



Thailand-NWHC Thailand National Wildlife Health Center (Thailand-NWHC) and
MoZWE the Monitoring and Surveillance Center for Zoonotic Diseases
in Wildlife and Exotic Animals (MoZWE)

WOAH Collaborating Centre
for Wildlife Health Surveillance
and Epidemiology

Reference Centre  World Organisation
for Animal Health

Conservation medicine: networking wildlife health stakeholders for success

Anuwat Wiratsudakul

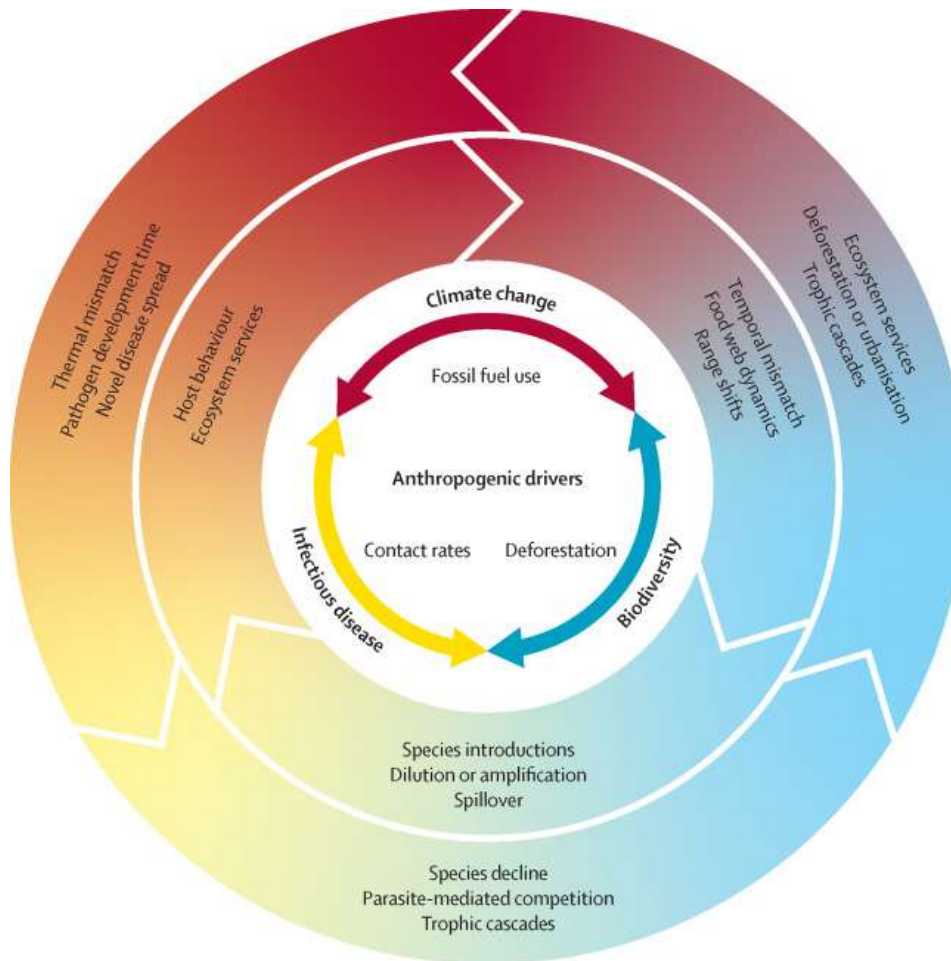


Conservation medicine

Definition

- Conservation medicine is the study of health relationships occurring at the interface of humans, animals, and ecosystems. (Kaufman et al., 2005)
- Conservation medicine is an emerging discipline that links human and animal health with ecosystem health and global environmental change. (Aguirre et al., 2009)

