



**ANTICIPATING
PREVENTING
MONITORING**



**THE APPEARANCE
OF
ZOOZOSES**



This project is financed
by the European Union



**World Organisation
for Animal Health**
Founded as OIE





« THE **ebo**SURSY PROJECT »

ZOONOSES have a significant impact on public health. Almost 60% of animal pathogens, of both domestic and wild animals, cause zoonoses - diseases that can be transmitted from animals to humans. To combat these diseases, it is vital to analyse and understand the ecosystem in which humans and animals coexist.

It was within this context that the EBO-SURSY project was launched **in West and Central Africa** in 2017. Financed by the European Union, the project aims to improve regional and national capacity for the early detection of zoonoses in wild animals.

The organisations implementing the EBO-SURSY project - WOA¹, CIRAD², IRD³ and the Institut Pasteur - leverage their expertise in animal and human health research to help the 10 partner countries to implement strategies for the surveillance, prevention and control of **6 important zoonoses** - the viral haemorrhagic fevers Ebola virus disease, Marburg virus, Rift Valley fever, Crimean-Congo haemorrhagic fever, Lassa fever, and Coronavirus.

By strengthening multi-sectoral collaboration between different stakeholders, the EBO-SURSY project aims to strengthen the capacity of these actors to implement surveillance systems that allow them to better anticipate, differentiate between and prevent the appearance of new epidemic episodes.

¹ WOA^H: World Organisation for Animal Health

² CIRAD: Centre de coopération internationale en recherche agronomique pour le développement (Agricultural Research Centre for International Development)

³ IRD: Institut de recherche pour le développement (French National Research Institute for Sustainable Development)

THE GOAL: sustainable improvements in surveillance



THE EBO-SURSY PROJECT AIMS

to improve the capacities of wild animal surveillance systems in West and Central Africa.



eboSURSY

The project is based on the idea that we need to **take the whole ecosystem into account** if we are to better anticipate, differentiate between and prevent the appearance of epidemics, notably of **Ebola virus disease, Marburg virus disease, Rift Valley fever, Crimean-Congo fever and Lassa fever.**

« Supporting partner countries to strengthen their strategies for surveillance, prevention »

The project makes it possible to **better understand the viral cycle of the Ebola virus** at the human-animal-ecosystem interface and to raise awareness among at-risk communities. To do this, **disease surveillance** capacity needs to be increased and different countries and health actors must **share information.**



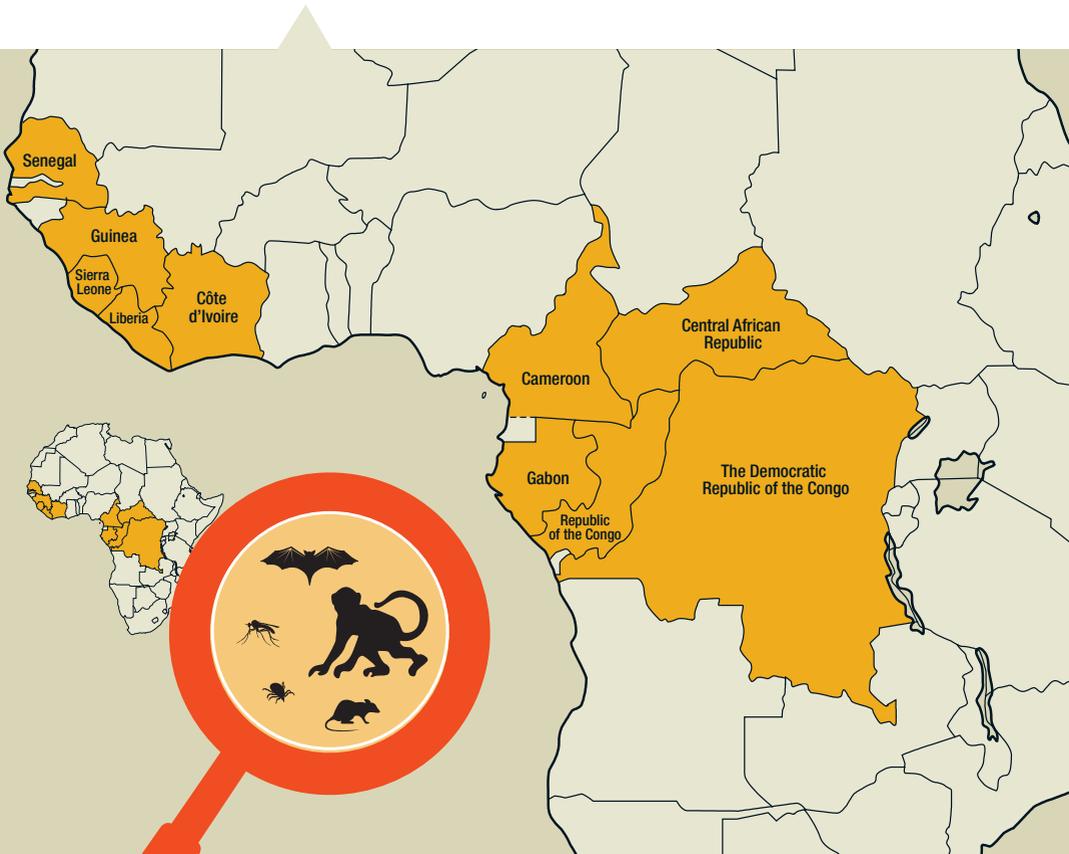
THE EBO-SURSY PROJECT: a participatory disease surveillance system based on sustainable multi-sectoral collaboration.



