

ANNEX 1

SUB-GRANT AGREEMENT

For the implementation of the project: ERFAN “Enhancing Research for Africa Network” – Phase II

This Sub-Grant Agreement (“Agreement”), is by and between the World Organisation for Animal Health (whose statutory name is *Office International des Epizooties*), an intergovernmental organisation having its Headquarters at 12 rue de Prony, F-75017 Paris, France (hereinafter “WOAH”), and the *Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise “G. Caporale”* (IZSAM), having its principal place of business at Via Campo Boario 1,64100 Teramo, Italy (“Recipient”). WOAH and Recipient are collectively referred as the “Parties” or individually, a “Party”.

WHEREAS, the Delegate of Italy along with the Directors of Italy’s ten *Istituti Zooprofilattici Sperimentali* (IIZZSS) signed an agreement with WOAH for the implementation of a Programme “Animal Health Surveillance and Food Safety Programme”, on 27 May 2013.

WHEREAS, the Delegate of Italy and the Directors of IIZZSS signed a fourth agreement with WOAH for the implementation of the programme “Advancing efforts to address challenges related to One Health and food security”, on 9 October 2020 and results have been satisfactory for both Parties.

WHEREAS, based on a proposal sent by Recipient to WOAH for the implementation of the Phase II of the project “Enhancing Research for Africa Network” (ERFAN), WOAH wishes to entrust Recipient with the performance of the functions, tasks, activities and deliverables in connection with the project, as described in Appendix 2 (the “Activities”), and Recipient desires to perform such activities.

WHEREAS, WOAH Internal Memorandum NS/2014/11 of 20 November 2014 relating to grants and sub-grants outlines the rules of issuing grants and sub-grants and this Agreement is implemented in accordance with the terms and conditions contained therein.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

GENERAL AND ADMINISTRATIVE PROVISIONS

1. Purpose: The purpose of this Agreement is to set out the terms and conditions relating to the performance of the Activities by Recipient to WOAH.
2. Entry into force of the Agreement and duration: The Agreement shall enter into force on the date on which the last Party signs. The implementation period of this Agreement, during which the Activities will have to be performed, will begin from the date on which the last of the two Parties signs the Agreement, and will have a duration of 36 months (the “Implementation Period”).
3. Maximum amount payable under the Agreement: WOAH undertakes to finance a maximum of €1.713.254,00. The final amount payable will be established in accordance with articles 19 to 24 of this Agreement.
4. Obligations regarding information on financial and narrative reporting:
 1. Recipient shall provide WOAH with full information on the implementation of the activities. Recipient shall also draw up annual progress reports and a final report, according the technical proposal in the appendix. These reports shall consist of a narrative part and a financial part. Reporting, narrative as well as financial, shall cover the whole of the Activities.
 2. WOAH may request additional information at any time, by providing the reasons for the request. Such information shall be supplied by Recipient within a maximum of 30 days of the request.
 3. Recipient shall send progress reports to WOAH in accordance with the provisions below. Every report shall provide a complete account of all aspects of implementation for the period covered.
 4. Every report shall be laid out in such a way as to allow comparison of the objective(s), the means

envisaged or employed (in particular separate information on the amounts subject to legal commitment and on costs incurred by Recipient), the results expected and obtained and the budget details for the Activities.

