

# Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (cycle III)

8 - 10 July 2025, Gaborone, Botswana

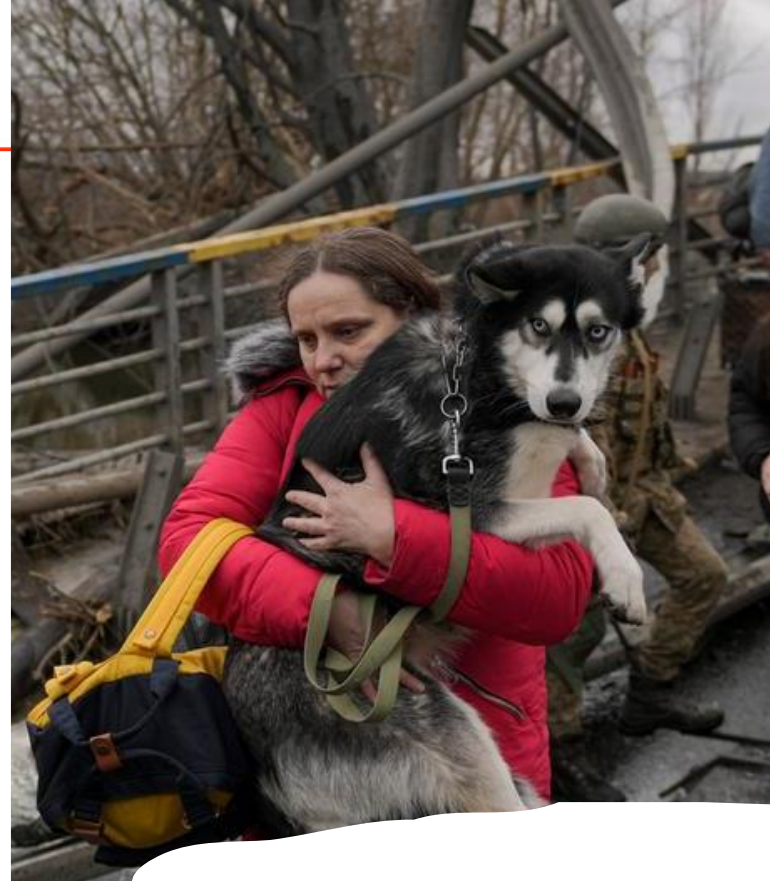


# **Evolving Threat Landscape for Laboratories**

## **WOAH's Work on Emergency Management and Biological Threat Reduction**

Ian Peter Busuulwa  
Project Officer – Biological Threat Reduction  
WOAH (Nairobi)





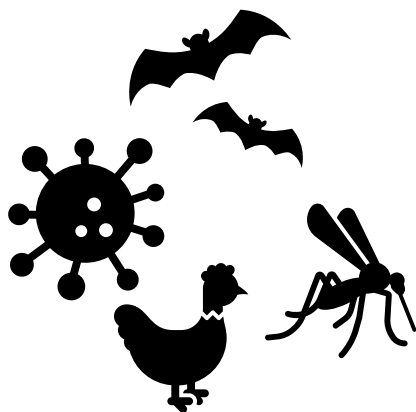
## An ever-changing hazard landscape for Veterinary Services



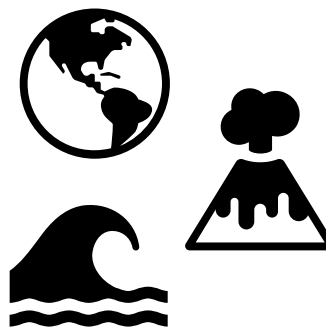
Co-funded by  
the European Union



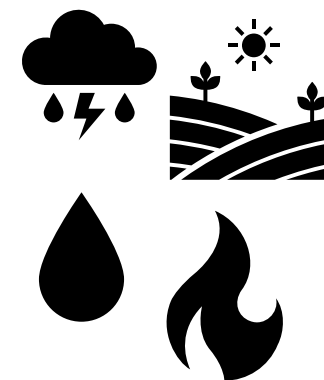
Counter Proliferation  
& Arms Control Centre



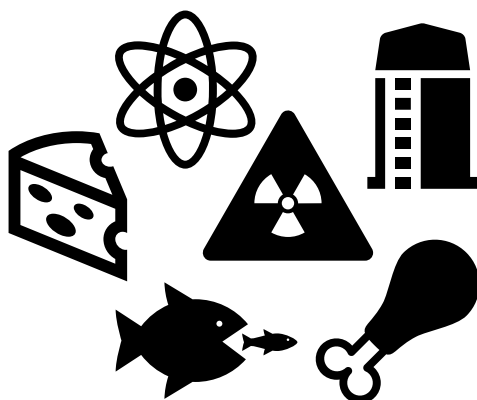
**Infectious diseases, including emerging zoonoses and vector-borne pathogens**



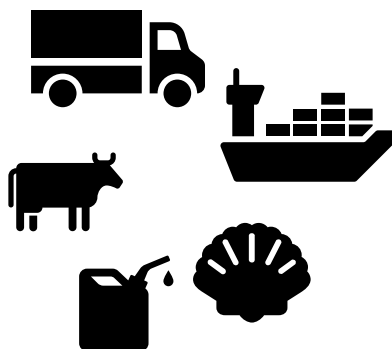
**Geological events:  
earthquakes, volcanoes and  
tsunami**



