

The vital role of the animal health sector to tackle health threats at the animal-human-environment interface

Executive Summary

The COVID-19 pandemic has strongly underlined the critical interdependencies between human health, animal health and the environment, thus accelerating discourse and action around the One Health approach. In addition to pandemics originating from zoonotic diseases, health threats such as antimicrobial resistance, food safety challenges and neglected zoonotic and vector-borne diseases require holistic, collaborative solutions.

The animal health sector has a vital role to play in tackling these global challenges. In this regard, the leadership of Veterinary Services and other animal health authorities is essential to protect global health. The World Organisation for Animal Health (WOAH) advocates for multisectoral partnerships to develop successful interventions to prevent, prepare for and respond to these health threats. The Organisation is calling for increased investment to enable Veterinary Services to scale up an under-resourced workforce and ensure effective implementation of One Health policies and strategies within the animal health sector.

Why health threats require a multisectoral response

Major challenges such as the emergence of zoonotic diseases, the spread of antimicrobial resistance, climate change and ecosystem degradation continue to put humans, animals, plants and the environment at risk. These cross-cutting issues highlight the need for increased

collaboration and coordination between sectors and disciplines to strengthen prevention, preparedness, response and recovery mechanisms, as outlined in the **One Health definition** by the One Health High Level Expert Panel (OHHLEP) [6].

Insights from scientific evidence



Over 60% of existing human diseases and **75%** of emerging human diseases are zoonotic [1].



On average, **5** new human diseases emerge each year, **3** of which are of animal origin [2].



Globally, **20%** of animal production losses are caused by animal diseases [3].



Animal diseases pose a direct threat to the incomes of producers and communities that depend on livestock production [4].

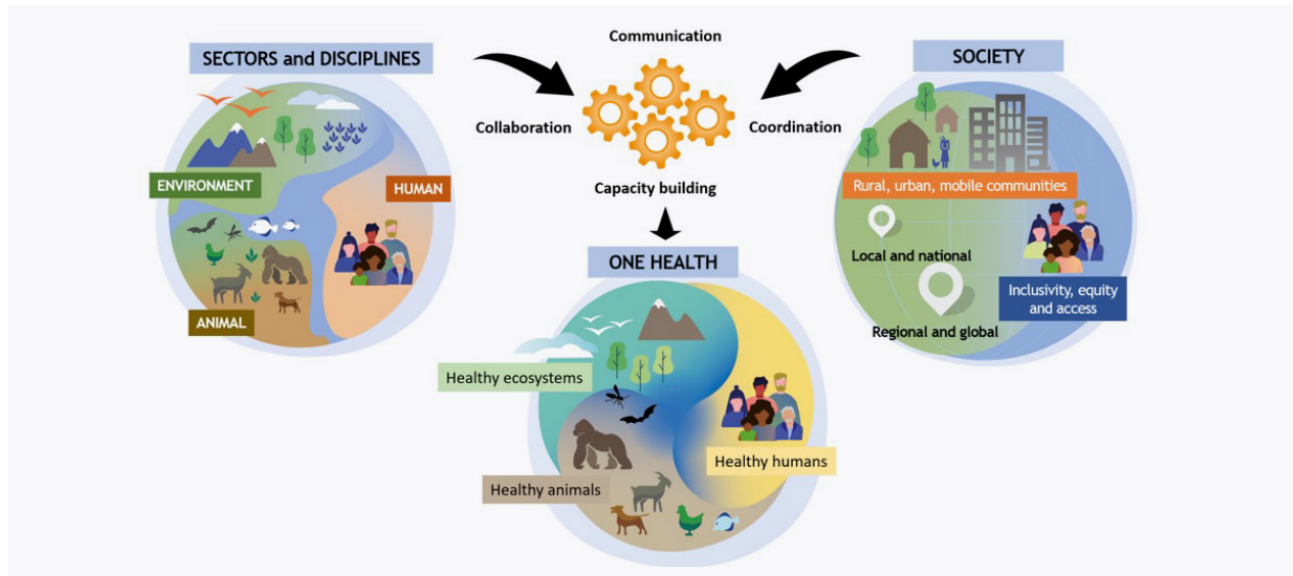


Important drivers of pandemic risks include land use change and habitat destruction, which increases the likelihood of spillover events. Humans and their livestock are more likely to encounter wildlife when **more than 25%** of original forest cover is lost [5].