5. The narrative part shall directly relate to this Agreement and shall at least include:
 - i. Summary and context of the Activities;
 - ii. Activities carried out during the reporting period;
 - iii. Difficulties encountered and measures taken to overcome problems;
 - iv. Changes introduced in implementation;
 - v. Achievements and results measured in accordance with the performance indicators prescribed in this Agreement;
 - vi. Work plan for the following period including objectives and performance indicators of achievement.
 6. The final report shall contain all of the above information relating to the Activities (except for the work plan mentioned in the last indent, without purpose at the end of the Activities) covering the whole Implementation Period, plus a full summary of the Activities' income, contributions received, and cost incurred.
 7. All reports shall be presented in English. They shall be submitted at the following intervals:
 - i. 1st Annual progress report to be submitted by the 12th month further the signature of the Agreement.
 - ii. 2nd Annual progress report to be submitted by the 24th month further the signature of the Agreement.
 - iii. Final report shall be forwarded to WOAHA by the 36th month further the signature of the Agreement.
 8. All financial reports shall be submitted in Euros.
 9. If Recipient fails to perform the Activities in accordance with the provisions of this Agreement or to supply a final report by the final report deadline laid down in Article 4.7.iii), and fails to furnish an acceptable written explanation of the reasons why it is unable to comply with these obligations, WOAHA shall have the right to refuse to pay any outstanding amount and recover any amounts unduly paid.
 10. In addition to the above-mentioned reports, Recipient will ensure that progress and situation reports, publications, press releases and updates, relevant to this Agreement, are communicated to WOAHA as and when they are issued.
5. Communication between the Parties: Any notice, request or other formal communication to be given or made under this Agreement shall be in writing and shall be deemed to have been duly given when delivered by registered or first class mail to the recipient at the respective addresses listed on the first page of this Agreement. Any change in the legal, financial, technical, and organisational or ownership situation of Recipient or any change of a named expert must be notified immediately by Recipient to WOAHA.
6. Amendments to the Agreement: Any amendment to the Agreement shall be made in writing.
- Any request for amendment (i.e. Agreement duration, modification to project plan affecting the overall project, activities, or budget) must be duly justified and shall be sent to the other party in due time before it is intended to enter into force. Amendments shall enter into force on the date on which WOAHA signs or on the last date of approval of the request for amendment.
7. General obligations of Recipient throughout the Implementation Period:
1. Recipient shall be responsible for all the tasks, including the Activities, as provided in this Agreement.
 2. Recipient shall ensure that the Activities are carried out in accordance with the Description of the Activities contained in Appendix 2.
 3. Recipient shall implement the Activities with the requisite degree of care, efficiency, transparency and diligence, as required by best practise in the field concerned, and in compliance with this

Agreement.

4. Recipient shall mobilise all the financial, human and material resources required for the full implementation of the Activities, within the limits of the proposal joined in the appendix.
5. Recipient shall be solely responsible for employing or retaining the services of the individuals listed on Appendix 2 under the applicable laws, including compliance with immigration and visa laws, obtaining and maintaining work permits, health or accident insurance, social security, unemployment insurance and other contributions or benefits as may be required under applicable laws.
6. Recipient shall take appropriate measures to prevent irregularities, including but not limited to as fraud, corruption, sexual harassment and child labour, and any other illegal activity in the management of the Activities. All suspected and actual cases of irregularity or illegal activity in connection with this Agreement as well as measure related thereto taken by Recipient must be reported to WOAHP without delay. Where appropriate, Recipient shall terminate contracts with partners, contractors or agents involved in irregularities or illegal activity, and take all measures to recover funds unduly paid.
8. Liability and indemnity: Recipient shall have sole responsibility for complying with all legal obligations incumbent on it. WOAHP may not under any circumstances or for any reason whatsoever be held liable for damage or injury sustained by the staff or property of Recipient while the Activities are being carried out, or as a consequence of the Activities. Therefore, WOAHP may not accept any claim for compensation or increases in payment in connection with such damage or injury. Recipient shall assume sole liability towards third parties, including liability for damage or injury of any kind sustained by them in respect of or arising out of the Activities. Recipient shall discharge WOAHP of all liability associated with any claim or action brought as a result of an infringement by Recipient or Recipient's employees, experts or agents, as the case may be, or as a result of violation of a third party's rights. Recipient shall defend, protect, indemnify and hold harmless WOAHP from and against all liability, claims, damages and costs that WOAHP may incur as a result of negligence or breach of this Agreement by Recipient.
9. Conflict of interests: Recipient shall take all necessary precautions to avoid conflicts of interest and shall inform WOAHP without delay of any situation constituting or likely to lead to any such conflict. There is a conflict of interests where the impartial and objective exercise of the functions of any person implementing this Agreement is compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other shared interest with another party such as a contractor or grant beneficiary, or the final recipients of funds.
10. Confidentiality: Recipient shall preserve the confidentiality of any document, information or other material directly related to this Agreement and duly marked as confidential, until at least five years after the end of the Implementing Period.
11. Ownership/Use of Results: Regarded as:
 - “Background” shall mean all knowledge, information as well as any intangible asset, protected and not protected under national, EU and international intellectual and industrial property laws, of which one Party is the owner before the start of the activity of this agreement.
 - “Foreground” shall mean all knowledge, information as well as any intangible and tangible property that is eligible for protection under national, EU and international intellectual and industrial property laws, created or otherwise achieved during the implementation of the agreement and by reason thereof and therefore related to the objective of the activity to be performed.
 - “Results” shall mean all knowledge, information as well as any intangible property created or otherwise achieved during the implementation of the Agreement and by reason thereof and therefore related to the objective of the activity to be performed, but not protected under national, EU and international intellectual and industrial property laws.