THE EBO-SURSY PROJECT IS BEING IMPLEMENTED in 10

countries in West and Central Africa: Senegal, Guinea, Côte d'Ivoire, Liberia, Sierra Leone, Cameroon, Gabon, the Republic of the Congo, the Democratic Republic of the Congo, and the Central African Republic.

The involvement of project partners at the local level allows for the transfer of skills and expertise and facilitates dialogue and collaboration between the various stakeholders.



A COLLABORATION: bringing complementary skills together



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« With the support of the EBO-SURSY project, the **National Laboratory of Livestock and Veterinary Research (LNERV)**

initiated a laboratory twinning procedure with **CIRAD in Montpellier, which is both an WOAH Collaborating Centre and an WOAH Reference Laboratory for Rift Valley fever**. This twinning will enable us to better anticipate disease occurrence, as it will undoubtedly help us to strengthen our capacity to undertake epidemiological assessment, train young staff, improve our knowledge of genomics, and increase our understanding of both the relationship between vectors, hosts and pathogens and of the way in which these relationships are affected by environmental and anthropogenic factors. This initiative will also provide Veterinary Services with the skills required to facilitate strategic decision-making for the prevention and control of zoonotic animal diseases. »

PhD Momar Talla SECK

Director of LNERV - Dakar-SENEGAL
WOAH Laboratory Twinning Project Partner



 **INSTITUT
PASTEUR**



« As part of the EBO-SURSY project, I am undertaking epidemiological investigations in Central Africa

in order to determine the risk factors that lead to the transmission of different viruses from animals to humans. Although the emergence of zoonotic diseases is a significant public health problem, the mechanisms behind their emergence remain unknown. The EBO-SURSY project takes a **One Health** approach and facilitates multi-sectoral collaboration between human health and animal health services. This collaboration will, in time, lead to a better understanding of the interactions between humans, domestic animals and wild animals and how they interact with their environment. »

Jill-Léa RAMASSAMY

DVM, MPH, Thesis student
EPVO Unit, Pasteur Institute, Paris



THE WOAH IMPLEMENTS THE EBO-SURSY PROJECT

in collaboration with 3 scientific partners: CIRAD, the IRD and the Pasteur Institute. Together, they have complementary expertise in the prevention and control of zoonoses and their knowledge of biomedical issues, public health, animal health and environmental health. They collaborate closely with Veterinary Services, transferring and exchanging knowledge, which helps equip them with the skills they need to strengthen surveillance systems.



Institut de Recherche
pour le Développement
FRANCE



The EBO-SURSY project brings an extra dimension

to the surveillance of Ebola virus disease and other viral haemorrhagic fevers (VHF), because in addition to targeting wild animals, **it also covers domestic animals**, whose involvement in the natural cycle of Ebola virus in Africa is still unknown. This is the most valuable aspect of the project. Moreover, the expertise of the **CIRMF** on VHF, which encompasses not only the identification of animal reservoirs of Ebola virus, but also the diagnosis of suspected cases in humans and animals, will help to strengthen the disease surveillance capacity of animal and human health services in both Gabon and, thanks to a regional partnership, the Republic of the Congo. >>

Gaël Darren MAGANGA

DVM, PhD Assistant Professor CAMES
Department of Virology
Emerging Viral Disease Unit,
International Centre for Medical Research,
Franceville (CIRMF) - Gabonese Partner of the IRD



LA RECHERCHE AGRONOMIQUE
POUR LE DÉVELOPPEMENT



With the aim of contributing to the strengthening of surveillance capacity for Ebola virus disease (EVD),