One Health definition by OHHLEP:

One Health is an integrated, unifying approach that aims to sustainably balance and optimise the health of people, animals, and ecosystems. It recognises the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

The approach mobilises multiple sectors, disciplines, and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for healthy food, water, energy, and air, taking action on climate change and contributing to sustainable development.



Although the One Health approach has recently gained increased political attention, its inclusion in national policies and its implementation are still falling behind, including in the animal health sector. This is due to low awareness of the public and environmental health benefits of the One Health approach and its role in achieving sustainable development, and a resulting lack of investment in implementation. Progress in this regard needs to be greatly accelerated.

To promote and scale up One Health implementation, the Quadripartite One Health Collaboration was formed by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the World Health Organization (WHO) and WOAHA, with WOAHA representing the animal health sector.

This collaboration follows a decade-long effort that began in 2010 when FAO, WHO and WOAHA established the Tripartite Strategic Alignment [7].

The Quadripartite recently developed the Global One Health Joint Plan of Action (2022–2026) ([OH JPA](#)) as a blueprint to integrate systems and capacity to better tackle health threats collectively.

The OH JPA is guided by three **pathways of change** that countries and organisations must support to achieve the desired result of a world better able to prevent, detect and respond to health threats. **These pathways are** (1) Policy, legislation, advocacy and financing; (2) Organisational development, implementation and sectoral integration; and (3) Data, evidence and knowledge sharing.

The OH JPA focuses on **six action tracks**: (1) One Health capacities for health systems, (2) emerging and re-emerging zoonotic diseases, (3) neglected tropical and vector-borne diseases, (4) food safety risks, (5) antimicrobial resistance and (6) the environment [7]. As such, it serves as a comprehensive framework paving the way for an improved health system worldwide.

The World Organisation for Animal Health is advocating for policy alignment with the OH JPA in the animal health sector. The Organisation believes its Members will play a transformational leadership role in advancing One Health at the national level by understanding existing strengths, defining the context and needs, including resources, identifying national priorities, and developing action plans for implementation supported by a monitoring and evaluation framework.

Six action tracks of the One Health Joint Plan of Action



How to enhance One Health capacities in the animal health sector and through the Veterinary Services

To realise the full potential of the One Health approach in the animal health sector, a strong foundation is crucial, and to this end WOAHA is supporting its Members to achieve the following:

1. Create a solid basis for One Health governance

A key principle of the One Health approach is multisectoral collaboration and coordination. At the national level, this requires enhanced interaction and information sharing between the ministries of public health, agriculture and the

