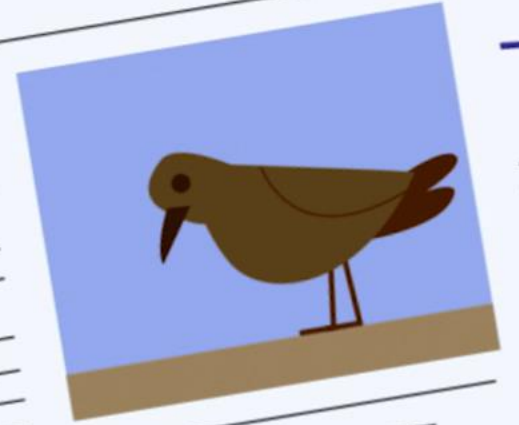# One Health Field Epidemiology Competency Framework:
an opportunity for countries to invest in their workforce thorough a learner-centred programme

EBOLA OUTBREAK

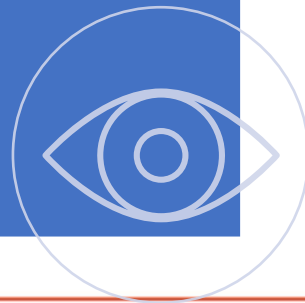## AVIAN INFLUENZA CONFIRMED CASES

ST N
SPR

COHFE Vision & Mission

We envision a world where multi-sectoral collaboration enables early detection and rapid response to health threats from any source

Vision

By the end of 2028, we (FAO, UNEP,WHO, WOAH) aim to increase availability of guidance and tools for countries to train a competent One Health Field Epidemiology workforce

Mission

Competencies for One Health Field Epidemiology (COHFE) Framework and Supplemental Guidance

▶ Designed using a OH approach

▶ Operates as a multi-sectoral initiative

▶ Implementation driven by multiple sectors (i.e., human, animal and environment)

▶ Flexible, adaptable to existing Field Epidemiology Training Programs (FETP)

▶ Unique, most FETPs are mainly unisectorial, bisectorial at best
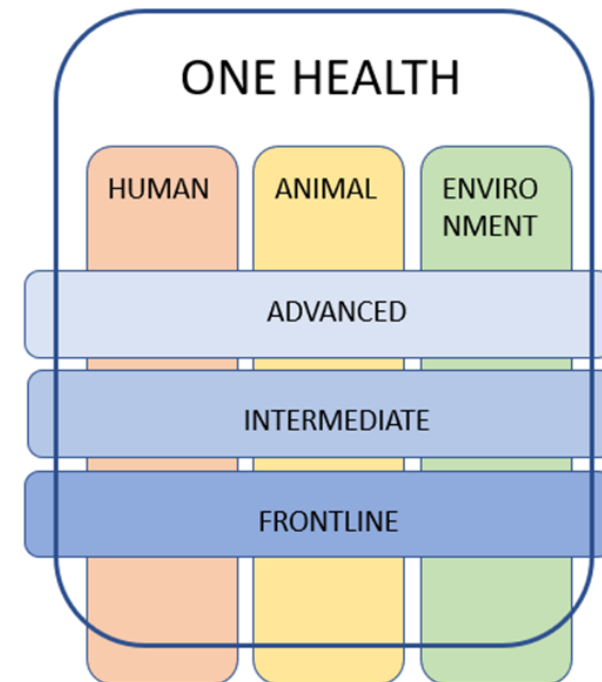
Structure of the documents

Sidebar documents

COHFE 02 — Guidance for One Health field epidemiology curriculum development — *A supplemental manual to the Competencies for One Health field epidemiology (COHFE) framework*

COHFE 03 — Guidance for One Health field epidemiology mentorship — *A supplemental manual to the Competencies for One Health field epidemiology (COHFE) framework*

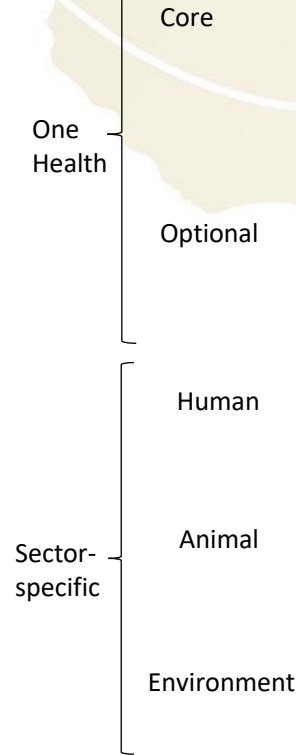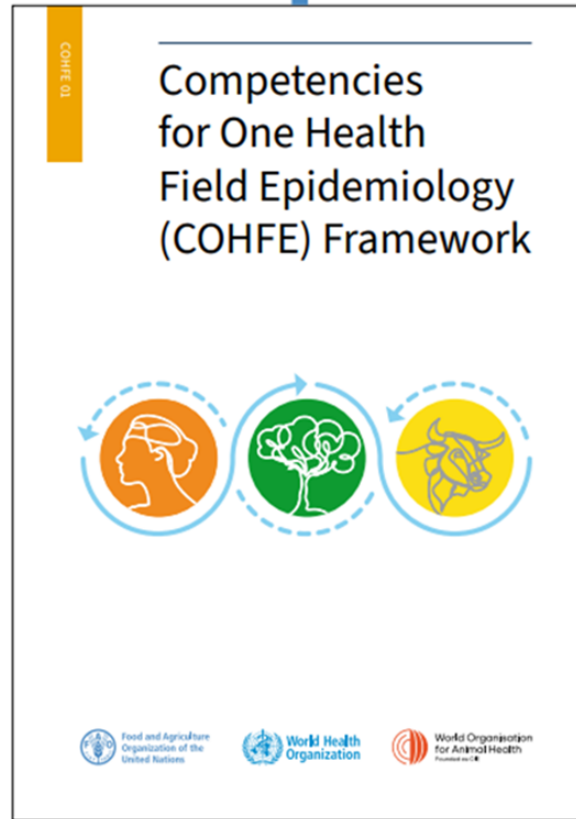**COHFE 05** — Guidance for One Health field epidemiology continuing education programmes — *A supplemental manual to the Competencies for One Health field epidemiology (COHFE) framework*

