention, early detection, and recovery, and the importance of robust **public–private partnerships (PPP)** to strengthen resilience;

Welcoming the Global Strategy for the Prevention and Control of HPAI (2024–2033), which envisions a world with effective HPAI prevention and control along poultry value chains that protects domestic animals, wildlife, ecosystems, and people, and supports the sustainable transformation of agrifood systems;

Reaffirming our commitment to the One Health approach and the principles of solidarity, transparency, and shared responsibility;

Call for Action

We commit to **prevent** HPAI by building robust systems for early detection and rapid control. Surveillance must extend across poultry, other domestic animals, wildlife, environments, and people at risk, supported by timely diagnostics and open data sharing. Governments and partners must invest in multisectoral surveillance networks and preparedness planning, while producers and the private sector reinforce biosecurity through training and scalable PPP mechanisms.

We pledge to **protect** poultry value chains, livelihoods, and trade by deploying proven measures that reduce virus circulation and its devastating impacts. This means rigorous biosecurity, responsible vaccination where justified, and the application of zoning and compartmentalization, science-based standards to maintain safe, stable, reliable trade in poultry and poultry products.

FAO80

Tackling high pathogenicity avian influenza together

Global science, policy and private sector dialogue

9-11 Sep 2025

BRAZIL FOZ DO IGUAÇU

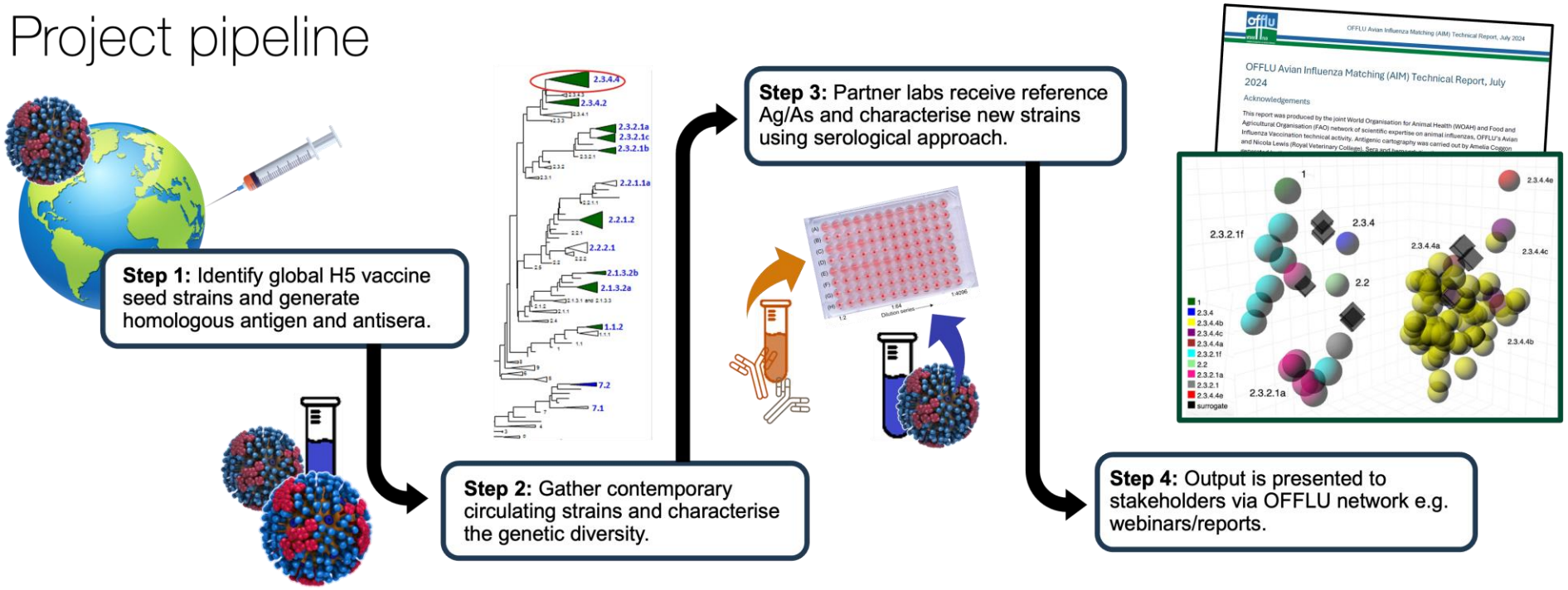
9 – 11 September 2025 -Foz do Iguacu, Brazil

Purpose: Provide up-to-date information on how well current avian influenza vaccines match circulating viruses.