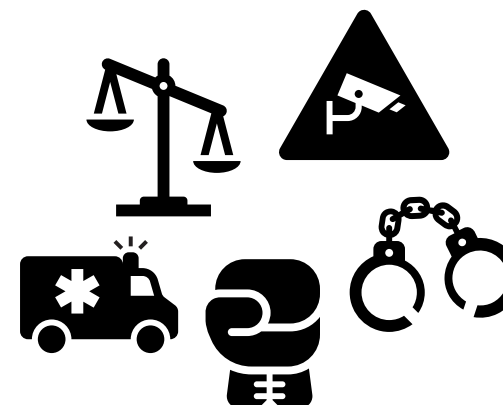
**Adverse weather and climatic  
events: storms, floods, fire  
and drought**



**Technological disasters and contamination  
of food and feed chains**



**Transport and maritime  
accidents, including oil spills**

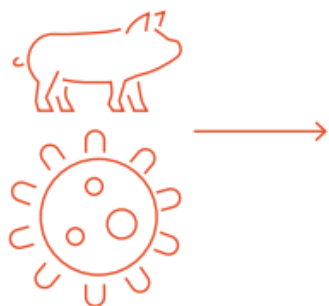


**Agro-crime, agro-terrorism,  
cybersecurity, conflict, refugees**



# Vulnerability of the animal sector

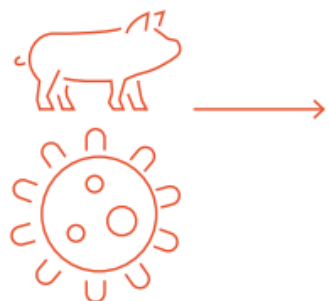




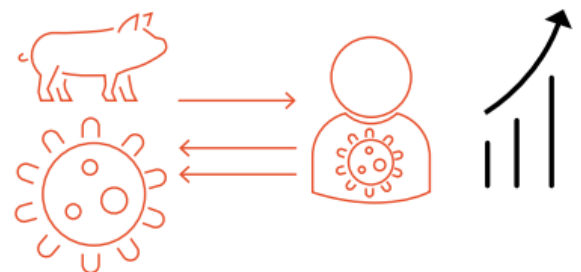
At least  
**75%** of emerging infectious  
diseases of humans  
(including Ebola, HIV, and  
influenza) have an animal  
origin



**80%** of agents with potential  
bioterrorist use are zoonotic  
pathogens

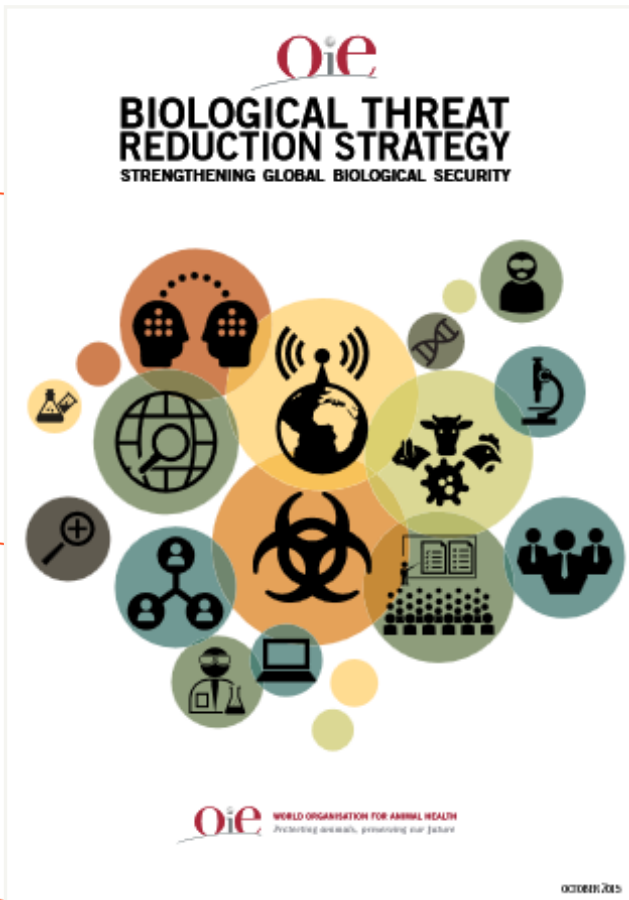


**60%** of existing human infectious  
diseases are zoonotic



There is also increasing evidence to demonstrate  
that infectious diseases are also being spread from  
humans to animals (reverse zoonosis)

**Fight pathogens at the animal source to protect human health**

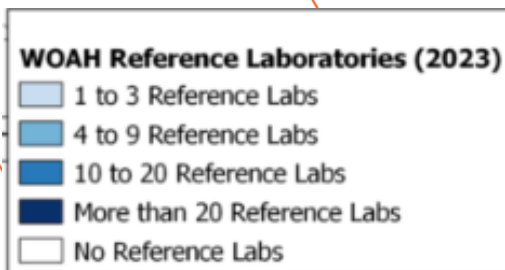
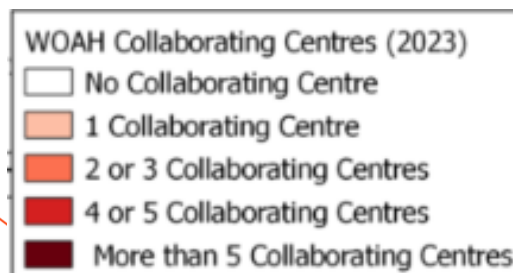
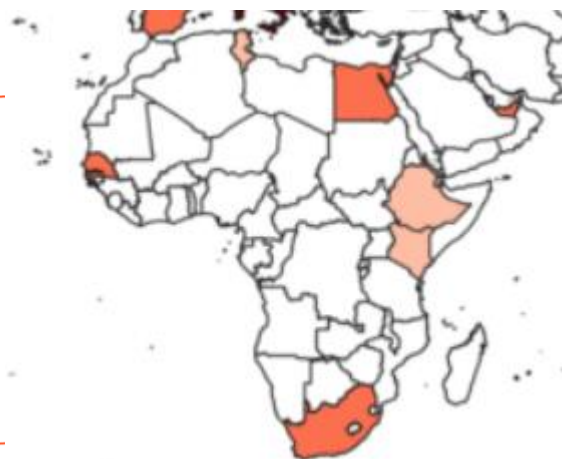