COHFE 04 — Guidance for One Health field epidemiology learning evaluation and certification — *A supplemental manual to the Competencies for One Health field epidemiology (COHFE) framework*

COHFE 01

Competencies for One Health Field Epidemiology (COHFE) Framework

Food and Agriculture Organization of the United Nations — World Health Organization — World Organisation for Animal Health

Structure

- One Health
  - Core
  - Optional
- Sector-specific
  - Human
  - Animal
  - Environment

KSC Statements

	Frontline	Intermediate	Advanced
One Health (Core)	1. Enter and validate data (S) 2. Conduct descriptive analyses of collected data (S)	= Frontline + 1. Use statistical/spatial analyses and interpret results (univariate) (C) 2. Generate hypotheses about cause/risk factors (C) 3. Apply analytical epidemiological investigation to identify the source, cause and or risk factor/determinants (C)	= Intermediate + 1. Analyse and interpret human, animal and environmental data to determine the potential origin and spread of an outbreak (C)
One Health (Optional)	1. Interpret diagnostic test results of samples submitted to the laboratory (S) 2. Relate lab results to case categories (S)	= Frontline	= Intermediate + 1. Manage complex datasets and conduct multivariate analysis (C) 2. Use advanced statistical/geographical analyses/modelling and forecasting and interpret results (C)
Human			1. Conduct data analysis with regard to vulnerable groups (S)
Animal	1. Collect value chain data and draw simplified value chain map to identify potential spread routes and characterize risk (S) 2. Explain the use of value chain mapping in an outbreak investigation (K)	= Frontline + 1. Draw and interpret a value chain map to identify potential spread routes and high-risk points of an animal disease outbreak (S)	= Intermediate + 1. Design value chain investigation and advanced analysis of data to characterize risk (S)
Environment			

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Prioritization Tool

OPTIONAL COMPETENCIES: PRIORITIZATION TOOL														
Competency	2.1.5	2.1.6	2.1.7	2.2.2	2.2.3	2.3.1	2.3.3	2.4.1	2.4.2	2.5.1	2.5.3	2.5.4	Score	Rank
2.1.5 Define attributes (e.g., timeliness, sensitivity) of a functional surveillance system													31.3	4
2.1.6 Describe the roles and responsibilities in the surveillance system	Equally important												20.6	11
2.1.7 Describe priority conditions, administration levels and reporting flows	Equally important	More important											25.3	8
2.2.2 Use diverse sources of information for Event Based Surveillance	More important	More important	Much less important										24.6	9
2.2.3 Perform signal detection from both IBS and EBS	Much more important	Equally important	Equally important	Much more important									30.6	5
2.3.1 Apply case definitions for priority diseases to identify suspected cases	Equally important	More important	Much more important	Equally important	More important								33.5	2
2.3.3 Follow reporting channels to report cases and signals to appropriate administration level	Much less important	Equally important	Equally important	More important	Equally important	More important							29.3	6
2.4.1 Describe the role of surveillance systems in public health, animal health and wildlife health (respective objectives of and expected outputs)	Much less important	Less important	Less important	Equally important	More important	Less important	Much more important						32.8	3
2.4.2 Describe the one health aspects of surveillance systems (coordination and integration of surveillance activities between multiple sectors)	Equally important	Equally important	Much more important	More important	More important	More important	Much less important	Much less important					34.2	1
2.5.1 Produce surveillance summary bulletins and reports	Less important	Less important	Equally important	Much less important	Equally important	Less important	Equally important	Much more important	Equally important				16.7	12
2.5.3 Report to next administration level	Equally important	Less important	Much more important	Equally important	Equally important	Equally important	Much more important	Equally important	Equally important	Equally important			28.2	7
2.5.4 Apply recommendations from the feedback of the higher administration levels	Equally important	Equally important	Equally important	Equally important	More important	Much more important	Less important	Less important	Less important	Equally important	Equally important		21.6	10

COHFE Guidance:

1. One Health Field Epidemiology Curriculum Development

▶ Curriculum topics linked to COHFE framework

▶ Topics, descriptions and learning objectives

▶ Course topics to add to current FETP programs and/or develop new OH COHFE programming

COHFE Guidance:

## 2. One Health Field Epidemiology Mentorship

Mentor responsibilities by programme level for each recommended practice activity

Table 1
Mentor responsibilities for field epidemiology training programme activities, as adapted from the FETP Mentor Handbook (39).

