Multisectoral Collaboration for Field Epidemiology Training

Competencies for One Health Field Epidemiology (COHFE) Framework
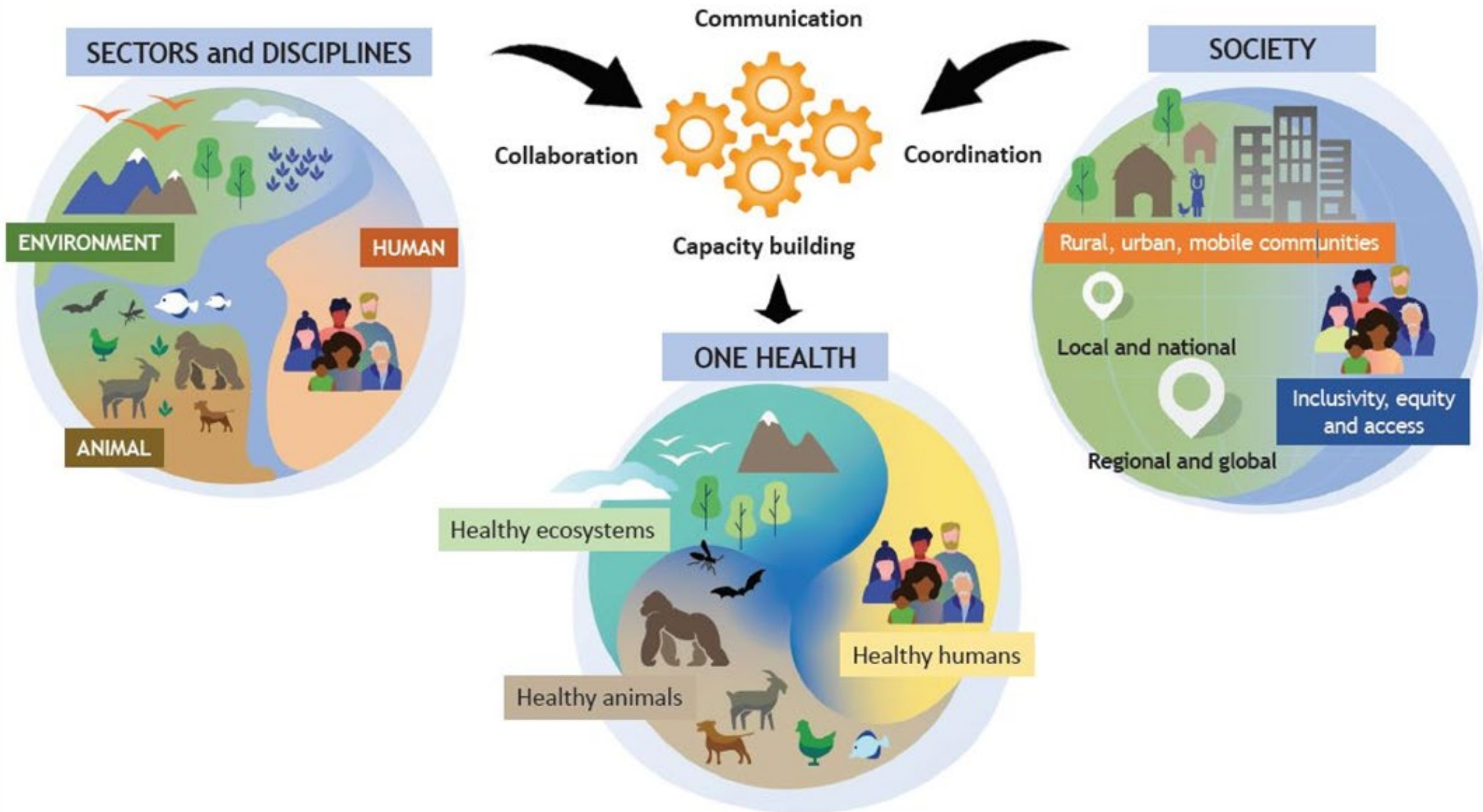
SECTORS and DISCIPLINES

ENVIRONMENT

HUMAN

ANIMAL

Communication

Collaboration

Coordination

Capacity building

ONE HEALTH

Healthy ecosystems

Healthy animals

Healthy humans

SOCIETY

Rural, urban, mobile communities

Local and national

Regional and global
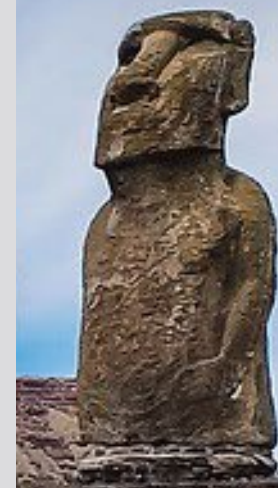
Inclusivity, equity and access

Human or livestock or wildlife health can't be discussed in isolation anymore. There is just one health.

- William Karesh, 2003
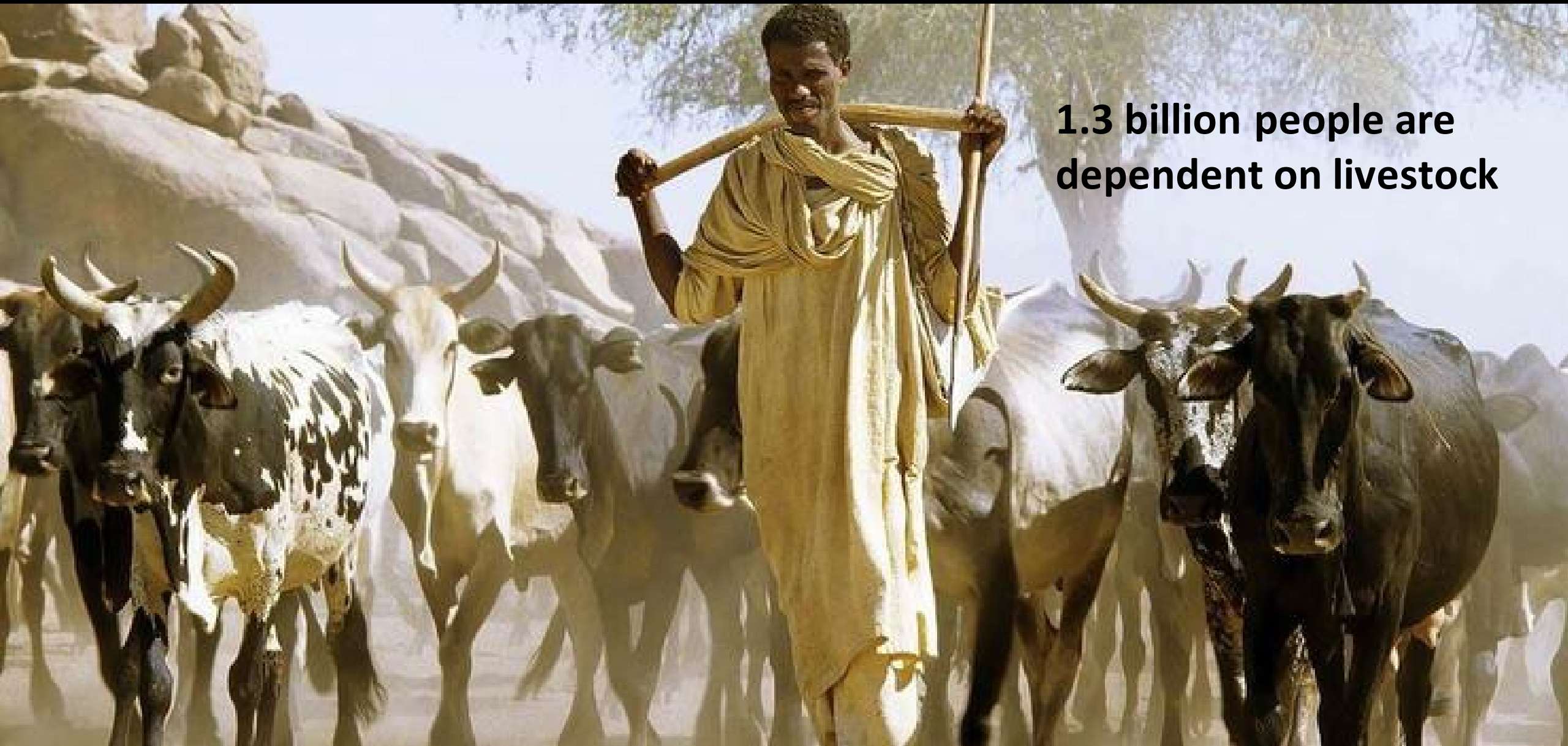
1.3 billion people are dependent on livestock