OFFLU
Avian Influenza Matching (AIM) Technical Report
September 2025

WOAH FAO
network of expertise on animal influenza

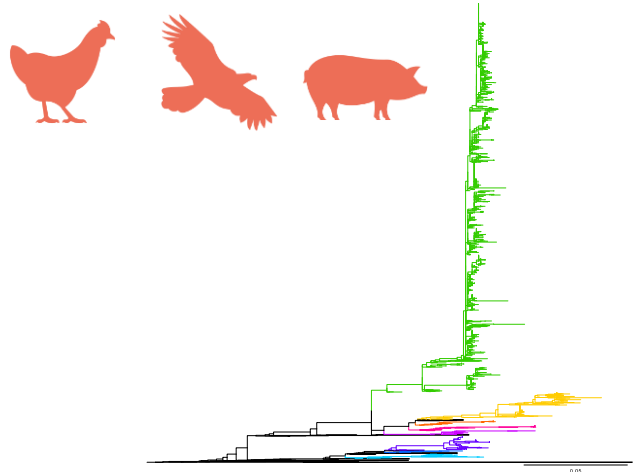
Project pipeline

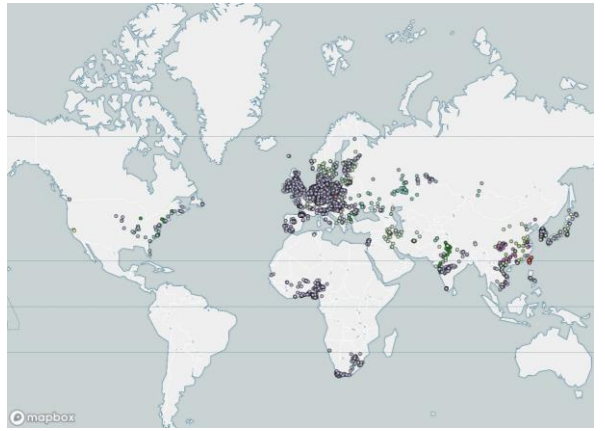


Credit: APHA, UK. Please visit: www.offlu.org for reports, and for any questions please contact: secretariat@offlu.org

Collaborations with WHO & WOAH: Disease intelligence and pandemic preparedness

- Continuous information sharing:
  - GLEWS+/EIOS and Tripartite + OFFLU coordination calls
- Joint risk assessments and statements
- Participation in WHO's TIPRA
  - Since Oct. 2024: H5N1 Genotype B3.13/D1.1 and swine flu A(H1) 1B.2 lineage
- Joint technical guidance for policy planning
- Enhancing genetic data sharing - WHO GISRS (Global Influenza Surveillance and Response System)
- OFFLU data package to support WHO Vaccine Composition Meeting biannually





Food and Agriculture Organization of the United Nations

World Health Organization

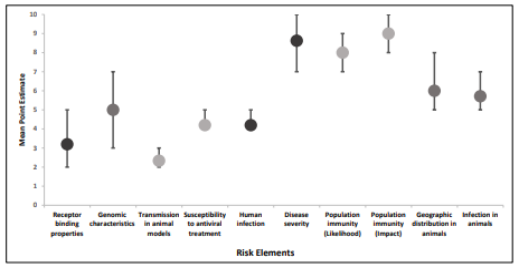
World Organisation for Animal Health

Updated joint FAO/WHO/WOAH public health assessment of recent influenza A(H5) virus events in animals and people