Conservation medicine



**Directionality of mechanistic links
between climate change,
biodiversity, and infectious disease**

Pfenning-Butterworth et al., 2024



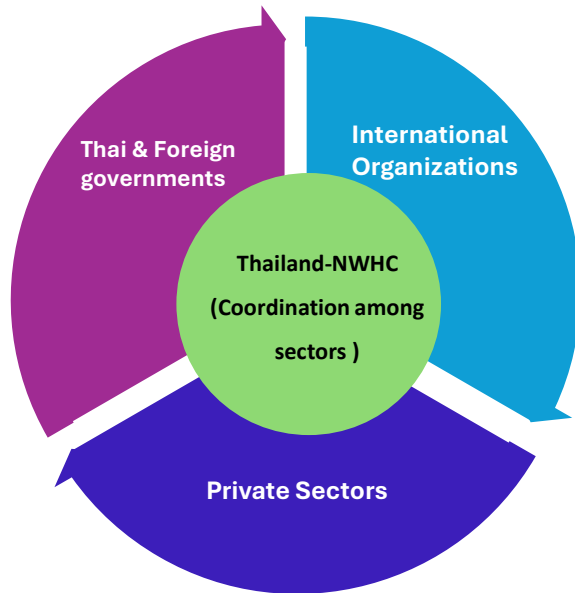
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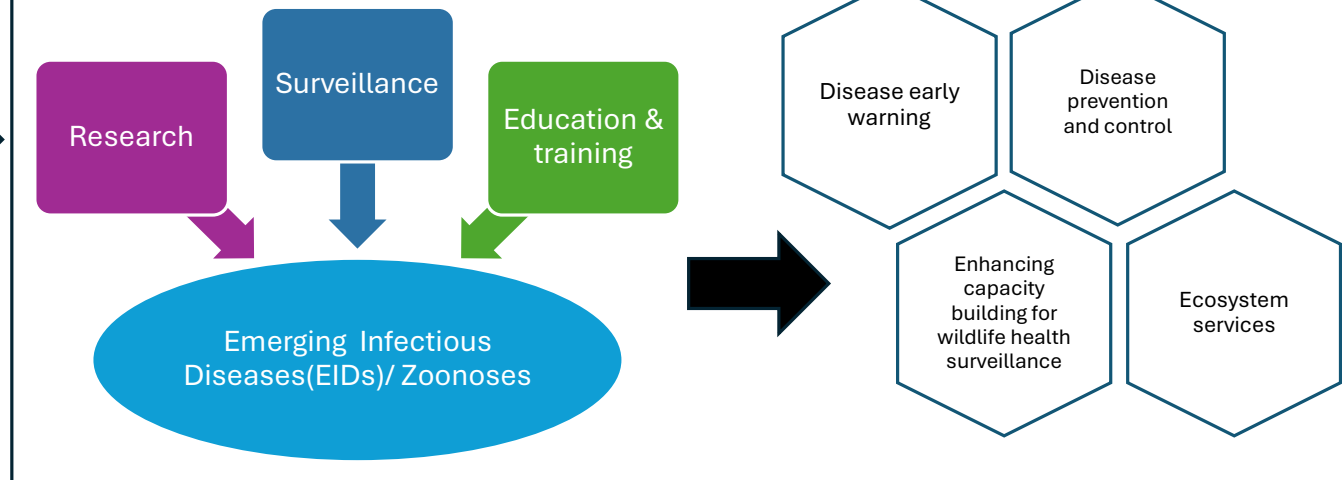
Key Responsibilities: Thailand National Wildlife Health Center, and the Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic Animals, Faculty of Veterinary Science, Mahidol University, Thailand

Thailand-NWHC
Thailand National Wildlife Health Center



MoZWE

*The Monitoring and Surveillance Center for
Zoonotic Diseases in Wildlife and Exotic Animals*



Network Building Approach

A meeting for policy-driven wildlife disease surveillance in Thailand:
a collaborative wildlife health network

September 12, 2022

Objectives

- To discuss policy for moving forward with establishing a wildlife general disease surveillance in Thailand
- To discuss the policy for developing a centralized data platform

Wildlife Health Partners

- Department of National Parks, Wildlife and Plant Conservation
- Department of Marine and Coastal Resources
- Department of Livestock Development
- Universities



ONE HEALTH SURVEY

January 11 – 18, 2022

Activity: One Health survey

- Professionals in wildlife disease surveillance were interviewed for a survey project to gather detailed information on challenges and impediments to implementing wildlife disease surveillance in One Health.
- The interview aimed to collect location-specific insights to address the overall wildlife disease surveillance system challenges.