WOAH's strategy for biothreat reduction addresses 5 key areas:

- Maintaining expertise and setting standards, guidelines, and recommendations
- Good Governance, Capacity-building and Implementation of the One Health Concept
- Global Disease Intelligence and Updates on the Latest Methods for Disease Prevention and Control
- International cooperation and Solidarity Between Countries
- Advocacy and Communication

# 1. Maintaining expertise and setting standards, guidelines, and recommendations

## Expertise Network



- CAIRO UNIVERSITY - EGYPT
- CENTRE NATIONAL DE VEILLE ZOOSANITAIRE (CNVZ) - TUNISIA
- INTERNATIONAL CENTRE FOR INSECT PHYSIOLOGY AND ECOLOGY (ICIPE) - KENYA
- AFRICAN UNION (AU-PANVAC) - ETHIOPIA
- CLEVB - EGYPT
- ONDERSTEPSPOORT VETERINARY RESEARCH - SOUTH AFRICA
- ECOLE INTER-ETATS DES SCIENCES ET MÉDECINE VÉTÉRINAIRES (EISMV) - SENEGAL
- FACULTY OF VETERINARY SCIENCES (UP) - SOUTH AFRICA
- ANIMAL HEALTH RESEARCH INSTITUTE, AGRICULTURE RESEARCH CENTRE - EGYPT
- BOTSWANA NATIONAL VETERINARY LABORATORY (BNVL)
- INSTITUT AGRONOMIQUE ET VÉTÉRINAIRE HASSAN II – MOROCCO
- BOTSWANA VACCINE INSTITUTE (BVI)



# 1. Maintaining expertise and setting standards, guidelines, and recommendations

## Standards



## Guidelines



**Guidelines for investigation of suspicious biological events**  
For National Veterinary Services



Biological threat reduction



**Guidelines for Simulation Exercises**

A consistent set of good practices for preparing, delivering, and learning from animal health and welfare and veterinary public health simulation exercises for Veterinary Services

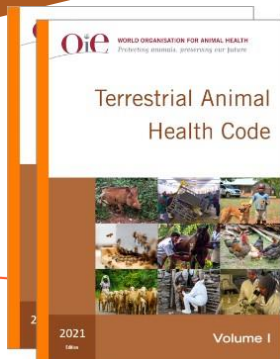


Emergency Management

## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### a. Biosafety and Biosecurity

International  
Standards



Biosafety and Biosecurity  
of Veterinary Services

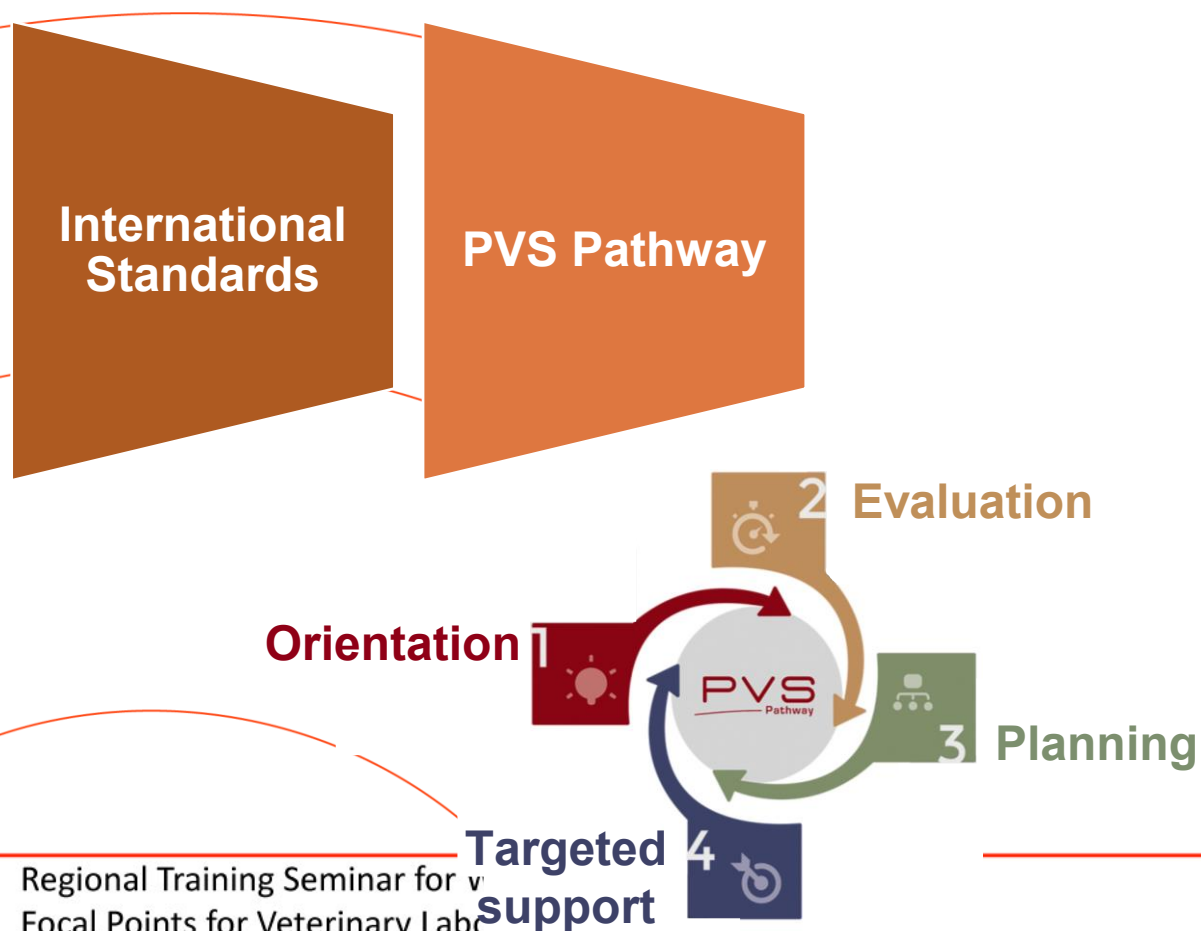
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## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