Activity	Programme Level	Mentor responsibilities
Surveillance		
Data quality audit	Frontline	• Ensures that trainees choose appropriate topics. • Works with trainees to customise the standard data quality audit worksheet. • Supports trainees by accompanying them on their first site visit, introducing the programme to the field project and senior staff, and assisting trainees with using the data quality audit worksheet correctly. • Conducts an after-action review of the first site visit and advises on improvements for subsequent visits. • Provides technical assistance throughout the audit and assists trainees with analysis of key findings using the Strengths, Weaknesses, Opportunities, and Threats (SWOT) tool. • Evaluates the data quality audit using the evaluation criteria. • Discusses developmental feedback with trainees.
Surveillance data analysis	Frontline, Intermediate, and Advanced	• Works with trainees to define objectives for surveillance data analysis. • Discusses approaches for analysis of data. • Supports trainees in using a statistical program for data analysis. • Ensures that trainees interpret the results correctly. • Guides trainees in presenting the results in tables and figures. • Evaluates surveillance analysis using the evaluation criteria and provides feedback.
Surveillance summary report	Frontline, Intermediate, and Advanced	• Meets with trainees to discuss surveillance systems to be described. • Reviews drafts of summary surveillance reports. • Arranges time for trainees to present findings to those responsible for maintaining the systems. • Ensures that officials responsible for the surveillance systems receive copies of reports. • Evaluates surveillance summary reports based on the evaluation criteria. • Discusses developmental feedback with trainees.
Problem analysis report	Frontline	• Helps trainee select quality problems from data quality audit reports. • Ensures trainees understand both the problem analysis worksheet and the process to complete it. • Ensures trainees communicate findings to appropriate stakeholders. • Evaluates problem analysis reports based on the evaluation criteria. • Discusses developmental feedback with trainees.
Surveillance system evaluation	Intermediate, and Advanced	• Meets with trainees to discuss surveillance systems to be described. • Reviews drafts reports. • Ensures that officials responsible for surveillance systems receive copies of reports. • Arranges time for trainees to present findings to those responsible for maintaining surveillance systems. • Evaluates surveillance systems evaluation reports based on the evaluation criteria. • Discusses developmental feedback with trainees.

COHFE Guidance:

3. One Health Field Epidemiology Learning Evaluation and Certification

Guidance for One Health field epidemiology learning evaluation and certification

A supplemental manual to the *Competencies for One Health field epidemiology (COHFE) framework*
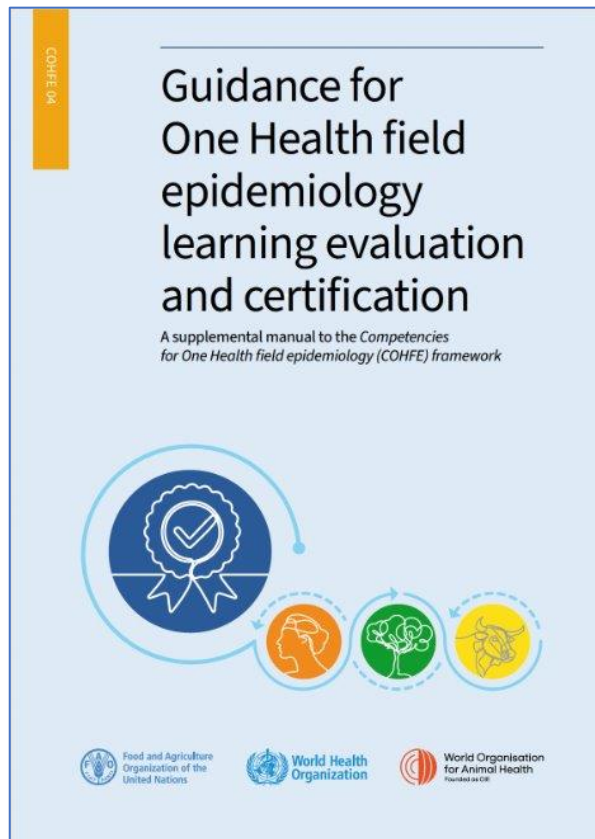
▶ Evaluation of training programme participants

    ▶ Methods of evaluation

    ▶ Types of evaluators

▶ Training certification requirements

    ▶ Types of requirements

    ▶ Establishing certification requirements

    ▶ Certification bodies and procedures

    ▶ Graduate database and alumni associations

COHFE Guidance:

4. One Health Field Epidemiology Continuing Education Programmes
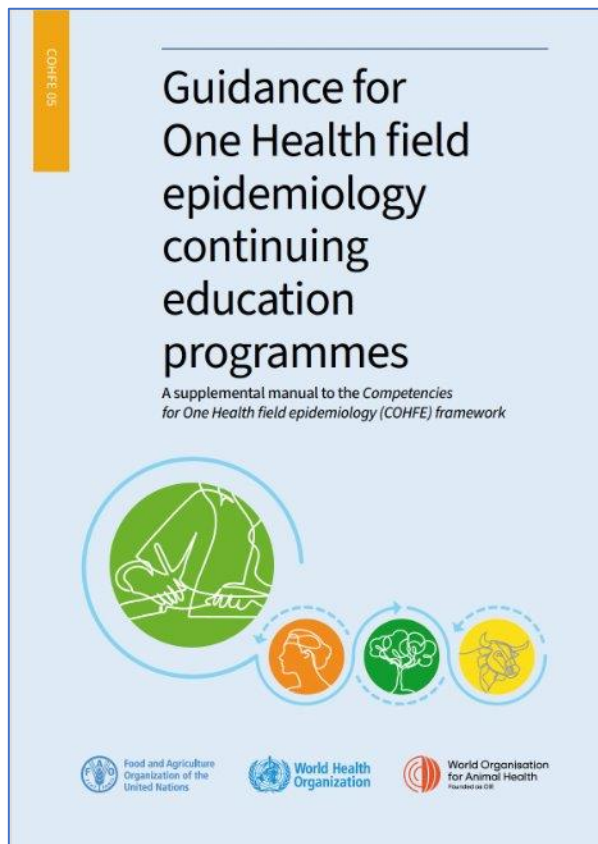
▶ Administration and governance of CE

