Building a Resilient Epidemiology Workforce for Transboundary Animal Diseases (TADs) Control
- FAO's Efforts in Strengthening Capacity Across the Asia-Pacific

Hao Tang, PhD (Veterinary Epidemiology)
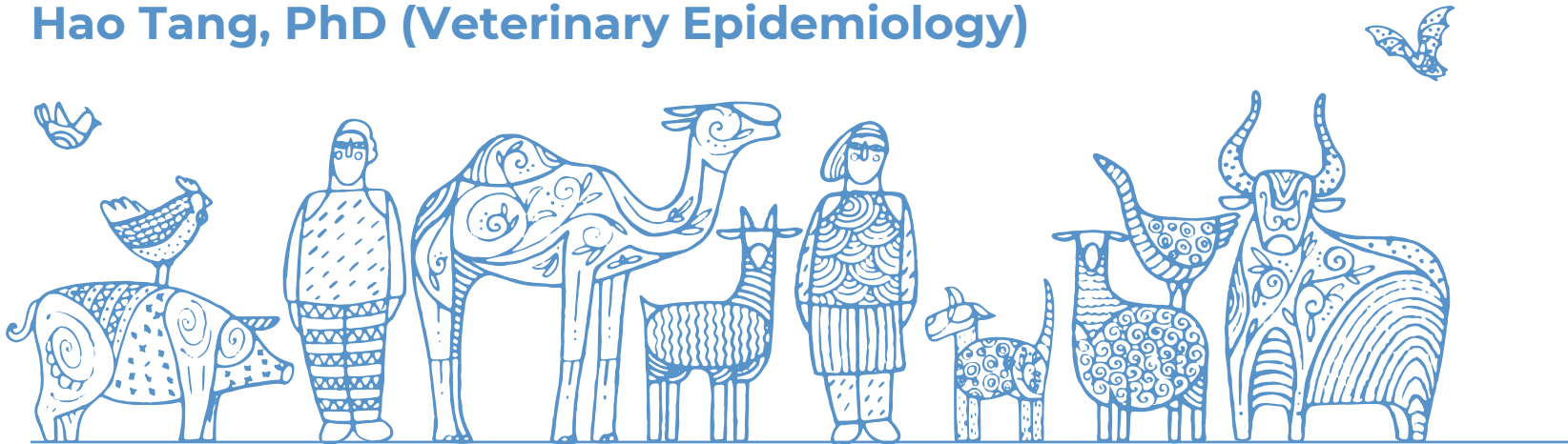
Emergency Centre for Transboundary Animal Diseases (ECTAD)
FAO Regional Office for Asia and the Pacific

