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# Mobilizing One Health To Connect Public & Animal Health Experts with Environment Professionals

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**1<sup>st</sup> SafetyNet Scientific Conference**

**Connecting the Dots: Advancing Human, Animal, & Ecosystem Health**

# Outline

**1<sup>st</sup> SafetyNet Scientific  
Conference - Connecting  
the Dots: Advancing  
Human, Animal, &  
Ecosystem Health**

Canberra, Australia  
12 September 2023

Mobilizing One Health  
To Connect Public &  
Animal Health Experts  
with Environment  
Professionals



**01**

**The Evolution of One Health... In the Beginning**

**02**

**The Evolution Continues... Beyond Medics and Vets**

**03**

**Defining the Role of the Wildlife and Environment Sectors**

**04**

**Opportunities to Make a Difference in One Health**

**05**

**Conclusions**



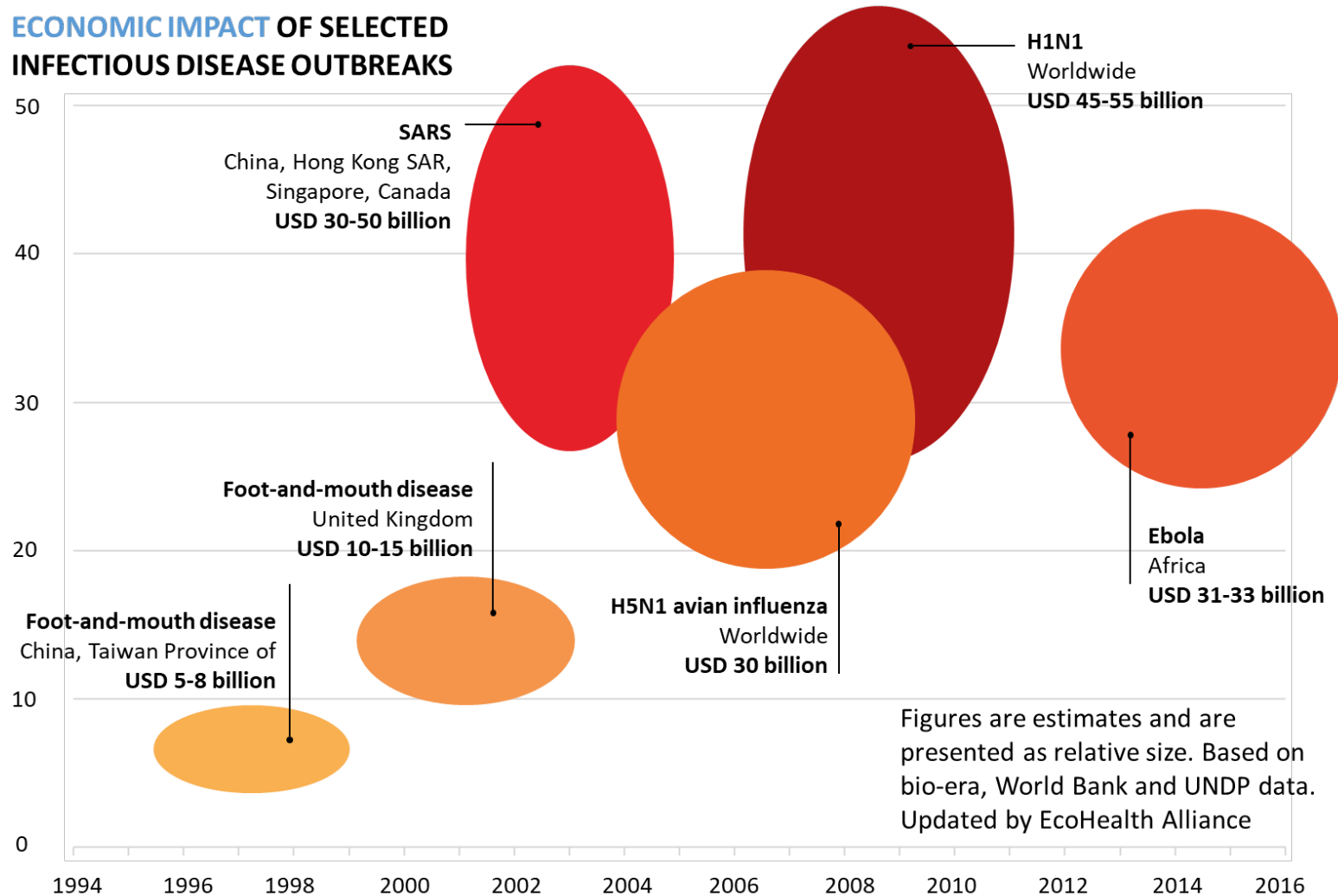
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**01**

# The Evolution of One Health... In the Beginning

## ECONOMIC IMPACT OF SELECTED INFECTIOUS DISEASE OUTBREAKS



## The Disease Burden

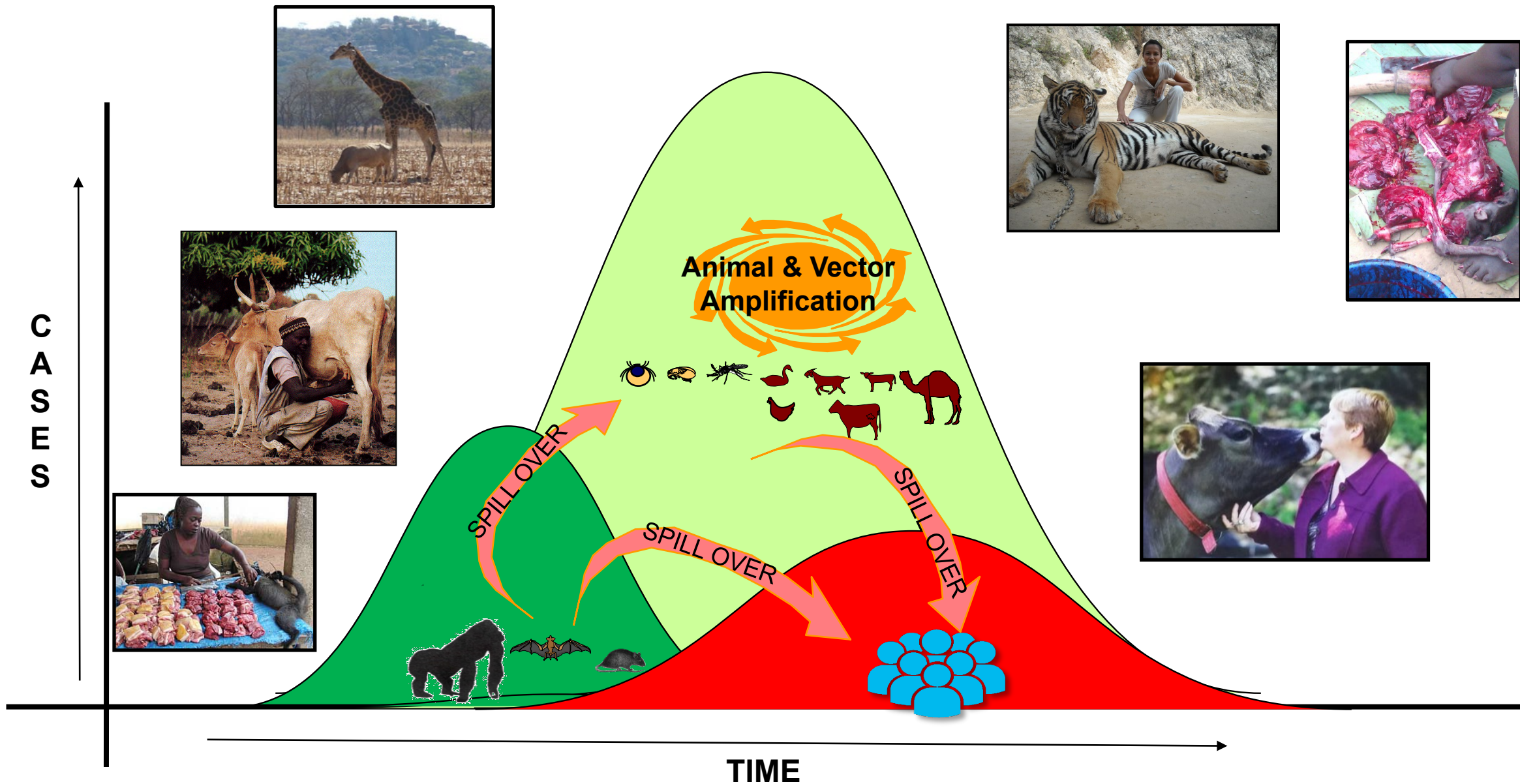
- Livestock & Livelihoods
- Food/Nutrition Security
- Trade & Economies
- Emerging infectious diseases & pandemics
- Impacts on Wildlife populations & tourism
- Impacts on food security of subsistence communities

TADS  
Zoonoses  
AMR & Food Borne Diseases





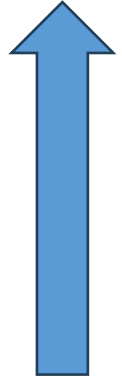
# Zoonotic Diseases Due To Increased Contact Rates



