



Twinning Project as a tool for promoting scientific expertise/excellence

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20 – 24 February 2023

IZS

T E R A M O

WOAH Reference Laboratory
for Contagious Bovine
Pleuropneumonia

Reference Centre  World Organisation
for Animal Health
Founded as OIE

Diagnostic Labs in Veterinary Science



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Reference Centre



World Organisation
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Diagnostic Labs in Veterinary Science

Veterinary diagnostic laboratories are essential for

- a better understanding of animal diseases, including zoonosis
- improving human health
- optimising livestock production
- production of more effective vaccines



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Veterinary laboratories, working in food microbiology and chemistry, can contribute to increase the hygiene of food of animal origin and certify their safety

Diagnostic Labs in Veterinary Science



THE RULES FOR THE INTERNATIONAL TRADE IN LIVE ANIMALS AND FOOD OF ANIMAL ORIGIN

1st

Countries wishing to market their animals and products of animal origin **must demonstrate, on a valid scientific basis**, that the import of these animals and products will **not increase the health risks** to humans and animals, **in the importing country**, compared to the situation before importation

4th

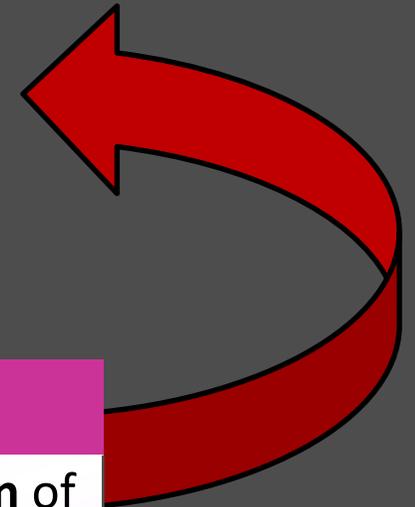
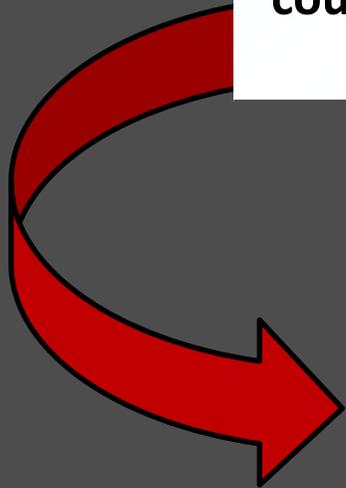
In this context, **National Veterinary Laboratories have an essential role in the Health certification**. They objectively measure the health status of animals and food of animal origin. Of course, their **International recognition** is essential (QS)

2nd

The basis **for authorising the international movement** of animals and products of animal origin is a **Health certification** in accordance with specific **International standards**

3rd

Mutual international recognition of the reliability of the Health certification is therefore an essential component of international trade



WOAH Laboratory Twinning Programme



WOAH Laboratory Twinning Programme

Founded in 2006

- One WOAH Reference Centre is paired with an Institution from another WOAH Member Country
- 2–3 year workplan focused on a disease or on a topical area

Laboratory Twinning Programme

The aim is to support the development of veterinary laboratory expertise in underserved regions improving regional and global capacity for disease prevention, detection and control, food security, food safety and public health through capacity building and networking

Laboratory Twinning Programme

Between February 2008 and May 2022,
114 projects were initiated

Approximately:

- **60%** of these projects have been **completed**
- **30%** are **underway**
- **10%** were **canceled**