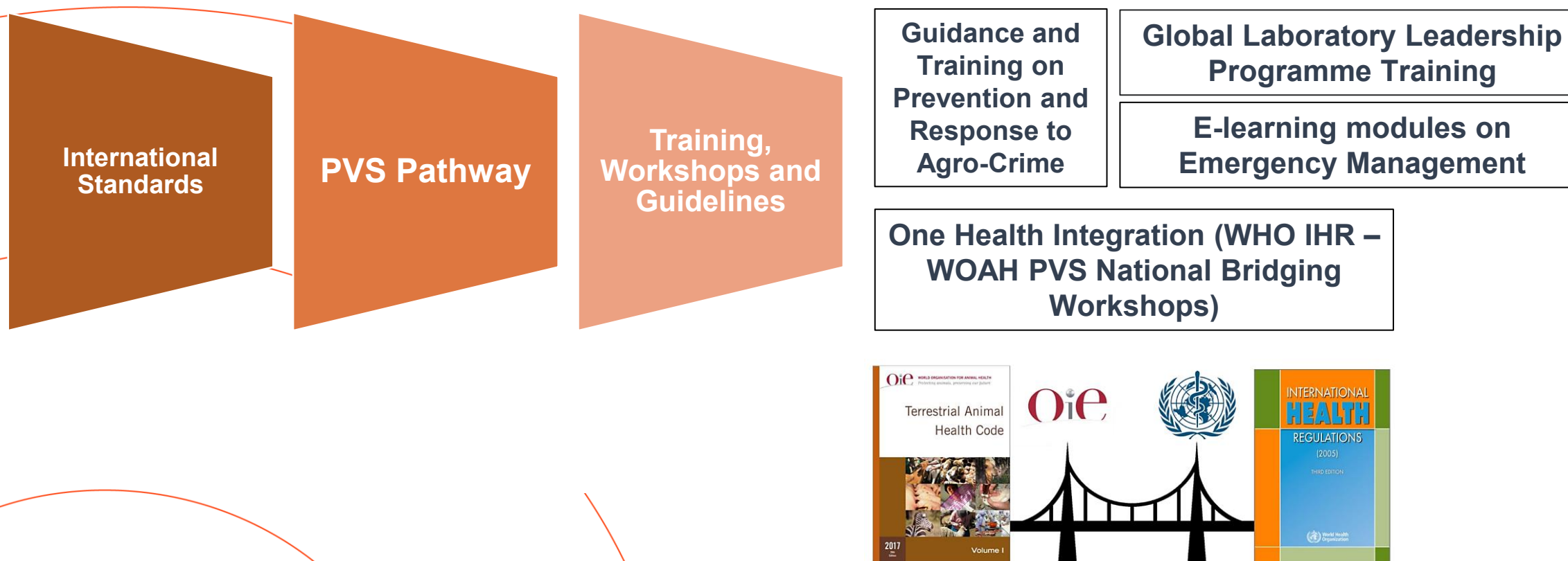
### a. Biosafety and Biosecurity





## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### a. Biosafety and Biosecurity



## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### a. Biosafety and Biosecurity