Assessment based on data as of 1 July 2025

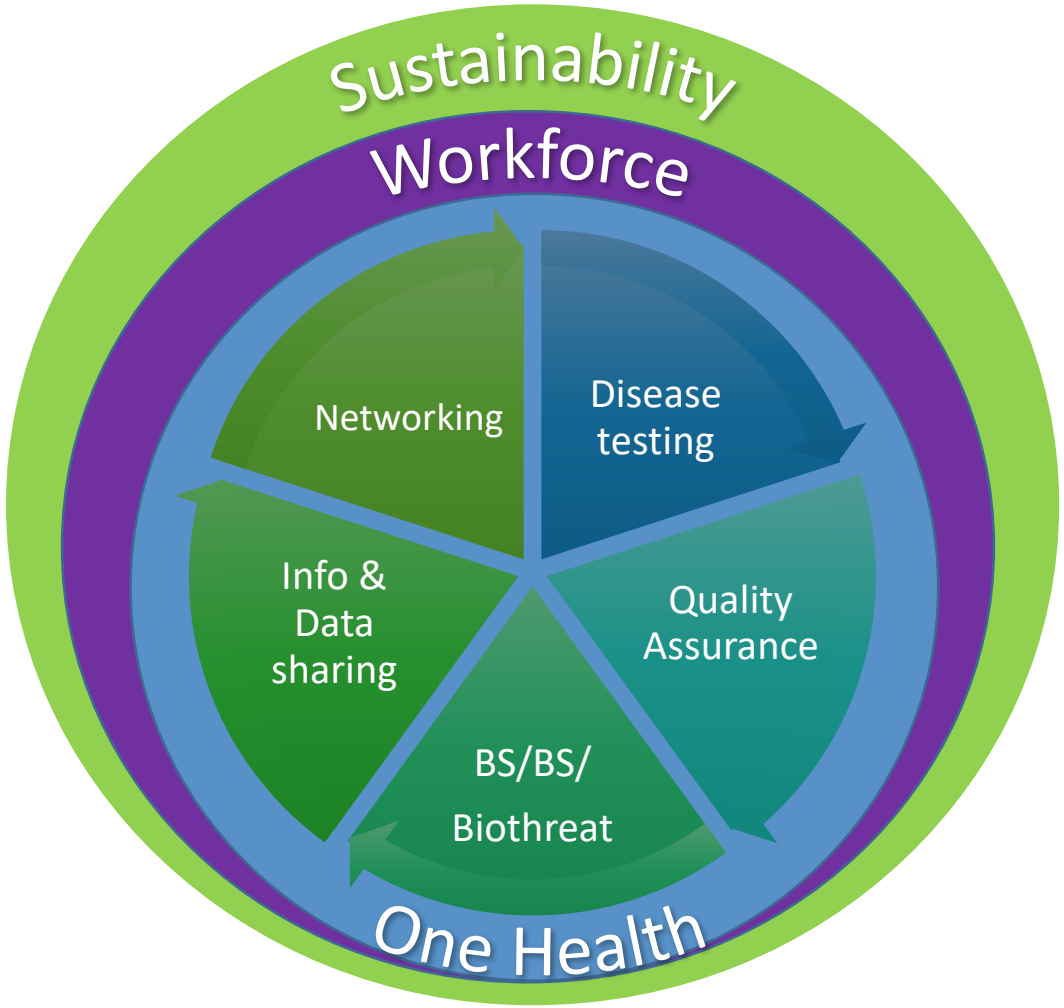
28 July 2025

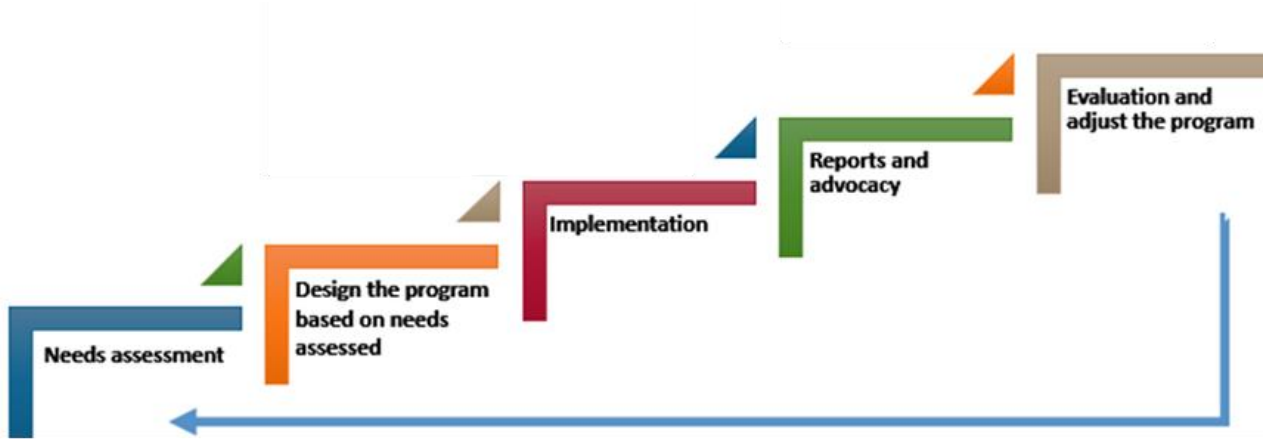
Tool for Influenza Pandemic Risk Assessment (TIPRA)



Laboratory

Building Veterinary Lab Capacities





SHORT MEDIUM LONG

FAO Reference Centres

7 FAO Reference Centres for animal influenza and NCD

1. APHA (UK)
2. ACDP/CSIRO (Australia)
3. FLI (Germany)
4. HVRI (China) – ***AI only***
5. IZSVe (Italy)
6. **LFDA-SP (Brazil) – New designation!**
7. USDA (USA)