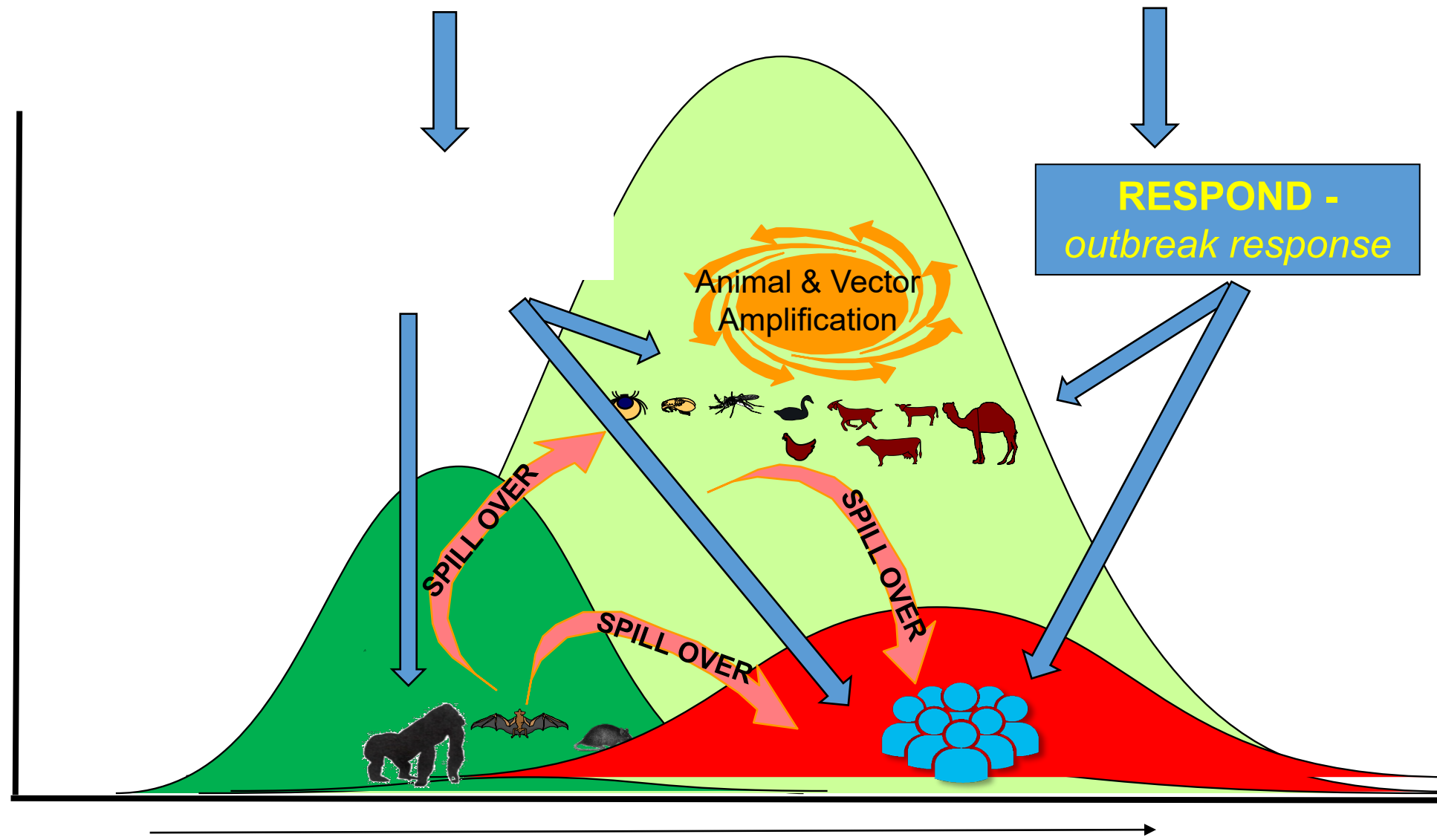


# One Health has primarily focused on zoonotic diseases and medical interventions - surveillance & outbreak response

1. Detect  
2. Respond



Public Health & Animal Health



## What are the implications of bringing millions of people, livestock & wildlife together?



4,400M



497M



1,100M



769M



25,000M



- More than **4.5 billion people** live in Asia (2021), representing approximately 60% of the world's current population.
- Asia also has the highest growth rate today, projections of 4.71 billion people by 2100
- Regionally, the **largest density of livestock** – especially **poultry and pigs**
- **Millions of farmed wildlife** – pets, food, display, medicinal
- **Millions of free-ranging wildlife**

**Close proximity & higher contact rates with animals increases risk for disease spill-over**



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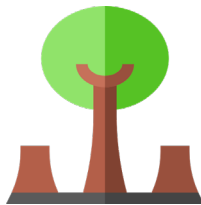
**02**

## **The Evolution Continues... Beyond Medics and Vets**

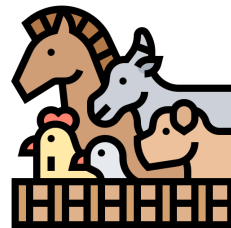




# In the Asia and Pacific Region



LARGE SCALE  
DEFORESTATION



INTENSIFICATION OF  
LIVESTOCK  
PRODUCTION



THE OVERUSE AND  
MISUSE OF  
ANTIMICROBIALS



THE WAY WE  
PRODUCE,  
CONSUME, AND  
TRADE FOOD



UNREGULATED  
WILDLIFE TRADE



CLIMATE CHANGE



Increasing risk due to regional dynamics – we are considered a hotspot for emergence & spill-over

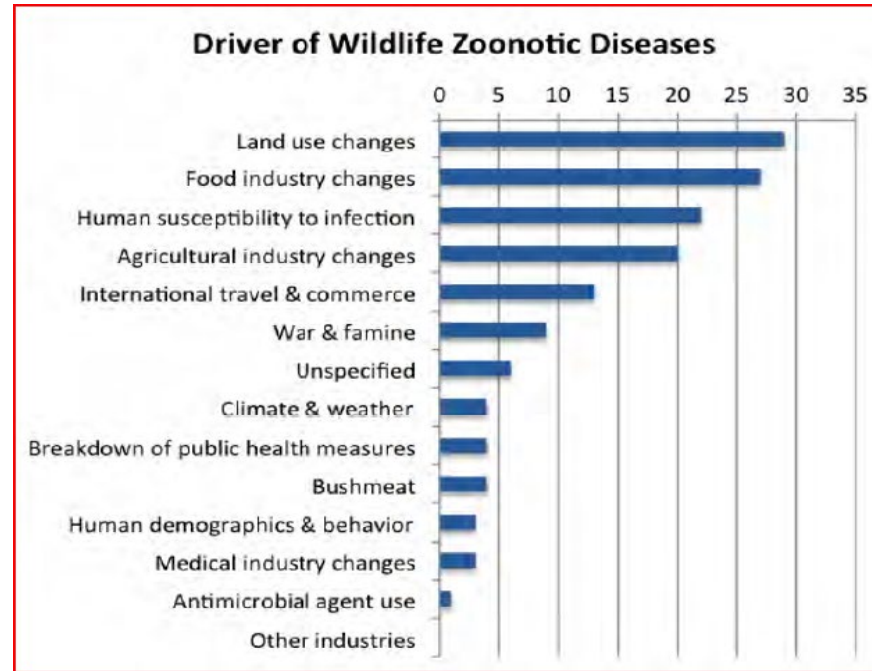




## Drivers of Emerging Zoonoses

1. Human behavior
2. Modifications to natural habitats
3. Changes in agricultural practices

Adapted from Chomel, Belotto & Meslin, 2007



USAID EPT PREDICT data







# One Health Goes Well Beyond Diseases...

To address these problems we need to mobilizes multiple sectors, disciplines & communities at varying levels of society to work together to foster well-being & tackle threats to health & ecosystems...



- 2004 – SARS CoV
- 2010 – H1N1 influenza
- 2012 – MERS CoV
- 2013 – Avian influenza
- 2014 – Ebola
- 2016 – Zika
- 2017 – Ebola
- 2020 – SARS-CoV-2
- 2021 – COVID-19



INCREASED GLOBAL INTERACTIONS @ THE HUMAN-ANIMAL-ENVIRONMENT INTERFACES





# *Deforestation, Forest Fragmentation, & Disturbance: Linkages to Zoonoses*



**HIV, Nipah, Malaria, Ebola, Zika, Chikungunya, Dengue...**

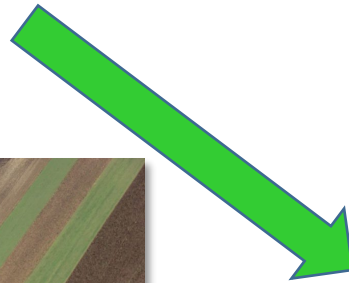
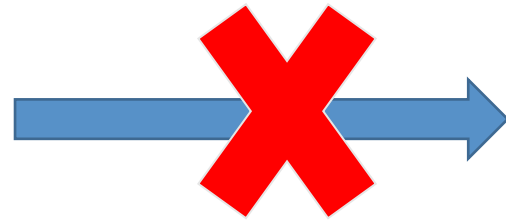
- Deforestation increases **vector borne diseases**: Every 1% of forest cut/year, malaria cases increase 23% <https://doi.org/10.1016/j.ecolecon.2018.08.005>
- Habitat disturbance, encroachment & extractive industries **increase contact rates & spill-over events (human-wildlife & human-wildlife-livestock)**
- Deforestation contributes to large **biodiversity extinctions** - fewer species to “buffer or absorb” diseases = **human more likely the spill-over host**
- Natural Landscapes converted to urban or agricultural, and human-managed ecosystems **attract rodents and bats** (**known to host higher numbers of diseases transmissible to humans**) <https://doi.org/10.1038/s41586-020-2562-8>
- Fragmented forests **attract fruit bats** (**known to host higher numbers of diseases transmissible to humans**) <https://doi.org/10.1111/j.1365-2664.2008.01594.x>





## Meeting the global demand for food while ensuring the “health” & function of natural & agro-ecological systems is a challenge

- More livestock
- More fish/aquaculture
- More grains, crops, fruits, veggies



- Habitat converted for Agriculture - deforestation, loss of wetlands, grasslands, etc.
- Loss of biodiversity & ecosystem services
- Increased run-off & pathogen spread
- Encroachment on natural ecosystems
- Climate-Smart Agriculture
- Agroecological approaches
- Efficient & safe production (AMR)
- Biosecurity & Disease prevention/control
- Maintain biodiversity & Ecosystem svcs

# Intergovernmental Panel on Climate Change: Special Report on the Impacts of Global Warming of 1.5°C

- **Impacts on water availability**  
millions vulnerable to water stress
- **Impacts to Ecosystems**  
biodiversity loss & extinctions
- **Impacts to coastal cities**  
flooding, waterborne diseases
- **Impacts to Food Systems**  
decreased crop yields
- **Impacts on Health**  
millions vulnerable to heat stress, vectors & disease ranges change (new diseases in new locations)

Table 5.1 | Sustainable development implications of avoided impacts between 1.5°C and 2°C global warming.