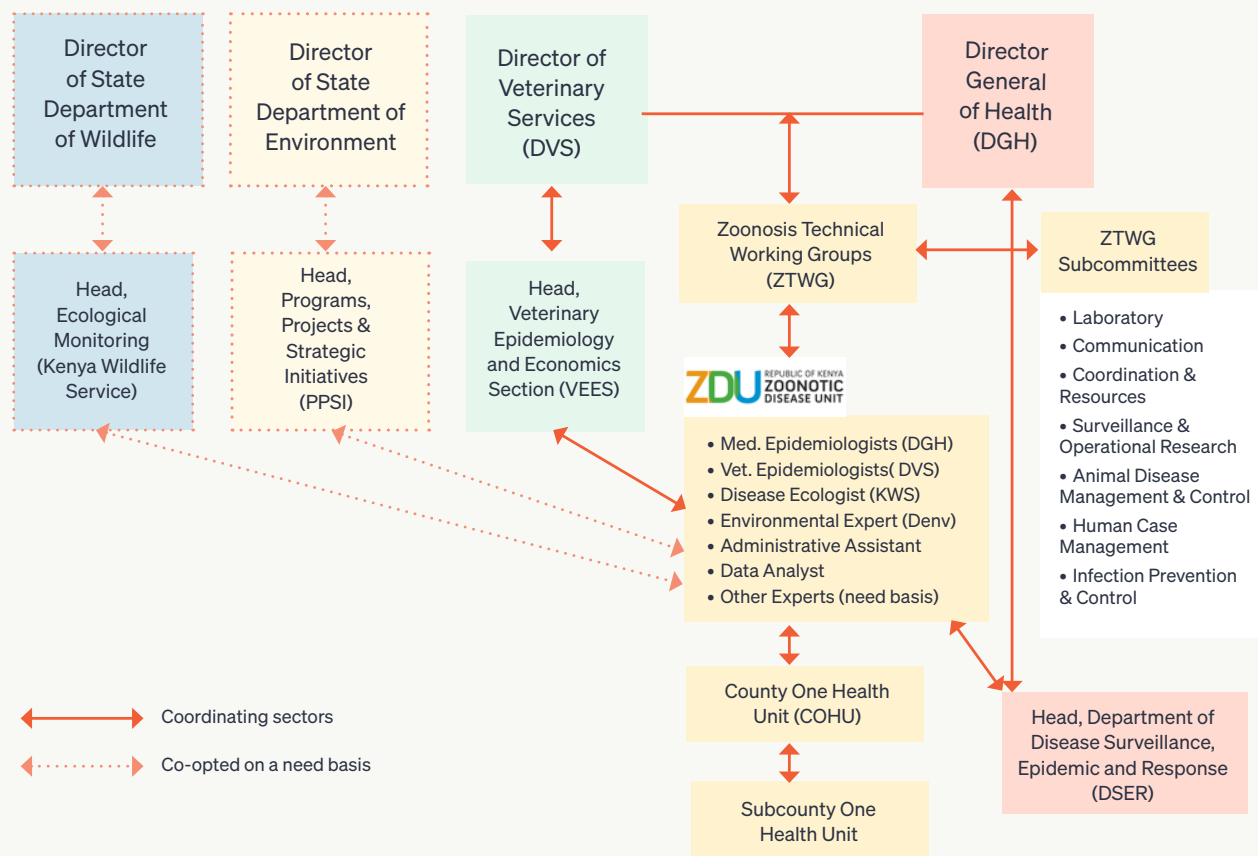
environment as well as other relevant ministries and authorities, such as ministries of finance and communication and of wildlife and conservation as well as local governments and planning authorities.

To support countries in fostering better cooperation between the sectors, WOAAH has partnered with FAO and WHO to develop the [Operational Tool on Multisectoral Coordination Mechanisms](#) (MCM OT) [8]. This tool provides a

systematic, step-by-step process for countries to develop or enhance a framework for One Health coordination and includes references to the principles and best practices outlined in the Tripartite Zoonoses Guide (see case study).

Case study: Kenya's national One Health plan [10]

Kenya's newly revised national One Health plan focuses on better cooperation and collaboration using the MCM OT. Its objectives include enhancing implementation at national and county levels, preventing and controlling priority zoonotic diseases, promoting applied research, strengthening multisectoral collaboration and building capacity. By adopting the MCM OT, Kenya aims to improve coordination between the human health, animal health and environmental sectors, enabling a more integrated and effective response to health threats. A revision of the national organisational structure aims to help strengthen the ability to prevent, detect and respond to health threats through a comprehensive One Health approach.



Proposed new organisational structure of Kenya's Zoonotic Disease Unit and National Zoonotic Disease Technical Committee (2022). Figure provided by the Zoonotic Disease Unit

Integrating the One Health approach into animal health, and vice versa, thus requires the implementation of governance structures and legal frameworks that bring together different authorities and institutions, facilitating data and information exchange to reach jointly agreed-upon, standardised One Health policies, strategies and plans. **The Veterinary Legislation Support Programme** – a component of the targeted support provided to WOAHA Members through the **Performance of Veterinary Services (PVS) Pathway** – provides countries with the opportunity to have their legislation in the veterinary domain systematically reviewed by experts, any gaps and weaknesses identified. This will strengthen their capacity in legal drafting and the revision or development of new legislation. A prerequisite for the implementation of collaborative platforms is the thorough assessment of current gaps and existing competencies and capacities at the national level.

2. Build capacities to establish competent One Health services and workforce

Veterinary professionals and paraprofessionals in the animal health workforce are at the forefront of detecting and combatting health threats at the animal–human–environment interface. By monitoring animal populations, identifying disease patterns and ensuring animal health and welfare, they contribute to proactive public health measures and help prevent and reduce the risk of pandemics.

The World Organisation for Animal Health enhances the One Health capacities of the Veterinary Services' workforce by offering a wide range of learning opportunities developed in the framework of a competency-based training system.