Field Epidemiology Training Programs

Field Training Program for Wildlife, Ecosystems, Biodiversity & the Environment (FTP-WEBE)
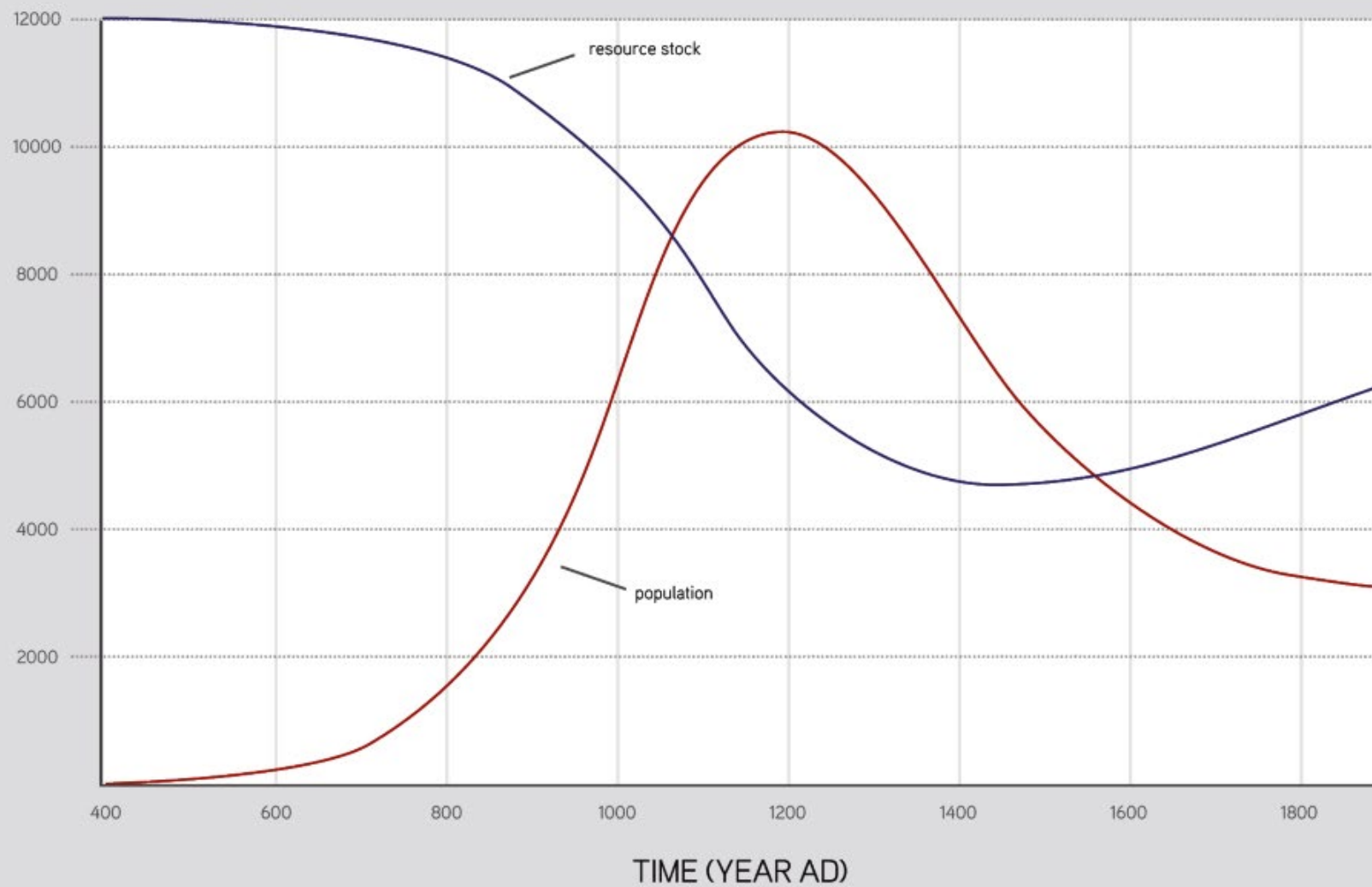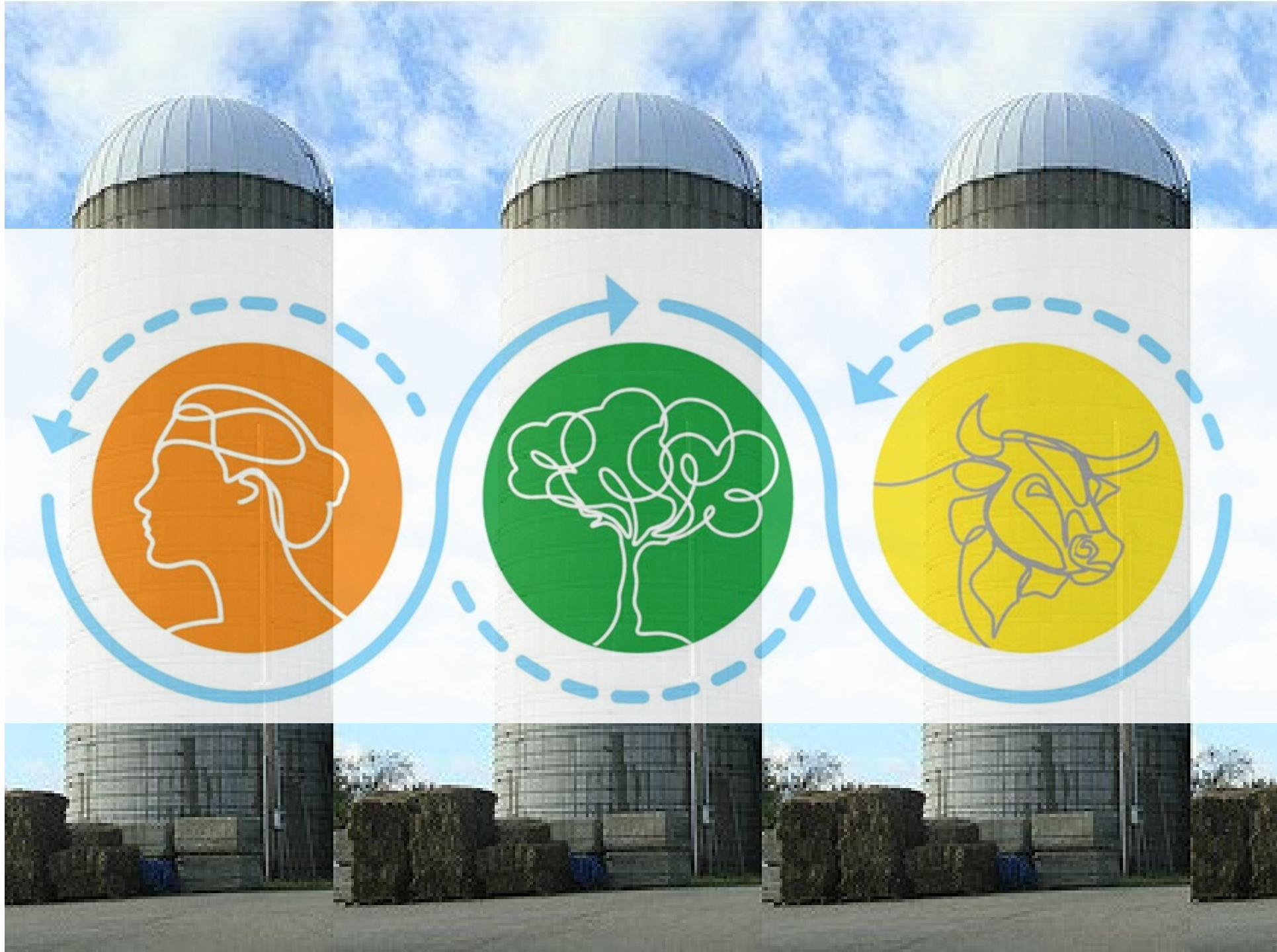
Epidemic Intelligence Service (1951)

98 FETP
>200 countries and territories

FETP-V

In-Service Applied Veterinary Epidemiology Training Program (ISAVET)