Impacts	Chapter 3 Section	1.5°C	2°C	Sustainable Development Goals (SDGs) More Easily Achieved when Limiting Warming to 1.5°C
Water scarcity	3.4.2.1	4% more people exposed to water stress	8% more people exposed to water stress, with 184–270 million people more exposed	SDG 6 water availability for all
	Table 3.4	496 (range 103–1159) million people exposed and vulnerable to water stress	586 (range 115–1347) million people exposed and vulnerable to water stress	
Ecosystems	3.4.3, Table 3.4	Around 7% of land area experiences biome shifts	Around 13% (range 8–20%) of land area experiences biome shifts	SDG 15 to protect terrestrial ecosystems and halt biodiversity loss
	Box 3.5	70–90% of coral reefs at risk from bleaching	99% of coral reefs at risk from bleaching	
Coastal cities	3.4.5.1	31–69 million people exposed to coastal flooding	32–79 million exposed to coastal flooding	SDG 11 to make cities and human settlements safe and resilient
	3.4.5.2	Fewer cities and coasts exposed to sea level rise and extreme events	More people and cities exposed to flooding	
Food systems	3.4.6, Box 3.1	Significant declines in crop yields avoided, some yields may increase	Average crop yields decline	SDG 2 to end hunger and achieve food security
	Table 3.4	32–36 million people exposed to lower yields	330–396 million people exposed to lower yields	
Health	3.4.5.1	Lower risk of temperature-related morbidity and smaller mosquito range	Higher risks of temperature-related morbidity and mortality and larger geographic range of mosquitoes	SDG 3 to ensure healthy lives for all
	3.4.5.2	3546–4508 million people exposed to heat waves	5417–6710 million people exposed to heat waves	

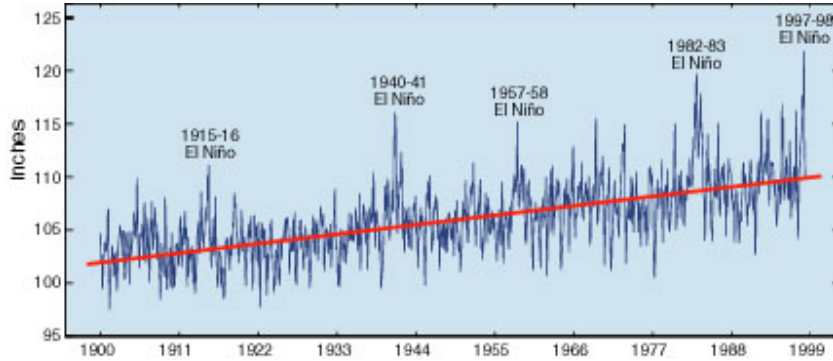
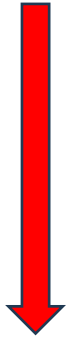
INTERGOVERNMENTAL PANEL ON climate change



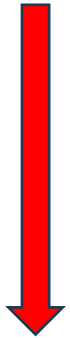


# Climate Change Implications

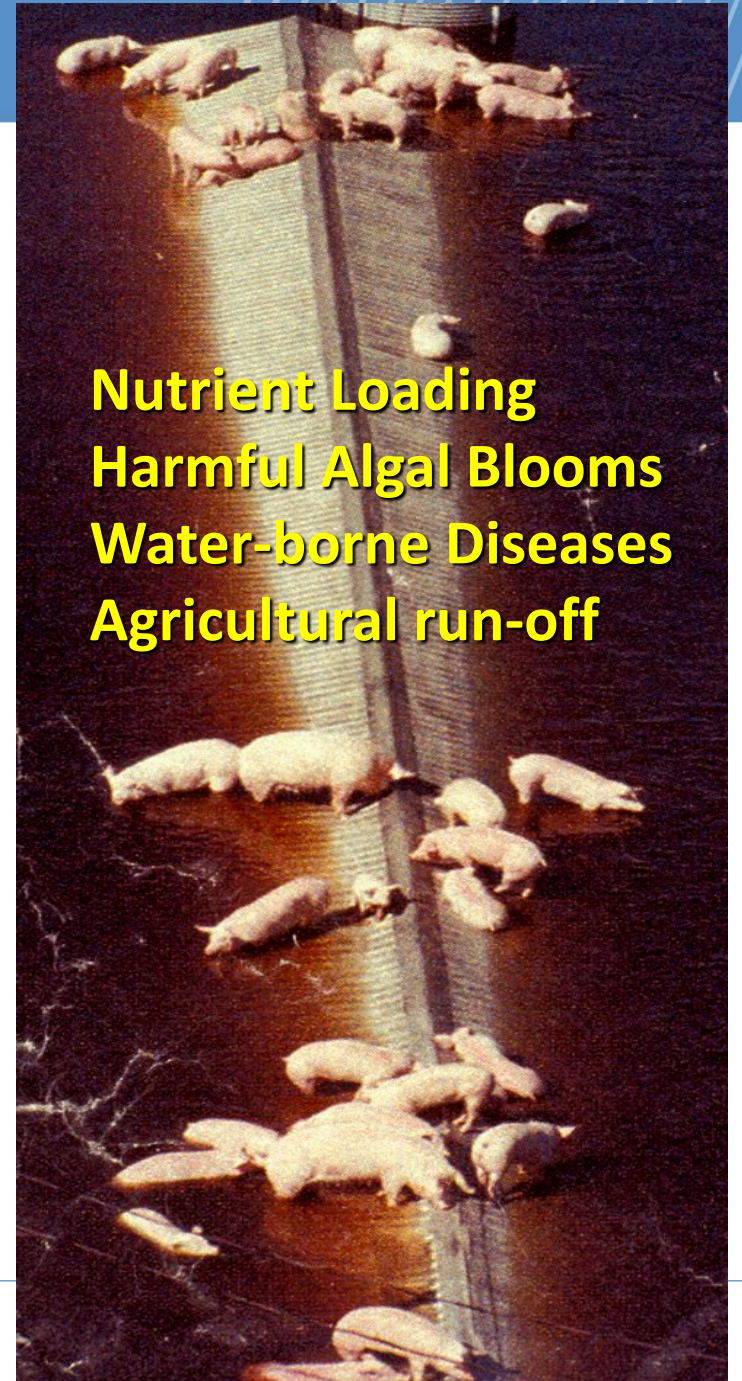
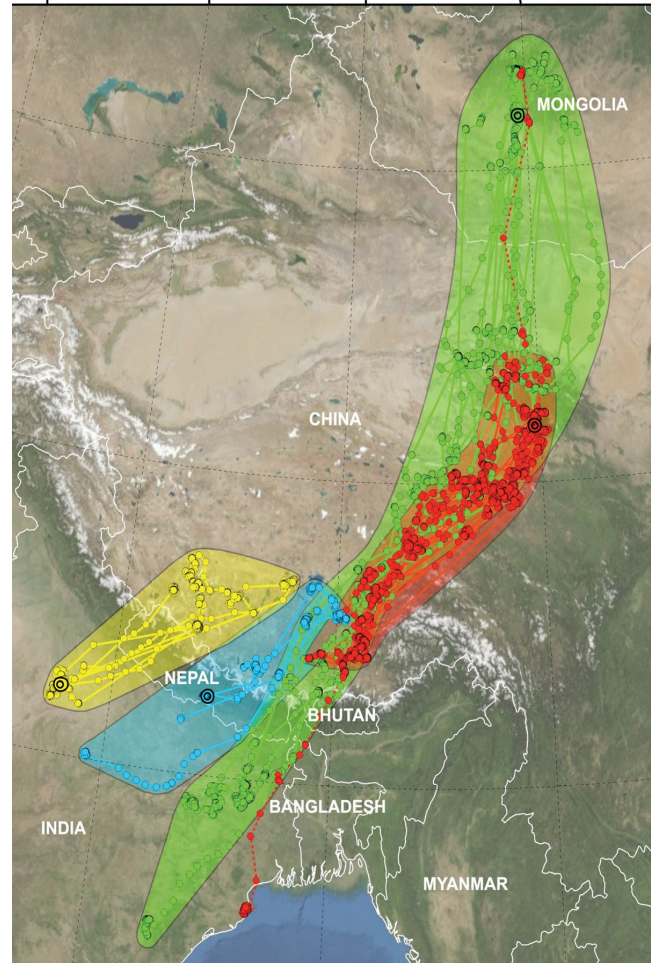
## Temperatures Increasing



## Glacial Meltdown



## Migration Routes of Bar-headed Geese



**Nutrient Loading**  
**Harmful Algal Blooms**  
**Water-borne Diseases**  
**Agricultural run-off**



- Establish One Health High Level Expert Panel (OHHLEP)
- Intergovernmental Panel on Climate Change – Special Report on the Impacts of Global Warming
- Recent **calls to action (G20 & G7)** and the UN Food Systems Summit game changer on OH/AMR underline the need for collective action and coalition building
- **Creation of Quadripartite** (FAO, WHO, WOAH & UNEP) out of the Tripartite
- One Health Joint Plan of Action (Quadripartite + OHHLEP) & Implementation Guide
- **The COVID-19 Pandemic**
- Governments & organizations call for further support to mainstream OH policies at global, regional, country levels
- Launching multilateral OH initiatives & programmes

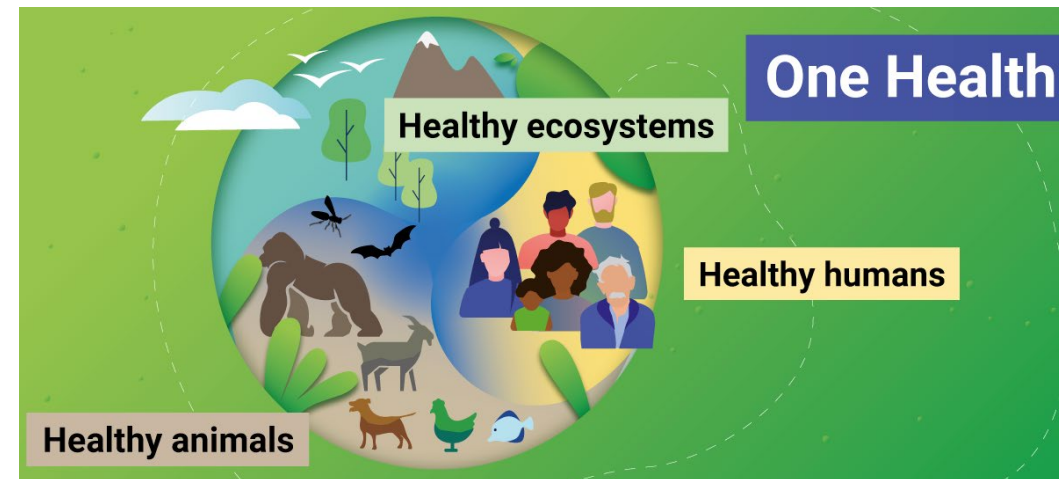






(Tripartite, UNEP OHHLEP, 2021)

- **One Health...** aims to sustainably balance and optimize the health of people, animals (wildlife & livestock) and ecosystems
- **December 2021 - One Health High Level Expert Panel (OHHLEP)** OH definition including **wildlife & ecosystems** and the approach should tackle threats to health & ecosystems
- **One Health** recognizes the health of humans, domestic & wild animals, plants, & the wider environment are closely linked & inter-dependent
- *The environment provides*
  - the food we eat
  - the air we breathe &
  - the water we drink