**WOAH Lab  
Twinning  
Programme**

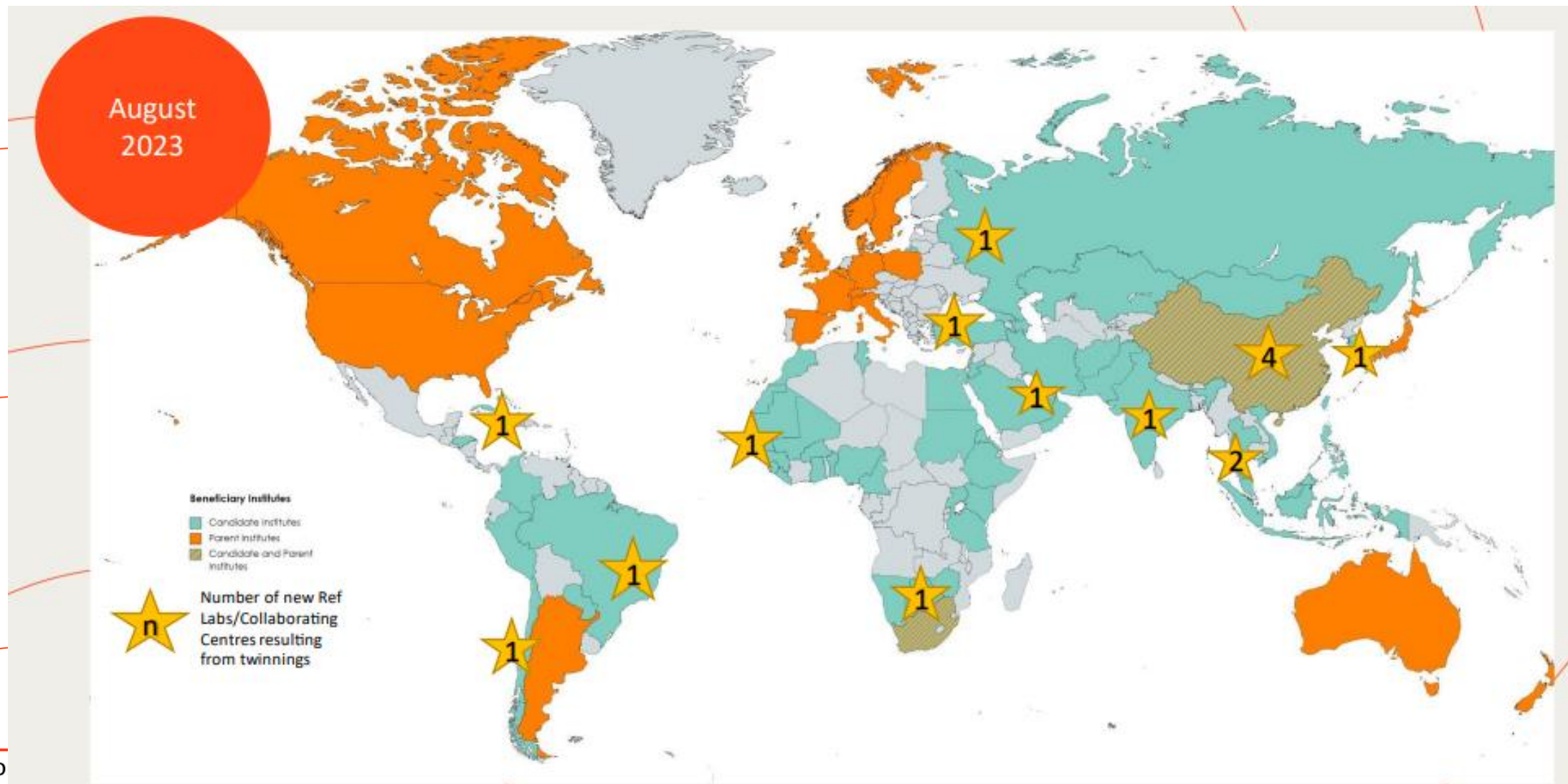
**Emergency  
Management  
Programme**



**Global distribution of WOAH  
Lab Twinnings**

*Map last updated in February 2023*

## 2. Good Governance, Capacity-building and Implementation of the One Health Concept





## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### a. Biosafety and Biosecurity



## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

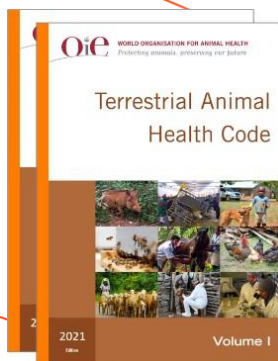
### a. Biosafety and Biosecurity



## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### b. National Governance Structure

**International  
Standards**



**Quality and Good  
Governance  
of Veterinary  
Services**



## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### b. National Governance Structure



#### CASE STUDY – ETHIOPIA

INTEGRATION OF THE PVS PATHWAY  
INTO A NATIONAL STRATEGIC PLAN  
FOSTERED INTERNAL RESOURCING  
AND CHANGE

PVS Evaluation in 2011 | PVS Gap Analysis in 2012

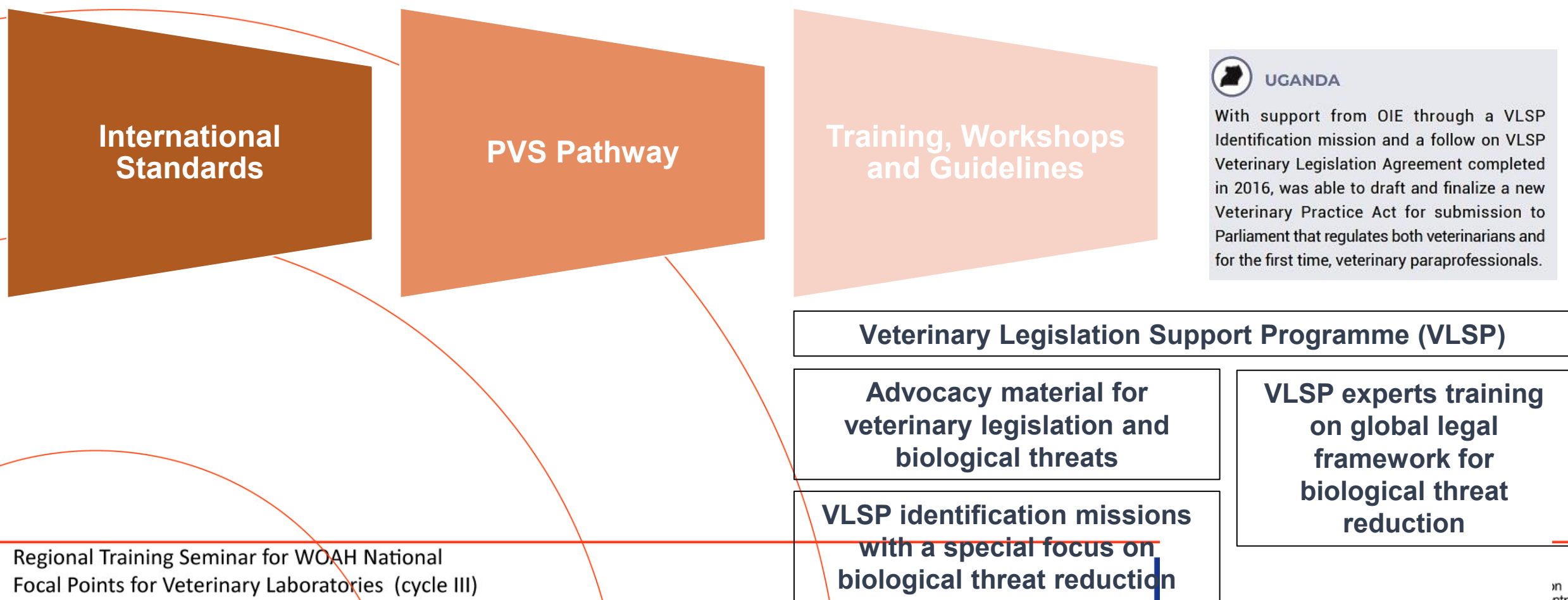
Based on the PVS Pathway outcomes, in 2013, Ethiopia developed a Veterinary Services Strategy with 13 major / 5 subsidiary interventions which started in 2014.