Building a Resilient Epidemiology Workforce for Transboundary Animal Diseases (TADs) Control
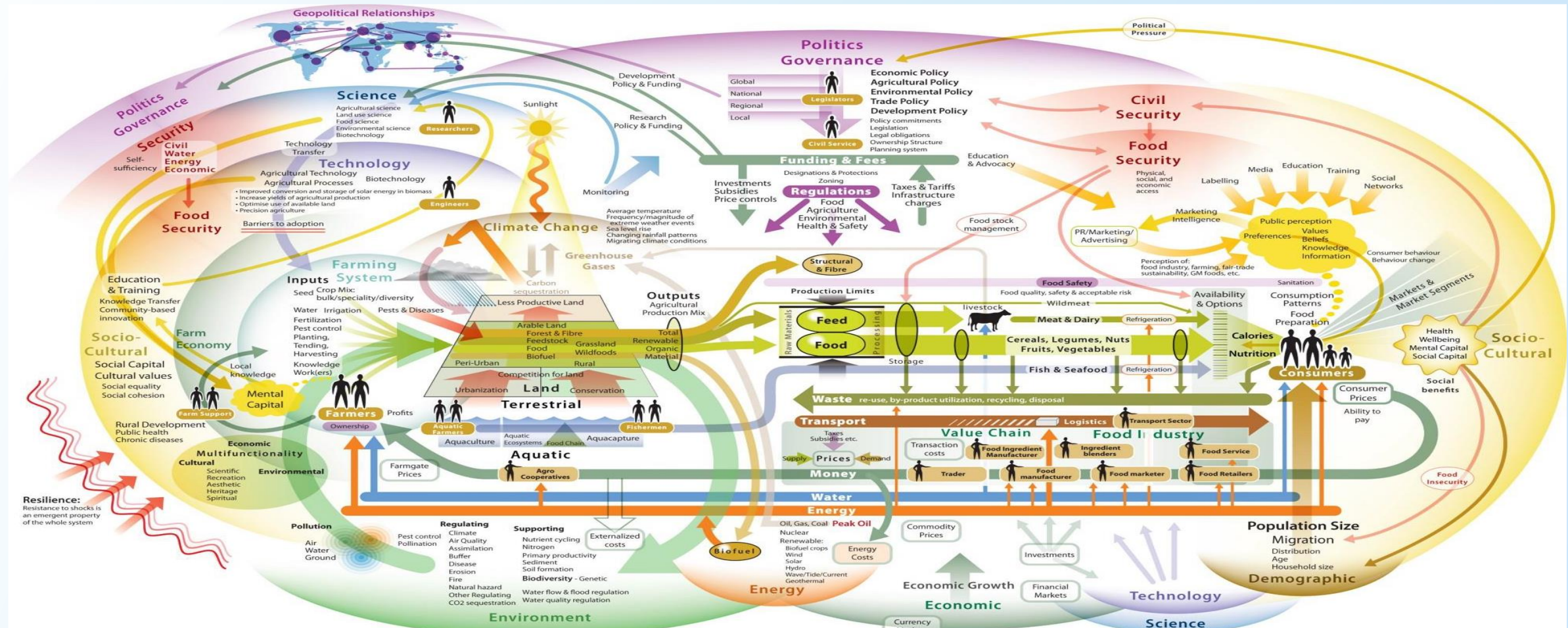
Epidemiology workforce?

Resilient Epi workforce?

How? - FAO's efforts

Strong national veterinary epidemiology capacity
- Enhancing Animal Health Services in Complex Systems

Global Food System Map, Copyright: 2009 ShiftN cvba

Food and Agriculture Organization of the United Nations

What is Epidemiology Workforce?

More than just *Epidemiologists*

All veterinary service personnel tackling animal health threats

What does "build Resilient Epi Workforce" mean?

Institutionalisation
Clear, structured roles embedded in veterinary service

Not reliant on individuals

Service-Driven Applications
Practical use of epidemiology to support veterinary services

Not just theoretical knowledge

Resilient Epi Workforce

Continuous Learning
Ongoing mentoring and lifelong learning

Not just one-off training

Interdisciplinary & Cross-Sector Collaboration
Joint efforts across sectors through a One Health approach.

How do we build Resilient Epi Workforce?