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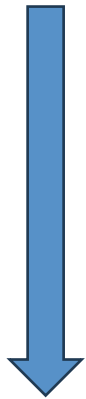
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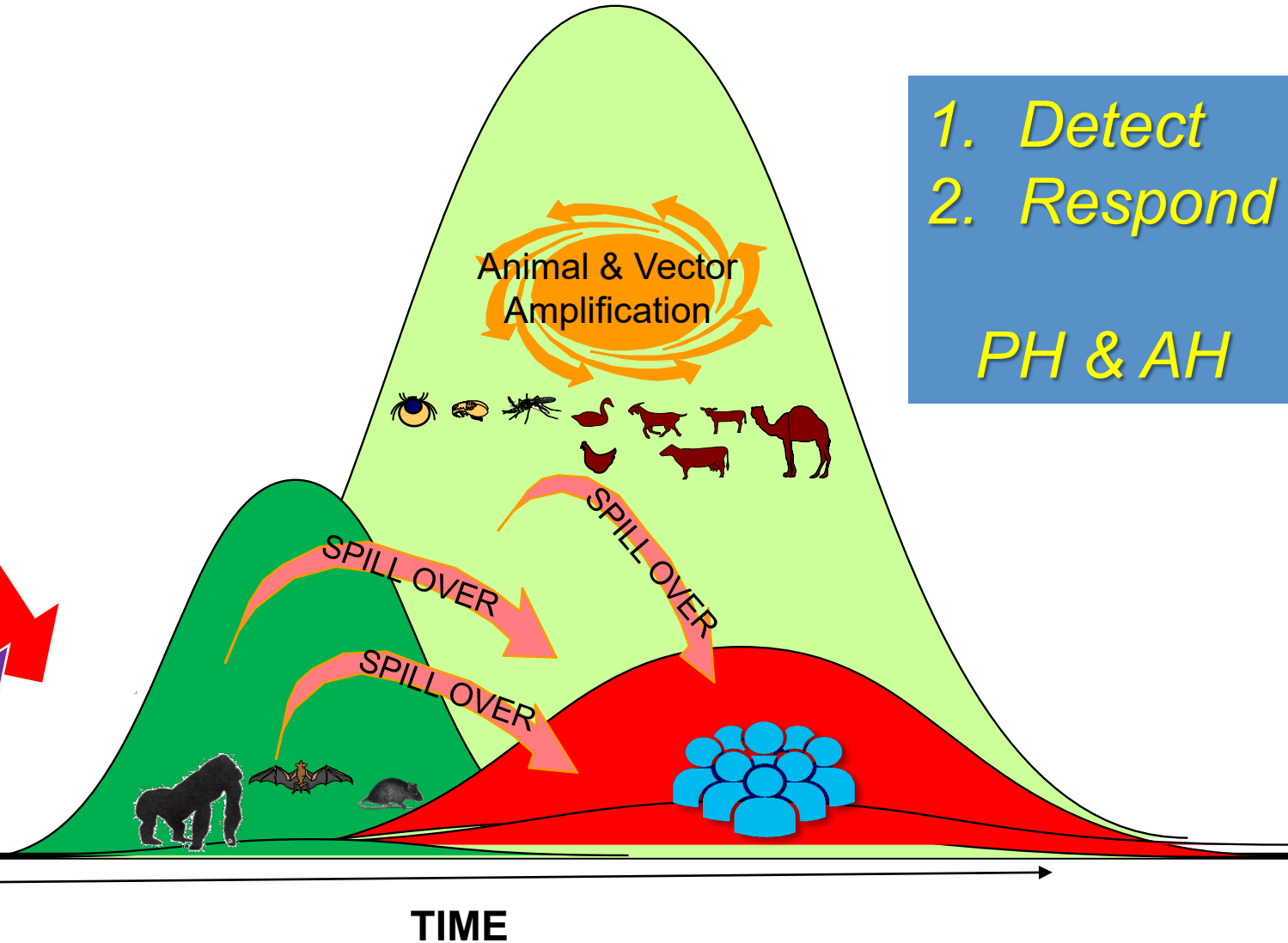
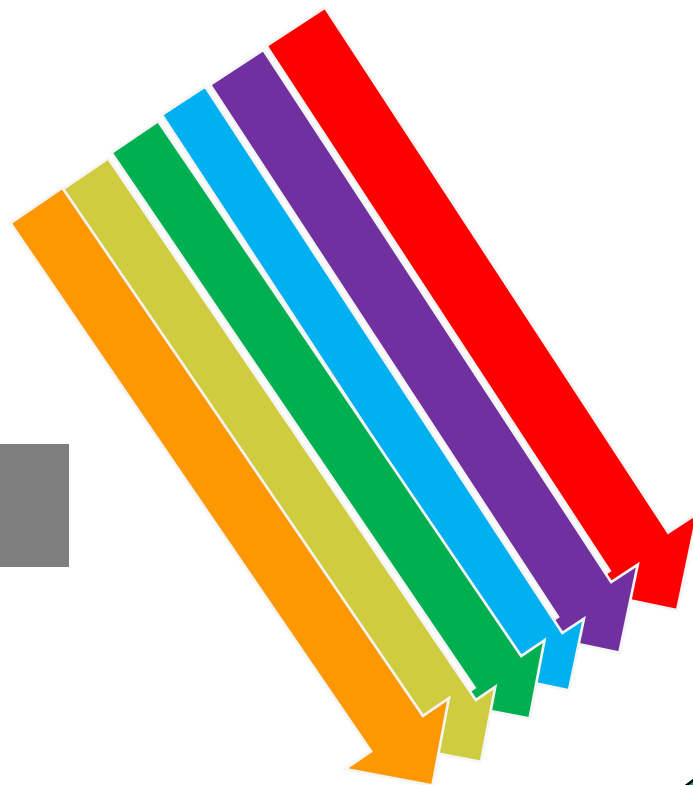
## Defining the Role of the Wildlife and Environment Sectors



## Ministries of Forestry & Wildlife, Natural Resource Management & Environment



Prevent



# The Role of the Forestry, Wildlife & Environment Sector in OH

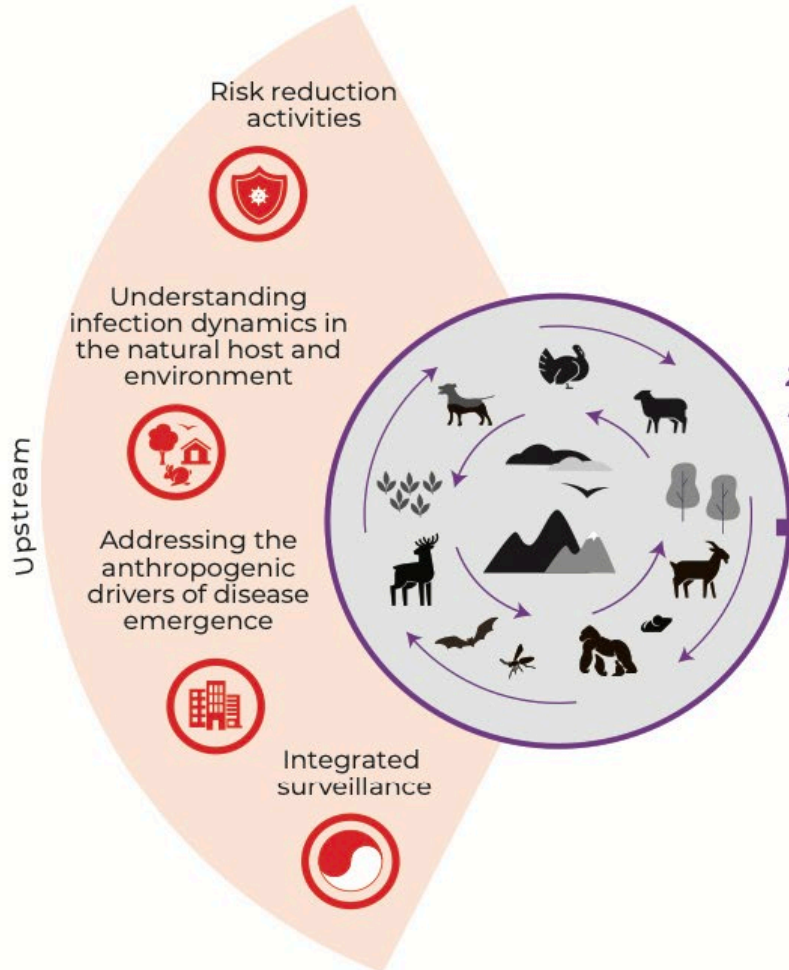
	Relevance to SDGs & MEAs	Links to OH Joint Plan of Action
Preserve & restore habitat, biodiversity, & ecosystems	1. LEAD- mainstream biodiversity, SDG 12, 14, 15- responsible consumption & production, life below water, & on land, post-2020 global biodiversity framework	1. Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Environment
Climate change adaptation and mitigation	2. LEAD – Climate action & links to NDCs-Paris Agreement, Kyoto, SDG 13, restore (mangrove, forest, habitat = prevention	2. Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Environment
Waste, effluent & pollution management-ecotoxicology	3. LEAD – Clean H2O, life below water, & on land - SDG 6, 14, 15, Stockholm, Rotterdam, Basel, Conventions, RAMSAR	3. Health systems; Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Food safety; AMR; Environment
Land use planning to mitigate farm/urban encroachment on biodiverse natural habitats	4. Collaborate with MoAg & Rural Development, Planning & Investment - Prevention	4. Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Environment
Food systems transformation - sustainable-climate smart	5. Collaborate with MoAg & links to climate action, NDCs-Paris Agreement, SDG 12, 13, 15-life below water & on land	5. Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Environment
Improve wildlife management, farming & trade	6. Collaborate with veterinary services - links to CBD, CITES & CMS, International trade	6. Health systems; Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Food safety; Environment
Food safety along value chains-esp. informal markets mix/sell wild & domestic animals	7. Collaborate with MOH & veterinary services - links to sustainable harvest by indigenous communities & CITES, CBD	7. Health systems; Zoonoses epidemics & pandemics; Endemic zoonotic neglected diseases; Food safety; Environment