Source: M.Marrana,2022

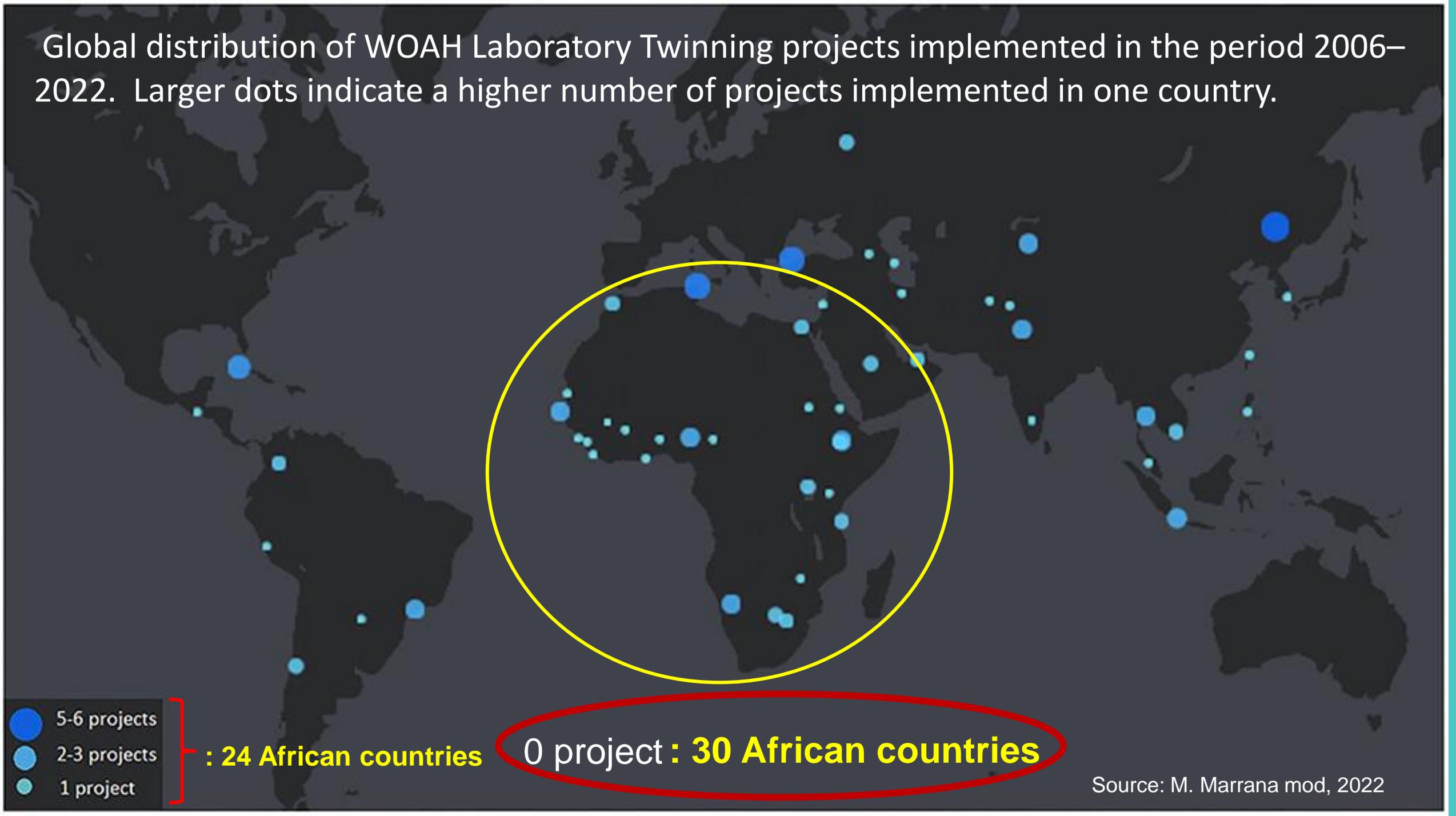
Laboratory Twinning Programme

Laboratory Twinning Project implemented:

- **Africa: 48**
- **Asia-Pacific: 29**
- **Americas: 16**
- **Europe: 12**
- **Middle East: 7**



Global distribution of WOAAH Laboratory Twinning projects implemented in the period 2006–2022. Larger dots indicate a higher number of projects implemented in one country.



- 5-6 projects
- 2-3 projects
- 1 project

: 24 African countries

0 project : 30 African countries

Laboratory Twinning Programme

16 new WOAH Reference Centers have been designated as direct result from participation in a WOAH Laboratory Twinning Project

Africa, 2 new WOAH Centres (*Botswana and Senegal*)

Asia-Pacific, **8 new WOAH Centres**

Americas, **3 new WOAH Centres**

Europe, **2 new WOAH Centres**

Middle East, **1 WOAH Centres**

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TERAMO

WOAH Reference Laboratory
for Contagious Bovine
Pleur pneumonia

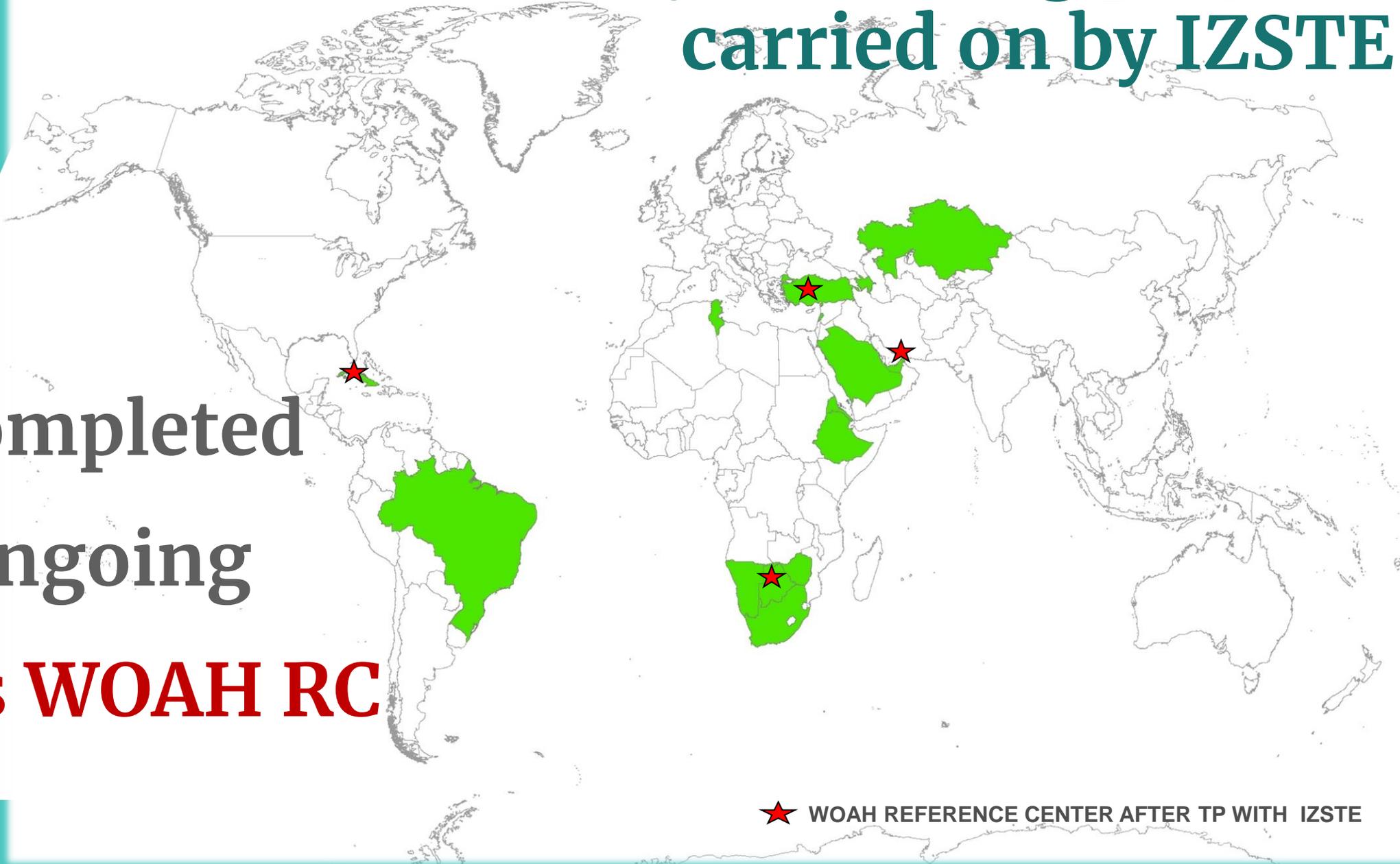
Reference Centre  World Organisation
for Animal Health
Founded as OIE

Laboratory Twinning projects carried on by IZSTE

13 completed

5 ongoing

4 new WOAHC RC



 WOAHC REFERENCE CENTER AFTER TP WITH IZSTE

How do we increase the number and quality of WOAH Reference Centers in Africa?