✓ **Institutionalisation-> Evidence-based workforce planning**

Service-Driven Applications->Competency-based capacity building

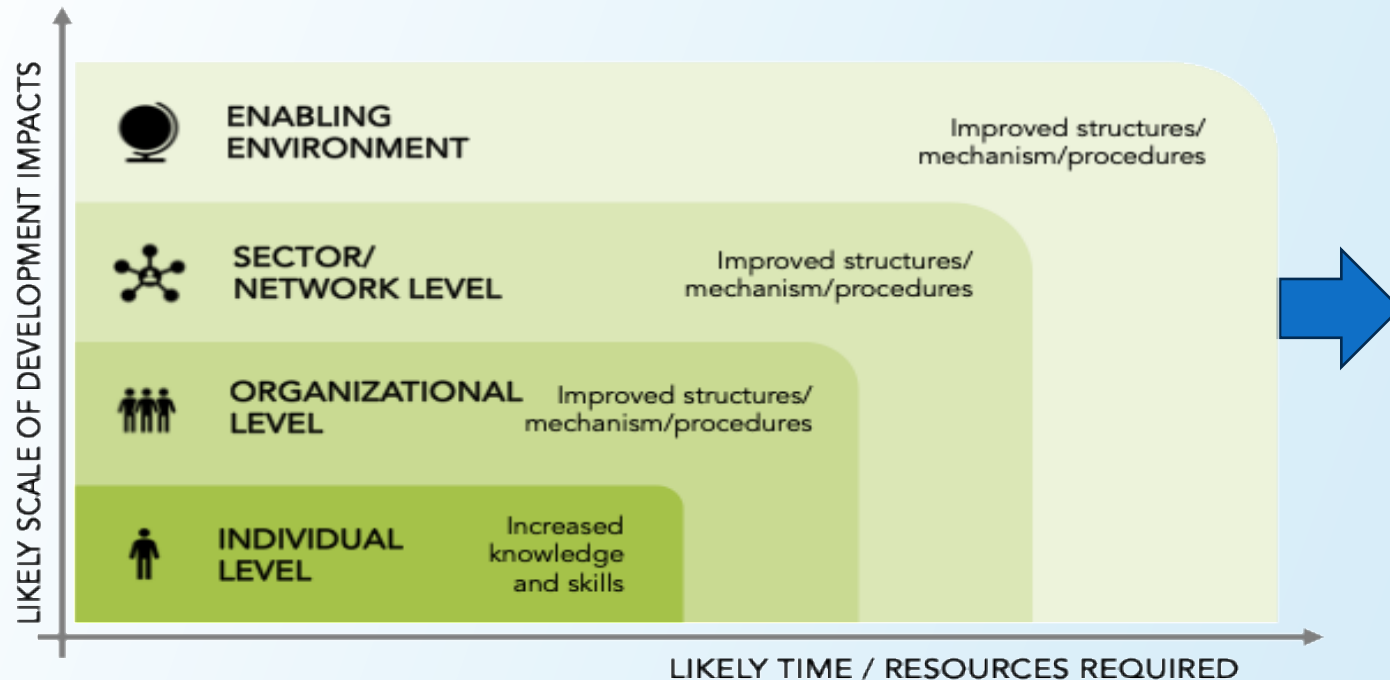**Continuous learning->Peer-to-peer support network**

Interdisciplinary & Cross-Sector Collaboration->Knowledge sharing

Institutionalisation-> Evidence-based workforce planning

Assist country to identify priority areas and roadmap

Epidemiology Mapping Tool (EMT)

01

Review **national epidemiology capacities** and identify strengths and challenges.

02

Develop **country-specific priority actions** to inform future improvements.

03

Provide a **standardized and repeatable process** for the assessment of veterinary epidemiology capacities.

04

Build staff capacities to use the EMT methodology to lead future assessments.

What outcomes does EMT offer?

EMT Key Principles

✓ Launched upon **request** from the country to FAO

🔍 Focus on **identifying gaps and providing recommendations** for improvements

👥 Consultative and **consensus building**

🤝 Flexibility to address **national priorities**

👥 **Complementary** to existing assessment (PVS, JEE and LMT)

⏳ **Re-assess** over time

Example:
Epidemiology Mapping Tool (EMT)

Field testing	Implement	Express interests
Indonesia	Bhutan (2017)	Lao PDR
Lao PDR	Mongolia (2018)	Pakistan
Nepal	Indonesia (2021)	Cambodia
Viet Nam	Philippines (2023)	
	Nepal (2023)	

Service-Driven Applications->Competency-based capacity building

Field Epidemiology Training Programs for AH and OH Professionals (FETPVs)

Food and Agriculture Organization of the United Nations

MONGOLIA

CHINA

NEPAL

BHUTAN

BANGLADESH

MYANMAR

LAO PEOPLE'S DEMOCRATIC REPUBLIC

THAILAND

VIETNAM

CAMBODIA

PHILIPPINES

MALAYSIA

INDONESIA

In-service field epidemiology training for animal health and One Health

Program & geographical coverage

Year of program establishment

2009 — **REGIONAL R-FETPV** — 200 basic, intermediate & advanced-level graduates — **from 13 countries**