▶ CE programming and learning activities

▶ Programme approval and awarding of CE hours

▶ CE quality management

Expected Impact

COHFE Framework and Manuals

▶ By training together, OH principles and values are forged, leading to strongly anchored ways of working and robust, long-standing networks

▶ Graduates, especially of the advanced tier, will hold leadership positions within OH structures in the future

▶ Through the FETP model of experiential learning, leadership in OH systems can be shaped and built into the systems for the future

▶ Implementing initiatives using a OH approach, under the Quadripartite, demands enhanced efforts and continuous intentional cooperation to ensure its success

Gaps identified

- ## What is needed?

| | Country support to implement the framework and the tools developed |

Tools need to be tested and validated in the field

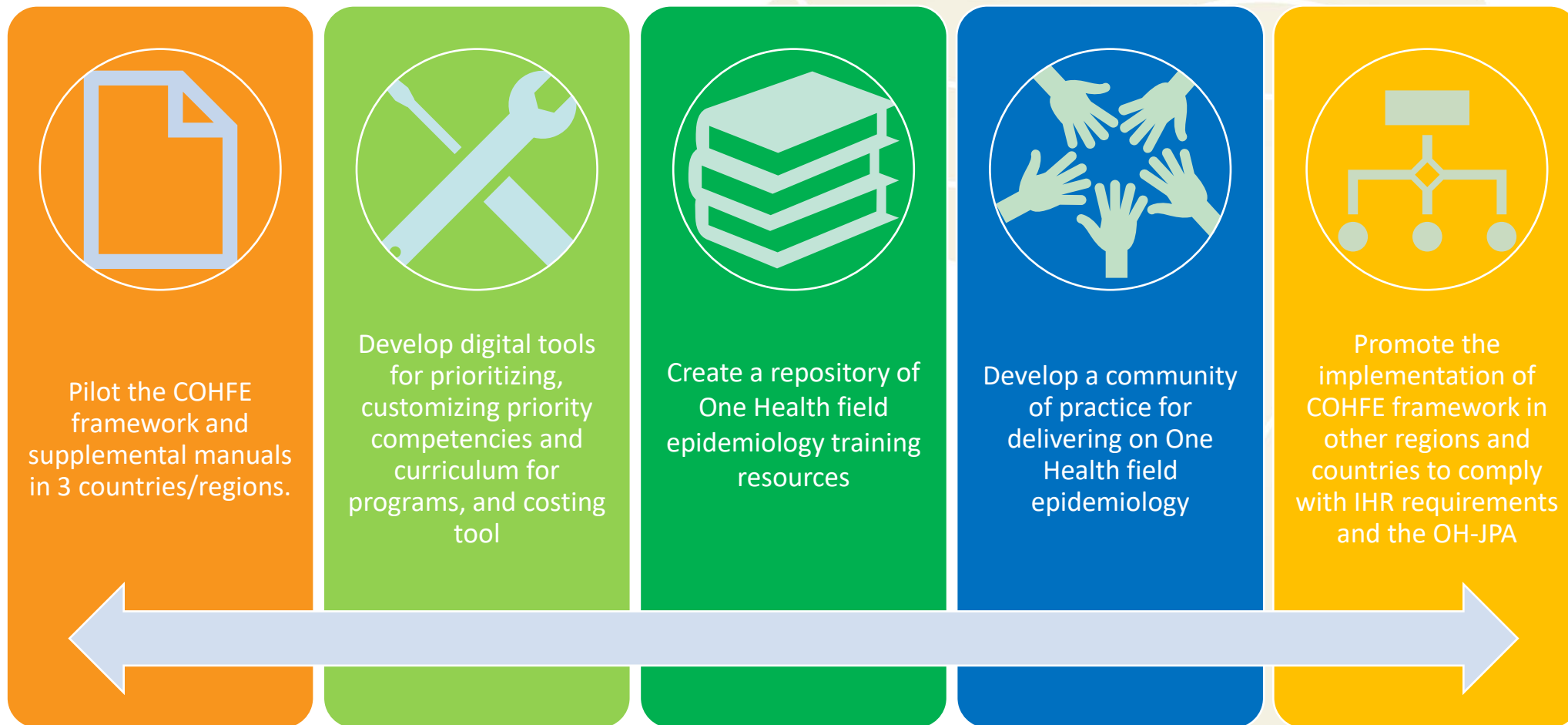Tools need to be refined upon evaluation and revision

UNEP included => now Quadripartite, tools need adaptation, scale up of collaborative efforts

Involvement of all three sectors in implementing COHFE will require advocacy, identification of and reaching out to partners, buy-in from all sectors

Next Phase

Pilot the COHFE framework and supplemental manuals in 3 countries/regions.