**WOAH
TWINNING
PROJECTS!**

“OUR Hypothesis”

Giving them continuity after the end of the project

“OUR hypothesis”...ERFAN



The **ERFAN** network was established in 2017, in Teramo, when historical IZSTE African Veterinary Institutions partners decided to join forces to provide common responses to global challenges and give OIE Twinning Projects continuity

As project started in
2019 and extended
until
April 2024

ERFAN Phase 2
presented in 2022
to WOAHA
for founding





ALGÉRIE, Laboratoire Central Vétérinaire d'Alger, Institut National de la Médecine Vétérinaire

ALGÉRIE, Institut des Sciences Vétérinaires, Université Saâd Dahlab de Blida

ALGÉRIE, Ecole normale supérieure d'Ouargla

EGYPT, Faculty of Veterinary Medicine, Cairo University, Cairo

ETHIOPIA, Animal Health Institute, Sebeta

LIBYA, National Centre for Animal Health, Tripoli

LIBYA, National Research Center for Tropical and Transboundary Diseases, Tripoli

LIBYA, Faculty of Veterinary Medicine, University of Tripoli, Tripoli

MAROC, Laboratoire Régional d'analyses et de recherches de Rabat

MAROC, Institut Agronomique et Vétérinaire Hassan II, Rabat

MAURITANIE, Office National de Recherches et de Développement de l'Elevage, Nouakchott

SÉNÉGAL, Laboratoire National d'Elevage et des Recherches Vétérinaires, Dakar

**SUDAN, Animal Resources Research Corporation - Central Veterinary Research Laboratory,
Khartoum**

TUNISIE, Institut de la Recherche Vétérinaire, Tunis

TUNISIE, Ecole Nationale de Médecine Vétérinaire, Sidi Thabet



Enhancing Research
For Africa Network

ERFAN - Southern Africa



ANGOLA, Instituto de Investigação Veterinária, Luanda

BOTSWANA, National Veterinary Laboratory, Gaborone

LESOTHO, Central Veterinary Laboratory, Lesotho

MOZAMBIQUE, Laboratório Central de Veterinária, Instituto de Investigação Agrária de Moçambique, Maputo

MOZAMBIQUE, Centro de Biotecnologia, Universidade Eduardo Mondlane, Maputo

NAMIBIA, Central Veterinary Laboratory, Windhoek

NAMIBIA, Faculty of Veterinary Science, University of Namibia, Windhoek

SOUTH AFRICA, Faculty of Veterinary Science, University of Pretoria, Pretoria

SOUTH AFRICA, Onderstepoort Veterinary Research Institute, Agricultural Research Council, Pretoria

SOUTH AFRICA, Jembi Health Systems, no profit Organisation, Cape Town

TANZANIA, Veterinary Laboratory Agency, Dar es Salaam

ZAMBIA, Central Veterinary Research Institute, Lusaka

ZIMBABWE, Central Veterinary Laboratory, Harare

ZIMBABWE, Faculty of Veterinary Science, Zimbabwe University, Harare

Italian Ministry of Health

Directorate General for Animal Health and Veterinary Medicinal Products

Istituto Superiore di Sanità, Department of Food Safety, Nutrition and
Veterinary Public Health, Rome

Istituto Zooprofilattico Sperimentale del Mezzogiorno, Portici-Napoli

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Val D'Aosta,
Torino *

Istituto Zooprofilattico Sperimentale della Puglia and Basilicata, Foggia

Istituto Zooprofilattico Sperimentale della Sicilia, Palermo *

Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise, Teramo * -

Implementing lead partner

Aims and Objectives

- To support the Poles of excellence, as result of WOAHA Twinning Projects
- To enhance collaborations among WOAHA Reference Centres and the network partners
- To improve laboratory performances of partner Institutions involved through networking, exchanging knowledge, training and research
- To identify Regional research needs

- 1. *Animal welfare***
- 2. *Food Hygiene***
- 3. *Vector born diseases, in particular Mosquitos and Culicoides***
- 4. *Contagious Bovine Pleuropneumonia and Contagious agalactiae***
- 5. *Brucellosis***
- 6. *Anthrax***
- 7. *Bovine tuberculosis***
- 8. *Transmissible Spongiform Encephalopathies***
- 9. *Project Design for International Cooperation***

What WE are doing

SUPPORTING DIAGNOSTIC CAPACITIES

(SOPs sharing, Production of reference materials, PT organization, Information and Data sharing)

THROUGH NETWORKING ACTIVITIES

Based on the needs and priorities identified by the partners, in collaboration with the countries' Veterinary Services and the WOAH Sub-Regional Offices in Tunis and Gaborone

P 1. Supporting diagnostic capacities

43 SOPs and Working Schemes shared between partners using ERFAN website

Reference materials produced by ERFAN partners for diagnosis of CBPP and Brucellosis

These activities, carried out according to the international WOHAI standards, are essential to improve quality, uniformity and reliability of analyses methods and results

P 1. Supporting diagnostic capacities

Proficiency tests organisation:

- Brucellosis organised by CVL,
Harare-Zimbabwe
- CBPP organised by the WOAHA RL at BNVL,
Gaborone-Botswana
- WND organised by the WOAHA RL at IZSTE,
Teramo-Italy



Enhancing Research
For Africa Network



THE VALUE OF NETWORKING

P.1 General Meeting



**First onsite-online
ERFAN General Meeting
4 October 2021 - Attendees:110**



**ERFAN Online Technical Meeting
8 July 2021 - Attendees: 100**

P.1 Regional Meeting



P.1 WG Meetings

- **39** *Online WG meetings,*
255 *participants*
- **12** *Onsite WG meetings*
146 *participants*