# Invest in Prevention

## Prevention

Actions to identify threats and reduce risk of spillover

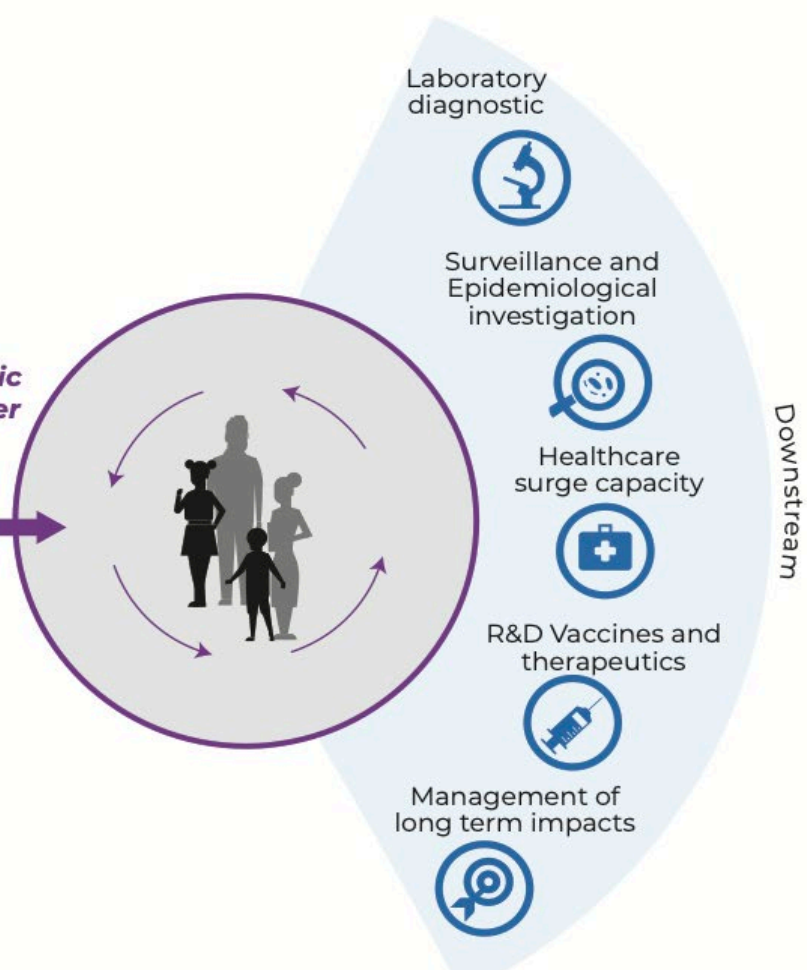


**Zoonotic Spillover**



## Preparedness-Response

Actions to limit spread in human population



- Prevention is more important (and more cost-effective) than response.
- Traditionally: zoonoses, food safety and AMR
- Now One Health includes the triple planetary crises:
  - biodiversity loss
  - pollution
  - climate change





# FAO & OH in the Asia & Pacific Region

Recommended FAO, in collaboration with Tripartite and other international organizations to...

- i. provide technical assistance to countries to strengthen OH policy, governance and capacity (individual and institutional), including undertaking national OH and environment sector needs assessments;
- ii. expand OH capacity development, subject to available resources, that incorporates linkages between the environment and health and includes both in-service training for wildlife, environment, biodiversity and ecosystem professionals and joint, multi-sector training on OH;
- iii. maintain ongoing OH support for addressing zoonotic diseases, transboundary animal diseases, scale-up activities under the regional programme on antimicrobial resistance and food safety and include CODEX Alimentarius and other associated standards;



<https://www.fao.org/3/nh652en/nh652en.pdf>





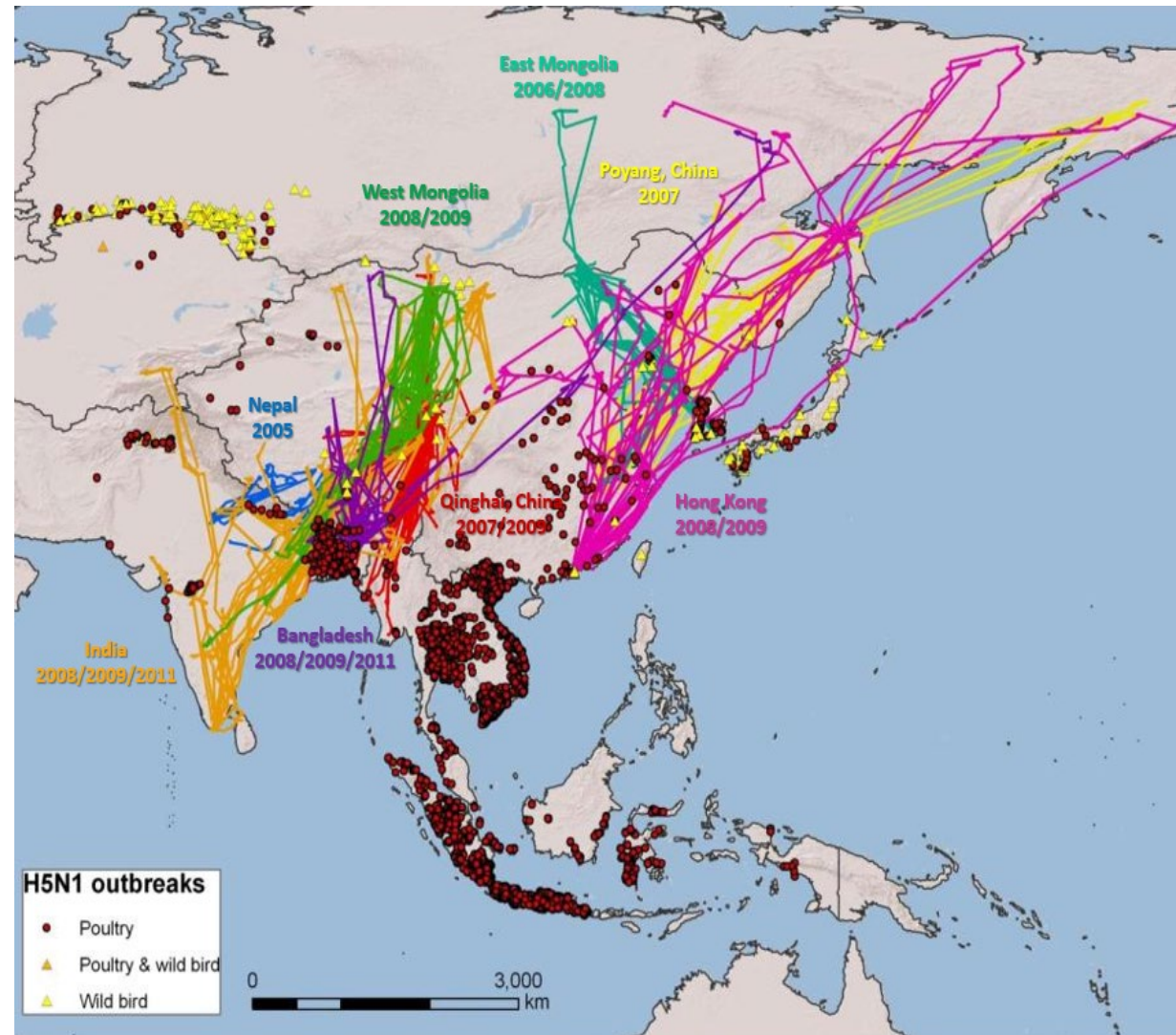
# 04

## Opportunities to Make a Difference in One Health



# Expanding Surveillance to Include the Ministries of Forestry, Wildlife & Natural Resources

- OH surveillance & outbreak response for diseases with wildlife hosts
  - ✓ risk assessments could include (wildlife behaviour, habitat use & migration, ecology information)
  - ✓ wildlife sampling (surveillance before & after outbreaks) to determine if they carry possible diseases and their epidemiological role during outbreaks
  - ✓ accurate risk communication messages that depicts the role of wildlife and is science-based information shared with the public & decision makers





# One Health Joint Plan of Action (OH JPA)



## ONE HEALTH JOINT PLAN OF ACTION (2022-2026)

WORKING TOGETHER FOR THE HEALTH OF HUMANS, ANIMALS, PLANTS AND THE ENVIRONMENT

**Action track 1:** Enhancing One Health capacities to strengthen health systems

**Action track 6:** Integrating the Environment into One Health

**Action track 5:** Curbing the silent pandemic of Antimicrobial Resistance (AMR)



**Action track 2:** Reducing the risks from emerging and re-emerging zoonotic epidemics and pandemics

**Action track 3:** Controlling and eliminating zoonotic, neglected tropical and vector-borne diseases

**Action track 4:** Strengthening the assessment, management and communication of food safety risks







## Asia-Pacific Partners and Quadripartite Meeting (Mar 2023) & Country Meeting (Sept 2023)

- Key outcomes: Regional partners support an informal platform built on existing ones to facilitate sharing of information, good practices, case studies, cross-sectoral collaboration and networking to improve communication and collaboration among OH stakeholders and countries



## Asia-Pacific Quadripartite One Health Meeting (5-8 Sep 2023)

- National OH JPA *Champions* from 1-3 sectors return home and support development of **national OH Joint Plans of Action** with whole of society and whole of government approach



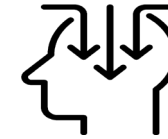


## Integrating the Environment into One Health (6.1-6.4)



Protect, restore, and prevent the degradation of ecosystems & the wider environment

Mainstream the environment into the One Health approach



Integrate environmental knowledge, data, and evidence in One Health decision-making

Create an interoperable One Health academic and in-service training program for the environment, medical, agriculture and veterinary sector professionals





Action 6.4: Create an **interoperable One Health** academic and **in-service training program** for the **environment**, medical, agriculture, and veterinary sector professionals

(i) **Strengthen the capacity of the natural resource management and environment sector** to participate in an interoperable manner with human and animal professionals and to support One Health policies, legislation and interventions - **FTP-WEBE (parallel to FETP and FETPV)**

(ii) **Strengthen the capacity of medical and animal health, veterinary sector professionals and institutions to integrate environmental considerations**, participate interoperably with environment, **address linkages between health and the environment** and support One Health policies, legislation, and interventions **(opportunities like today and hopefully further collaboration into the future together with FETP & FETPV)**

(iii) **Jointly/simultaneously strengthen the capacity of the medical, veterinary, and environment sector** to influence decision making on health and development and ensure all sectors are adequately equipped to collaborate and integrate priorities across the sectors **(VLC OH Modules & Tripartite One Health field epidemiology competency framework)**





- An **interoperable** One Health in-service training program for the environment
- The **compliment to FETP & FETPV**
- Targeting **in-service professionals** from **Ministries of Forestry, Wildlife, Natural Resource Management, & Environment**
- Aim to **strengthen the capacity** of the natural resource management and environment sector to participate in an interoperable manner with human and animal professionals and **to support One Health policies, legislation and interventions**