Develop digital tools for prioritizing, customizing priority competencies and curriculum for programs, and costing tool

Create a repository of One Health field epidemiology training resources

Develop a community of practice for delivering on One Health field epidemiology

Promote the implementation of COHFE framework in other regions and countries to comply with IHR requirements and the OH-JPA

- Objectives

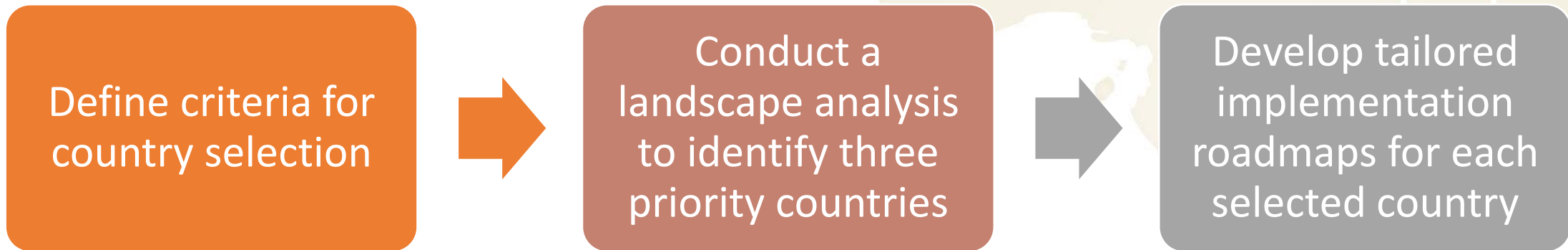| Facilitate the adoption of the COHFE framework through engagement with partners | Develop tools for countries to adapt the framework to their needs and priorities | Promote the framework and establish a community of practice |

- Goal: To increase the availability of a competent and adequately trained One Health field epidemiology workforce at the country level.

• Project Activities

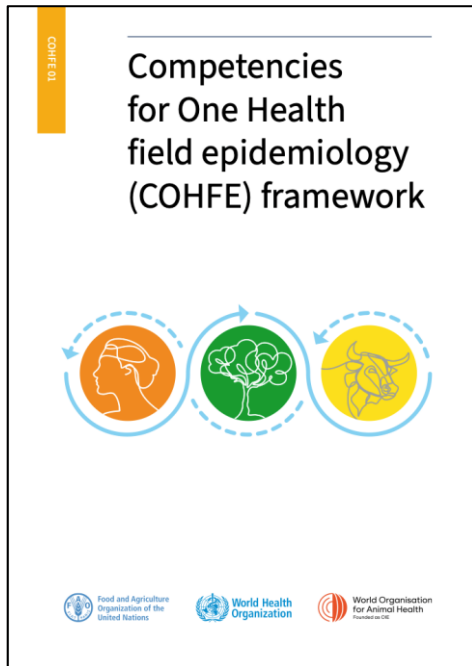| 1 | Conduct a landscape analysis and develop a roadmap |
2	Develop digital tools to assist COHFE implementation
3	Pilot and refine the COHFE framework
4	Promote COHFE implementation
5	Establish a COHFE community of practice
6	Create a repository of training resources
7	Implement quality assurance for One Health training

① Landscape and Roadmap

- Select three countries for COHFE implementation in coordination with regional and country offices

| Define criteria for country selection | → | Conduct a landscape analysis to identify three priority countries | → | Develop tailored implementation roadmaps for each selected country |