One Health

Human Health	Animal Health	Environment
Advanced		
Intermediate		
Frontline		

Food and Agriculture Organization of the United Nations

World Health Organization

World Organisation for Animal Health
Founded as OIE

8

Landscape

Multidisciplinary Core Team

FAO

WHO

WOAH
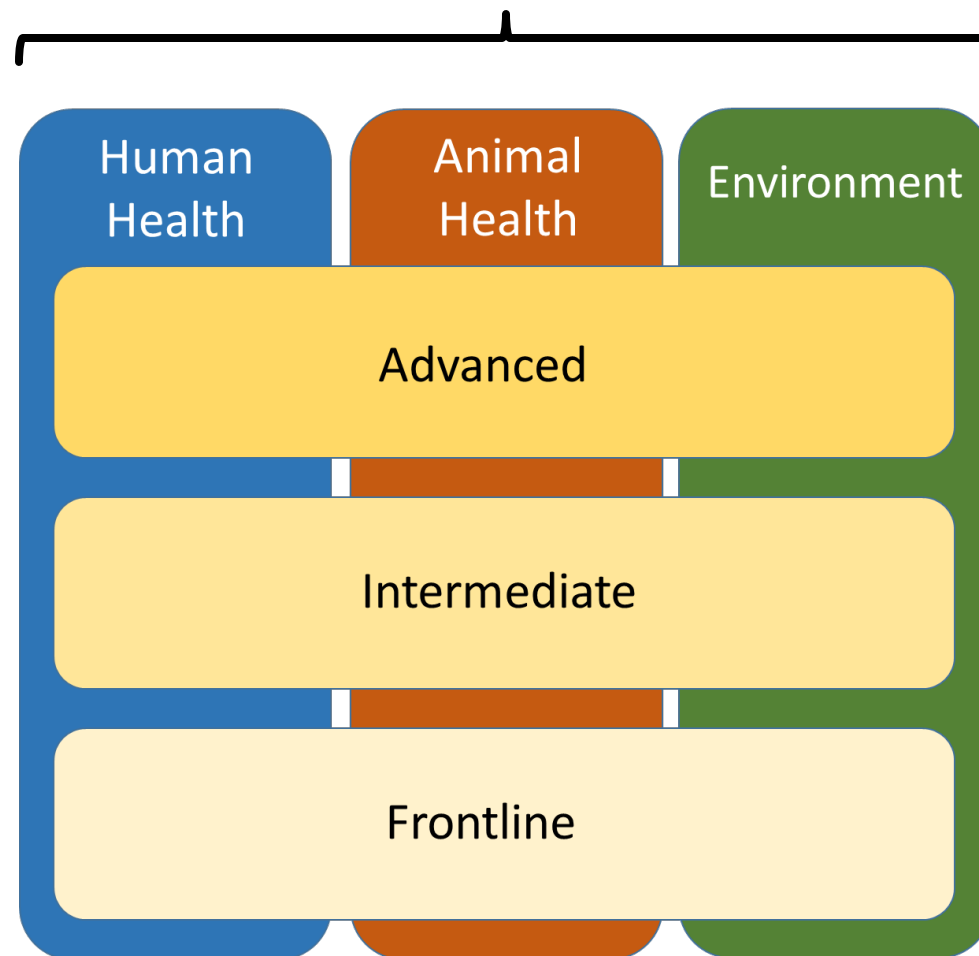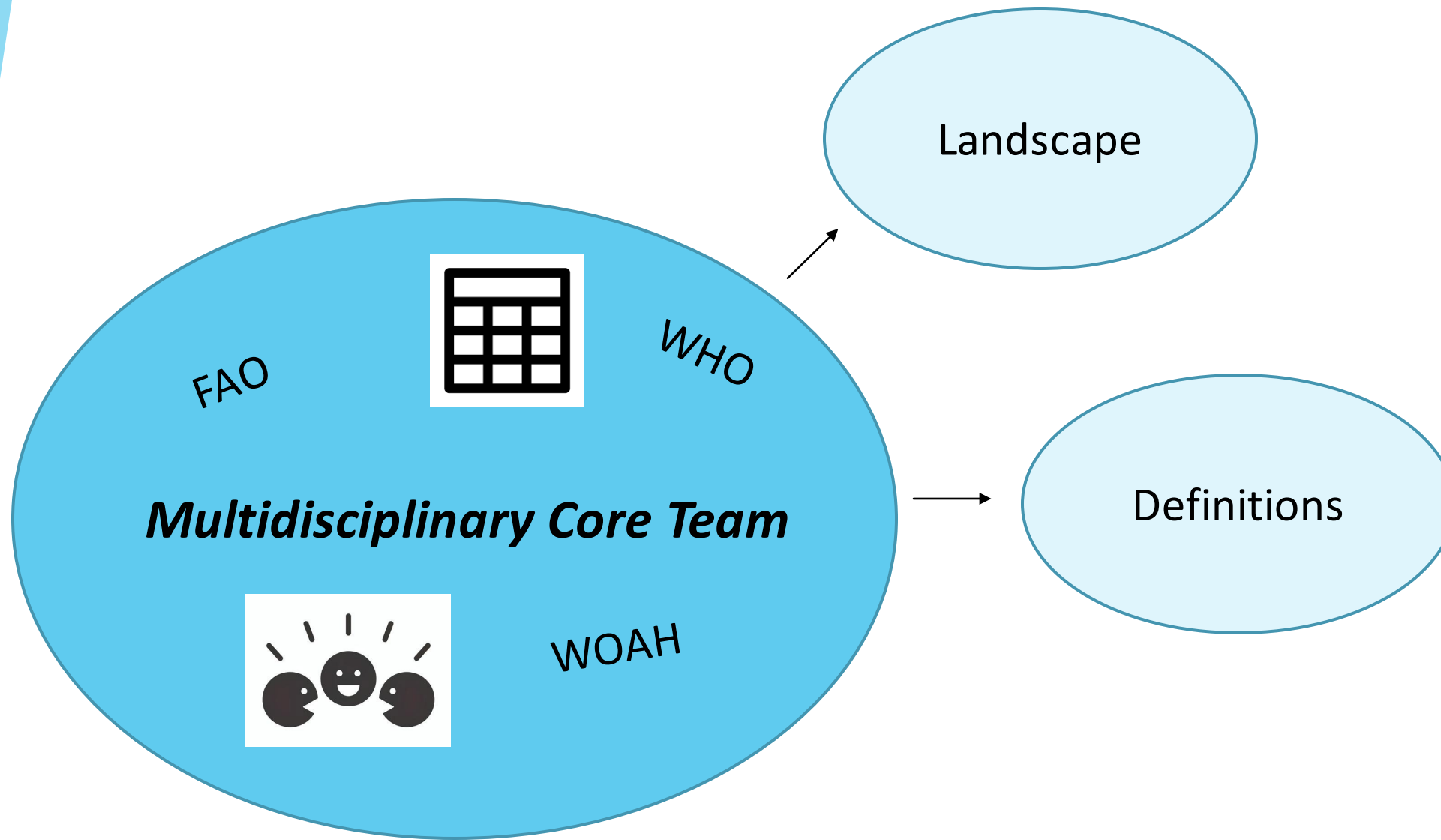
Definitions

Definitions

Domains

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:

Section II: Functional domains

Domain 11: Leadership and management

Domain 12: Communication and community engagement

Domain 13: Training

Domain 14: Ethics

Competencies
for One Health
Field Epidemiology
(COHFE) Framework

Subdomain 3.3
Data management and analysis

Competencies for One Health Field Epidemiology (COHFE) Framework

One Health

Sector-specific

Human

Animal

Environment

	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			

KSC Statements

13

Multidisciplinary Technical Advisory Group

North
Academia
FETP-V
MoH
FAO
MoE
WHO
West
East
UNEP
WOAH
MoA
FETP
South

Ecosystem Health & Systems Thinking

Domains

Competencies for One Health Field Epidemiology (COHFE) Framework
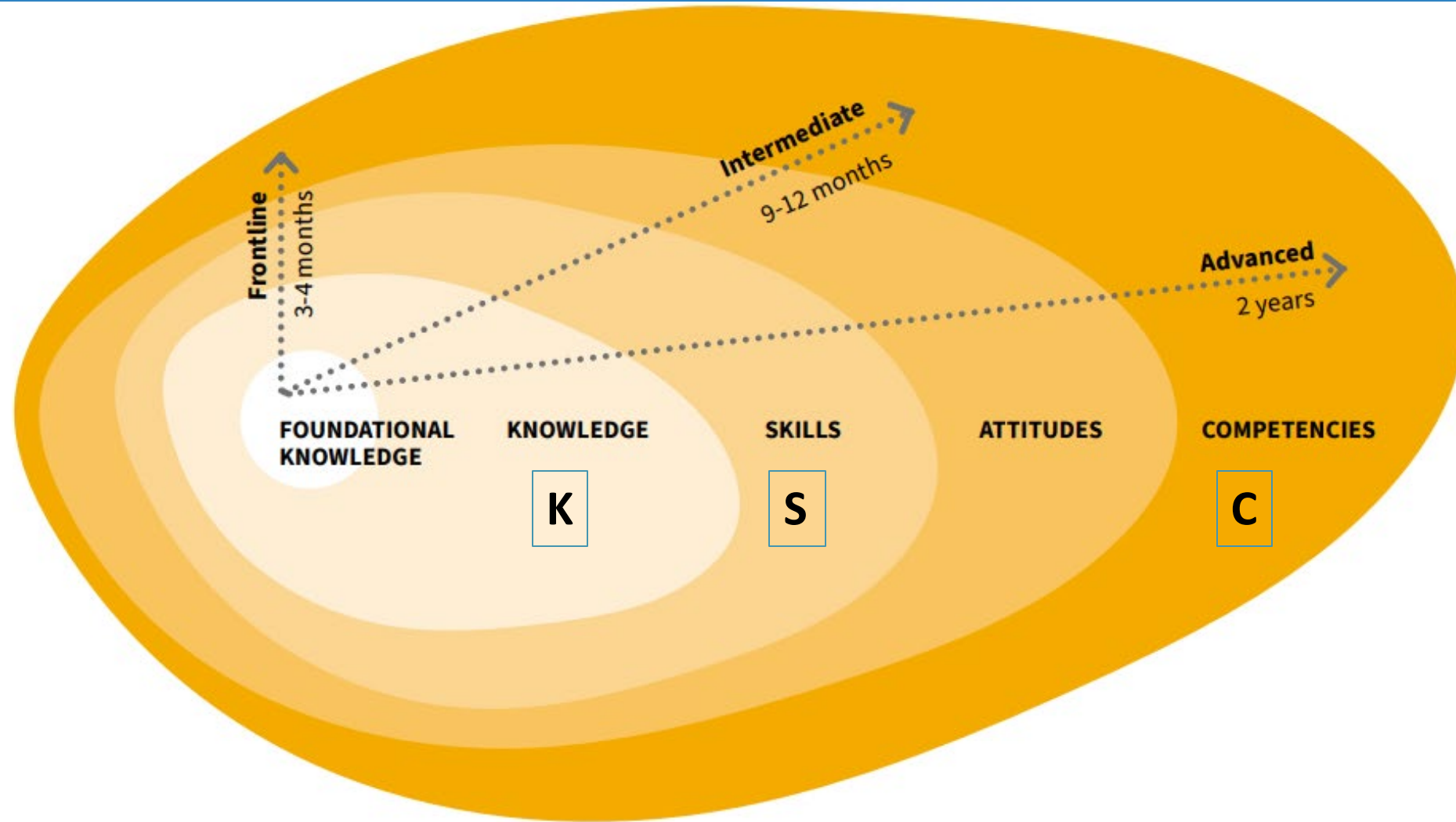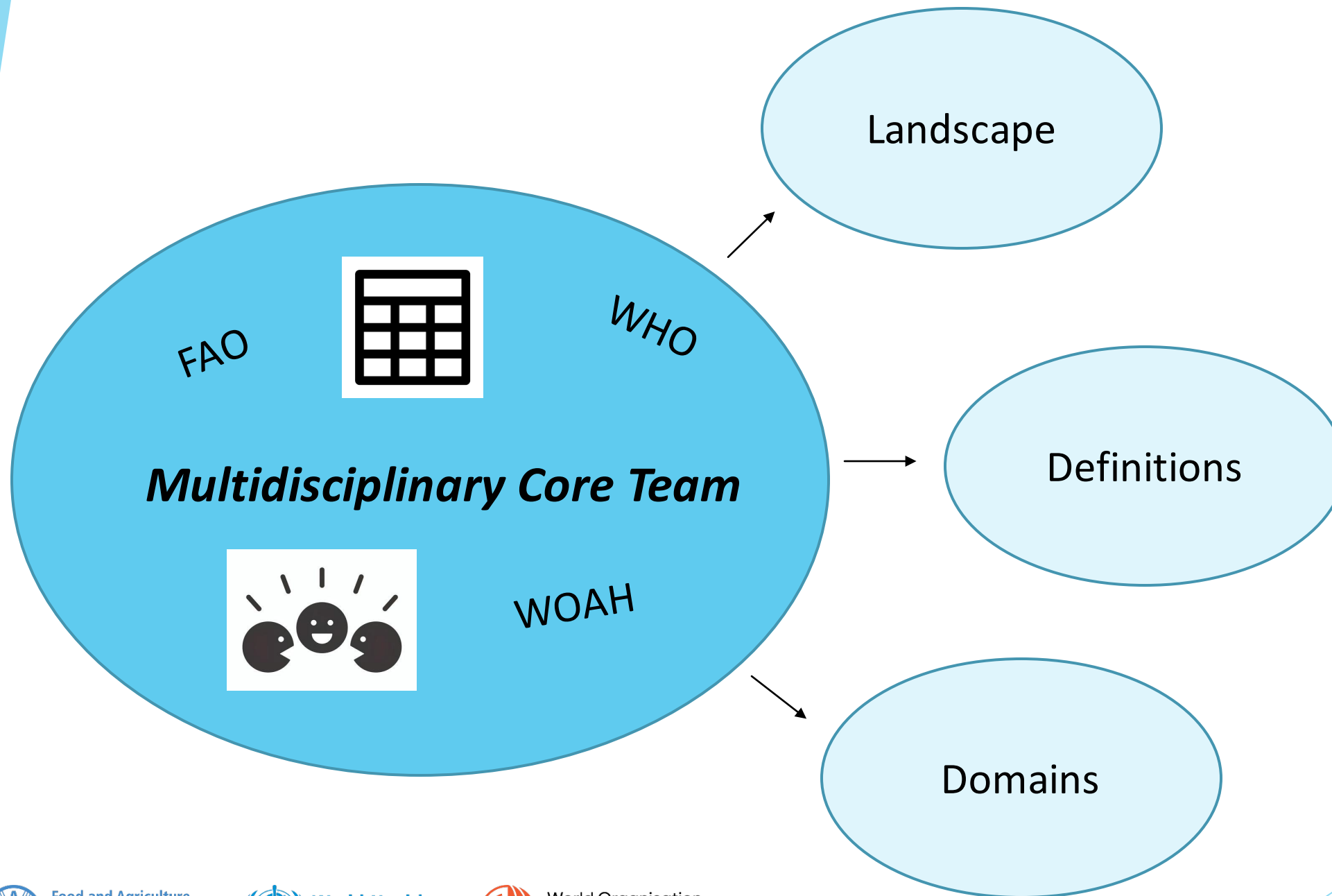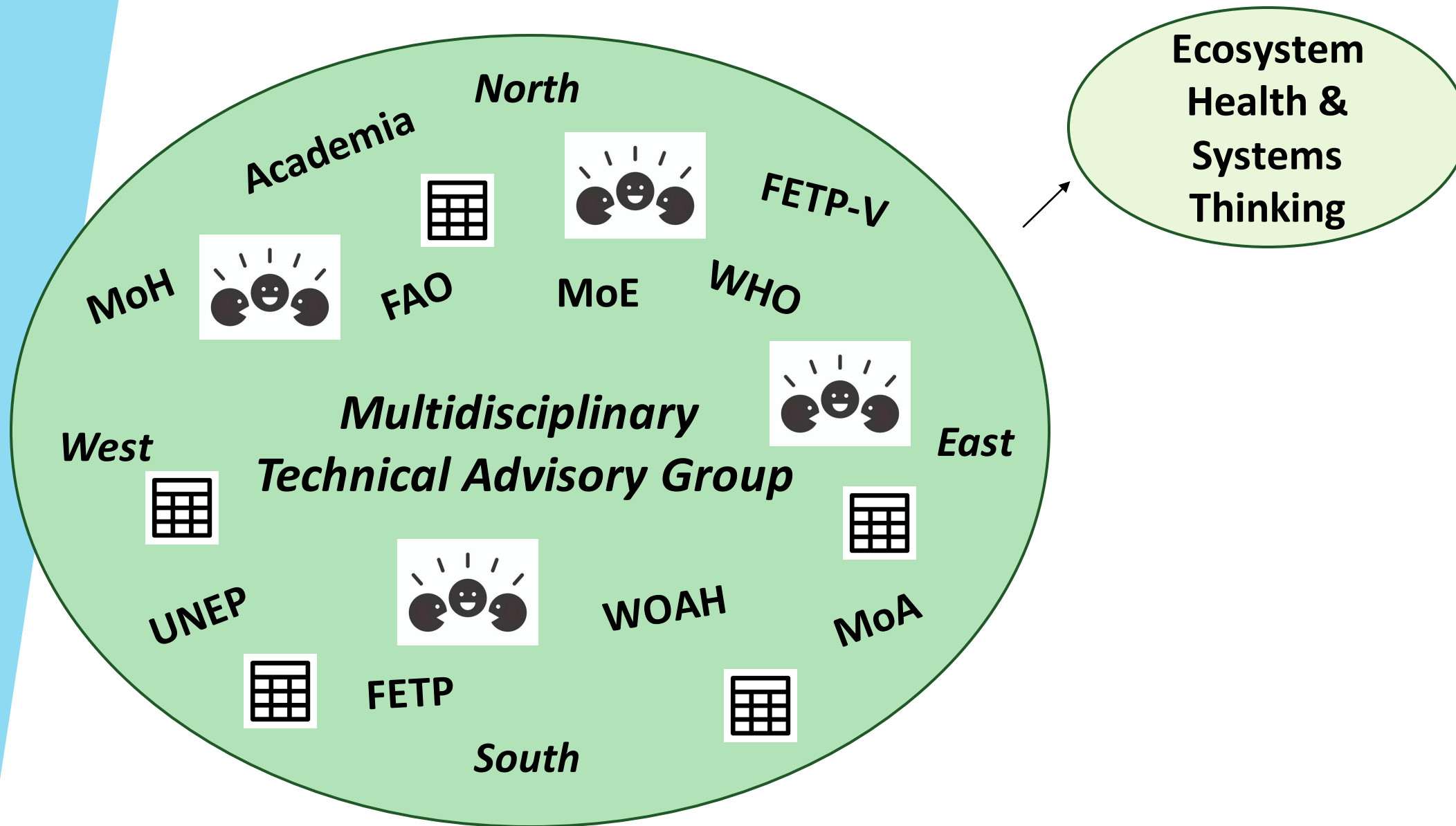
Section I: Technical domains

Domain 1: Foundational knowledge and skills

Domain 2: Surveillance systems

Domain 3: Field investigations

Domain 4: Disease management

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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