Laboratory assessments - evaluation for action

Laboratory Assessment

Proficiency testing for Avian Influenza

- ✓ Identify gaps
- ✓ Propose corrective actions

Stepwise approach to laboratory capacity building

Needs assessment

Design the program based on needs assessed

Implementation

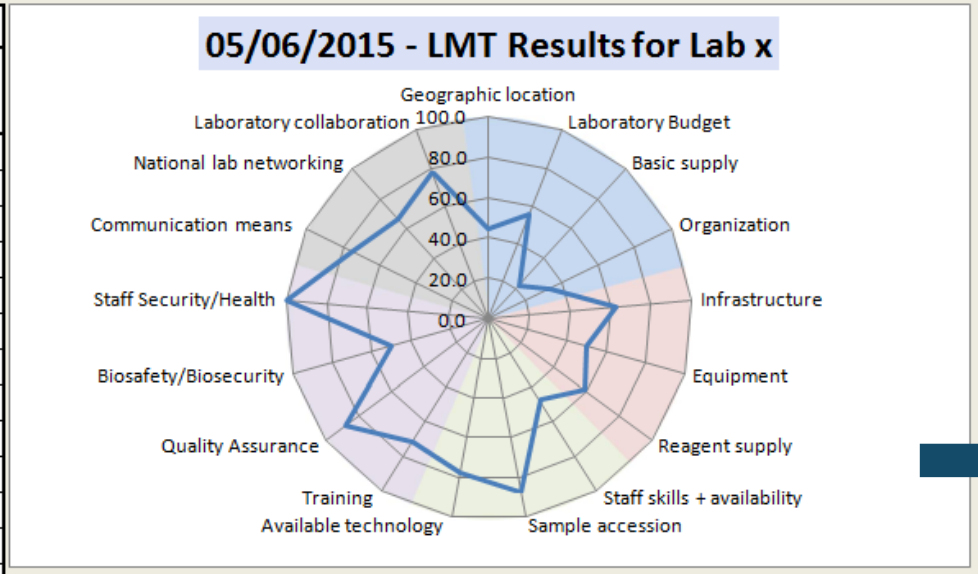
Reports and advocacy

Evaluation and adjust the program

Laboratory assessments: Laboratory mapping tool

06/05/2015 - LMT results : Summary for Lab x

Current Assessment*		
LMT Category	05/06/2015 - LMT Results for Lab x	Reliability **
Geographic location	44.4	100
Laboratory Budget	55.6	100
Basic supply	22.2	100
Organization	33.3	100
Infrastructure	63.0	100
Equipment	50.0	100
Reagent supply	59.3	100
Staff skills + availability	47.6	100
Sample accession	87.5	100
Available technology	77.8	100
Training	71.4	100
Quality Assurance	87.9	100
Biosafety/Biosecurity	50.0	100
Staff Security/Health	100.0	100
Communication means	75.0	100
National lab networking	66.7	100
Laboratory collaboration	77.8	100
Grand total (%) Lab x	**62.9**	**100**



05/06/2015 - LMT Areas * Results for Lab x	TOTAL (%)
TOTAL General laboratory profile	40.0
TOTAL Infrastructure, equipment, supplies	57.7
TOTAL Laboratory performance	72.8
TOTAL QA, Biosafety/Biosecurity	74.7
TOTAL Lab collaboration and networking	75.0

*Numbers displayed in percentage; Scoring based on the ideal situation (100%): numbers in each cell represent the achieved percentage compared to the optimum (100% being the ideal laboratory). Color coding: 0-20%, 20-40%, 40-60%, 60-80%, 80-100%

** Reliability of the result depends on the percentage of questions filled or left blanck per category in the LMT questionnaire. From 100 to 90%, the LMT scoring is reliable (green). From 90 to 70%, realiability of the scoring is medium (orange), from 70 to 0%, reliability is low (red).

Strengths	Gaps
1. Staff security/Health	1. Basic supply
2. Quality assurance	2. Organization
3. Sample accession	3. Staff skills and availability
4. Laboratory collaboration	4. Biosafety and Biosecurity
5. Available technology	5. Equipment