2 Digital tools to assist COHFE implementation

Competency-Builder Tool | Curriculum-Builder Tool | Budgeting Tool

Competencies for One Health field epidemiology (COHFE) framework

COHFE 01

Food and Agriculture Organization of the United Nations

World Health Organization
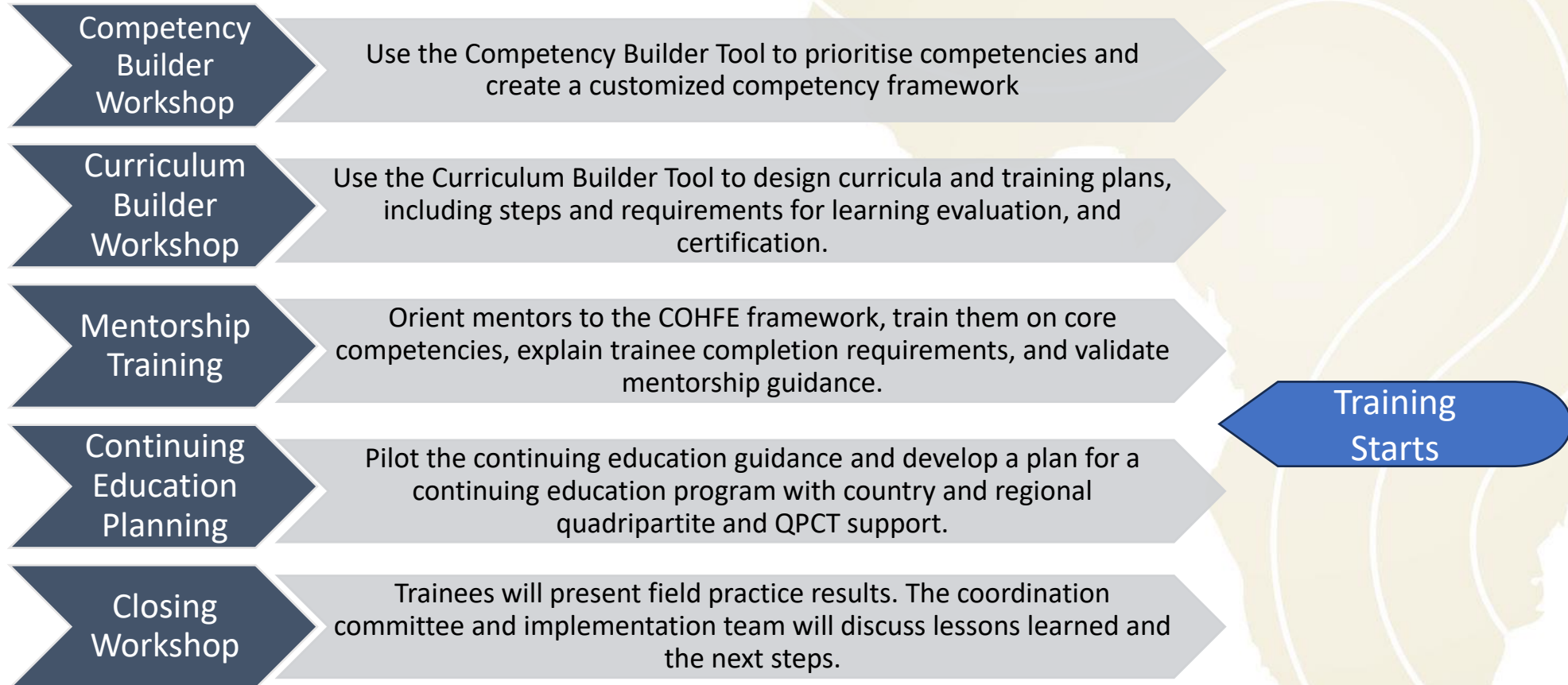
World Organisation for Animal Health Founded as OIE

Section I: Technical domains

Domain 1: Foundational knowledge and skills
Domain 2: Surveillance systems
Domain 3: Field investigations
Domain 4: Disease management
Domain 5: Laboratory capacity
Domain 6: Infection prevention and control, biosafety and biosecurity
Domain 7: Preparedness and response
Domain 8: Epidemiologic studies
Domain 9: Data management, biostatistics, and informatics
Domain 10: Ecosystem health

Section II: Functional domains

Domain 11: Leadership and management
Domain 12: Communication and community engagement
Domain 13: Training
Domain 14: Ethics

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Animal	1. Collect value chain data and draw simplified value chain map to identify potential spread routes and characterize risk (S) 2. Explain the use of value chain mapping in an outbreak investigation (K)	= Frontline + 1. Draw and interpret a value chain map to identify potential spread routes and high-risk points of an animal disease outbreak (S)	= Intermediate + 1. Design value chain investigation and advanced analysis of data to characterize risk (S)
Environment			

To enable countries to adapt the COHFE framework to suit their specific needs and priorities

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3 **Pilot and Refine the COHFE framework**

- Support three countries in implementing the COHFE framework

Competency Builder Workshop	Use the Competency Builder Tool to prioritise competencies and create a customized competency framework
Curriculum Builder Workshop	Use the Curriculum Builder Tool to design curricula and training plans, including steps and requirements for learning evaluation, and certification.
Mentorship Training	Orient mentors to the COHFE framework, train them on core competencies, explain trainee completion requirements, and validate mentorship guidance.
Continuing Education Planning	Pilot the continuing education guidance and develop a plan for a continuing education program with country and regional quadripartite and QPCT support.
Closing Workshop	Trainees will present field practice results. The coordination committee and implementation team will discuss lessons learned and the next steps.

Training Starts

**3** **Pilot and Refine the COHFE framework**

- In-country coordinator (ICC)

Engage an ICC to support the selected program in piloting One Health field epidemiology training.	Work with existing One Health governance bodies to form a country coordination committee to oversee the pilot.	Manage an operational fund for trainees and mentors during the training period to support field activities.