[International Orgs](#) - ASEAN Center for Biodiversity, CBD, IUCN, TEPHINET, UNEP, US CDC, USGS-National Wildlife Health Center, WHO, WOAH

[Universities](#) - City University of HK, Chittagong University (CVASU), Institut Pertanian Bogor (IPB), Mahidol University, Prescott College, Princeton University, Royal Veterinary College, Texas A&M University, Tufts University, University of California, University of Minnesota

[NGOs](#) - Ecohealth Alliance, Kyeema Foundation, TRAFFIC, Wildlife Conservation Society, Wildlife Diseases Association, WWF



Characteristics	Frontline	Intermediate	Advanced
Duration of training	- 4 months	- 9 months	- 24 months
Percentage of theory to applied learning	- 25% : 75%	- 25% : 75%	- 25% : 75%
Scope	- Understand and apply basic concepts at the local/community/field level	- Perform simple analysis and integrate data and information at subnational level	- Perform complex analysis and report findings to national decision makers
Minimum Candidate requirements	- In-service environment professionals - field level or community based professionals- i.e. <b>park rangers, local managers, etc.</b>	- Undergraduate level training in environmental sciences	- Graduate or post-graduate level training in environmental sciences



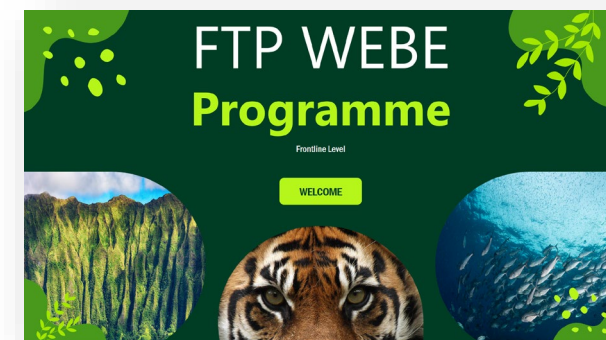
Modules	Units
<b>Setting the Scene</b>	Frontline FTP WEBE Program Overview & Pre-Test Setting the Scene: Key Aspects for One Health
<b>Module 1: Ecosystems, Agroecosystems &amp; One Health</b>	Ecological Dynamics in Farms and Natural Systems of Relevance to One Health Ecosystem Services: Nature’s Contribution to People Interactions between Ecosystems and One Health
<b>Module 2: Understanding Biodiversity</b>	Defining and Measuring Biodiversity Ecological Functions of Biodiversity
<b>Module 3: Social Ecological Systems and One Health</b>	Understanding the framework of Social-Ecological-Systems Resource Systems in Social Ecological Systems Levels of Governance Systems in Social Ecological Systems
<b>Module 4: Ecosystems, Biodiversity and One Health</b>	Rural Participatory Appraisal Biodiversity and Field Sites Ecosystem Health & Ecology Field Applications Social Ecological System Perspectives in the Field Social Ecological Issues for Communication Among Communities

Modules	Units
<b>Module 5: Wildlife and Ecosystem Health Community Engagement</b>	Communication and Collaboration with Stakeholders Learning from Integrating Local Wisdom
<b>Module 6: Wildlife and Ecosystem Monitoring</b>	Wildlife and Ecosystem Health Determinants, Disease Drivers and Their Interrelationships Field Investigation Tools and Techniques Data Management, Data Quality and Reporting
<b>Module 7: Wildlife and Ecosystem Health Management and Response</b>	Health Promotion and Disease Management Principles Legal and Regulatory Frameworks at the Local Level Disease Response and Reporting Networks
<b>Module 8: Wildlife and Ecosystem Health and One Health Skills</b>	The Role of the Different Sectors at the Local Level One Health Collaboration and Mobilization Tools and Techniques One Health Leadership Skills



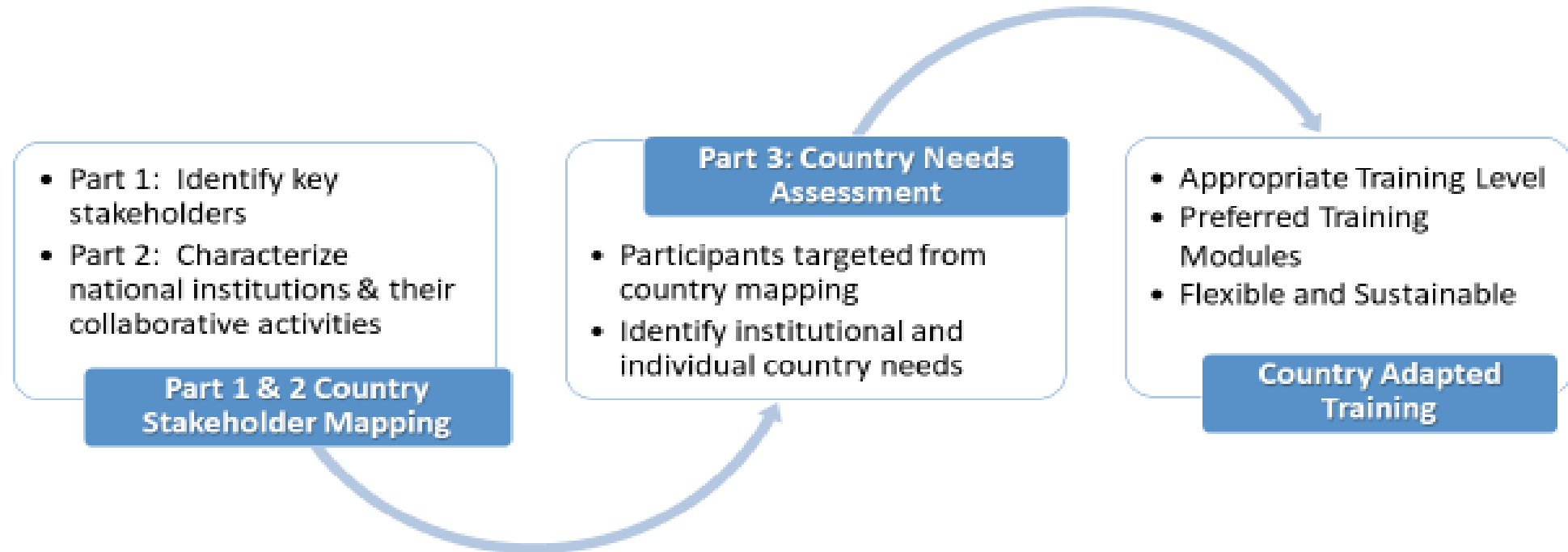


1. **Theory of Change** - Field Training Program for Wildlife, Ecosystems, Biodiversity & the Environment
2. **Report**: Field Training Program - Wildlife, Ecosystems, Biodiversity, and the Environment (FTP-WEBE) Curriculum Framework under a One Health Approach
3. **Defined Domains, Competencies and Skills needed by the Environment Sector** to engage in OH in an interoperable way with ongoing in-service training programs for veterinary services and the public health sector (FETPV/ISAVET & FETP)
4. Many (**107**) FTP-WEBE competencies have been incorporated into the global Tripartite's One Health Field Epidemiology Competency Framework
5. **Training materials**
  - Pre-test / Post-test
  - Trainer, Mentor & Participant manuals
  - M & E Manual & Indicator framework
  - VLC Introductory/Pre-requisite On-Line Training Modules
  - Modules & Training Units – learning objectives, presentations, PBLs, etc





**Environment sector stakeholder mapping and needs assessment tool:** developed to provide countries with adaptable training for their in-service wildlife and environment sector professionals and to address their specific capacity needs/gaps



- Piloted in **Indonesia, Bangladesh,** and **Thailand** and early versions tested in **Lao PDR** and **Mongolia**
- The results identify the priorities & training needs of the Ministries with responsibilities for wildlife and the environment and inform One Health country profiles
- Additional **ASEAN member** environment sector **country** mapping underway with ACB



# Antimicrobial Resistance - AMR

## BETTER ECOSYSTEMS

## PUBLIC HEALTH BENEFIT

## FARMER BENEFIT

## ANIMAL BENEFIT

Reduced spill-over of antimicrobial residues

Reduced environmental contamination

Reduced source of resistance genes

Reduced opportunity for resistant strains to emerge

Healthier microbial community

Reduced cost of production

Improved farm productivity

Reduced risk of other infections including TADs

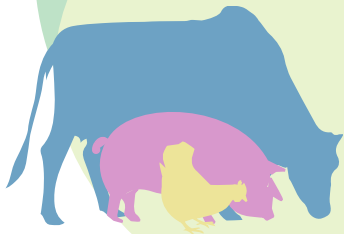
Reduced spread of resistant infections

Reduced antibiotic demand, use and misuse

Better animal health

Improved livelihood

Improved animal welfare







## Learning Flexibility



<https://virtual-learning-center.fao.org/>

A regionally-based virtual learning hub supporting development and delivery of online courses, workshops and resources to build capacity through:

- Assess the specific needs of the region/country
- Provide tailored virtual learning solutions
- Ensure training quality control procedures
- Support virtual learning networking
- Promote national cascade of training resources
- Encourage continuing professional development

### Maximise learning flexibility:

- Course modalities: tutored online course, blended training (support in-person trainings)
- Teaching methods: self-guided, live event, PBLs etc.
- Course duration



### FAO Virtual Learning Centers



1500 + professionals across 31 countries in the Asia & Pacific Region Covering OH, TADs, AMR, livestock development etc.

### Courses delivered since VLC RAP was established in late 2020:

1. Introduction to Lumpy Skin Disease [Open-access]
2. LSD Preparedness Course for Asia and the Pacific [2021]
3. R-FETPV Module on Basic Epidemiology & Surveillance Data Analysis [2021]
4. Foot-Mouth-Disease Investigation Training Course (FITC) for Asia [2021]
5. Value Chain Analysis for Animal Disease Risk Management [2021]
6. Food Security & Agriculture Needs Assessments- FOSANA [2021]
7. African Swine Fever Preparedness Course for the Pacific [ 2021]
8. **One Health Introductory Course, Part 1 - Pilot in the Pacific [2021]**
9. Avian Influenza Preparedness Course [2022]
10. LSD preparedness course for Pakistan [2022]
11. Animal nutrition course for the Pacific [2022]
12. Virtual Regional Training on Surveillance of Antimicrobial Resistance in Bacteria from Healthy Food Animals [2022]
13. Animal breeding course for the Pacific [2022]
14. FMD courses for Indonesia [2022]
15. ASF virtual learning hub [2023]

Online training course on Value Chain Analysis for Animal Disease Risk Management

FAO Asia Pacific @FAOAsiaPacific

50+ animal health professionals in the Pacific islands joined the second virtual workshop on #AfricanSwineFever. The Virtual Learning Center for Asia-Pacific team gave a case study on #ASF risk pathway, #outbreak investigation & #emergency response.