In this regard, the **PVS Pathway** is essential to identify strengths and weaknesses of national Veterinary Services and make recommendations for sustainable investment and performance improvements according to national priorities [11].

Furthermore, **efficient investment mechanisms** to increase One Health capacities are crucial to save significant costs and avoid losses associated with disease outbreaks, such as healthcare expenditures, animal losses and trade restrictions [12]. With the development of standards, **guidelines and recommendations for animal health**, WOAHA contributes significantly to minimising risks associated with zoonoses and other animal diseases [13]. These efforts not only improve global food safety and security, but also positively affect the livelihood and economic security of livestock farmers [14].

The **Training Portal** hosts interactive resources to strengthen the essential knowledge, skills and competencies necessary for professionals to successfully contribute to One Health efforts and to ensure adequate understanding and implementation of standards and regulations.

Based on the outcomes of the WHO Joint External Evaluation of countries' capacities to implement the International Health Regulations and the WOAHA PVS Evaluation of the performances of Veterinary Services and Aquatic Animal Health Services, the **National Bridging Workshop (NBW)** programme allows countries to operationalise the One Health approach and strengthening collaboration at the human–animal interface.

NBW Key Outputs

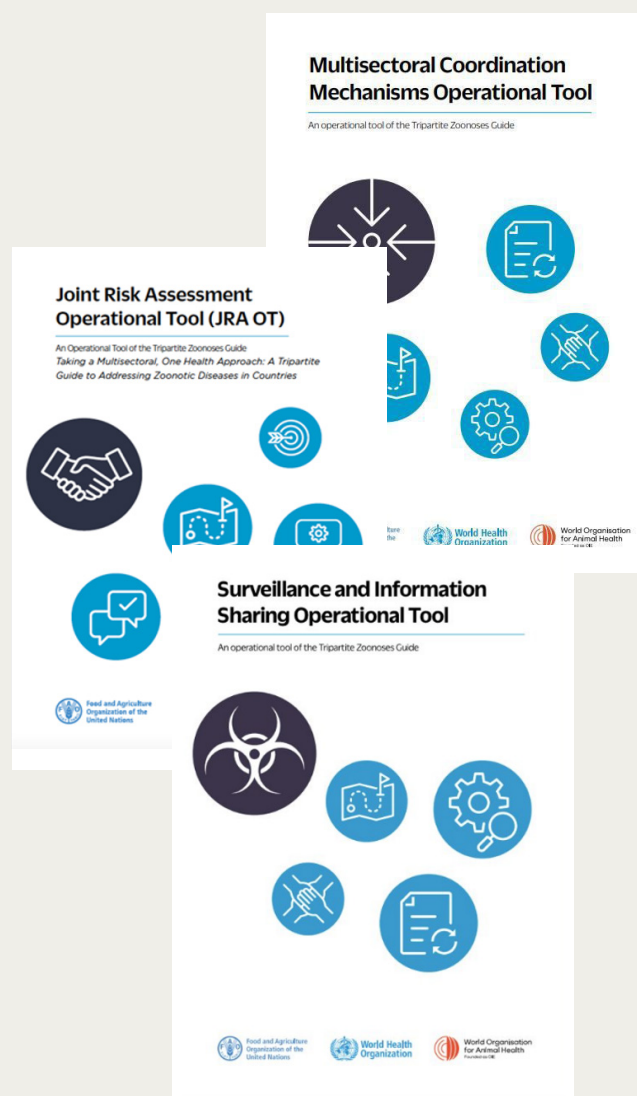
- Diagnosis of current strengths and weaknesses in the collaboration between animal and human health sectors in 15 technical areas that are key to prevention, detection, and response to health threats at the human-animal interface.
- NBW roadmap: a harmonised, actionable, and realistic joint roadmap of activities that the country develops and will implement to improve multisectoral collaboration.

While improving countries' compliance with international standards and health regulations, these workshops develop a national joint roadmap of harmonised and sustainable actions developed by the animal and human health sectors to improve the multisectoral collaboration.

The Tripartite Zoonoses Guide ([TZG](#)) operational tools allow countries to improve their current zoonotic disease frameworks, strategies and policies [15]. Beyond zoonotic diseases, these tools can also be applied to wider health threats.