The Parties agree that:

- i. each Party is the owner of the intellectual and industrial property rights pertaining to its own Background;
- ii. the Parties mutually acknowledge that nothing in this Agreement shall be construed to directly or indirectly imply the transfer of any right on the Parties' Background;
- iii. the Parties, for the duration of this Agreement, mutually acknowledge the gratuitous and non-exclusive right, revocable and non-transferable to use their respective Backgrounds in the implementation of this Agreement, insofar as such use is necessary for the execution of the activities foreseen by this Agreement. Sub-licensing or transfer to third Parties under any title

- whatsoever is expressly forbidden;
 - iv. the Results arising out of the performance of the Services shall be property of WOA;
 - v. WOA may freely use the reports and/or the results deriving from the activities covered by this Agreement;
 - vi. In the unforeseen case of Foreground, the Parties undertake to establish by separate and specific written agreement the allocation of the ownership shares, the terms of the exercise of the relevant industrial and intellectual property rights and the consequent industrial exploitation rights;
 - vii. It is understood that the IZSAM shall enjoy the right of free and perpetual use of Foreground for scientific purposes (internal use) as well as any further use agreed upon with WOA, subject to the limits of the existing confidentiality obligations;
 - viii. IZSAM cannot publish the Results without the prior written approval of WOA. Approval will not be unreasonably withheld. It is understood that if no approval is received within 30 days after the delivery to WOA of the text regarding the publication, without receiving any approval, the IZSAM shall be free to publish the text.
12. Suspension of the implementation of the Project by WOA: WOA may suspend the implementation of the Activities or any part thereof:
1. If WOA has evidence that Recipient has committed substantial errors, irregularities or fraud in the implementation of the Activities or if Recipient fails to comply with its obligations under the Agreement.
 2. If WOA has evidence that Recipient has committed systemic or recurrent errors, irregularities, fraud or breach of obligations, provided that those errors, irregularities, fraud or breach of obligations have a material impact on the Activities;

Before suspending the implementation, WOA shall formally notify Recipient of its intention to suspend, specifying the reasons thereof, and, in the cases referred to above, the necessary conditions for resuming the implementation.

The Recipient shall be invited to submit observations within 30 calendar days from receipt of this notification. If, after examination of the observations submitted by Recipient, WOA decides to stop the suspension procedure, it shall formally notify Recipient thereof. If no observations have been submitted or if, despite the observations submitted by Recipient, WOA decides to pursue the suspension procedure, it may suspend the implementation by formally notifying Recipient thereof, specifying the reasons for the suspension. The suspension shall take effect on the day of the receipt of the notification by Recipient or on a later date, where the notification so provides. In order to resume the implementation, Recipient shall endeavour to meet the notified conditions as soon as possible and shall inform WOA of any progress made in this respect.