2nd VIRTUAL WORKSHOP: Introduction to African Swine Fever Course for the Pacific Islands

FAO Livestock and FAO in Emergencies



# Introductory Course on One Health at the human-environment-wildlife-livestock (HEWILI) interface

## Aim:

- Start **building relationships and trust** across sectors
- **Appreciate** the expertise & value of **other sectors**
- Expand approaches to integrate **wildlife and environment** elements to solve One Health challenges
- **Encourage interaction** among sectors

## Target audience:

- No previous knowledge/experience with OH topics necessary
- Professionals working in different institutions and with different backgrounds (public health, veterinary, wildlife, environment)
- In-service training for different administrative levels

## Joint-development by:

- FAO RAP
- VLC Global
- Subject Matter Experts with multidisciplinary backgrounds (internal and external)





## Introductory OH training course available through the FAO RAP Virtual Learning center (6 modules)

Food and Agriculture Organization of the United Nations

An Introduction to **One Health**

Module One

Start

Food and Agriculture Organization of the United Nations

One Health Drivers of Diseases at the Human-Environment-Wildlife-Livestock Interface

Module Three

Start

Food and Agriculture Organization of the United Nations

One Health Impacts of Infectious Diseases

Module Four

Start

Food and Agriculture Organization of the United Nations

One Health Potential Sources of Pathogens

Module Two

Start

**One Health Collaboration Across sectors – Under development**

Food and Agriculture Organization of the United Nations

One Health Approach to Outbreak Investigation and Prevention

Start

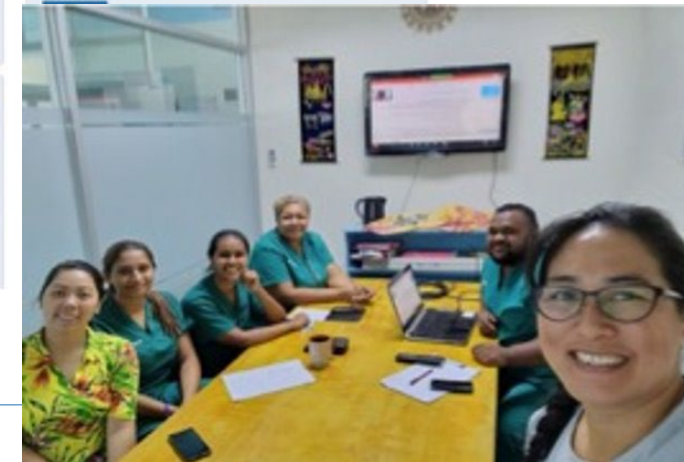
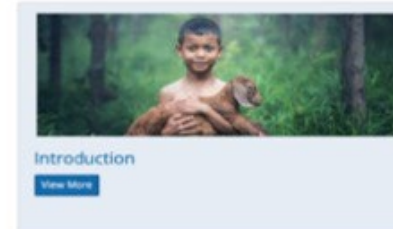
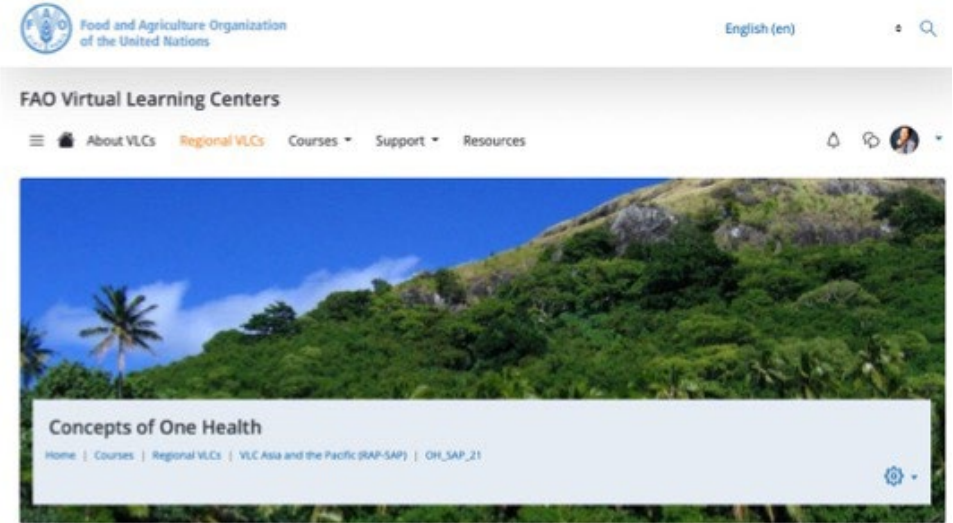


## Piloted the course in the Pacific Region

- Two rounds in 2021, 2022
- 100+ participants from 9 countries
- *Animal Health, Public Health & Natural Resource Professionals*
- 4-week tutored online course
- OH Part 2 - outbreak investigation and response for the Pacific Region (completed in August 2023)

## In the pipeline:

- OH intro course for ASEAN member countries (Aug 2023)
- **Open to discussions with FETP & FETPV**





## Tripartite One Health field epidemiology competency framework

Draft

Version 5.1

Supports delivery of OH Field Epidemiology training programmes. Distinguish between core competencies, which are non-negotiable for curriculum implementation and optional competencies

## Technical (1-10) & Functional (11-14) 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, biosecurity and biosafety
- Domain 7: Preparedness and response
- Domain 8: Epidemiological studies
- Domain 9: Data management, biostatistics, and informatics
- Domain 10: Ecosystem health
- Domain 11: Leadership and management
- Domain 12: Communication and community engagement
- Domain 13: Training
- Domain 14: Ethics





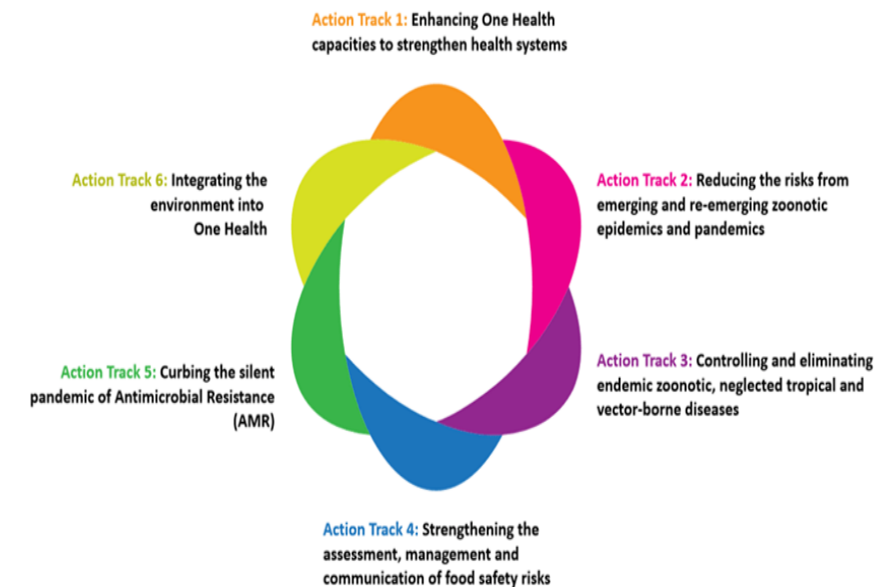
# One Health Monitoring Tool

Although the OH-JPA is taking OH to the next level, we don't have baseline for all 4 sectors - human health, animal health, wildlife and the environment

## What the OHMT Does:

1. National self-assessment against 10 **One Health indicators** completed by **all 4 sectors**
2. Evaluates the extent to which country-level One Health implementation is **delivering against OH-JPA action tracks**
3. Identifies the **national One Health gaps** and supports **visualization of gaps** through a dashboard
4. Leads to **next steps and actions to address** One Health coordination, collaboration, communication, and implementation gaps at the national level - development of a workplan

## OH Joint Plan of Action



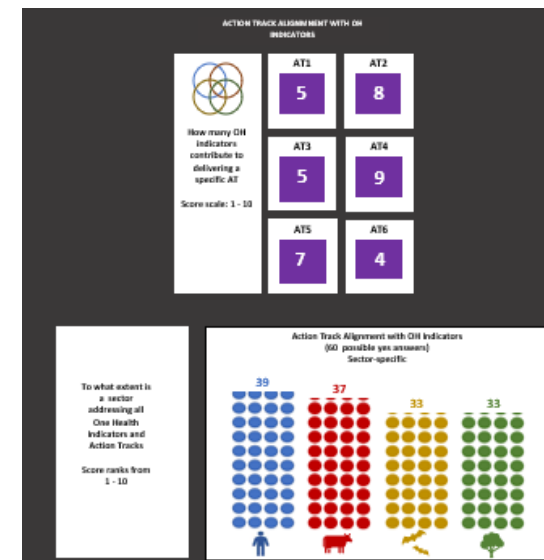
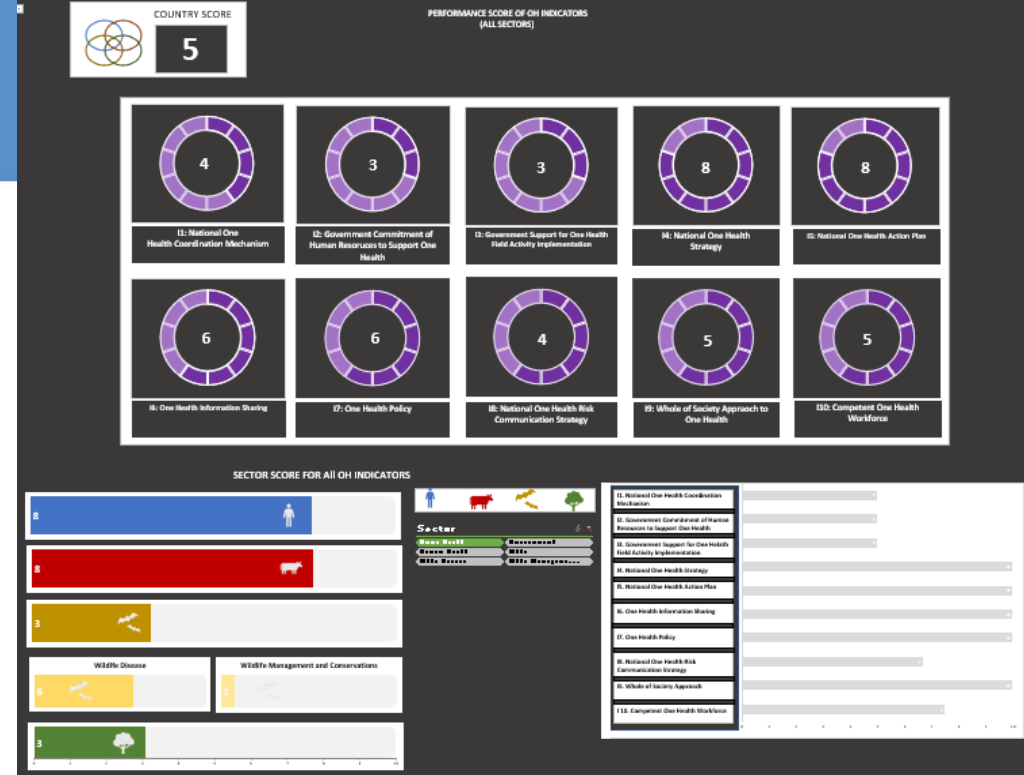