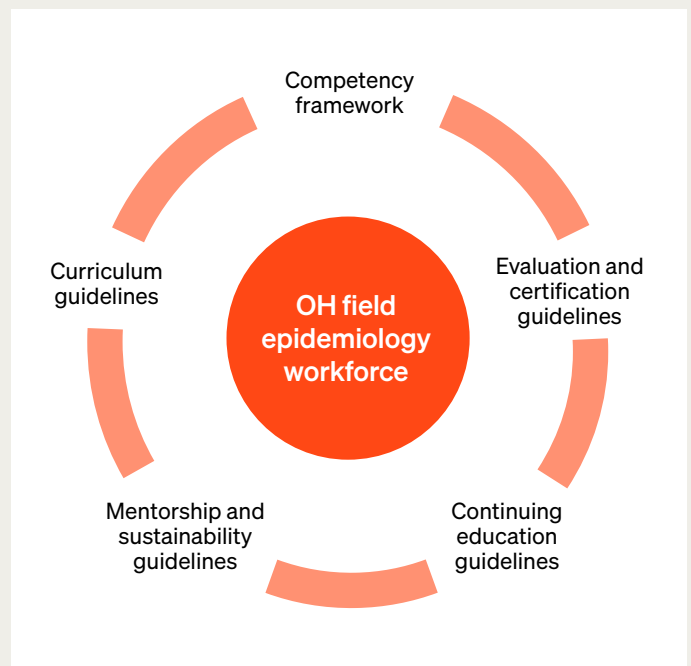
The animal health system plays a crucial role in public and environmental health, as a strong capacity of Veterinary Services to detect disease is crucial to the early warning of emerging diseases that may affect animals and/or humans, and thus holds great potential for prevention and early diagnosis of zoonotic spillovers¹. To achieve these positive impacts, rapid joint risk assessment [18] and timely dissemination of information to relevant parties are essential.

With these objectives in mind, WOAHA has partnered with FAO and WHO to develop the **Operational Tool on Joint Risk Assessment (JRA OT)** [18] and the **Operational Tool on Surveillance and Information Sharing (SIS OT)** [19] to assess and strengthen the capacity for coordinated, multisectoral risk assessment, surveillance and information sharing for zoonotic diseases. Although these tools focus on zoonoses, they can be used for other health threats at the animal–human–environment interface.



¹ OHHLEP on spillovers [9]: 'Prevention of pathogen spillover from animals to humans means shifting the infectious disease control paradigm from reactive to proactive (primary prevention). Prevention includes addressing the drivers of disease emergence, namely ecological, meteorological and anthropogenic factors and activities that increase spillover risk, in order to reduce the risk of human infection. It is informed by, amongst other actions, biosurveillance in natural hosts, people and the environment, understanding pathogen infection dynamics and implementing intervention activities.'

Although more than 100 field epidemiology training programmes for human and animal health are already being implemented in more than 165 countries, no internationally accepted One Health competencies exist for epidemiologists, nor are there standardised curricula, evaluation and certification, or continuing education requirements for graduates. To fill this gap, FAO, WHO and WOAAH have developed the Framework for Competencies for One Health Field Epidemiology and related guidelines for evaluation, continuing education, mentorship and curriculum development, with the goal of strengthening training of applied epidemiologists in using the One Health approach.

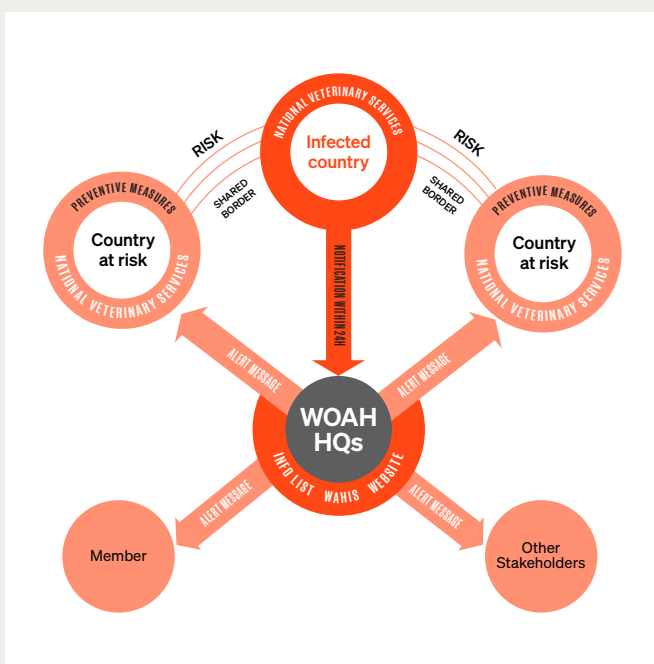


3. Generate data, knowledge and evidence for the effective implementation of One Health

Data and knowledge creation and sharing are essential for effective implementation. Timely and accurate reporting of health-related data is necessary for surveillance, monitoring and response efforts, so that stakeholders can collectively assess emerging threats and take appropriate actions. Moreover, reporting plays a vital role in information exchange, collaboration and knowledge dissemination among