Key achievements in response to the PVS findings:

- Real time mobile phone-based Animal Health information system.
- National paper based reporting > partially web-based, now includes abattoir, quarantine station and laboratory data.
- A national Livestock Identification and Traceability System piloted in 2 locations for 2 production systems.
- The Veterinary Services Rationalization Road Map identifying three groups of Veterinary Services: private good, public good and private-public partnership (PPP) with resources targeted accordingly.

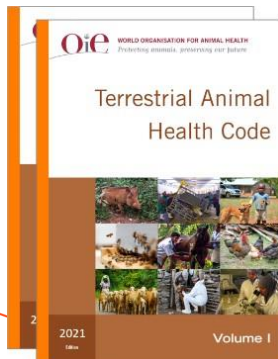
## 2. Good Governance, Capacity-building and Implementation of the One Health Concept

### b. National Governance Structure



### 3. Global Disease Intelligence and Updates on the Latest Methods for Disease Prevention and Control

**International  
Standards**



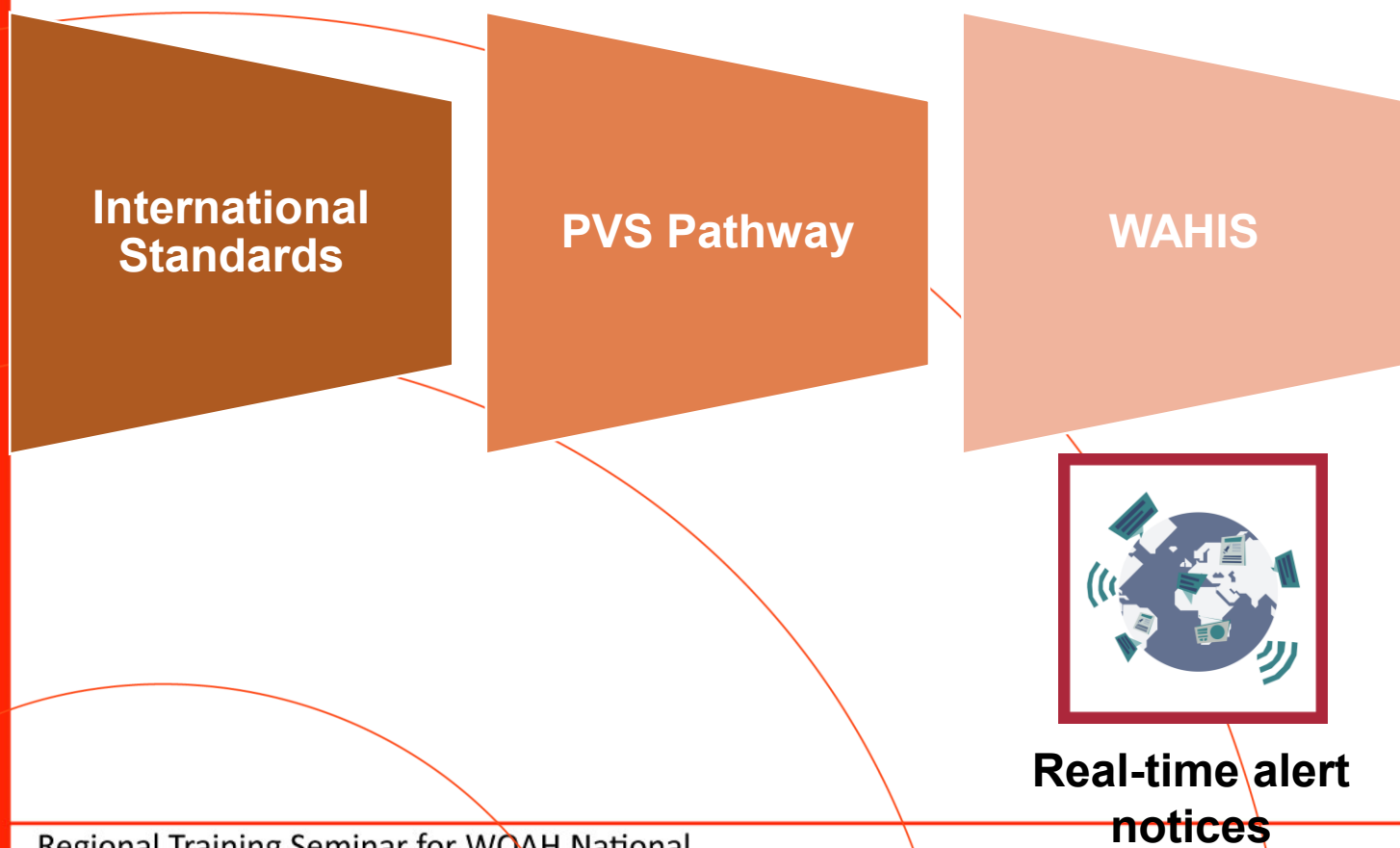
**Animal Disease Diagnosis,  
Notification, Prevention,  
Surveillance and Control**