Food and Agriculture Organization of the United Nations

World Health Organization

World Organisation for Animal Health
Founded as OIE
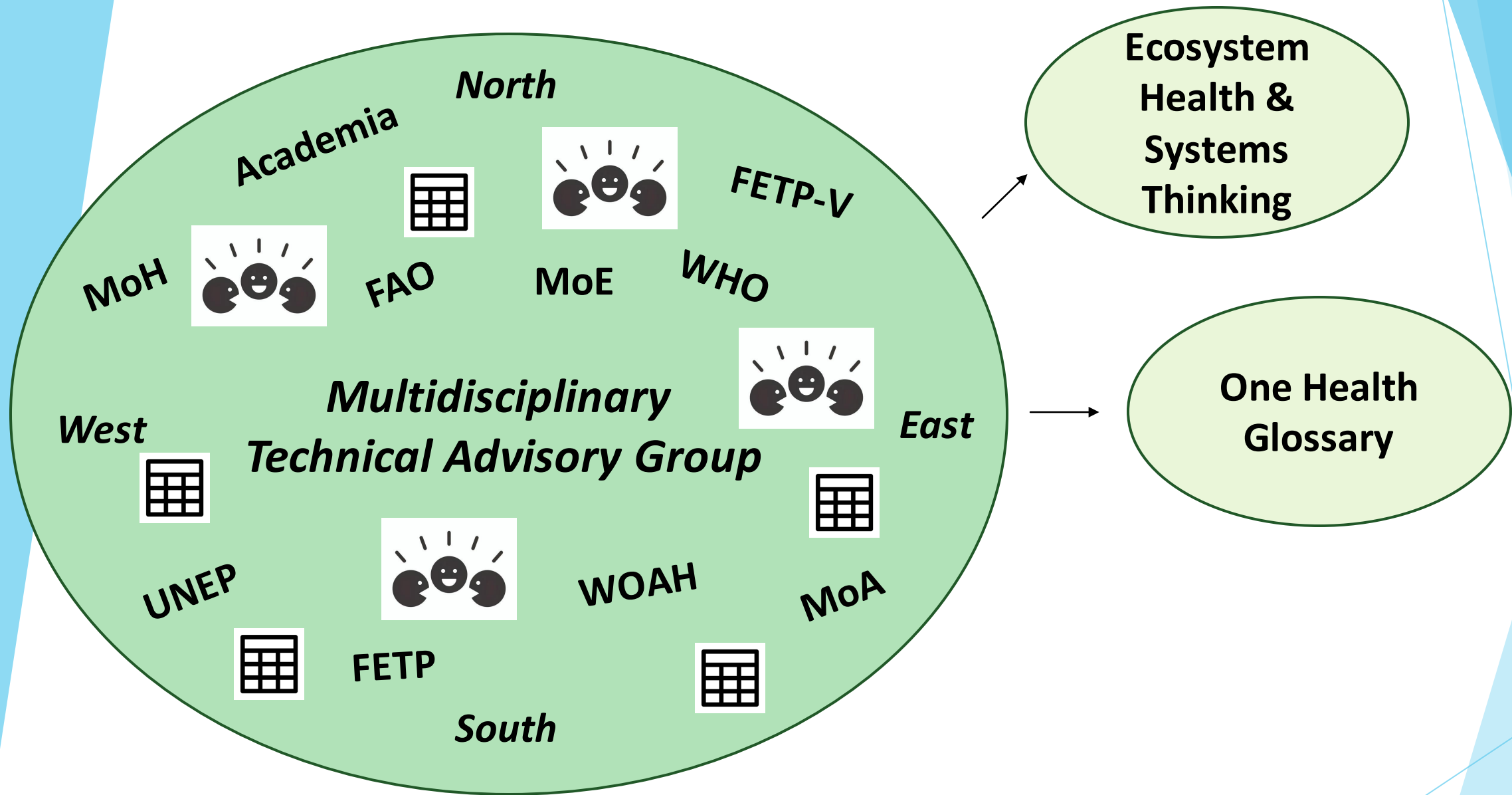
One Health Glossary

129 Terms

Multidisciplinary Technical Advisory Group

North — Academia — FETP-V
MoH — FAO — MoE — WHO
West — East
UNEP — WOAH — MoA
FETP — South

→ Ecosystem Health & Systems Thinking

→ One Health Glossary

→ Prioritization
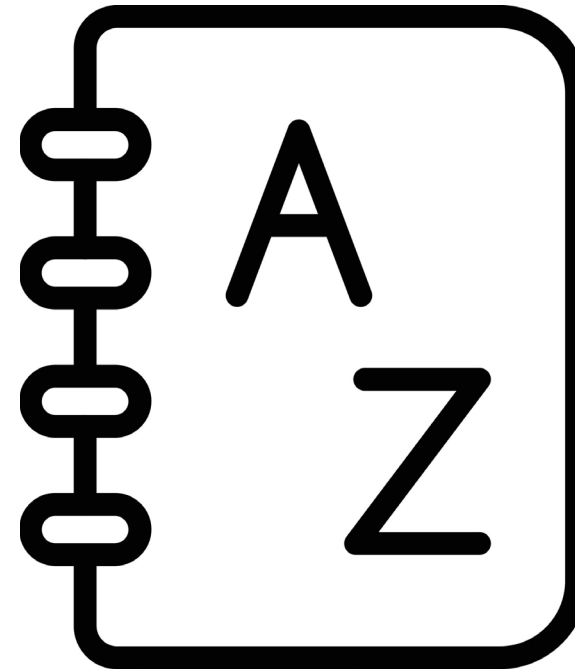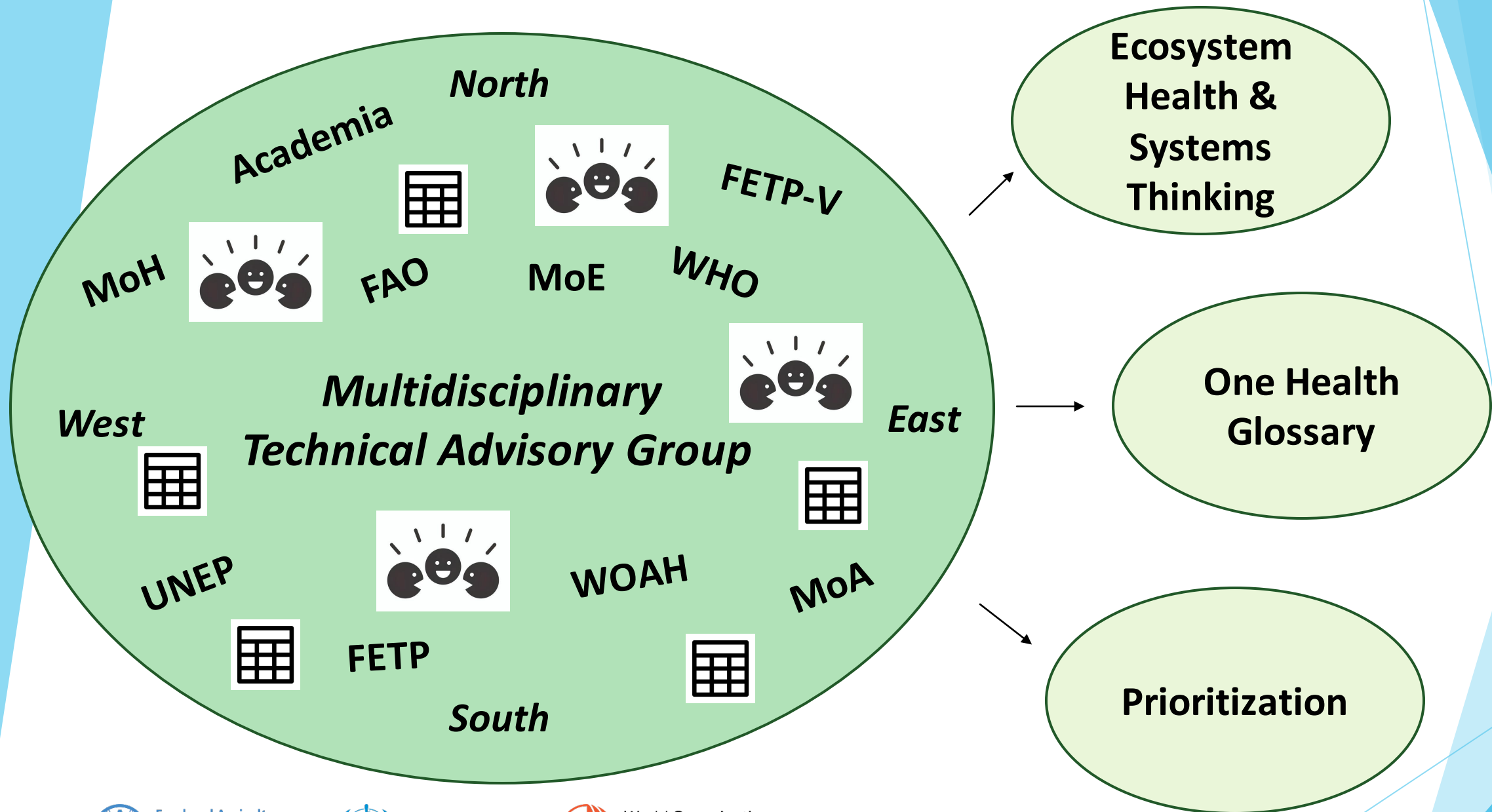
Subdomain 3.3
Data management and analysis

One Health
- Core
- Optional

Sector-specific
- Human
- Animal
- Environment

|	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)
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Environment			

Competencies for One Health Field Epidemiology (COHFE) Framework

Food and Agriculture Organization of the United Nations

World Health Organization

World Organisation for Animal Health

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
OPTIONAL COMPETENCIES: PRIORITIZATION TOOL														
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

Supplemental Manuals
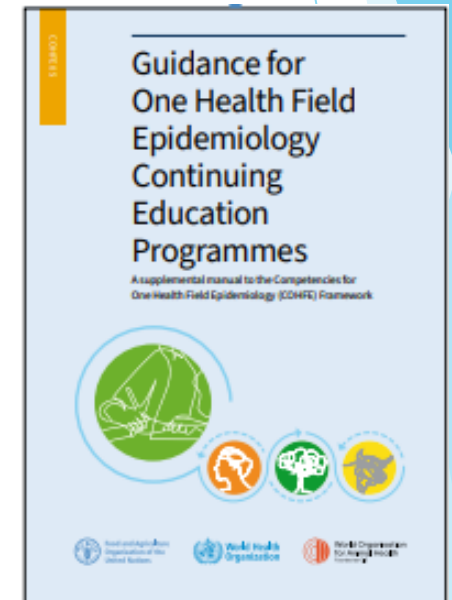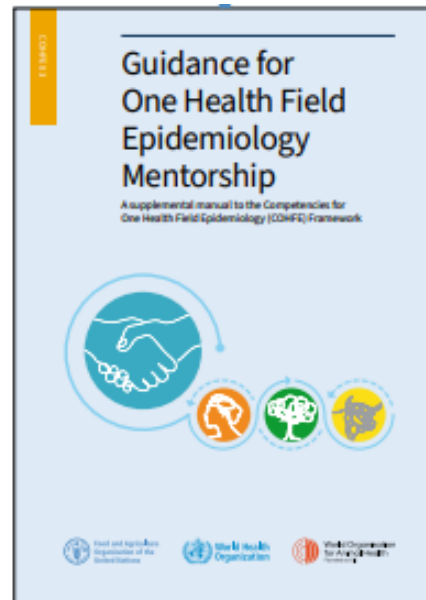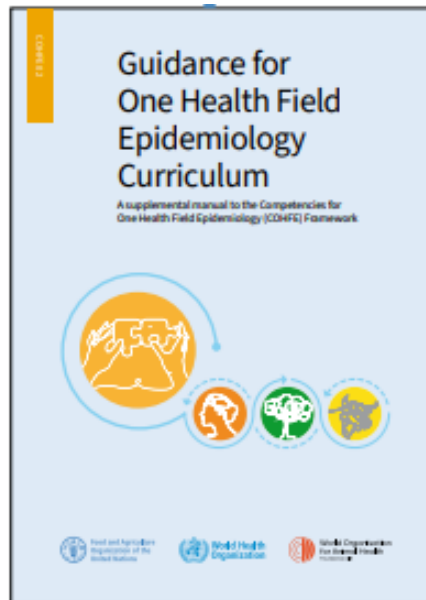
Acknowledgements