Evaluation for action

Laboratory assessments - Interlaboratory proficiency testing AI/NCD

1. Evaluation

Lab proficiency in diagnostic technics

Lab Quality Management System

2. Gaps & Strengths

Evaluation of the results

Root cause analysis and troubleshooting

Agree on the main gaps

3. Action

Agreement on the corrective actions and plan for next steps

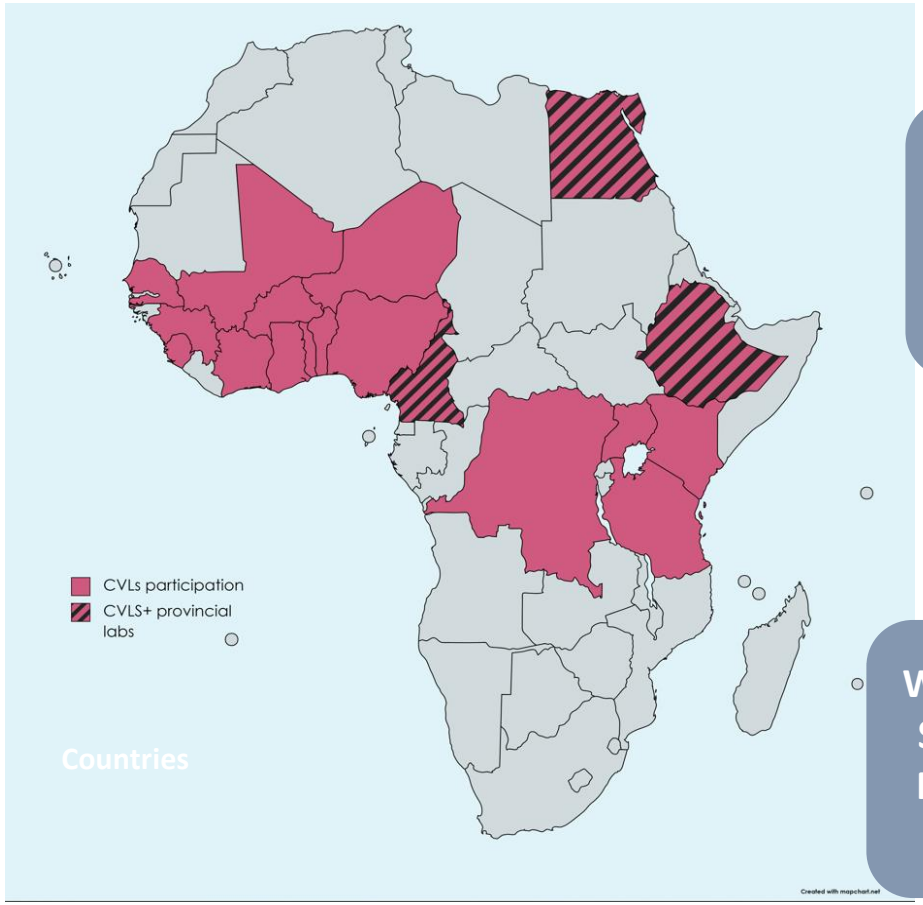
4. Measure progress

Comparison of results over time

PT -> contributes to the continuous improvement in the quality of tests results

Involving national lab, FAO regional and HQ teams, organizing lab (e.g. IZSVe)

Regular AI/ND proficiency testing since 2008



FAO Ref. Centers for Animal Influenza/NDV
WOAH and national Ref. Lab. for avian influenza (IZSVe- Italy)

WOAH recommended protocols:
Serology (IH and or ELISA tests)
Molecular testing (conv RT-PCR and/or real-time RT-PCR)

Evaluate the proficiency on diagnostic technics AI-H5

Table 14. Statistical analysis of molecular detection of AIV-H5 by real-time RT-PCR.

Sample		Laboratory code															
ID code	Type	L01	L03	L05	L06	L12	L13	L15	L17	L20	L22	L25	L26	L28	L29	L30	L33
M01	Negative	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M02	H7N7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M03	PPMV-1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M04	H9N2	N	N	P	N	N	N	N	N	N	N	N	N	N	N	N	N
M05	H5N8	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
M06	H7N7	N	N	N	N	N	N	P	N	N	N	N	N	N	N	N	N
M07	H5N8	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
M08	Negative	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M09	H5N1	P	N	P	P	P	P	P	P	P	P	P	P	P	P	P	P
M10	APMV-1	N	P	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M11	H5N5	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
M12	H5N6	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N	P
Se (%)**		100	80	100	100	100	100	100	100	100	100	100	100	100	100	80	100
Sp (%)**		100	85.71	85.71	100	100	100	85.71	100	100	100	100	100	100	100	100	100
Concordance (%)*		100	83.33	91.67	100	100	100	91.67	100	100	100	100	100	100	100	91.67	100
Kappa		1.00	0.66	0.83	1.00	1.00	1.00	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	1.00
***p*-value**		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

P = Positive; N = Negative; Se = Sensitivity; Sp = Specificity
In **black**: correct specification; in red: result different from the target value
In light blue data referring to the individual laboratory and in light orange data deriving from the overall evaluation of the results given per sample
* Percentage of reported results in agreement with the assigned target value per total number of expected results
** Percentage assessed as (*) on the following expected results:
Five (5) AIV-H5Nx positives and seven (7) AIV-H5Nx negatives

PT 2022

CVLs + subnational lab participation

The boundaries and names shown and the designation used on this map do not imply official endorsement or acceptance by the United nations.

Strengthening veterinary laboratories testing capacities

- Support for equipment & reagents procurement, including establishment of long-term procurement mechanisms (LTA)
- Reagents monitoring informatics system in the laboratory (module in the LIMS SILAB)
- Immediate shipment of laboratory items to priority countries during emergency/outbreaks.