Venue: Partner institutes, Thailand (on-site)

Participants: Partners of Thailand-NWHC/MoZWE



Stakeholder attitudes and perspectives on wildlife disease surveillance as a component of a One Health approach in Thailand

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¹¹USGS, National Wildlife Health Center, 1011 North Meade Ave., Fort Collins, CO 80526, USA



World Organisation for Animal Health Twinning Project

General Disease Surveillance and Outbreak investigation

May 30 – June 2, 2022

Activity: Workshop for Enhancement of the existing general wildlife disease surveillance activities.

It included co-creating a general wildlife disease surveillance plan for Thailand and developing a logic model for the surveillance system.



Train the trainers

December 6 – 7, 2022

Activity:

- To train field veterinarians and let them carry the knowledge and skill to train others in their institutions such as field data collection, biosafety and biosecurity, etc.

Venue: Partner institutes, Thailand (on-site)

Participants: Partners of Thailand-NWHC/MoZWE



Thailand Wildlife Health Network Leadership Series

January 11 – 12, and 25-26, 2023

Activity: Building and leading a wildlife health network

- Facilitate group discussions on vital steps in building and maintaining coalitions and networks for Thailand's national wildlife health program.
- Encourage participants to apply their learning by considering key steps in developing a collaborative wildlife health network.

Venue: Partner institutes, Thailand (Virtual meeting)

Participants: Partners of Thailand-NWHC/MoZWE



Network Formulation

Best practice model

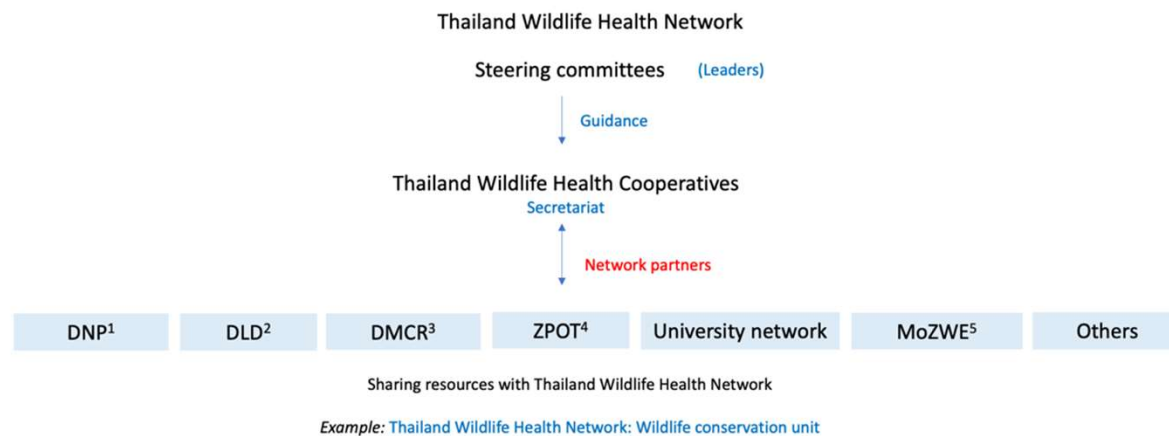
Thailand Wildlife Health Network

Workshop on Developing Strategy for Thailand Wildlife Health Network



July 13, 2023

Best practice model: Thailand Wildlife Health Network



¹DNP = Thailand Department of National Parks, Wildlife and Plant Conservation

²DLD = Thailand Department of Livestock Development

³DMCR = Thailand Department of Marine and Coastal Resources

⁴ZPOT = Zoological Park Organization of Thailand

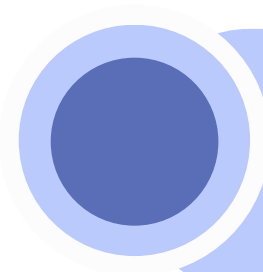
⁵MoZWE = The Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic Animals, Mahidol University