professionals, researchers, policy-makers and the public, fostering collective learning and informed decision-making. Examples of WOAAH’s work in this area include the following:

- The World Organisation for Animal Health created an interactive mapping tool and dashboard, the World Animal Health Information System (WAHIS), that presents data reported by Members since 2005 and thus helps relevant stakeholders to access and share information on animal disease outbreaks, including outbreaks that may affect humans through spillover events. An early warning and monitoring system, WAHIS aggregates information provided at the country level. These data also include annual reports on Veterinary Services’ capacities, including personnel, laboratory capacity and vaccine production.
- In addition, the **WAHIS-Wild** system gathers and presents information on wildlife diseases that are not included on the WOAAH List but are considered to require voluntary surveillance by Members.



- The World Organisation for Animal Health is gathering data on the causes and quantities of antimicrobials used in animals worldwide to inform decisions aimed at reducing misuse and overuse in order to combat antimicrobial resistance, most recently through a new digital platform on animal antimicrobial use, ANIMUSE, launched in 2022.
- In recognising the impact of climate change on the occurrence and distribution of zoonotic disease, WOAAH applies innovative approaches to environmental and climate data to predict the spread of vector-borne diseases.

The WOAAH-initiated **PROVNA** project ('Defining Ecoregions and Prototyping on Earth Observation-based Vector-borne Disease Surveillance System for North Africa') aids national veterinary authorities in target countries in North Africa to use remote sensing and Earth Observation data through a predictive and innovative model to improve risk-based surveillance for vector-borne diseases (early warning, identification of hotspot areas, assessment of introduction and persistence) and plan how to allocate their resources appropriately in an emergency.

Links to relevant tools, frameworks and projects are listed below.

Policy Recommendations

The World Organisation for Animal Health recommends the following policy-based solutions to strengthen the One Health approach, within the animal health sector and beyond, based on the global Quadripartite call to action issued in early 2023 [16]:

- Advocate prioritisation of intersectoral health governance, with the One Health approach as a guiding principle, in the international political agenda.
- Increase One Health implementation through support of One Health policies, strategies and plans, that are costed and prioritised in accordance with the Quadripartite OH JPA.
- Support countries to set up or strengthen national One Health governance and multisectoral cooperation, conduct OH situation analyses including stakeholder mapping and priority setting, and develop metrics for One Health monitoring and evaluation frameworks.
- Strengthen integrated One Health competencies in the animal health workforce through specific, recognised and harmonised education curricula and continuing education programmes.
- Support and maintain prevention of pandemics and health threats by focusing on the drivers of risk of zoonotic spillovers at the animal–human–environment interface.
- Foster and support the creation and exchange of scientific knowledge, evidence and technology relevant to the One Health approach.
- Raise funding and generate investment in One Health strategies and plans to ensure their widespread adoption.
- Foster engagement of the whole of society in One Health by implementing appropriate communication and advocacy interventions to reach stakeholders and communities at all levels of society.

Recommended WOAAH Sources

[One Health webpage](#)

[One Health Joint Plan of Action](#)

[International Standards](#)

[Performance of Veterinary Services \(PVS\) Pathway](#)

[National Bridging Workshop \(NBW\) handbook](#)

[WAHIS](#)

[ANIMUSE](#)

[Defining Ecoregions and Prototyping an Earth Observation-based Vector-borne Disease Surveillance System for North Africa \(PROVNA\) project](#)

[Tripartite Zoonosis Guide \(TZG\) operational tools](#)

[OHHLEP white paper on zoonotic spillover](#)

[Training Portal](#)

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Contact:

Dr Chadia Wannous

One Health Senior Specialist and Global Coordinator

E-mail: c.wannous@woah.org