- Training curriculum (online, on-site), regional (ToT) and national levels
- Training on bioinformatics
- Mentorship, remote assistance
- Participation to yearly international proficiency testing

- Provision of diagnostic algorithms and protocols for core tests
- Enable access to confirmatory testing/sequencing by WOAH/FAO Ref labs
- Troubleshooting missions
- Guidelines for field sample collection, preservation and transport
- LIMS (SILAB) for diagnostics & sample tracking

Diagnostic capacity improved

Strengthening veterinary laboratories testing capacities

RENOVATION OF LAB FACILITIES

In several CVLs and regional laboratories in Africa

PROCUREMENT OF LABORATORY ITEMS

Laboratory reagents and consumables

Reagents for diagnostic analyses

(DFA, RT-PCR)

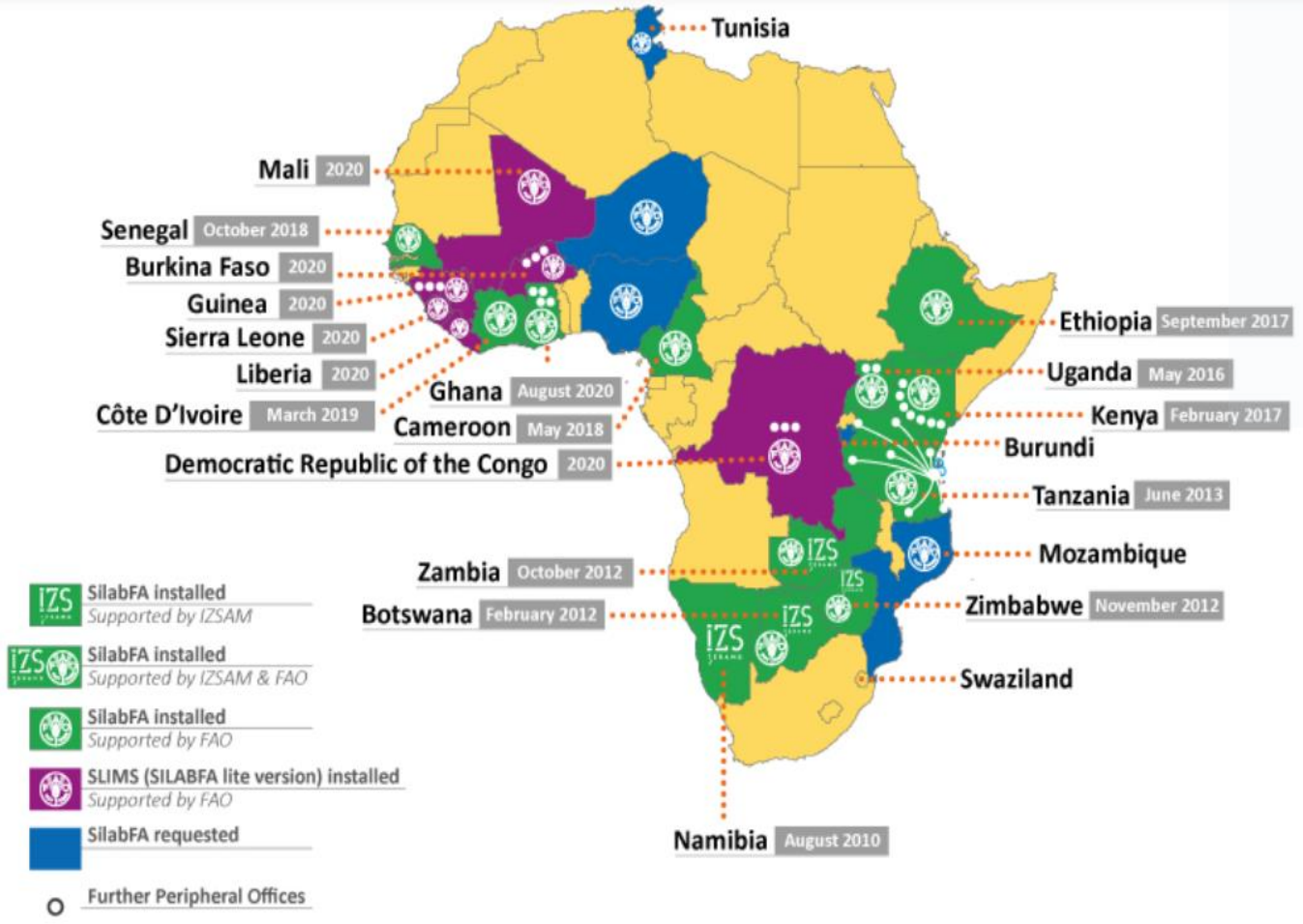
Equipment

PCR machines, ELISA readers, Fluorescente microscopes, etc..