▶ **Core Technical Team**

- Barbara Alessandrini, WOAH
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- Stephen Leshan Koyie, WHO
- Marion Muehlen, WHO
- Julio Pinto, FAO
- Karl Schenkel, WHO
- Heather L. Simmons, WOAH
- Ahmed Zaghloul, WHO

▶ **Members of the Technical Advisory Group**

▶ **Donor**: Defense Threat Reduction Agency
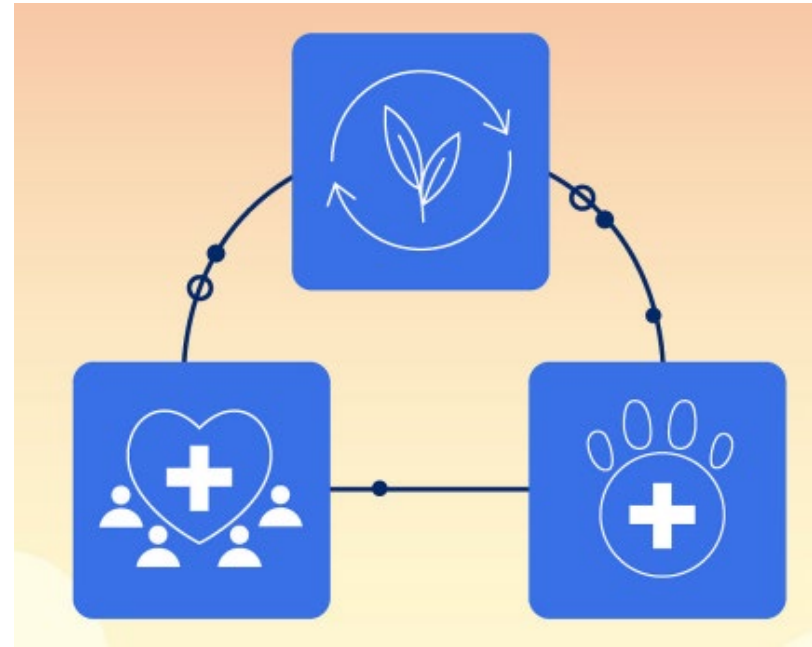
Thank you   Gracias   Спасибо   谢谢   شكرًا لك   Merci
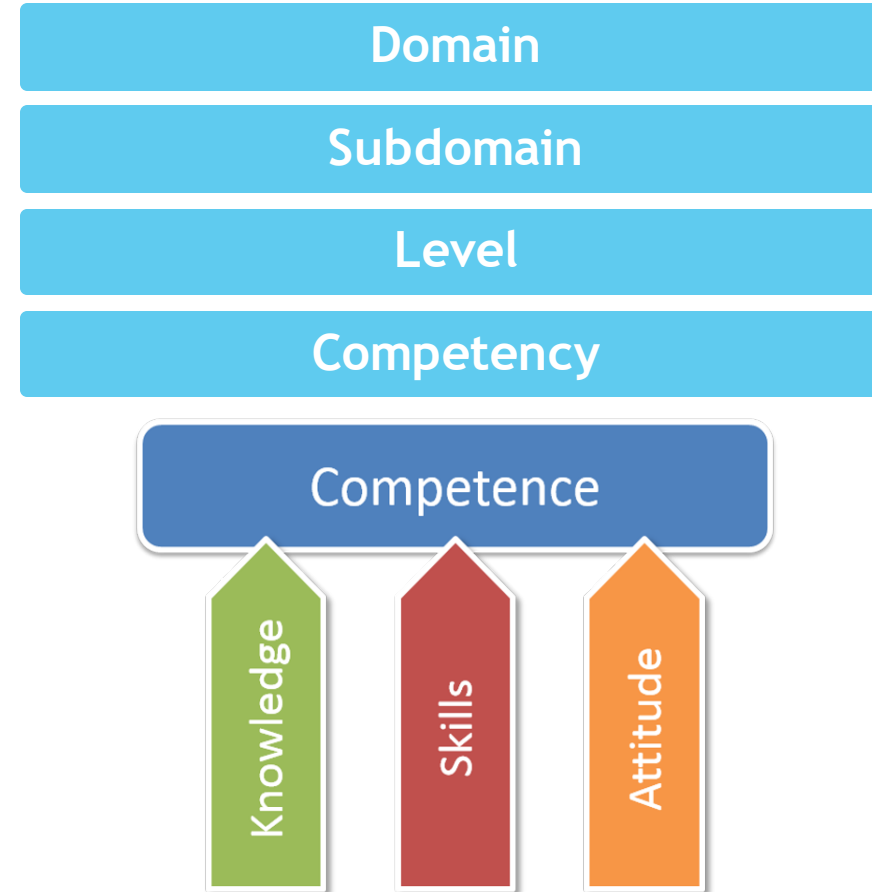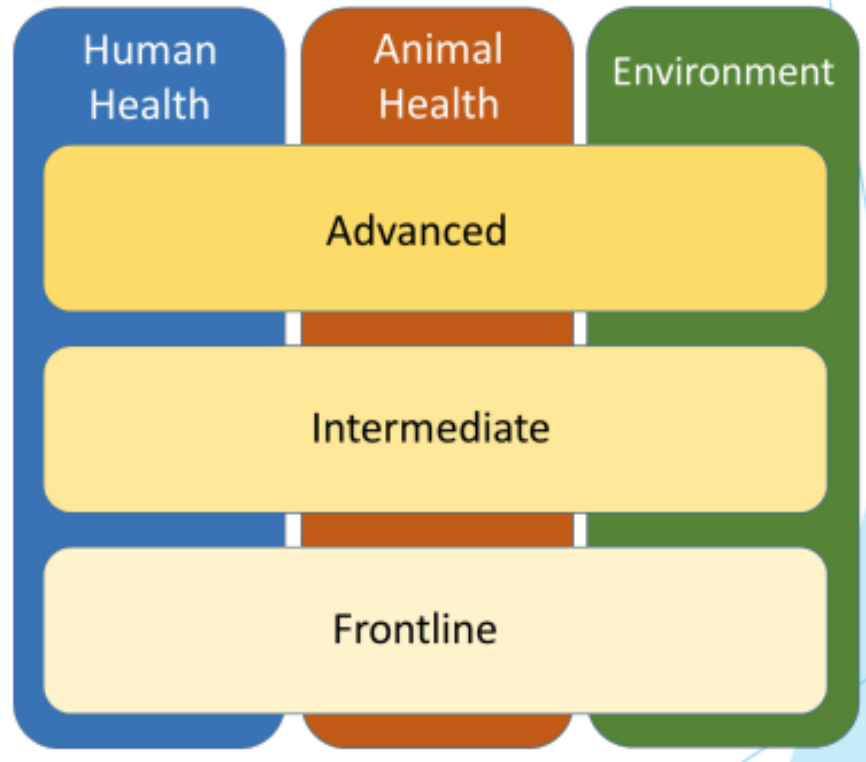
Guidance for One Health Field Epidemiology Curriculum Development

Presenter: Dr. Ahmed Zaghloul   **Date:** June 12, 2024

Curriculum Focus

Technical domains

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

Functional domains

- 11: Foundational knowledge and skills
- 12: Surveillance systems
- 13: Field investigations
- 14: Disease management