# One Health Monitoring Tool (OHMT): A self-assessment undertaken by all four sectors (human-livestock-wildlife-environment)

The One Health Monitoring Tool (OHMT) is a self-assessment that requires completion of 4 steps:

1. Independent Sector Exercise to provide a “yes” or “no” answer to each of 10 *One Health Indicators*;
2. Independent Sector Exercise to evaluate whether each OH Indicator addresses each specific OH JPA Action Track
3. Consensus workshop among all 4 sectors to agree on scores which leads to visualization of the gaps seen on the *Results Dashboard* page of the tool; and
4. Same Consensus workshop to complete the *Action Plan and Next Steps* worksheet that facilitates decision-making and identifies next steps to strengthen One Health implementation at country level across all four sectors

OHMT already being implemented in Africa with Quadripartite





Food and Agriculture  
Organization of the  
United Nations

SUSTAINABLE  
DEVELOPMENT  
GOALS

05

## Conclusions





# Major OH Gaps That Need To Be Addressed

CURRENT APPROACHES	WHERE WE NEED TO GO and WHERE WE ARE GOING – JOIN US!
<p>Largely <b>engaged</b> the <b>public health &amp; veterinary sectors</b></p>	<p><b>Has not adequately engaged</b> Ministries of <b>environment, wildlife, biodiversity &amp; ecosystems &amp; NRM</b></p>
<p><b>Focused on areas relevant to public health and veterinary services</b></p> <ul style="list-style-type: none"> <li>1) Zoonotic Diseases</li> <li>2) Antimicrobial resistance</li> <li>3) Food Safety</li> </ul>	<p><b>Has not focused on areas relevant to Environment Sector</b></p> <ul style="list-style-type: none"> <li>1) preventing environmental degradation;</li> <li>2) protecting &amp; restoring biodiversity &amp; ecosystems; &amp;</li> <li>3) upstream interventions to prevent pandemics/AMR</li> </ul>
<p><b>Established in-service training programs</b> (FETP, FETPV) to support Ministries of Health and Veterinary Services</p>	<p><b>No training program for in-service Environment professionals</b></p>
<p>Public Health &amp; Veterinary Sector lead OH initiatives at country level</p>	<p><b>Environment professionals play a small role, if any, in OH coordination mechanisms, setting national OH policies, identifying national OH priorities, or implementing OH programs &amp; activities</b></p>



# The One Health *Communication* Challenge

- Ministry of Agriculture & Veterinary Services
- Ministry of Public Health



- Ministries of the Environment, Natural Resources, Forestry & Wildlife

**Veterinarians &  
Public Health Officials**



**Biologists, Ecologists,  
Environmental Scientists, etc**

*Can Medically Trained People Speak with Ecologically Trained People?*

*Can Ecologically Trained People Speak with Medically Trained People?*



## We Need to Learn Their Language to be able to Speak with One another

- The start of a relationship is based upon the ability to communicate
- If we cannot speak the same language, we cannot develop a relationship, develop trust or collaborate adequately
- Medics and vets need to speak biodiversity, ecosystems services, and climate change







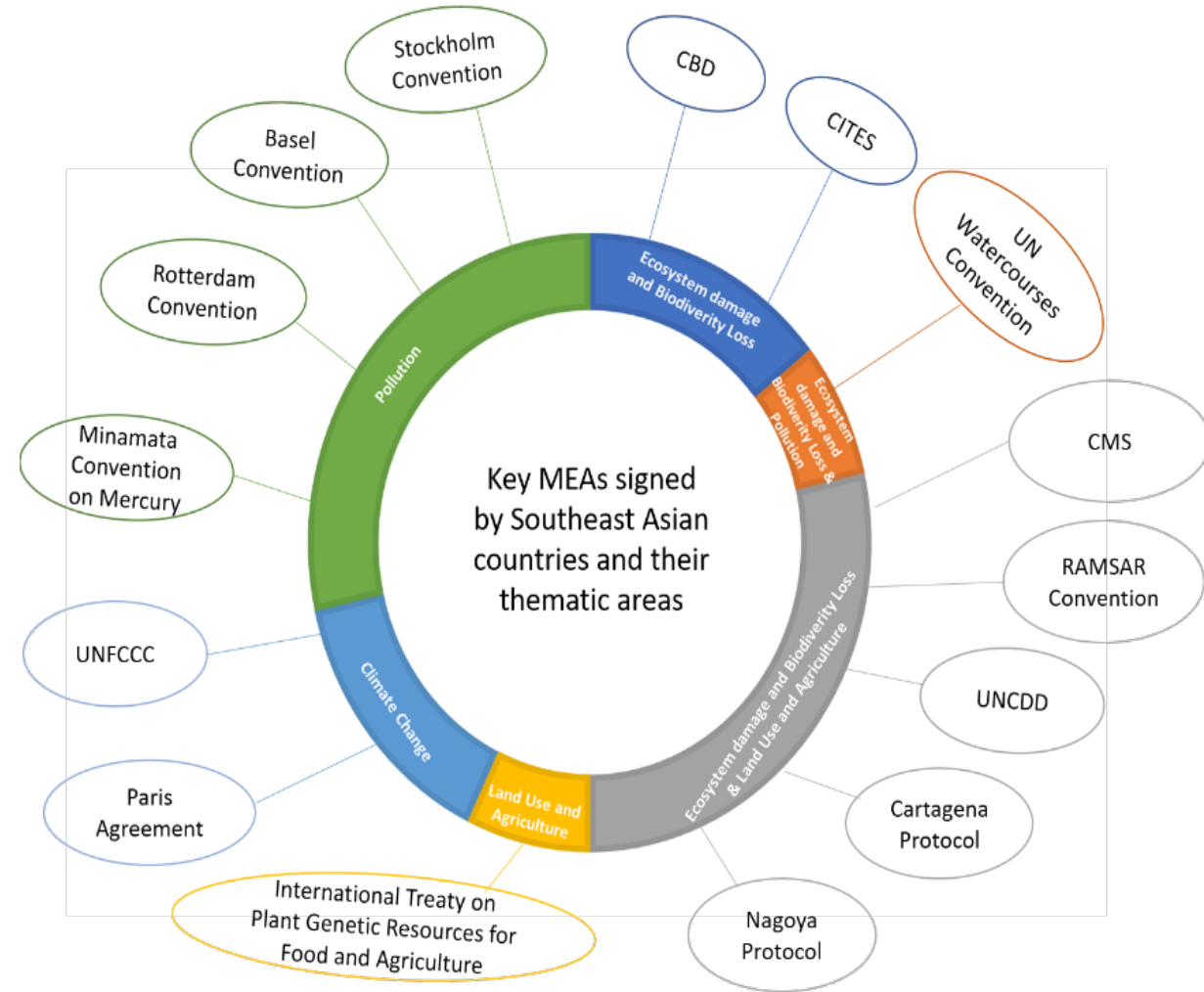
## Conclusion 2: Welcome Environment Sector Professionals to National OH Initiatives

- OH action plan development, OH coordination platforms, Development of OH Policy or Regulations, Field Activities, Communication strategy, etc.
- Modify OH national priorities to include some priorities of the wildlife and environment sector
- Make OH at a national level, a win-win opportunity – explain and demonstrate what's in it for them – good opportunity is supporting development of revised NBSAPs, or protecting diseases from spilling into wildlife populations
- Support their becoming trained – both dedicated training for their sector / Ministry & joint training with other sectors



## Conclusion 3: This is a Two Way Street

- One Health is **gaining momentum in global frameworks** guiding the environment and wildlife sectors normative work (e.g. CBD, CITES, CMS, Ramsar) with spill-over prevention already incorporated into many MEA targets
- In the same way we are asking the wildlife and environment sector to learn about pandemics and zoonosis disease spill over to support medical & veterinary OH programming, we should reciprocate
- At national level, the Wildlife and Environment sectors are updating their national biodiversity strategies and action plans or programmes (NBSAPs) for the the conservation and sustainable use of biological diversity
- If we want them to join us, then it should be equitable, and we should join them in this top priority mandate for their sector

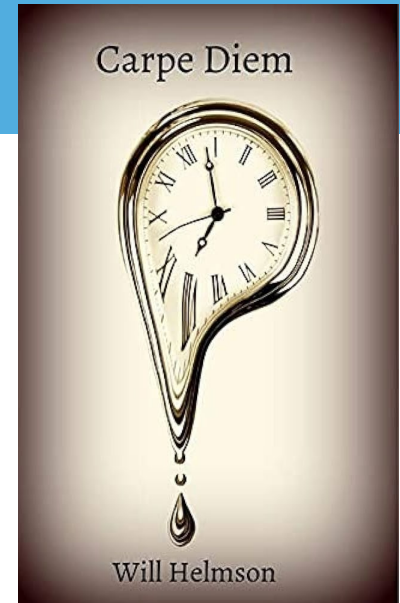




## Conclusion 4: Now is the Time to Act

### We may never get a better chance - Seize the Moment

1. The world is aware of impacts of global pandemics, the Triple Planetary Crisis – the convergence of climate change, biodiversity loss, and environmental degradation, and the need to transforming food systems in favor of sustainable climate-smart solutions
2. The donor community is switched on, paying attention & interested
3. Opportunities we have in front of us are transformational
4. International Partners are all pointed in one direction – national JPAs that include engagement of environment, wildlife, animal and public health







## Thank You!

- Carla Baker
- Tang Hao
- Mary Joy Gordoncillo
- Yin Myo Aye
- David Castellan & Heather Simmons