WG Bovine Tuberculosis

Pretoria-South Africa, 12-13 May 2022



IZS Portici, Italian pole of excellence for Bovine Tuberculosis, experts visit Onderstepoort Veterinary Research Institute

WG Animal Welfare Meeting

FVS University of Pretoria-South Africa,

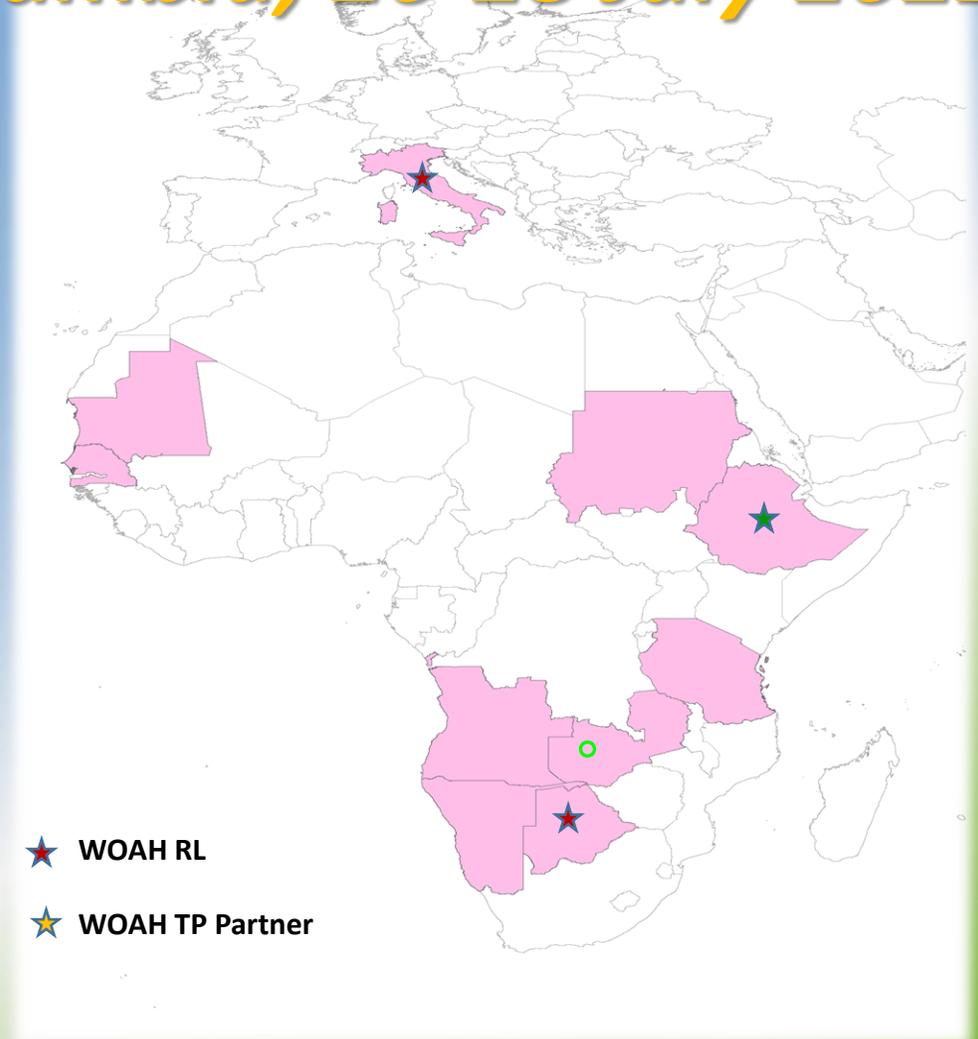
6-9 June 2022

6 African countries and Italy,
10 participants,
9 veterinary institutions,
WOAH CC for AW



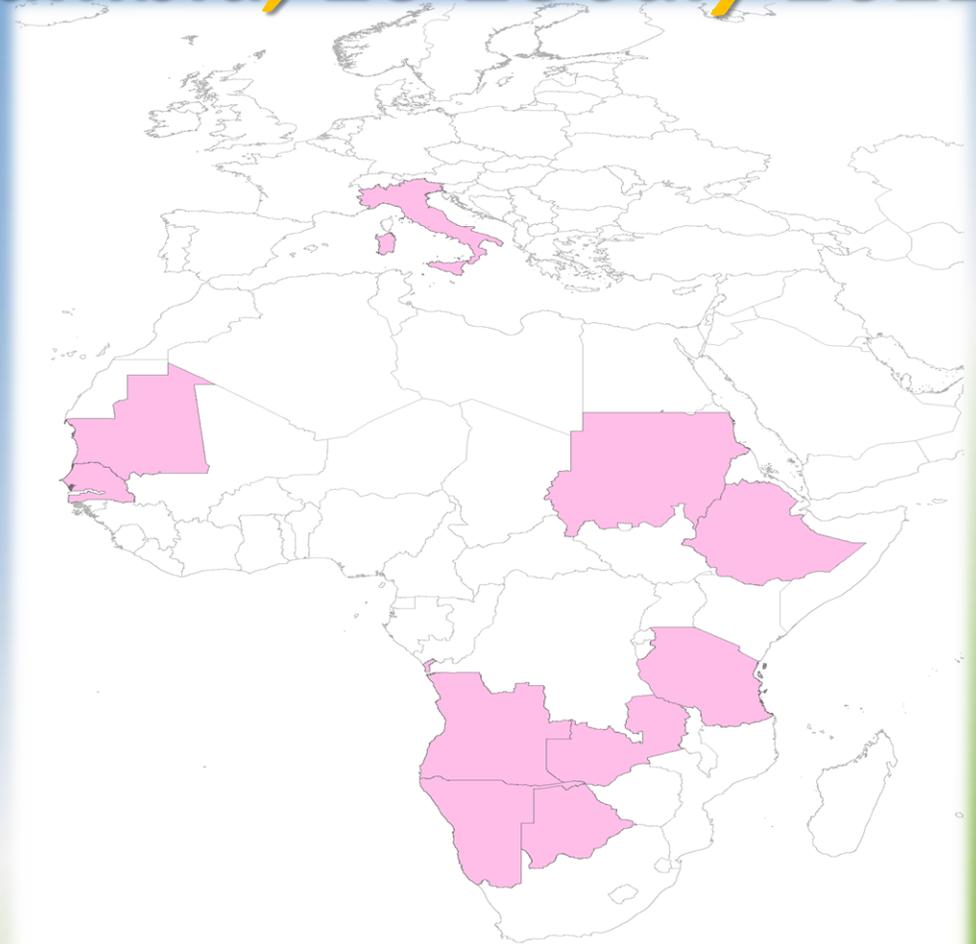
- ★ WOAH CC
- ★ WOAH TP Partner

CBPP Northern and Southern Africa WGs meeting CVRI, Lusaka-Zambia, 26-28 July 2022