Curriculum Structure

Domain 3: Field Investigation

Higher order competencies by training level

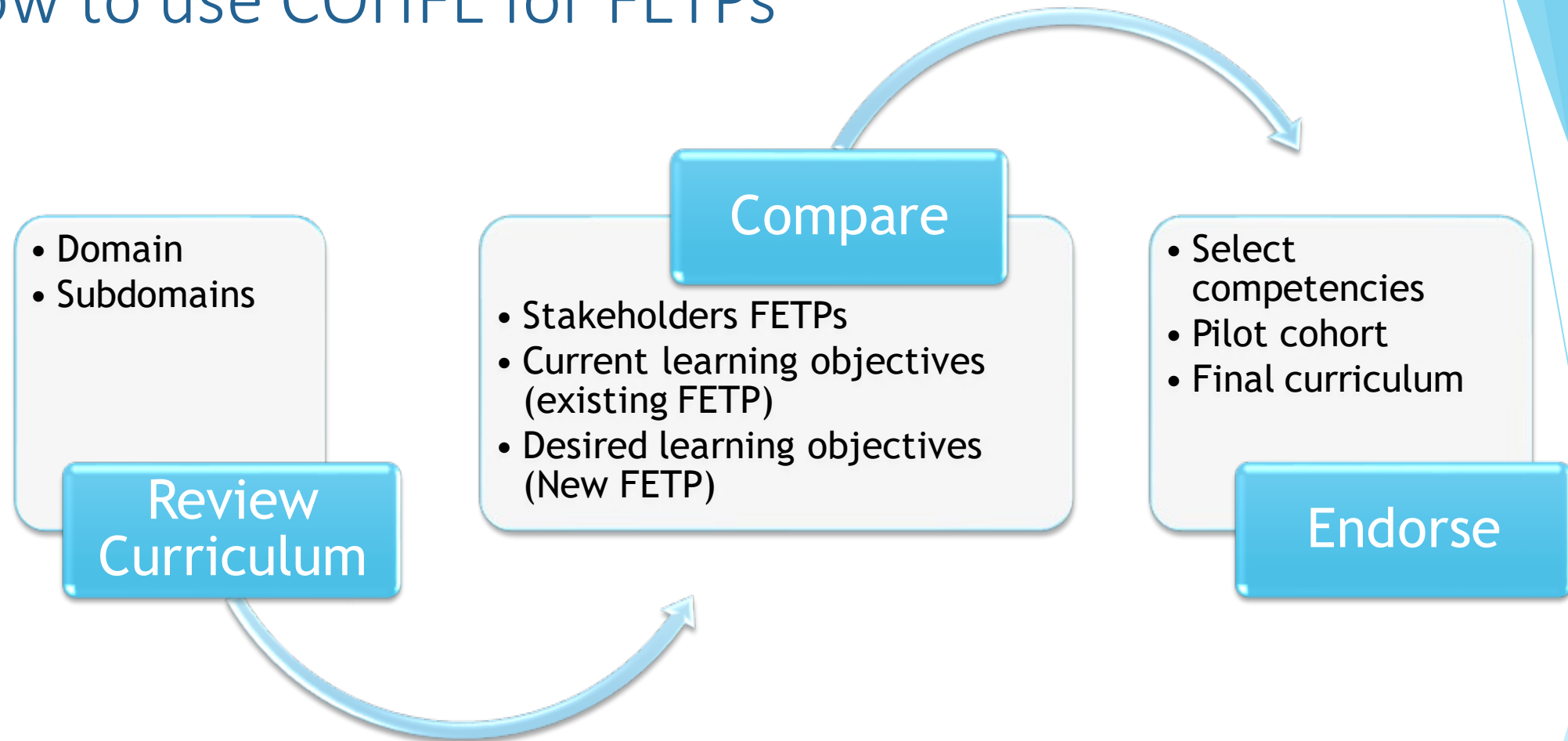| Subdomain	Frontline	Intermediate (= Frontline +)	Advanced (= Intermediate +)
3.1 Prepare for field investigation	Prepare logistics for field visits, interviews, and sample collection, including personal protective equipment (PPE) and transport	Establish and coordinate a multisectoral team for conducting a field investigation	Develop and evaluate SOPs for multi-sectoral field investigations, including for infection, prevention and control (IPC)
3.2 Conduct field investigation	Apply standard operating procedures (SOPs), detect cases and collect appropriate data to support a field investigation	Lead/colead a multisectoral team in conducting field investigations	Develop and review case definitions and provide advice to the team on recommended preventative and control measures

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Curriculum Structure

Topic name and description	Learning objectives		
	Frontline	**Intermediate**	**Advanced**
Prepare for field investigation *This topic covers the development and use of SOPs in preparation for a field investigation.*	• Prepare logistics for field investigations • Use appropriate PPE in a field investigation • Implement SOPs for field investigations • Use data collection tools • Use ethical approaches for data collection • Use interview methods following professional and ethical codes of practice	• Establish and lead a field investigation team involving members from multiple sectors • Arrange the PPE required for a field investigation • Define the objectives of the field investigation and develop an investigation protocol • Develop and refine tools for data collection • Develop a communication plan and communicate with professionals involved in a multisectoral field investigation	• Design, plan, lead/colead joint field investigations • Recommend methods for field investigation • Develop and evaluate SOPs for multisectoral investigations • Develop and evaluate IPC measures for a field investigation
Core competencies	3.1.1.f–3.1.5.f	3.1.1.i–3.1.3.i	3.1.1.a–3.1.4.a

D.S.C.L. code

How to use

▶ WHO: education or continuing education providers

▶ When: planning or reviewing an existing curriculum for a FETP

▶ How:

 ▶ Customize curriculum according to FETP needs

 ▶ Priorities of each sector

 ▶ Sector specific training programs

▶ Why: Develop a skilled global workforce

How to use COHFE for FETPs

Review Curriculum
- Domain
- Subdomains

Compare
- Stakeholders FETPs
- Current learning objectives (existing FETP)
- Desired learning objectives (New FETP)

Endorse
- Select competencies
- Pilot cohort
- Final curriculum

Curriculum guidance for incorporation of One Health competencies into new or existing programs is available

Thank You

Dr. Ahmed Zaghloul | dr.ahz@outlook.com

Tripartite Report

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

Guidance for One Health field epidemiology mentorship

Presented by David Castellan

Overall Objectives of COHFE Mentorship Guidance

1. Supports COHFE Framework

▶ Aligned with "the FETP Enterprise"

▶ "The framework can be used by <u>existing</u> public health and veterinary field epidemiology training programmes to design and update their curriculum, or by countries or regions to set up <u>new</u> One Health field epidemiology training programmes."

2. Support Mentees

▶ "Learning through providing service"

▶ Provide role models

▶ Ensure skills and competencies are attained

▶ Support career/professional development

▶ Support mentor-mentee networks

▶ Overcome operational and political obstacles

▶ Support a healthy work-life balance

Specific Objectives of the COHFE Mentorship Guidance

1. Describe the <u>mentorship process</u> in field epidemiology training programmes

2. Define the <u>roles and responsibilities</u> of mentors

3. Identify <u>core competencies</u> required of mentors

4. Propose a <u>training programme</u> for field epidemiology mentors

5. Propose a framework for the <u>evaluation</u> of mentors (CQI)

"Holistic mentorship gives equal weight to all three components of mentoring – continuing education, personal support and professional development"

MENTOR CORE COMPETENCIES

1. Professional expertise (technical)

2. Planning and communication

3. Professional development

4. Professional integrity

KEY CONSIDERATIONS

- Mentor traits: 1) Technical 2) Personal attributes 3) Soft skills
- Mentor proficiency in One Health
- One Health Mentorship Modalities: 1) Teams 2) Joint Exercises 3) Meetings 4) Workshops/Seminars 5) In-person/Virtual/Hybrid
  - Increasing engagement with environment professionals
- Mentor-mentee relationship (e.g., ratio)
- Adaptable mentor resources and examples:
  - mentor training programmes
  - mentor evaluation tools
  - mentor-mentee networks

Thank you for your attention

Competencies for One Health Field Epidemiology (COHFE)

Framework and Training Guidance

Learning Evaluation and Certification

Publications

1 FEBRUARY 2024

Competencies for one health field epidemiology (COHFE) framework

The COHFE framework defines the knowledge, skills, and competencies (KSC) needed for field epidemiologists to implement the One Health approach.

Download   **Read More**

8 MAY 2024

Competencies for One Health Field Epidemiology Prioritization Tool

The COHFE Prioritization Tool was designed to help training programmes identify the relative importance of the optional knowledge, skills and competencies...

Download   **Read More**

The COHFE framework training guidance

The training guidance documents complement the COHFE framework and provide direction for programmes wishing to implement or strengthen One Health field epidemiology capacities.

14 February 2024

Guidance for one health field epidemiology learning evaluation and certification

Download   Read More

14 February 2024

Guidance for one health field epidemiology continuing education programmes

Download   Read More

14 February 2024

Guidance for one health field epidemiology mentorship

Download   Read More

14 February 2024

Guidance for one health field epidemiology curriculum development

Download   Read More

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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*

Contents

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World Health Organization

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https://iris.who.int/bitstream/handle/10665/375999/9789240083912-eng.pdf?sequence=1

Purpose and Key Definitions

▶ The guidance is intended to be used by authorities in member countries and regions and by education or continuing education providers when planning or reviewing **learning evaluation practices and certification requirements** for their field epidemiology training programmes.

▶ **Evaluation**: The systematic process of collecting, analyzing and interpreting information to determine the extent to which training participants have acquired knowledge, skills and competencies .

  ▶ **Formative evaluation:** Used during the learning process, provides feedback on learning-in-process, and is dialogue based and ungraded.

  ▶ **Summative evaluation:** Used at the end of the training course or programme, evaluates the student against some standard or benchmark, and is graded.

▶ **Certification**: Official recognition that a training participant has successfully completed all training programme requirements.