✓ Obtain stakeholder feedback and evaluate participant learning

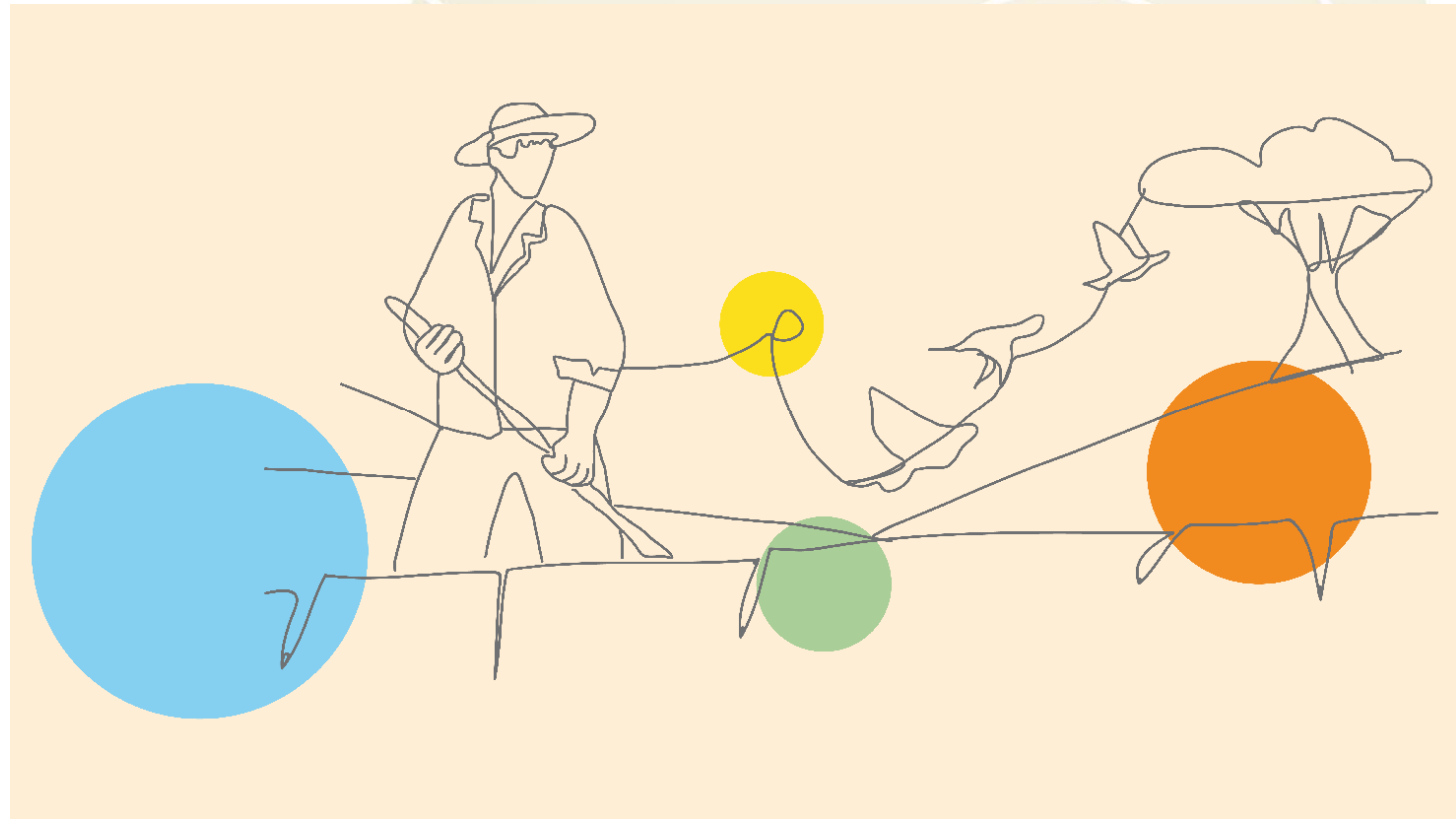✓ Apply lessons from the pilot to refine the COHFE framework, supplemental manuals, and tools.
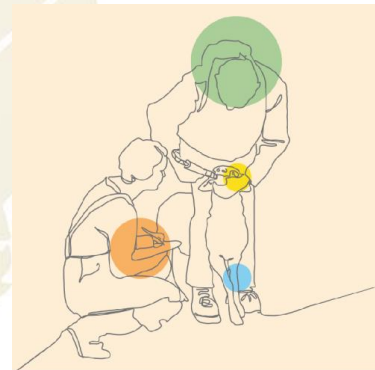
④ Promote the implementation of COHFE

Build awareness about the COHFE framework.

Promote the use of the COHFE framework and supplementary manuals among stakeholders.

Develop further implementation guidance based on the experience of the pilots.
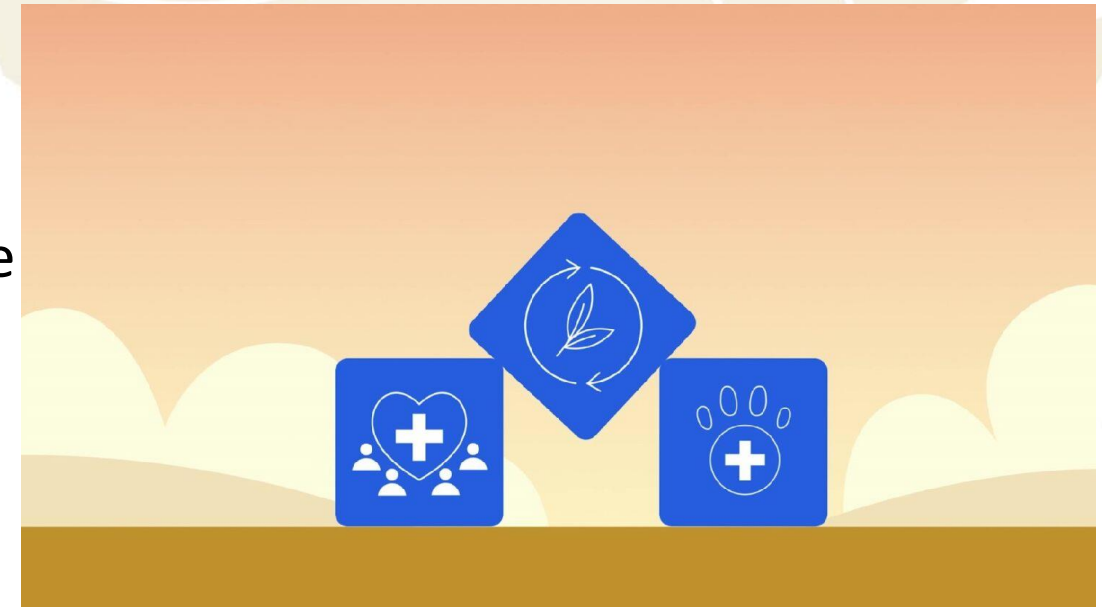
COHFE community of practice (CoP)