26 participants, 12 Veterinary Institutions,
10 African countries and Italy, 2 WOAHL for CBPP

Anthrax Northern and Southern Africa WGs meeting CVRI, Lusaka-Zambia, 26-28 July 2022



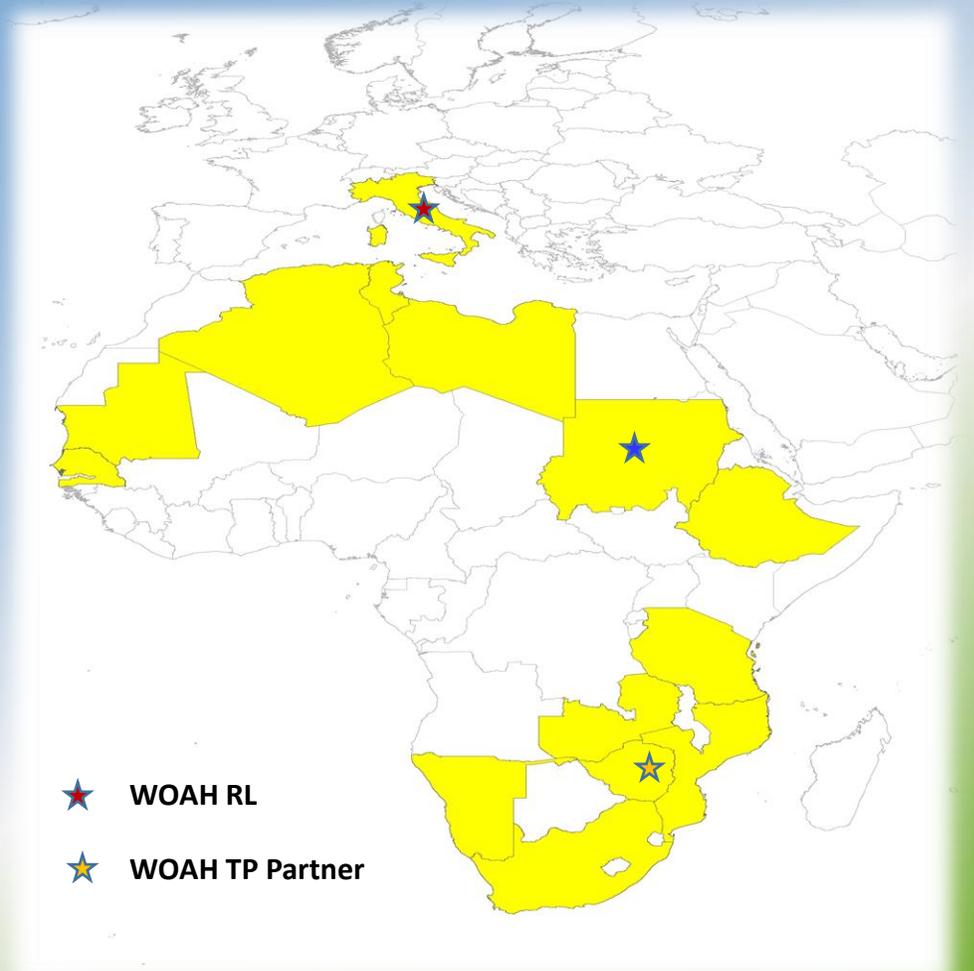
**26 participants, 12 Veterinary Institutions,
10 African countries and
Italian Reference Lab for Anthrax-IZS Foggia**

Brucellosis Northern and Southern Africa WGs meeting Giulianova-Italy, 15-19 September 2022



25 participants, 16 veterinary institutions, 13 African countries and Italy, WOAHL for Brucellosis