Field consumables and PPEs

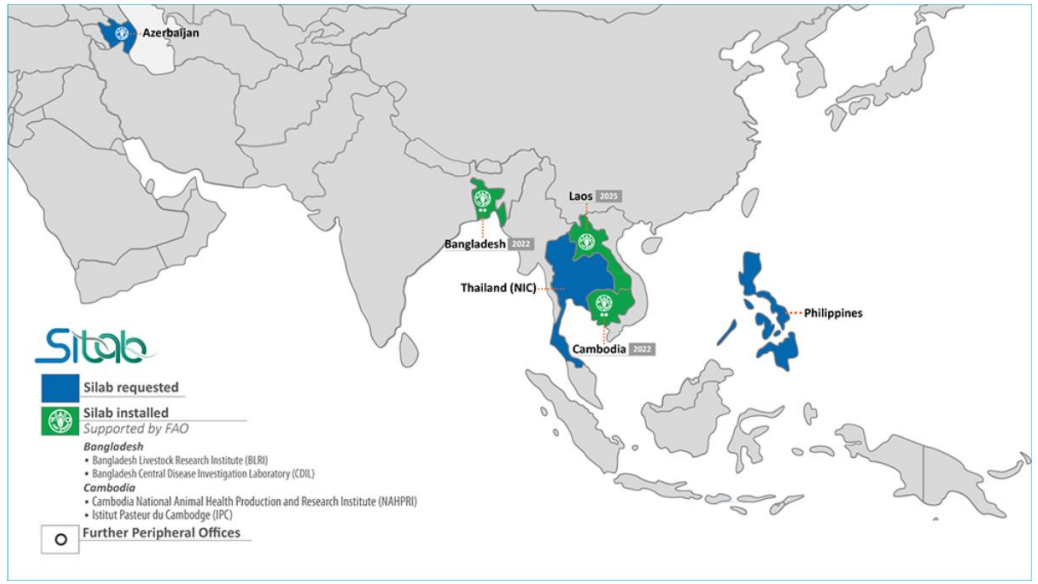
Personal protective equipment, sample collection and necropsy materials, and field testing kits for on-site investigations

Laboratory Information Management System : LIMS - SILAB



Standardization of laboratory diagnostic processes, sample traceability and management in veterinary laboratories

SILAB Biobanking Module available for management and traceability of stored pathogens and ensure safe and biosecure



Moving forward: testing, validating, implementing new technologies

In the laboratory

- New assays; sustainable energy practices
- IT facilities for advanced bioinformatics analysis (NGS, advanced phylogenetic analysis), regional programmes and e-learning for Bioinformatics, data sharing and Nagoya Protocol

In the field for rapid detection/diagnosis

- Validating/implementing non-traditional sampling techniques (environmental, water, air sampling)
- Operationalize diagnostics in the field (portable PCR, new platforms, rapid sequencing, MinION)

AMERICAN SOCIETY FOR MICROBIOLOGY | Journal of Clinical Microbiology®

CLINICAL VETERINARY MICROBIOLOGY
Month YYYY Volume XX Issue XX e00080-25
https://doi.org/10.1128/jcm.00080-25

Validation and multi-site deployment of a lyophilized qRT-PCR reagent for the molecular diagnosis of avian influenza and rabies in Sub-Saharan African regions

Petra Drzewniokova [1,2], Irene Brian [1], Marzia Mancin [1], Andrea Fortin [1], Morgane Gourlaouen [3], Angélique Angot [3], Mamadou Niang [4], Isaac Dah [5], Kouramoudou Berete [6], Adama Diakite [7], Fatou Tall Lo [8], Clement Meseko [9], Emilie Go-Maro [10], Valeria D'Amico [1], Viviana Valastro [1], Baba Soumare [3], Paola De Benedictis [1], Isabella Monne [1], Valentina Panzarin [1]

Grazie mille

Protecting people, animals, and the environment every day

Drawings: FAO/Chiara Caproni