2010 — **CHINA C-FETPV** — 268 basic & intermediate-level graduates — **31** *provinces*
126 advanced-level graduates — **5** *national institutes*

2017 — **INDONESIA PELVI** — 77 basic & intermediate-level graduates — **10** *provinces*
10 advanced-level graduates — **27** *districts*

Field practices (OIs + Epi studies)

REGIONAL
207
outbreak investigations & surveillance analysis

outbreak investigations
CHINA — 441
INDONESIA — 114

epi studies
128
10

Publications & manuscripts

76 REGIONAL
292 CHINA
31 INDONESIA

FETPVs – More Than Training: Learning by Doing

Core components

Training

Blending in-classroom and virtual learning
Hands-on field exercises

Application

Hands-on field practices
Post-training skills utilization

Advocacy

Engaging decision-makers and stakeholders
Demonstrating the training's service-enhancing potential

Supporting pillar

Building a national trainer/ mentor team

Creating a knowledge-sharing network

Backbone

Efficient training management

Consistently stakeholders engagement

ENTRVST
*E*pidemiology *N*etwork for *TR*aining, utilizing the *V*eterinary workforce and evidence, and *S*haring for *T*rust

Peer-to-Peer Network

Open to all with an interest in Epidemiology and Veterinary Public Health

Collaborate, Learn, and Share

ENTRVST Virtual Hub @ FAO's Virtual Leaning Centre
Sign up to connect:
https://virtual-learning-center.fao.org/admin/tool/custompage/view.php?id=57

One Health Knowledge Nexus
Community of Practice (CoPs)

- Antimicrobial Resistance Laboratory Innovators
- Drivers of emerging plant and animal pests and diseases, including zoonotic spillover
- Good Agriculture Practices and Prudent Antimicrobial Use to Reduce the Risk of Antimicrobial Resistance in the Agrifood Sector (RENOFARM)
- One Health Governance
- Progressive Management Pathway for Terrestrial Animal Biosecurity
- Return on Investment for One Health
- Tick Control and Acaricide Resistance

FAO Virtual Learning Centers

One Health at the human-ecosystem-wildlife-livestock (HEWILI) interface
- Tutored course, can be customized for country

Contents
- An Introduction to One Health
- Potential Sources of Pathogens
- Drivers of Diseases at the Human-Environment-Wildlife-Livestock Interface
- Impacts of Infectious Diseases
- Introduction to Risk Analysis and the Joint Risk Assessment Operational Tool
- One Health Approach to Outbreak Investigation and Disease Control

Target audience
Professionals working in different institutions and with different backgrounds (animal health, public health, wildlife and natural resource management, and others).

Modality
- Tutored course
- 4 weeks. 3-4 hours/week
- Interactive modules 45 minutes (Approx.)
- PBL case studies relevant to the region
- Discussion forums to interact with tutors and peers
- Virtual sessions including webinars and workshops

Delivered in:
- Pacific region (SAP)
- Eastern Africa (SFE)
- Europe and Central Asia (REU)
- Near East and North Africa (RNE)
- Southern Africa (SFS)

Key messages

Epidemiology workforce – all veterinary service personnel

Building Resilient Epi Workforce:

- **Institutionalisation**–>Evidence-based workforce planning: **EMT**

- **Service-Driven Applications**->Competency-based capacity building: **FETPVs**

- **Continuous Learning** –> Peer-to-peer support network: **ENTRVST**

- **Interdisciplinary and Cross-Sector Collaboration**–> Knowledge sharing: **VLC**

FAO's mandate is to support member countries in strengthening Epi capacity

Food and Agriculture Organization of the United Nations | SUSTAINABLE DEVELOPMENT GOALS

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STRENGTHENING ANIMAL HEALTH SYSTEMS TO PROTECT HEALTH AND LIVELIHOODS

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