Joint participation of the Anthrax Italian Reference Laboratory at IZS in Foggia

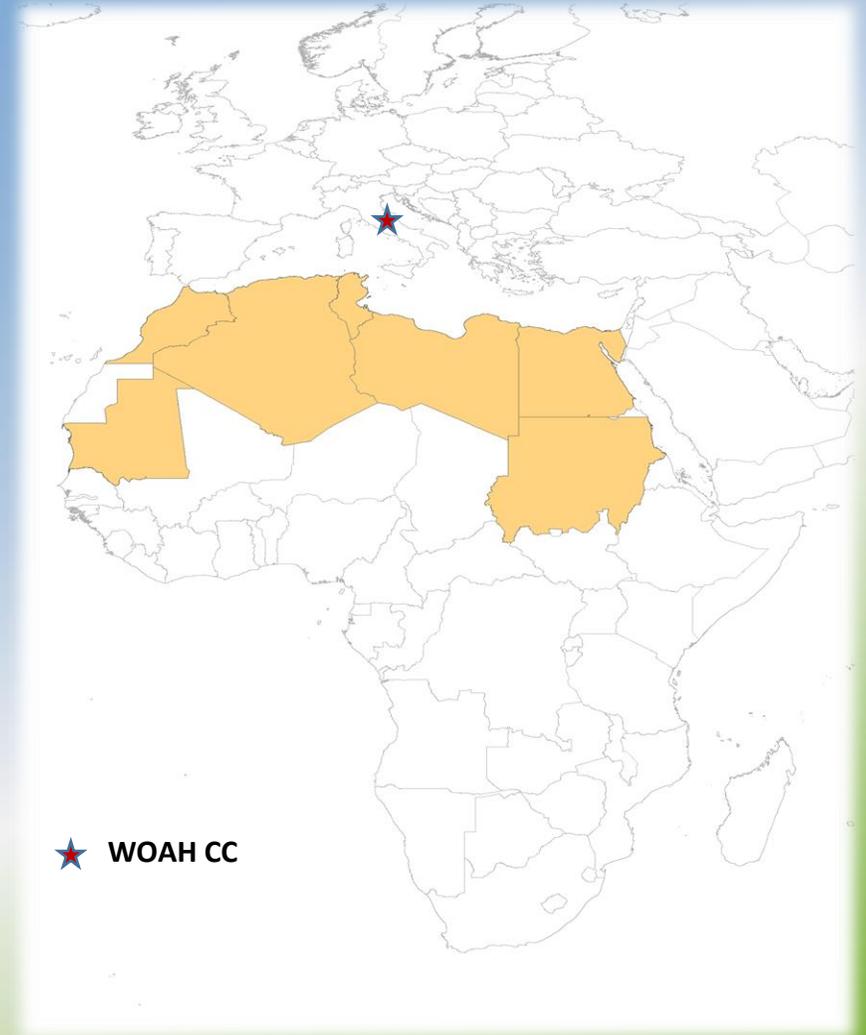


Academic Institutions Regional meeting Northern Africa

University of Teramo –Italy, 29-30 September 2022



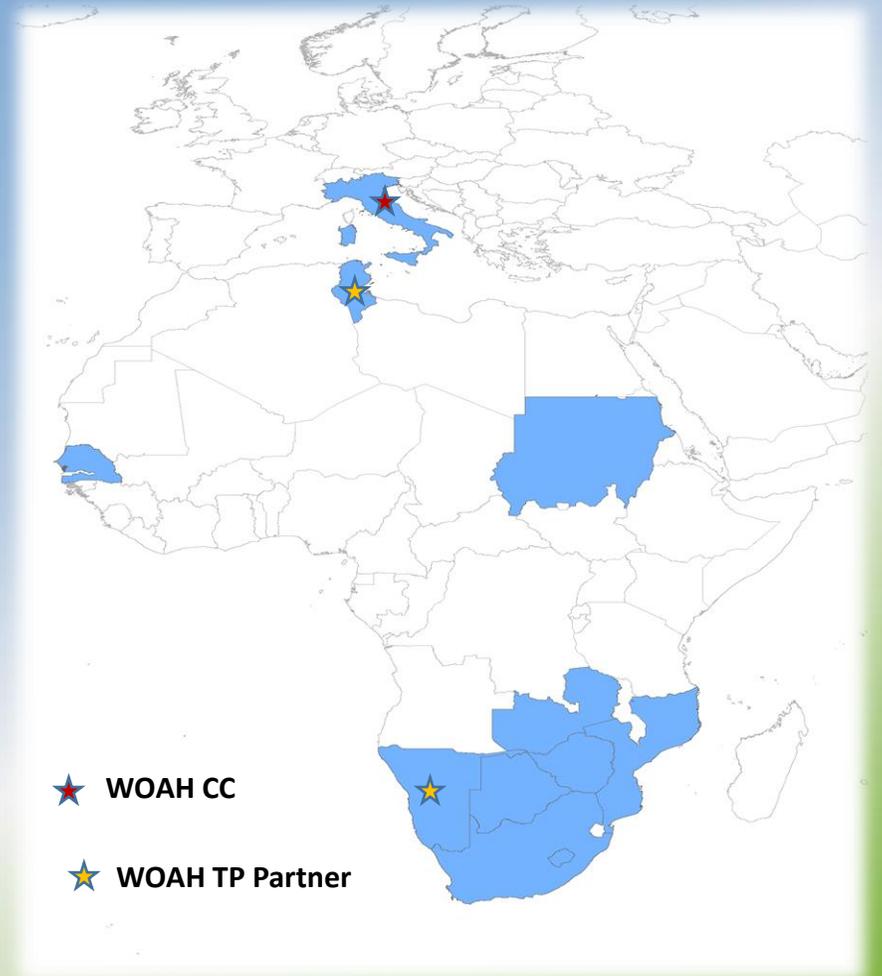
25 participants, 8 Faculties of Veterinary Science, 7 African countries and Italy and WOAHC for VT



Food Hygiene Northern and Southern Africa Working groups meeting; CVL, Windhoek-Namibia , 21 October 2022



26 participants, 18 veterinary institutions,
10 African countries and Italy, **WOAH CC for FH**



What WE are doing



CAPACITY BUILDING
through
TRAINING and
SUSTAINABLE
TECHNOLOGY
TRANSFER

Based on the needs and priorities identified by the partners, in collaboration with the countries' **Veterinary Services** and the **WOAH Sub-Regional Offices in Tunis and Gaborone**

38 training courses organized

21 scientific topics

127 training days

455 hours

81 teachers

2320 participants

29 countries

P.2 Dialogues: topics

Topics covered: *Animal welfare; Animal diseases (Contagious agalactiae, Contagious Bovine Pleuropneumonia and other Mycoplasmosis); Zoonosis (Anthrax, Brucellosis, Q Fever, Rift Valley Fever, Sars-CoV-2, Bovine Tuberculosis) and microorganisms causing Foodborne infections (Listeria monocytogenes, Salmonella spp., Klebsiella pneumoniae); Antimicrobial resistance; Next generation sequencing; Bioinformatics; Organization and management of Proficiency tests; Scientific article writing; Library research in veterinary and public health; Project design for international cooperation*

P.2 Online Dialogues



e-Learning PLATFORM

ERFAN Community

Join our **COODs** (Cooperation Open Online Dialogues)

ERFAN Dialogues are the strategic platform to improve interdisciplinary discussions in Veterinary Science and Food Security between Africa and Italy.