Strategies for Thailand Wildlife Health Network



Network Formulation



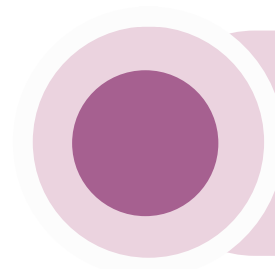
To strengthen the network

Strengthening the network through clarification of roles, responsibilities, and operating procedures, and establishment of interagency MOUs and data sharing agreements



To enhance knowledge

Enhancing knowledge through continuing professional development



To sustain the network

Sustaining the network by developing the wildlife health information system



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WOAH Collaborating Centre for Wildlife Health Surveillance and Epidemiology

Updated activities supporting wildlife health surveillance and capacity in the Asia-Pacific

WOAH Collaborating Centre
 for Wildlife Health Surveillance
 and Epidemiology

Reference Centre  World Organisation
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Outcome 1: One Health, multisectoral collaboration, and capacity for wildlife health management, monitoring, and surveillance systems strengthened.

Wildlife Health Networking

- Develop a formal wildlife health network in Thailand–MoU development among the wildlife health partners
- Support activities on the Southeast Asia Wildlife Health Network–Chair of the secretariat of the Southeast Asia Wildlife Health Network for regular meetings.

Laboratory network

- Laboratory services and training for countries in the region

Wildlife Disease Surveillance

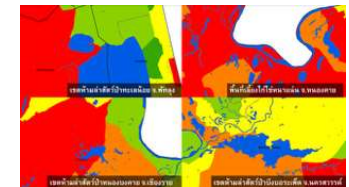
- Expand disease surveillance in wildlife farms and private zoos–Surveillance in captive tigers
- Focus the surveillance and research on the human-wildlife interface: Avian Influenza surveillance and risk analysis.



MoU development among Wildlife Health Partners



Sample collection in captive tigers in a private zoo



Areas for Avian Influenza surveillance and research in Migratory Birds



Summer lab horizon (International lab training)



Sample collection in fruit bats

Outcome 2: A political, policy and scientific environment that allows Veterinary Services to implement effective wildlife health monitoring and management promoted.

Wildlife Health Policy

- Collaborate with wildlife health partners and communities to develop human–wildlife interface policies and solution strategies.



Participatory epidemiology approach to develop solution strategies and policy recommendations for monkey population control and disease prevention

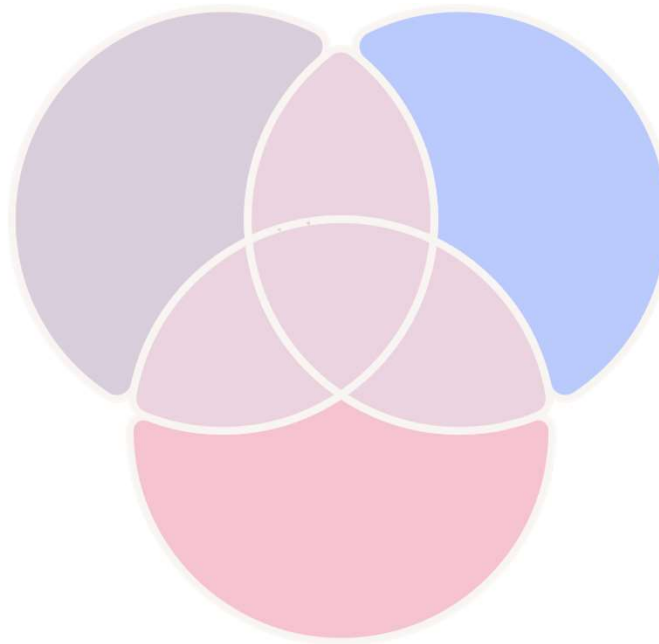
Outcome 3: Awareness and knowledge of risks pathways and best practices in wildlife health and One Health management increased Wildlife Capacity Building at country and regional levels:

- Develop epidemiological research and innovation–AMR in bats, Herpes B virus
- Enhance the wildlife health capacity for surveillance in regional levels
- International training, student exchanges, and educational support

Key points to address when taking early steps in networking nationally

System-wide approach

- Holistically approach
- Participatory approach
- Multi-strategies



Enhancing collaboration

- Repeated engagement with agency leadership
- Understanding of the network value due to personal change
- Continuing engagement by activities

Building trust

- Clear objectives and transparency in all activities
- Active participation of stakeholders



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for Animal Health

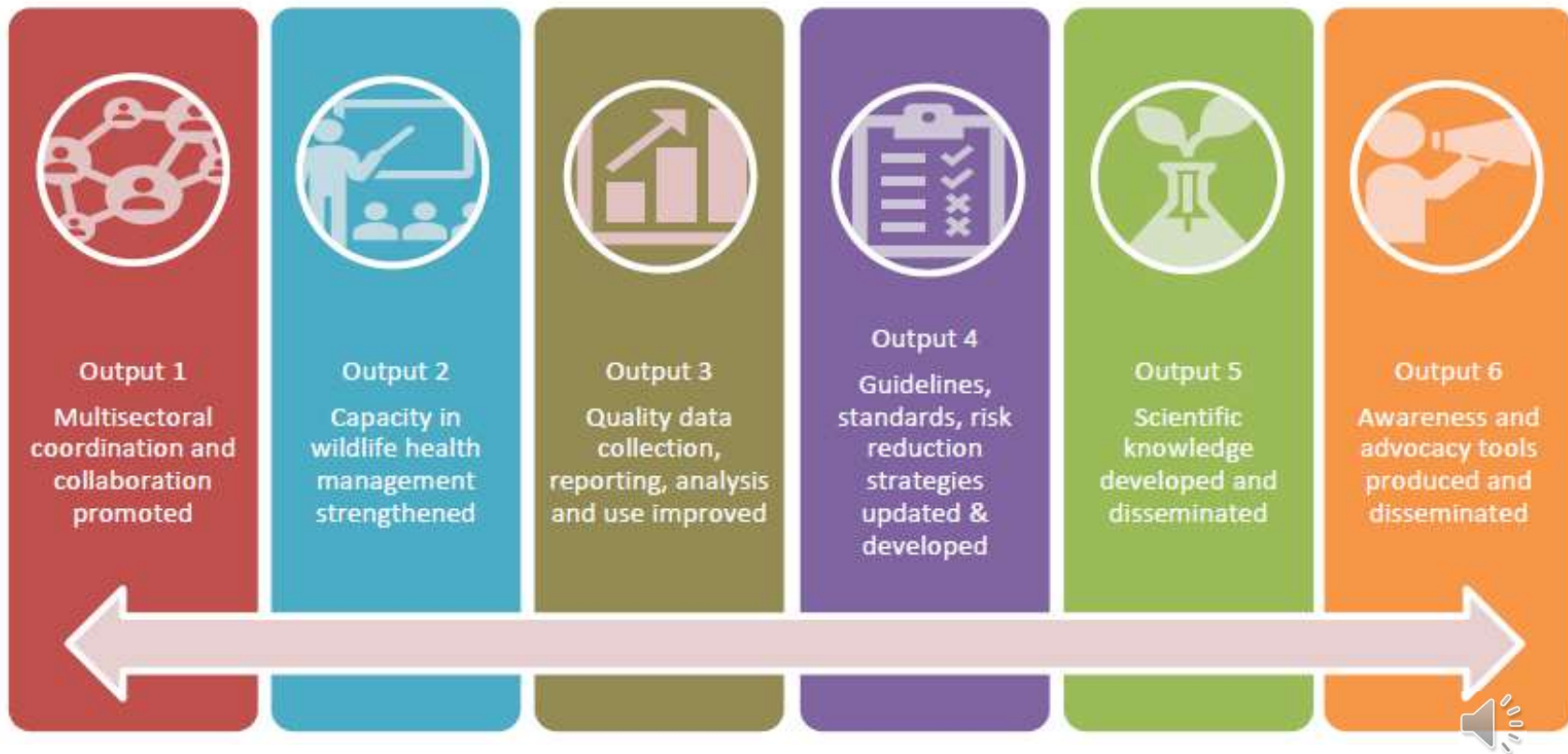
WOAH Wildlife Health Networks annual information sharing meeting in Asia and the Pacific