13. Termination of the implementation of the Project by WOA: WOA may decide to terminate the Agreement in the following circumstances:
1. In the event that no actions relating to the Activities have been performed by Recipient within three (3) months after the execution of this Agreement;
 2. if a change to Recipient's legal, financial, technical, organisational or ownership situation is likely to affect the implementation of the Agreement substantially;
 3. if Recipient does not perform the Activities as specified in Appendix 2 or fails to comply with any other obligation incumbent on it under the terms and conditions of the Agreement;
 4. in the event of a *force majeure* event promptly notified to WOA in a written notice stating the nature, likely duration and foreseeable effects;
 5. if Recipient or any related person involved in the services, have been found guilty of professional misconduct proven by any means; or
 6. if the contribution received from the Republic of Italy is terminated.

Before terminating the Agreement, WOA shall formally notify Recipient of the termination, specifying the reasons thereof. The formal notification shall specify the date on which the termination shall take effect. WOA shall pay only the amount associated with the Activities satisfactorily performed prior to the effective date of termination and in conformity with the specifications laid down in Annex 2. If the project covered by the Activities is terminated after Recipient has received the first payment, all funds that have not been spent on, or indissolubly committed to the Activities as specified in Appendix 2, up to and including the date of termination will be reimbursed by Recipient to WOA without any delay.

14. Data protection. To the extent Recipient is required as part of the Activities to process any personal data, Recipient undertakes to comply with the regulations applicable to it relating to the protection of personal data including those arising from General Data Protection Regulation 2016/679 ("GDPR"), Recipient shall implement technical and organisational measures to ensure a level of security appropriate to the risk presented by any processing operations.
15. Publication of beneficiaries: To comply with disclosure requirements and enhance transparency, WOA and Recipient shall publish on their websites the following information about this Agreement: (i) the name and nationality of the Parties; (ii) a brief description and location of the Services provided or the purpose of this agreement; and (iii) the amount of this Agreement. The Parties specifically consent to the release and/or publication of such information. The Parties will not release or publish information that could reasonably be considered confidential or proprietary.
16. Relationship of Parties. Nothing in this Agreement shall be deemed to create or constitute an employer-employee, partnership, or joint venture relationship among the Parties. Recipient hereby declares and agrees that it will perform all of its obligations under this Agreement as an independent contractor and not as the agent or employee of WOA. Neither Party will have the right, power or authority to bind the other
17. Privileges and Immunities. Nothing in or relating to this Agreement shall be deemed a waiver, express or implied, of any of the privileges and immunities of WOA or its staff.
18. Governing Law; Dispute Resolution: This Agreement shall be governed solely by its provisions, and, should it be necessary, by general principles of law, to the exclusion of any single national system of law. Any dispute, controversy or claim arising out of or relating to the interpretation, application or performance of this contract, including its existence, validity or termination, shall be settled by final and binding arbitration in accordance with the Permanent Court of Arbitration Optional Rules for Arbitration between International Organizations and Private Parties as in effect on the date of this Agreement.

FINANCIAL PROVISIONS

19. Conditions for the eligibility of costs: 'Eligible costs' of the Activities are costs actually incurred by Recipient and which meet the following criteria:
 1. be necessary for carrying out the Activities, be provided for specifically in this Agreement and comply with the principles of sound financial management, in particular value for money and cost-effectiveness;
 2. have been actually incurred after that date in which the last Party signs the Agreement, whatever the time of actual disbursement by the Recipient, in particular costs relating to Activities and works properly provided shall relate to activities performed. Costs relating to supplies shall relate to delivery and installation of items during the Implementation Period;
 3. be recorded in Recipient 's accounts, be identifiable, backed by effective supporting evidence (originals, as the case may be in electronic form), and verifiable pursuant to checks related to the Activities, including on the spot checks.
 4. Subject to the above, the following direct costs of Recipient may in particular be eligible:
 - i. the cost of expert honoraria assigned to the Activities;
 - ii. travel and subsistence costs for staff taking part in the Activities, provided they do not exceed those normally borne by WOA;
 - iii. purchase costs for equipment (new or used) which are attributable to the Activities;
 - iv. costs directly arising out of, or related to, accepting or distributing contributions in kind;
 - v. costs of consumables and supplies directly attributable to the Activities;
 - vi. expenditure on contracting directly attributable to the Activities;
 - vii. costs deriving directly from the requirements of this Agreement (dissemination of information, evaluation specific to the services, specific reporting for the needs of WOA, translation, reproduction, insurance, targeted training for those involved in the services, etc.) including financial service costs (in particular bank fees for transfers).
 - viii. taxes, duties and charges, including VAT, actually paid and that Recipient cannot reclaim.
20. Ineligible costs: The following costs shall not be considered as eligible:

- i. debts and debts service charges;
- ii. provisions for losses or potential future liabilities;
- iii. interest owed by Recipient to any third party;
- iv. items already financed from other sources;
- v. purchases of land or buildings;
- vi. currency exchange losses.

WOAH only reimburses the cost of economy class travel. Any travel expenses in business class will be rejected by WOAHA and will not be reimbursed.

21. Budget transfers: Excluding for costs described in Article 20, Recipient is allowed to adjust the estimated budget set out in Appendix 2, by transfers between different budget lines to a maximum of 20%, without this adjustment being considered as an amendment of the Agreement within the meaning of Article 6. Should the transfer between different budget lines exceed 20%, a request for amendment of the Agreement should be issued to WOAHA in accordance with Article 6.
22. Requests for payments: WOAHA will make the following payments:
 1. WOAHA will provide a pre-financing of 50% of the sum referred to in Article 3 of this Agreement upon receipt of an invoice following the signature of the Agreement by both parties.
 2. Intermediary payments will be issued to the Recipient upon approval of the annual progress reports submitted in accordance with Article 4 and the following schedule:
 - i. First intermediary payment: 20% of the sum referred to in Article 3 of this Agreement upon validation of the 1st Annual progress report and submission of the corresponding invoice;
 - ii. Second intermediary payment: 20% of the sum referred to in Article 3 of this Agreement upon validation of the 2nd Annual progress report and submission of the corresponding invoice;
 3. WOAHA will pay the balance further validation of the final financial report and receipt of a corresponding invoice.
 4. WOAHA will pay undisputed invoices within 45 days of receipt.
 5. Reports shall be presented by Recipient in accordance with Article 4.
 6. WOAHA will make payments in Euros into the bank account referred to in the financial identification form provided in Appendix 3. Where payment is to be made to a bank account which is already known to WOAHA, Recipient may provide a copy of the relevant financial identification form.
 7. Where feasible, the funds paid by WOAHA shall be maintained in Euros denominated bank accounts. They may be exchanged for other currencies in order to facilitate their disbursement.
 8. Where interest earned by Recipient on funds received from WOAHA is due, it shall be deducted from the payment of the balance, re-used for the Activities or recovered by WOAHA. In that case, interest shall be identified as such and reflected in reports to WOAHA.
23. Checks, audits and evaluations:
 1. Recipient shall keep accurate and regular records and accounts of the implementation of the Activities. Separate accounts shall be kept for the Activities, and shall detail all income generated by the Activities, donor contributions and expenditure.
 2. The accounting regulations and rules of the Recipient shall apply, provided that these regulations and rules conform to internationally accepted standards.
 3. Financial transactions and financial statements shall be subject to the internal and external auditing procedures. A copy of the audited financial statements shall be submitted to WOAHA by Recipient.
 4. Recipient shall, for a period of no less than five years after the end of the Implementing Period:
 - i. keep financial accounting documents concerning the activities financed by the contribution and,
 - ii. make available to WOAHA and, upon request, all relevant financial information, including statements of accounts concerning the services, whether they are executed by Recipient.
24. Final amount paid by WOAHA:
 1. The total final amount to be paid by WOAHA to Recipient shall not exceed the maximum contribution established by Article 3 of this Agreement, regardless of whether or not the overall costs incurred exceed the estimated total budget set out in Appendix 2.
 2. Recipient agrees that the contribution of WOAHA shall be limited to the amount required to balance

income generated by the Activities, WOAHA contributions and expenditure for the Activities and that it may not in any circumstances result in a surplus for Recipient.