Dialogues are a method to communicate science using information transfer and exchange of knowledge between scientific experts. The aim is to stimulate a broader interest in research and development and deepen the understanding of various topics from a global point of view through interacting. Vocational training opportunities are available in synchronous and asynchronous mode.

13 "Async Dialogues" on ERFAN Website

Async dialogues



[Find out more about asynchronous dialogues](#)

Sync dialogues



[Find out more about synchronous dialogues](#)



P.2 Exchange program between Tunisia and Italy

Training on the job on:

“Diagnosis of spongiform encephalopathies in small ruminants and dromedaries in Tunisia”. June 2022

Institutions involved: National School of Veterinary Medicine, Sidi Thabet, University of Manouba, Tunisia;

ISS-Rome; WOAHL RL for TSE at IZSPLV-Turin

P.2 Exchange program between Ethiopia and Italy

Training on the job on:

“Gamma Interferon Release Assay for Bovine tuberculosis”.

IZS Portici-Italy, July 2022

Institutions involved: Animal Health Institute, Ethiopia and
IZS Portici, Italy



P.2 Training course on: Detection and characterization of *Listeria monocytogenes*, *Klebsiella pneumoniae* and *Salmonella* spp.

CVL, Windhoek-Namibia , 17-20 October 2022



**24 participants, 18 veterinary institutions,
10 African countries and Italy, IZS Turin and
WOAH CC for FH at IZSTE**

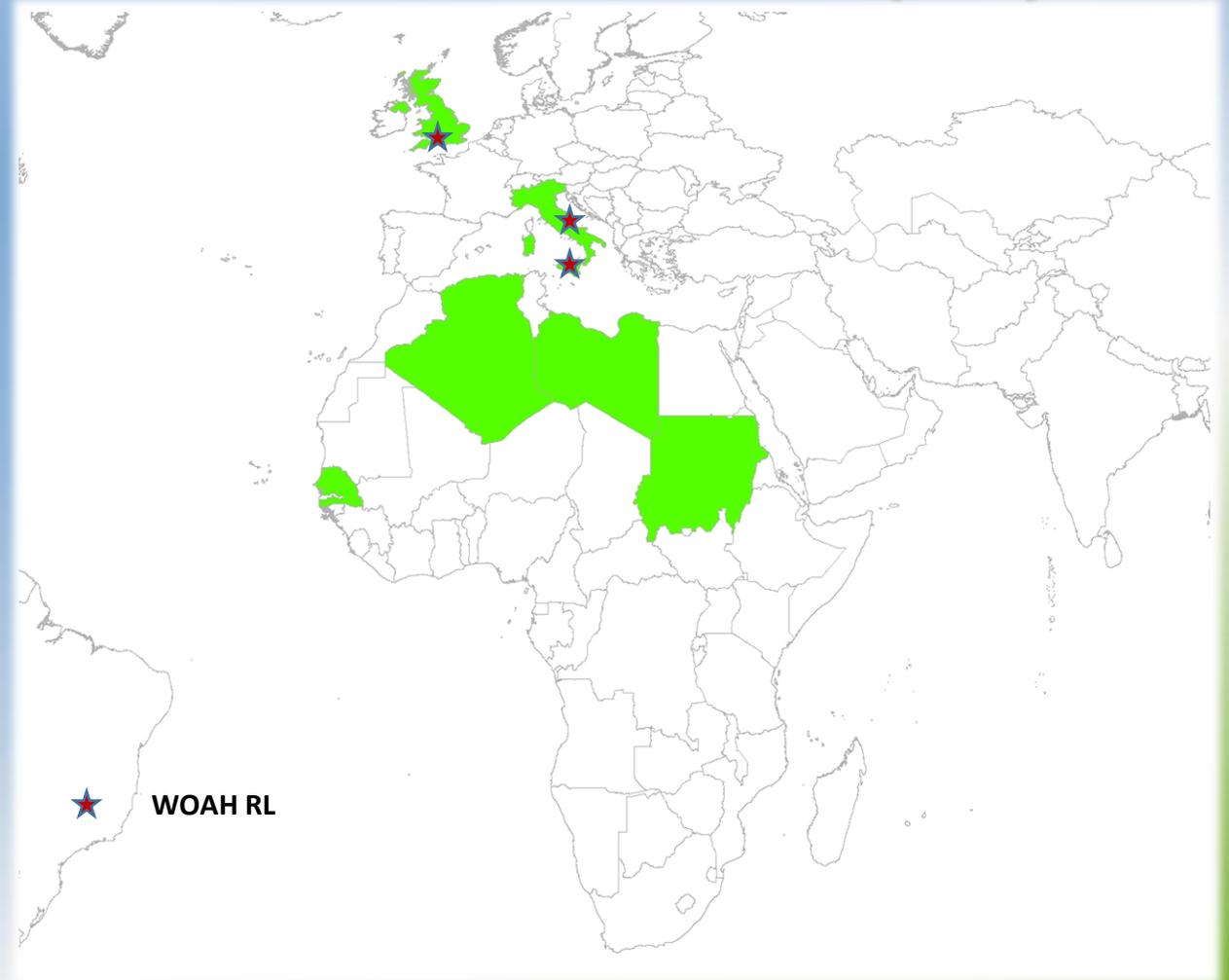


P.2 AMR in African dairy farming: advanced training for Laboratory experts

IZS Palermo 15-27/01/2023



15 participants, 7 veterinary institutions, 4 African countries, 2 WOAHL for CA, WOAHL for CBPP, APHA UK, and Italy



Chemistry

P.2 Sustainable technology transfer



Satellite data



**WGS and
Bioinformatics
support**



What WE are doing

Capacity building

through

REGIONAL

RESEARCH

PROGRAMS



Based on the needs and priorities identified by the partners, in collaboration with the countries' [Veterinary Services](#) and the [WOAH Sub-Regional Offices in Tunis and Gaborone](#)