The World Organisation for Animal Health's (WOAH) [Wildlife Health Framework](#) "[Protecting wildlife health to achieve One Health](#)" has become the basis of WOAH's Global Strategy on Wildlife Health. WOAH has established both sub-regional (since 2021) and (since 2023) regional [wildlife health networks](#) to connect stakeholders across Asia and the Pacific.



World Organisation
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Wildlife Health Management Framework



WOAH Collaborating Centres: Consortium in Asia and the Pacific

WOAH Collaborating Centre for
Wildlife Health Risk Management



WOAH Collaborating Centre for
Wildlife Trade and Wildlife Health



WOAH Collaborating Centre
for Wildlife Health Surveillance
and Epidemiology



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Example: Regional Network- Conservation medicine



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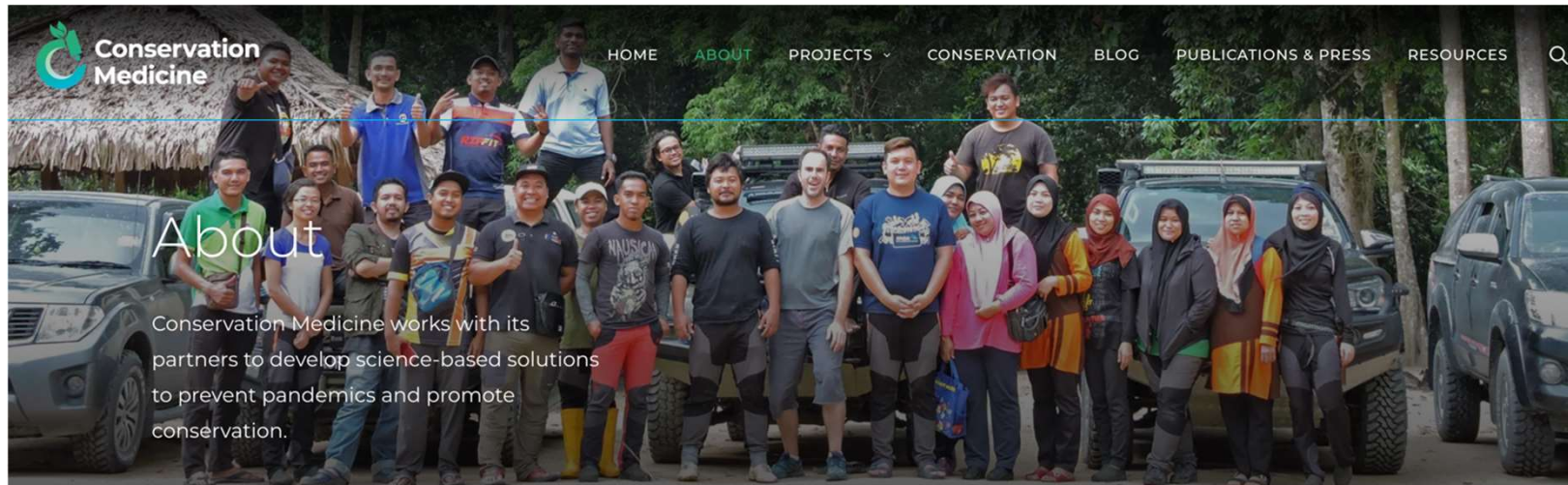


Organisation des Nations Unies
pour l'alimentation
et l'agriculture



- The SWM Programme for the Asia-Pacific Project promotes the sustainable management of wildlife to reduce zoonotic risks; enhances food security and livelihoods for rural communities; and implements a One Health approach that integrates human, animal, and environmental health.