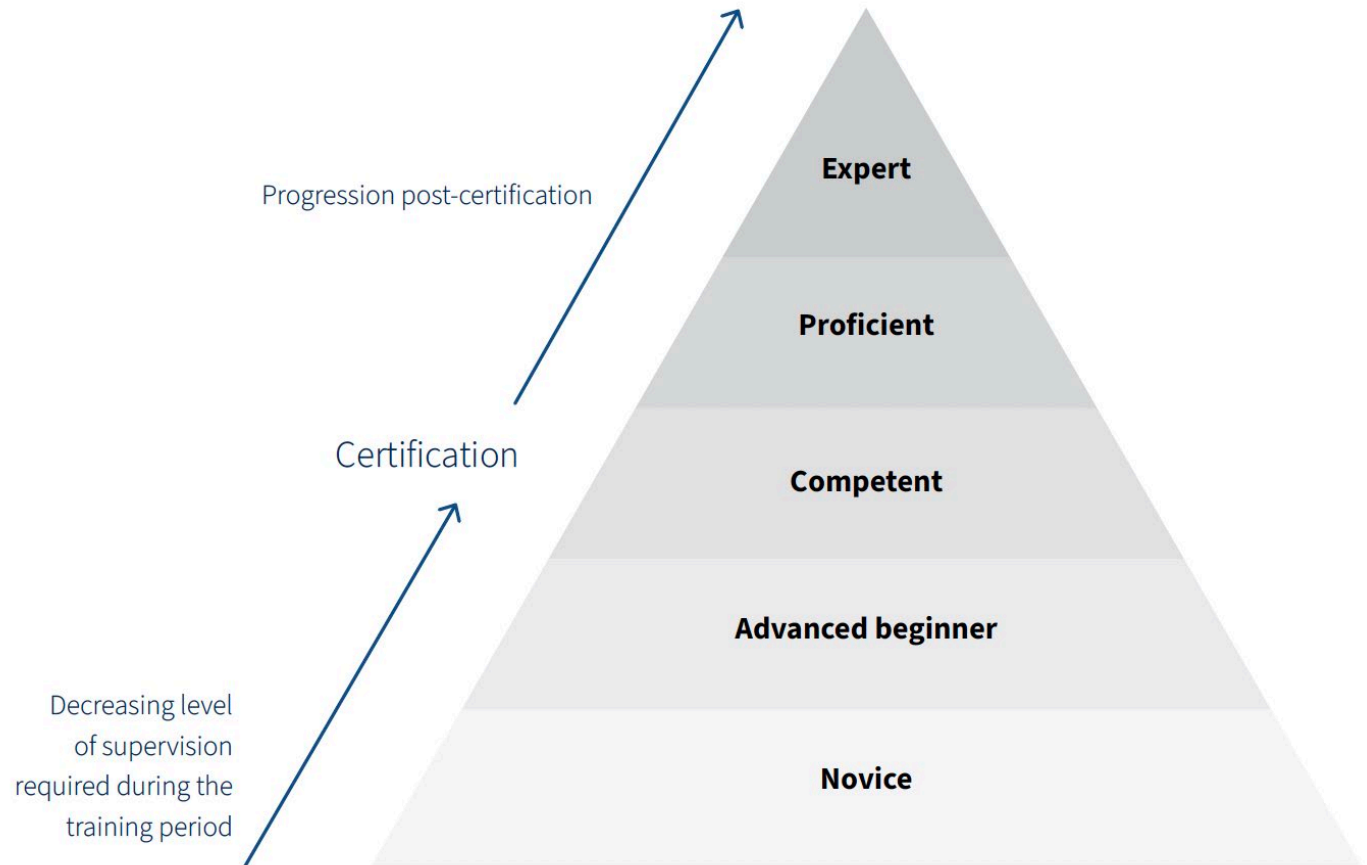# Strengthening **One Health** for field epidemiology training programs:
Emphasis on Integrative and Cross-Sectoral Activities

► **Quality Assurance**
  ► Evaluation Methods
  ► Evaluator Categories

► **Life-long Learning**
  ► Certification
    ► "Establishing a clear, minimum set of certification requirements ensures that participants and their mentors know what is expected and can track progress towards programme completion"
  ► Alumni engagement

Progression post-certification

Certification

Decreasing level of supervision required during the training period

Expert

Proficient

Competent

Advanced beginner

Novice

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Useful Resources

▶ **Project Evaluation Forms**

    ▶ Project Description Form – to be completed by training participant and project lead.

    ▶ Knowledge, skills, and competencies – to be completed by training participant and reviewed by mentors

    ▶ Mentor summary – to be completed by mentors

▶ **Competency Tracker**

    ▶ The competency tracker can be adapted for use as a paper-based form or spreadsheet. It can be used for self-evaluation by training participants or for mentor/supervisor tracking to ensure core and selected optional competencies have been demonstrated during the training period.

▶ **Certification Tracking Form**

    ▶ To be updated quarterly during the training period and signed by both the training participant and supervisor
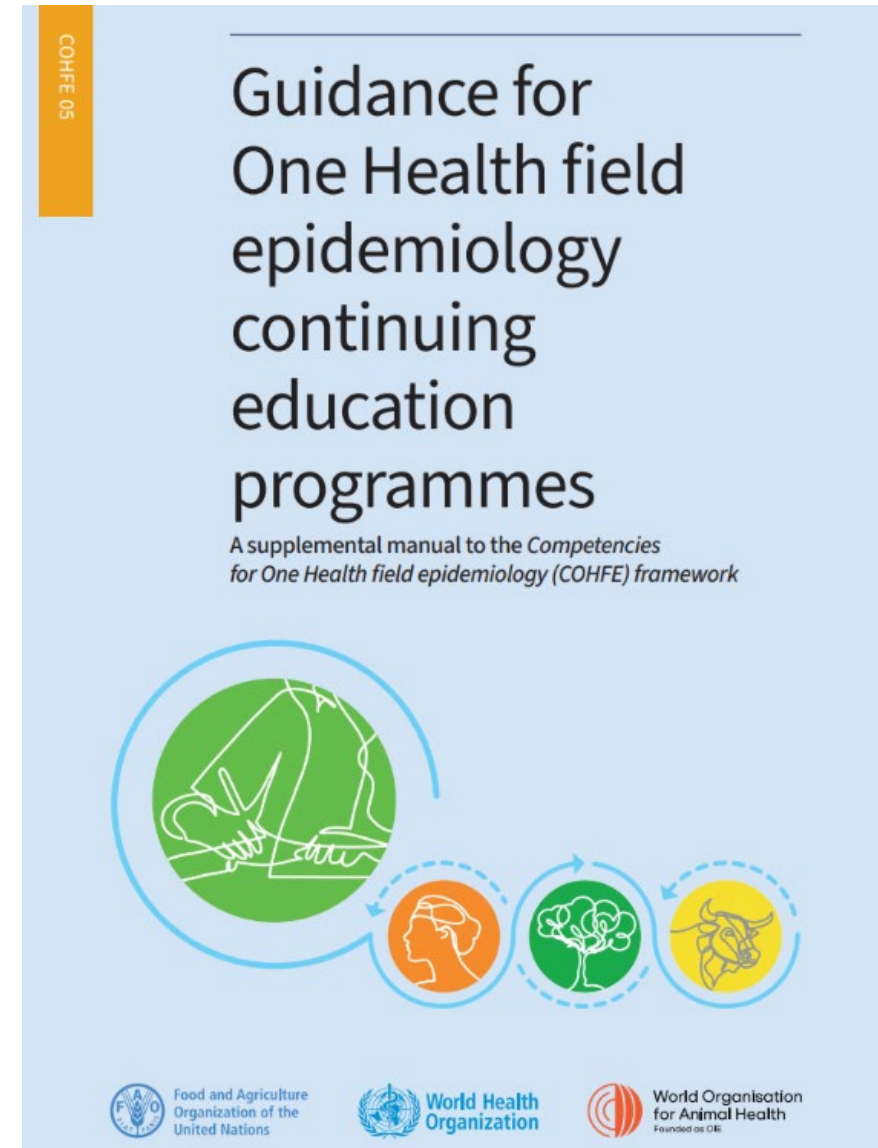
One Health Field Epidemiology Guidance

Continuing Education Programmes

Heather Simmons DVM MSVPH

WOAH Collaborating Centre

Awareness

- Challenge:

  - No internationally accepted continuing education guidance exists for current graduates of country-level programmes

  - No guidance exists on how to provide continuing education that focuses on the interactions of the sectors to promote field epidemiology

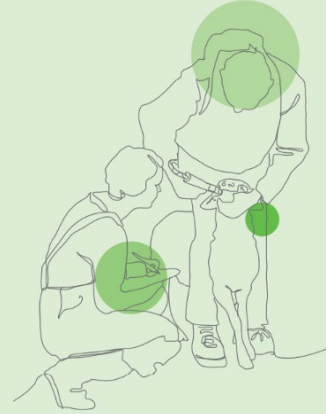- Solution:

  - Guidance for OH field epidemiology continuing education progammes

COHFE 05

Guidance for One Health field epidemiology continuing education programmes

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

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Contents

▶ Five sections

▶ References

▶ Annexes

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How can it be used for strengthening OH field epidemiology training programs

Figure A1.1
The Kirkpatrick Model's four levels for evaluating training programme effectiveness

▶ For countries wanting to implement CE to their programmes:

- Guidance for CE content and selection

- Focuses on technical aspects of CE delivery

- Guidance showcases a fully established CE programme

- Understanding that the development and implementation of a CE programme may take years

- OH Continuing Education Roadmap Toolkit

- Understanding that this is guidance and not a standard

- Updating existing workforce sector-specific training on approaches for implementing a OH approach in their daily work

COHFE Implementation Phase

Pilot the COHFE framework and supplemental manuals in 3 countries, each in a different region

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

Food and Agriculture Organization of the United Nations

UN environment programme

World Health Organization

World Organisation for Animal Health
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