• Multi-sectoral CoP for One Health field epidemiology and workforce development

- To facilitate social learning and collaboration among stakeholders

- To enable participants to exchange insights, best practices, and lessons learned

- To enhance the effectiveness and sustainability of COHFE implementation
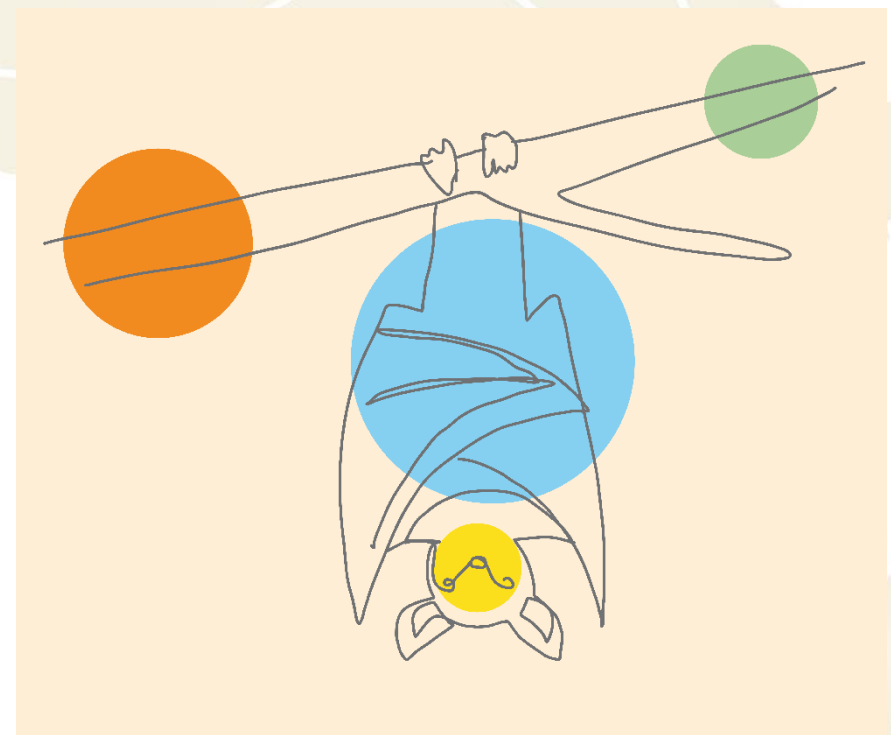
6 Repository of training resources

Establish and maintain a repository of relevant One Health field epidemiology training resources

- Identify a platform for sharing training resources

- Identify relevant training resources to share via the platform

- Develop new or adapt existing resources to fill the gaps.

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GATES foundation

7 Quality Assurance

Safeguard the integrity and effectiveness of training programs.

Develop QA systems for One Health field epidemiology training activities in countries.

Develop instruments and mechanisms for programs to track their progress in COHFE implementation.

Support the adaptation of existing Learning Management Systems.

- Expected impact

Increase the availability of a competent and adequately trained One Health field epidemiology workforce at the country level.

- ✓ Enhance disease surveillance, outbreak response capabilities, and overall health security preparedness at the national level.

- ✓ Enhance the capacity to detect, prevent, and contain emerging infectious diseases and other biological threats.

- ✓ Enhance collaboration and coordination with stakeholders and partners at multiple levels.
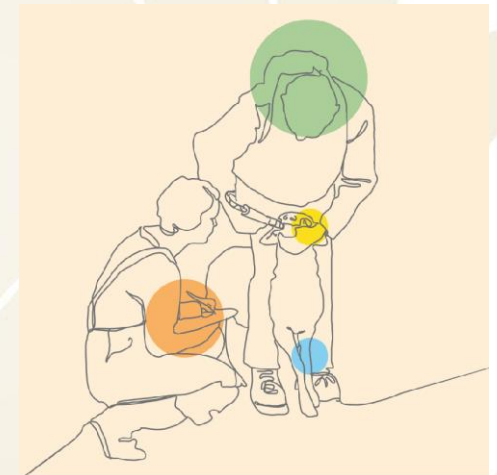
Support the objectives of Quadripartite One Health Joint Plan of Action (2022-2028) and the implementation of IHR and PVS pathways.

Sustainability => Handover

COHFE as the "Capacity Development Programme" of the Quadripartite?

Throughout the implementation phase, the team will explore together with the QPT options for sustainability and continuity of the program, e.g. by handing it over to the QPT, for them to implement it as their OH field epidemiology capacity building program.

A final project closing meeting will be organized with the Quadripartite to launch the initiative, if accepted.

Other options could be the WHO Academy, TEPHINET, regional FETP networks, or WHO ROs

Acknowledgements

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Thank you!