Example: Regional Network- Conservation medicine



Conservation Medicine, based in Malaysia, is committed to working with our Malaysian partners, the Mahidol Oxford Tropical Medicine Research Unit, Menzies School of Health Research, with our colleagues and partners across Southeast Asia and beyond to continue training and capacity building efforts to strengthen zoonotic research and improve biosecurity and biosafety.

Example: Global Network- Conservation medicine

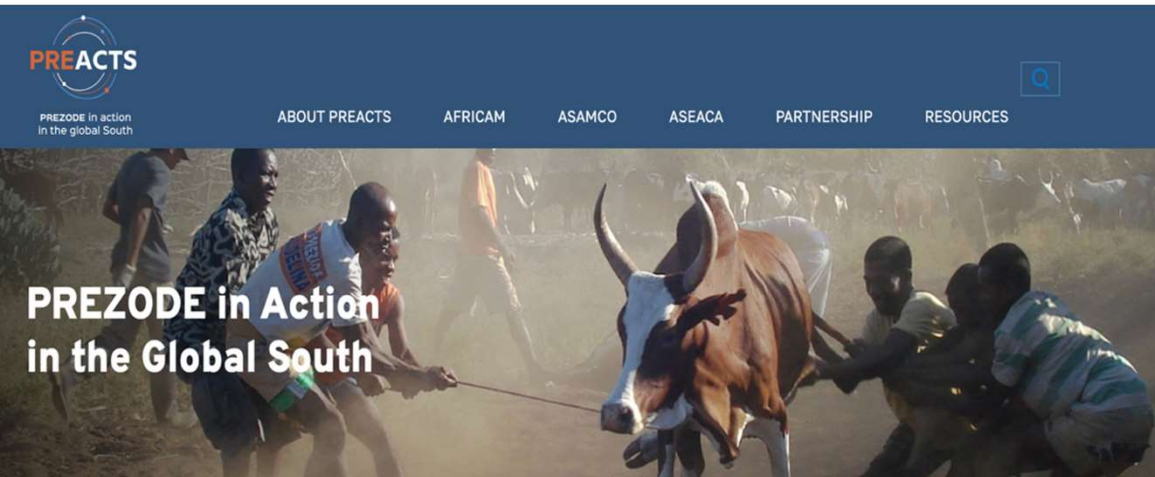


- Map and analyze zoonotic risk factors:
- Co-design risk-reduction solutions
- Strengthen early warning and surveillance
- Facilitate knowledge-sharing and capacity-building

Example: Global Network- Conservation medicine

Expected impacts

- 1.Enhanced Understanding and Management of Risk Factors
- 2.Resilient Socio-Ecosystems
- 3.Improved Prevention and Early Warning Systems
- 4.Increased Awareness and Capacity Building
- 5.Integrated and Sustainable Solutions





Challenges and Focus Areas– Conservation medicine

- **Human-Wildlife Interface:** The growth of human settlements into natural environments presents a significant challenge with the potential for disease spillover. It is imperative that we adopt thoughtful land-use planning and effective biosecurity measures to ensure a harmonious coexistence.
- **Climate Change and Ecosystem Degradation:** The threats posed by climate change and ecosystem degradation are detrimental to the well-being of both humans and wildlife. This urges us to take meaningful action in conservation medicine, inspiring hope for a sustainable future.
- **Data and Information Gaps:** The scarcity of information regarding how local and Indigenous communities utilize wildlife resources highlights an urgent need for research. By focusing on sustainable practices, we have the opportunity to empower these communities and safeguard our planet for the future.

Thank you!