3. In the event of a final surplus balance of total financing over expenditures at the financial closure of the Activities, Recipient shall specify in the final report the amount of the surplus balance in the holding currency used by Recipient together with the estimated amount in Euros and where the exchange rate of Recipient can be consulted. This surplus in Recipient 's accounts expressed in holding currency used by Recipient shall be converted into Euros using the rate of exchange of Recipient in force on the day when WOAHA's internal recovery order is established, which amount is later reflected in the debit note sent to Recipient. The resulting Euros equivalent shall then be refunded to WOAHA. This provision shall not apply to the exchange rates used for reporting.
 4. WOAHA may carry out technical and financial checks and audits of Recipient in relation to the Agreement. Information and documentation provided in the framework of checks and audits shall be treated on a confidential basis. Checks, audits or evaluations made by WOAHA may be carried out either directly by its own staff or by any other outside body authorised to do so on its behalf. Such checks, audits or evaluations may be initiated during the implementation of the Agreement for a period of five years starting from the date of payment of the balance.
 5. In cases where the Activities are suspended or not completed within the Implementation Period of this Agreement, the funds that remain unexpended after all liabilities incurred in this period have been satisfied will be reimbursed by Recipient to WOAHA, including, where applicable, interest earned.
 6. Where the Activities are not carried out at all, or are not carried out properly, in full or on time and without prejudice to its right to terminate this Agreement pursuant to Article 13, WOAHA may, reduce the contribution pro rata the actual implementation of the Activities on the terms laid down in this Agreement.
25. Recovery: Where recovery is justified, Recipient shall repay to WOAHA within 45 days of the issuing of a letter (debit note) by which WOAHA reclaims from Recipient, any amounts paid in excess of the final amount due. Amounts to be repaid to WOAHA may be offset against amounts of any kind due to Recipient, after informing it accordingly. Recipient's prior consent is not required. This shall not affect the Parties' option to agree on payment in instalments. Bank charges incurred from the repayment of amounts due to WOAHA shall be borne entirely by the Recipient.
26. Entire Agreement: This Agreement, together with its Appendixes, constitutes the full understanding of the Parties and a complete and exclusive statement of the terms and conditions of the Agreement.

The Agreement is executed and delivered by Recipient and WOAHA effective as the date of the last signature.

Signed on behalf of WOAHA

Signed on behalf of Recipient

Emmanuelle Soubeyran

Signer ID: BSUEUOGWAK...

12/15/2025 CET

Dr Emmanuelle Soubeyran
Director General
World Organization for Animal Health

Nicola D'Alterio

Signer ID: 33QETYOFMJ...

01/28/2026 CET

Dr Nicola D'Alterio
Director General
Istituto Zooprofilattico Sperimentale
dell'Abruzzo e del Molise

APPENDIX 1

[IZSAM Bank identification]



FINANCIAL IDENTIFICATION

PRIVACY STATEMENT

http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_en.cfm#en

Please use CAPITAL LETTERS and LATIN CHARACTERS when filling in the form.