I carried out participatory field research in communities living at **the human-wild animal interface in Guinea's dense forests**, through the EBO-SURSY project. The goal was to identify the human practices and behaviours that increase the risk that Ebola virus will be transmitted from animals to humans. I also looked at community perceptions of the risk of this happening and of surveillance practices. The findings of the survey, coupled with knowledge about the ecology of the virus, will help us to evaluate the risks of an epidemic of EVD and facilitate the establishment of a participatory surveillance system in which communities will play an active role. >>



Dramé Mamadi

2nd year Masters Student
« Integrated Management of
Tropical Animal Diseases »
Intern at UMR ASTRE, Cirad

ACTIONS:

to strengthen surveillance and raise community awareness



ACTIONS TO INCREASE SURVEILLANCE CAPACITY FOR VIRAL HAEMORRHAGIC FEVERS



Establishing **academic training and continuing professional development courses** for Veterinary Services personnel as well as students health professionals that have links with zoonotic disease surveillance.



Developing **twinning projects between WOA Reference Centres and national veterinary laboratories** in order to strengthen their diagnostic capacity, including for the 5 targeted diseases.



Enhancing Veterinary Services through the Performance of Veterinary Services (PVS) Pathway - the WOA assessment tool, which facilitates **sustainable capacity building for national Veterinary Services**.



Strengthening national health systems sustainably by planning joint activities between the human and animal health sectors as part of a **One Health** approach and improving control of the spread of zoonotic diseases.



ACTIONS TO RAISE COMMUNITY AWARENESS OF VIRAL HAEMORRHAGIC FEVERS



Producing communication tools to inform and raise the awareness of communities about the risks associated with zoonoses and the importance of participatory surveillance.



Promoting scientific communication through conferences and publications to enhance information sharing within the scientific community and with the general public.



ACTIONS TO STRENGTHEN SURVEILLANCE PROTOCOLS FOR VIRAL HAEMORRHAGIC FEVERS



Taking samples from wildlife, domestic animals, bushmeat, and human populations enables the **serological and genomic analyses** needed to characterise the infectious agents.



Conducting socio-economic, epidemiological and ecological studies to identify communities at risk and evaluate risk behaviours.



Creating a database to centralise information on samples and valorise the **scientific results**.



THE EBO-SURSY PROJECT, in partnership with **Veterinary Services**, is organising training and public awareness programmes for communities, thereby strengthening surveillance capacity for viral haemorrhagic fevers.

A COMMITMENT: using the One Health approach

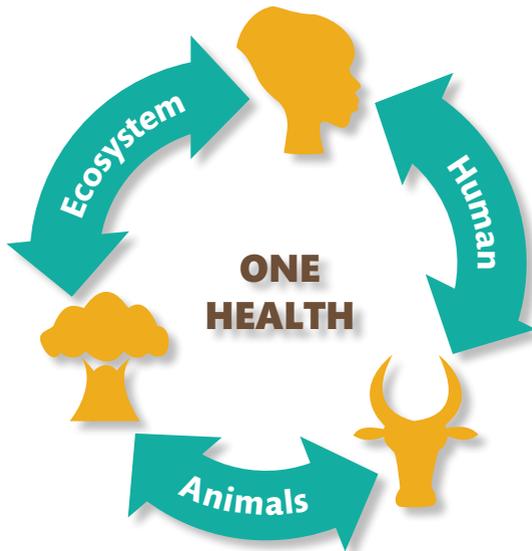


Putting the **ONE HEALTH** concept into practice, WOAHP recognises the close links between human and animal health. Since 2010 it has been part of a formal **ONE HEALTH** alliance with the World Health Organization and the Food and Agriculture Organization of the United Nations (FAO).



A deep knowledge of ecosystems and, particularly, of **wildlife**, increases our understanding of **ZOOZOSES** and makes it possible to fight their spread more effectively.

Human and animal health are interdependent and linked to ecosystem health





In support of wildlife surveillance, Veterinary Services are encouraged to **collaborate with their counterparts in human and environmental health**. This **strategic and technical coordination** enhances the response efficiency of the human and animal health sectors.