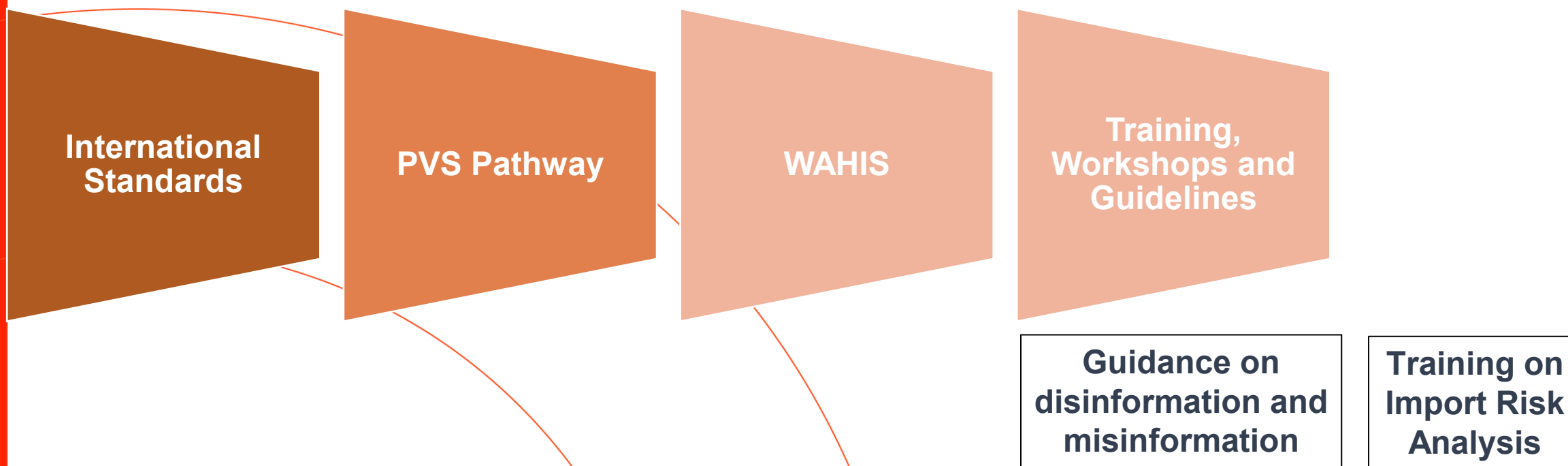
### 3. Global Disease Intelligence and Updates on the Latest Methods for Disease Prevention and Control



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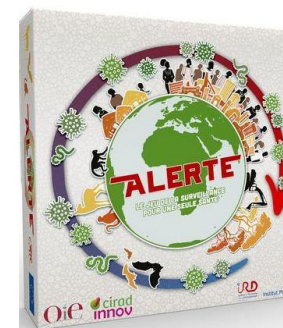
International  
Standards

PVS Pathway

WAHIS

Training,  
Workshops and  
Guidelines

Capacity building and  
surveillance for viral  
haemorrhagic fevers “EBO-  
SURY & ZOOSURSY  
Project”





## 4. International Cooperation and Solidarity Between Countries



World Health  
Organization



Food and Agriculture  
Organization of the  
United Nations

ILRI  
INTERNATIONAL  
LIVESTOCK RESEARCH  
INSTITUTE



INTERPOL



*Excellence in Research and Development*



AFRICAN UNION  
INTERAFRICAN BUREAU  
FOR ANIMAL RESOURCES



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service



RÉSEAU SEGA  
ONE HEALTH



Global Partnership Against  
the Spread of Weapons and  
Materials of Mass Destruction



Pan African Veterinary Vaccine Center of African Union

**AU-PANVAC**



## 5. Advocacy and Communication



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## Fortifying Institutional Resilience against Biological Threats (FIRABioT)

### Objectives

1. Improve WOA's ability to anticipate, respond and recover from emergencies and ensure business continuity
2. Strengthen WOA's Members' abilities and capacities to respond to emergencies, particularly in Africa
3. Demonstrate value of WOA as a partner for security organisations

### Project Breakdown

1. Establish a WOA Incident management system
2. Improve capacity of WOA Members to respond to emergencies resulting from deliberate releases (focused on Africa)
3. Scientific and evidence-based guidance and standards for emergency management developed
4. Dissemination of good practices for emergency management (including for deliberate releases)



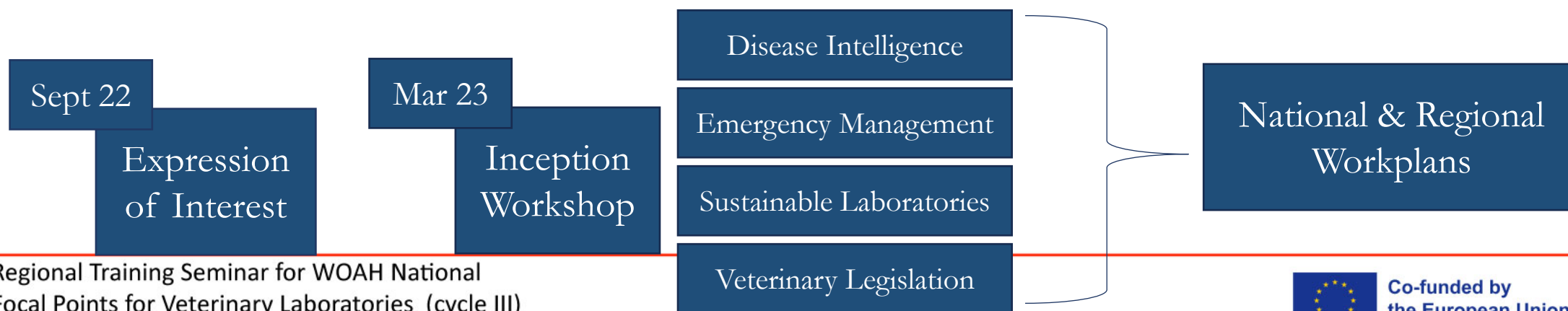
In partnership with  
**Canada**

## Why are we doing this in Africa?

- Previous work funded by GAC demonstrated gaps and challenges in emergency management and contingency planning
- Support the Global Partnership's Signature Initiative to Mitigate Biological Threats in Africa