P.3 Research programs

- ❖ Funding opportunities submitted to the ERFAN partners by the Secretariat
<https://www.erfan.it/en/call-for-proposals/>
- ❖ Research project proposals presented by the partners to the Secretariat , PhDs and Masters research program included

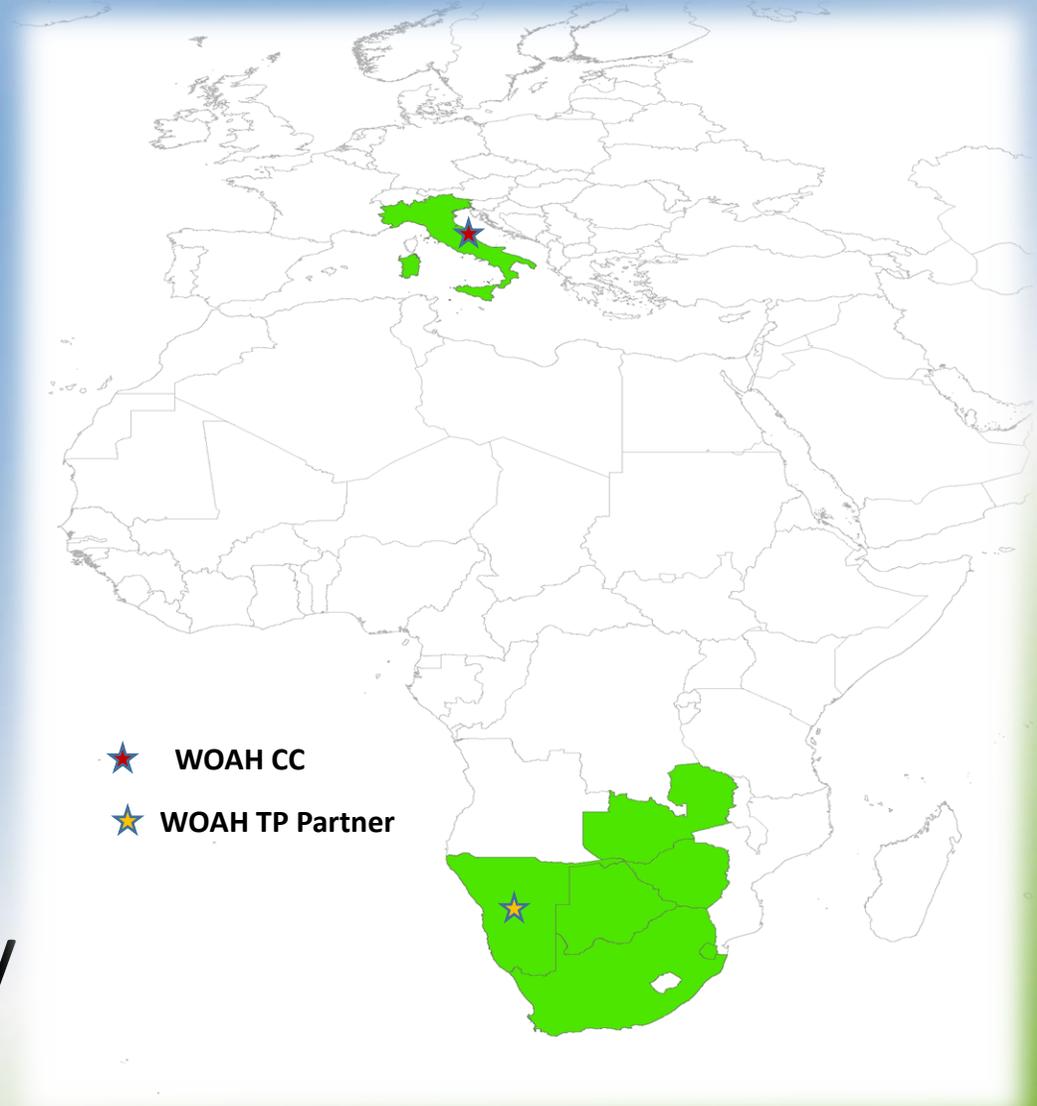
P.3 Small Scale Research Projects

Small-order research activities/baseline studies
(included field sampling and slaughterhouse survey)

- Focused on Regional priorities defined by partners
- Reviewed by WOAHA RCs and Approved by WOAHA Sub Regional Offices
- Using networking approach
- Collecting standardised data and informations among ERFAN partners

LISAK

Baseline study on “*Listeria monocytogenes*, *Salmonella* spp. and *Klebsiella pneumoniae* prevalence and AMR” in meat products and environmental samples in Botswana, Namibia, South Africa, Zambia supported by WOAHC at IZSTE



BSA

Baseline regional study on:
“*Brucellosis Surveillance*”
Mozambique, Tanzania,
Zambia and Zimbabwe
supported by the
WOAH RL at IZSTE



P.3 SSRP as best practice

LIMOS

Baseline study on:

“Isolation and characterization of *Listeria monocytogenes* from ready - to eat meat, frozen raw broiler chicken, swabs from chicken slaughterhouses and milk products (cheese and ice cream) in Khartoum state”

Central Veterinary Research Laboratory,
Soba-Sudan, supported by the
WOAH CC at IZSTE

P.3 Small Scale Research Projects

**These are essential prerequisites for
drafting relevant Regional projects
proposals to be submitted to
International donors**

P.3 Research programs funded

- ❖ 3 PhD funded on: **Brucellosis and CBPP, Anthrax and TSE**
- ❖ 2 MSc funded: on **Anthrax/IZSPB and *Mmm* and AMR**
- ❖ 3 SSRP: 2 on **Food safety** (*Listeria* spp, *Salmonella* spp and *Klebsiella pneumoniae*) and 1 on **Brucella**

Could be ERFAN network a complementary tool for the WOAH Twinning Projects?



Source: Getty Images

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/

WOAH Reference Laboratory
for Contagious Bovine
Pleur pneumonia

Reference Centre



World Organisation
for Animal Health
Founded as OIE



*Scientific collaboration
is a long journey,
not a destination!*

Thank you!

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