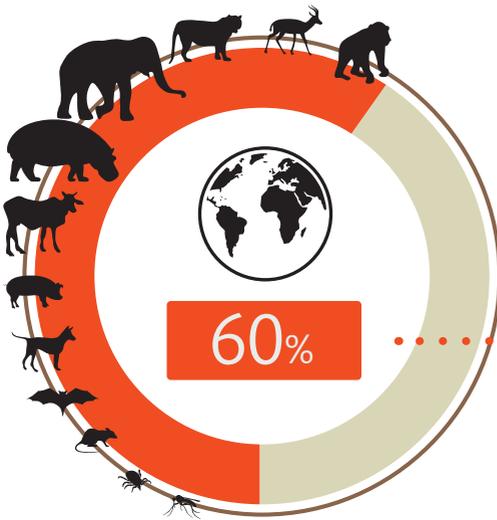
THE EBO-SURSUSY PROJECT uses the One Health concept to **strengthen dialogue and collaboration between the human and animal health services in each target country in order to enable them to better understand, prevent and undertake surveillance of viral zoonoses.**

ZOOZOSES: a major challenge for public health



AT LEAST 3/4 OF THE PATHOGENIC AGENTS

of emerging infectious diseases in humans (including Ebola) are of animal origin, meaning they are **ZOOZOSES**.



Combatting zoonotic pathogens by controlling them at their animal source is the most effective and economical way of

60% of infectious human diseases are of animal origin





| TARGETED VIRUS | Principal reservoirs | Principal vectors | Transmission to humans |
|--|---|---|---|
|  EBOLA VIRUS | Bats (suspected reservoir hosts) | Wild animals | Fluids and blood from infected wild animals |
|  MARBURG VIRUS | Bats | Wild animals (only suspected, to be determined) | Fluids and blood from infected wild animals and bats (suspected mode of transmission) |
|  RIFT VALLEY FEVER VIRUS | <ul style="list-style-type: none"> • Unknown • Wild herbivores (hypothesis) | <ul style="list-style-type: none"> • Mosquitoes • Domestic ruminants (livestock) | <ul style="list-style-type: none"> • Mosquito bites • Fluids and blood from infected domestic ruminants |
|  CRIMEAN-CONGO FEVER VIRUS | Unknown | <ul style="list-style-type: none"> • Ticks • Wild and domestic ruminants (bovine species and small ruminants) | <ul style="list-style-type: none"> • Tick bites • Fluids and blood from infected domestic ruminants |
|  LASSA FEVER VIRUS | Rats (<i>Mastomys</i> spp.) | Wild and domestic animals | Through contact with bat faeces and urine (contamination of food or soiling of other material) or by breathing in aerosols emitted by these waste materials |



THE EBO-SURSY PROJECT to better anticipate zoonotic epidemics at the human-animal interface.

IMPROVING EARLY WARNING SYSTEMS and preventing viral haemorrhagic fevers

PROJECT

7 YEARS
2017 → 2024

Financed by
THE EUROPEAN UNION



10 COUNTRIES
from West and Central Africa



PROJECT IMPLEMENTERS



World Organisation
for Animal Health
Founded as OIE

In partnership with



ZOOZOSES



**60% OF INFECTIOUS DISEASES
AFFECTING PEOPLE** are of
animal origin, meaning

**6 MAJOR
PATHOGENS
STUDIED**

VIRUSES

- Ebola virus
- Marburg virus
- Rift Valley Fever
- Crimean-Congo Fever
- Lassa Fever
- Coronavirus

EBOSURSY

1

INCREASE SURVEILLANCE CAPACITY FOR VIRAL HAEMORRHAGIC FEVERS



Professional **TRAINING** and **EDUCATION**



Laboratory **TWINNING**



AWARENESS raising workshops for human and animal health services



Sustainable **STRENGTHENING** of national health systems and veterinary services

2

RAISE COMMUNITY AWARENESS OF VIRAL HAEMORRHAGIC FEVERS



COMMUNICATE with Ministers, schools, and local communities



SCIENTIFIC COMMUNICATION conferences and publications



Produce **AWARENESS-RAISING** communications tools

3

STRENGTHEN SURVEILLANCE PROTOCOLS FOR VIRAL HAEMORRHAGIC FEVERS



COLLECT AND ANALYSE samples



Undertake socio-economic, epidemiological and ecological **STUDIES**



Develop a **DATABASE**



EBO-SURSY PROJECT

By strengthening intersectoral collaboration, the **EBO-SURSY** project is supporting national partner service providers as they take action to detect and prevent viral haemorrhagic fevers.



Multiple stakeholders united by the same objective: strengthening surveillance in order to better control the spread of viral zoonoses in Central and West Africa.

The view expressed in this publication do not necessarily reflect those of the European Union.

TO FOLLOW THIS PROJECT AND DOWNLOAD
THE **eboSURSY** PREVENTION TOOLS:
<https://rr-africa.woah.org/en/projects/ebo-sursy-en/>