## Workstream structure

- Approach is based on lessons identified during previous projects. **Goal:** country driven, collaborative development and implementation





## Beneficiary countries

1. Algeria
2. Congo (Republic)
3. Kenya
4. Madagascar
5. Malawi
6. Morocco
7. Namibia
8. Tanzania
9. Zimbabwe





## Country activities completed

- **Biosafety & biosecurity training:** training laboratory personnel on the WOA standards on biosafety & biosecurity, and the ISO 35001 (biorisk management) – Tanzania, Madagascar, Malawi, Zimbabwe, Morocco and Congo (Republic)
- **Diagnosis of CBPP:** priority disease that excludes countries from trade in live animals – Kenya
- Diagnosis of high consequence pathogens (CBPP & RVF) – Congo (Republic)





## Country activities ongoing

- **Veterinary legislation review (biosafety & biosecurity):** VLSP with a biothreat focus – **Madagascar & Malawi** [Q1 & Q2 2025, CBD]
- **Development of contingency plans for zoonotic diseases:** one plan with annexes for the country's priority zoonotic diseases – **Madagascar, Malawi, & Namibia**
- **Drafting laboratory and field biosafety & biosecurity guidelines, protocols, SOPs:** to support implementation of biorisk mitigation strategies – **Kenya & Malawi** [Q1, Q2, Q3 2025]
- **Laboratory twinning:** on biosafety & biosecurity, diagnosis of HCATs or pathogens on the Australia Group List – **Tanzania, Algeria**



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## Upcoming country activities

- **Bioinformatics & data management training:** improving ability of veterinary services to generate and analyse molecular and quantitative data, for improved disease detection and management – **Namibia & Zimbabwe [Q2, Q3 2025]**
- **National Bridging Workshop:** linking IHR and PVS/VLSP assessment reports – **Malawi [Q2 2025, CBD]**
- **Inventory of dangerous pathogens:** database of laboratories holding pathogens of concern for proper tracing and implementation of relevant biorisk mitigation measures – **Congo**



## Upcoming country activities

- **Drafting / Updating laboratory biosafety & biosecurity regulations, guidelines, protocols, SOPs:** to support implementation of biorisk mitigation strategies, and foster a biosafety culture – **Madagascar [Q3, Q4 2025]**
- **Developing risk communication strategy:** to guide internal and external communication of veterinary services in the event of an emergency (naturally occurring or deliberate event) – **Tanzania [Q3, Q4 2025]**
- **Training on surveillance, early warning and control of biological threats:** based on WOA's surveillance standards and guidance – **Morocco [Q3 2026]**
- **Disease simulation exercises:** to assess effectiveness of developed contingency plans – **Zimbabwe, Morocco, Madagascar & Tanzania [Q3 2025]**

## Regional Activities completed

- **Biological Waste Management Training:** proper handling of biological waste in veterinary laboratories to reduce risk of unintentional release or exposure to dangerous pathogens – **NICD (Africa CDC)**
- **Bioinformatics and Data Management Training:** improve countries' diagnostic and surveillance capabilities by improving management of molecular and quantitative data – **ILRI, IZS Teramo, Institut Pasteur de Tunis**
- **Risk and Crisis Communication for animal health emergencies:** addressing misinformation and disinformation, increasing visibility of VS, and improved stakeholder engagement during emergencies – **UNICRI, John Hopkins Center for Health Security, USIU-Africa, APAA**
- **WOAH Supported Delegation to the IFBA Global Voices Conference 2025:** supported 10 competitively selected participants from previous FIRABioT activities.







## Upcoming Regional Activities

- **Training on planning and conducting disease simulation exercises:** simulations key for testing contingency plans and clarifying stakeholder roles in emergency response. (English & French) **[Q2 2025]**
- Regional Agrocime & Agroterrorism Workshop (English & French) – **INTERPOL [Q1, Q3 2025]**
- Regional Disease Simulation Exercise (English & French) **[Q1 2026]**
- **Training on investigation of suspicious biological events training for vets:** training on investigation of suspicious biological events – **(Kenya, Tanzania & Zimbabwe) (Algeria, Madagascar & Morocco) [Q1 2026]**



# Global Conference on Biological Threat Reduction

Location: CICG Conference Center, Geneva, Switzerland, (hosted by WOAHA)

Date: 28 - 30 October 2025



## Objectives

- Reflect on Historical Experiences and Current Challenges and anticipate future threats:
- Strengthen International Efforts in Biological Threat Reduction:
- Foster multi-sectoral partnerships in global health security:
- Identify innovative strategies:

**Funded by;** Global Affairs Canada, US DTRA, EU Commission, Swiss Federal Department of Foreign Affairs

<https://www.woah.org/en/event/global-conference-on-biological-threat-reduction/>

## Summary

- As the global animal health authority, WOAH's mandate covers all-hazards relevant to animal health – including biological threats
- Remain agile to respond and deliver activities for Members upon request
- Active engagement with Membership and partners
- Foster collaboration





*Ke a lebaga*