BANKING DETAILS ①

ACCOUNT NAME ②	ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELL'ABRUZZO E DEL MOLISE "G. CAPORELLI"		
IBAN/ACCOUNT NUMBER ③	IT65 6030 6915 3031 00000046 008		
CURRENCY	EURO		
BIC/SWIFT CODE	BCITITMM	BRANCH CODE ④	
BANK NAME	INTESA SAN PAOLO SPA		
ADDRESS OF BANK BRANCH			
STREET & NUMBER	CORSO SAN GIORGIO 120		
TOWN/CITY	TERAMO	POSTCODE	64100
COUNTRY	ITALY		

ACCOUNT HOLDER'S DATA

AS DECLARED TO THE BANK

ACCOUNT HOLDER	ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELL'ABRUZZO E DEL MOLISE "G. CAPORELLI"		
STREET & NUMBER	VIA CAMPO BOARIO /		
TOWN/CITY	TERAMO	POSTCODE	64100
COUNTRY	ITALY		

REMARK

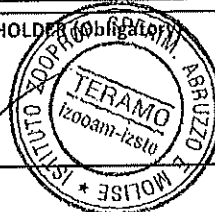
BANK STAMP + SIGNATURE OF BANK REPRESENTATIVE ⑤

INTESA SANPAOLO S.p.A. - 40414
Corso S. Giorgio, 120
64100 Teramo TE

DATE (Obligatory)

17 GEN. 2022

SIGNATURE OF ACCOUNT HOLDER



- ① Enter the final bank data and not the data of the intermediary bank.
- ② This does not refer to the type of account. The account name is usually the one of the account holder. However, the account holder may have chosen to give a different name to its bank account.
- ③ Fill in the IBAN Code (International Bank Account Number) if it exists in the country where your bank is established
- ④ Only applicable for US (ABA code), for AU/NZ (BSB code) and for CA (Transit code). Does not apply for other countries.
- ⑤ It is preferable to attach a copy of RECENT bank statement. Please note that the bank statement has to confirm all the information listed above under 'ACCOUNT NAME', 'ACCOUNT NUMBER/IBAN' and 'BANK NAME'. With an attached statement, the stamp of the bank and the signature of the bank's representative are not required. The signature of the account-holder and the date are ALWAYS mandatory.

APPENDIX 2

[Project proposal and budget]

Project ERFAN “Enhancing Research for Africa Network” – II Cycle Activity



Leading partner:



Project partners:



Summary

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Background

One of the main challenges for Veterinary Public Health (VPH) in Africa is the improvement of effective **dialogue and cooperation** between Veterinary Services (VS), which hinders the adoption of long-term, coordinated strategies to address critical diseases and improve food safety and animal health and welfare.

Without **reliable data, prerequisites of effective and harmonized disease surveillance systems**, VS of many African countries struggle to protect livestock health and implement control measures to prevent the spread of **transboundary infectious diseases**, including zoonotic ones, which pose significant commercial, economic, food safety, and public health risks. These diseases also carry the threat of potential introduction from Africa into Italy and therefore to Europe.

Moreover, **limited economic and managerial resources** further complicate the sustainability of health initiatives, making it difficult to maintain long-term progresses in disease prevention and control.

In order to tackle these problems, Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM), supported by the Italian Ministry of Health and in partnership with the Istituto Zooprofilattico Sperimentale del Mezzogiorno (IZSM), the Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata (IZSPB), the Istituto Zooprofilattico Sperimentale della Sicilia (IZSSI) and the Istituto Zooprofilattico Sperimentale del Piemonte-Liguria-Valle D'Aosta (IZSPLV), launched in 2019 the "**Enhancing Research for Africa Network - ERFAN**" aimed at enhancing cooperation, fostering research and technological innovation, improving the capacity for prevention and diagnosis of critical diseases by promoting long-term and sustainable solutions for disease management across African countries. The initiative was funded by the World Organization for Animal Health (WOAH) and supported by the Italian Republic. *Figure 1* summarises the three pillars of the initiative and the main results obtained during the course of ERFAN I. During the first activity cycle – concluded in April 2024 – ERFAN involved **31 African (17 Northern, 14 Southern) and 6 Italian veterinary institutions**, representing, in total, **20 countries** (*Figure 2*): a network that has grown over the years, laying the foundations for mutual trust, increased knowledge and skills, and collaborative research projects in veterinary public health.

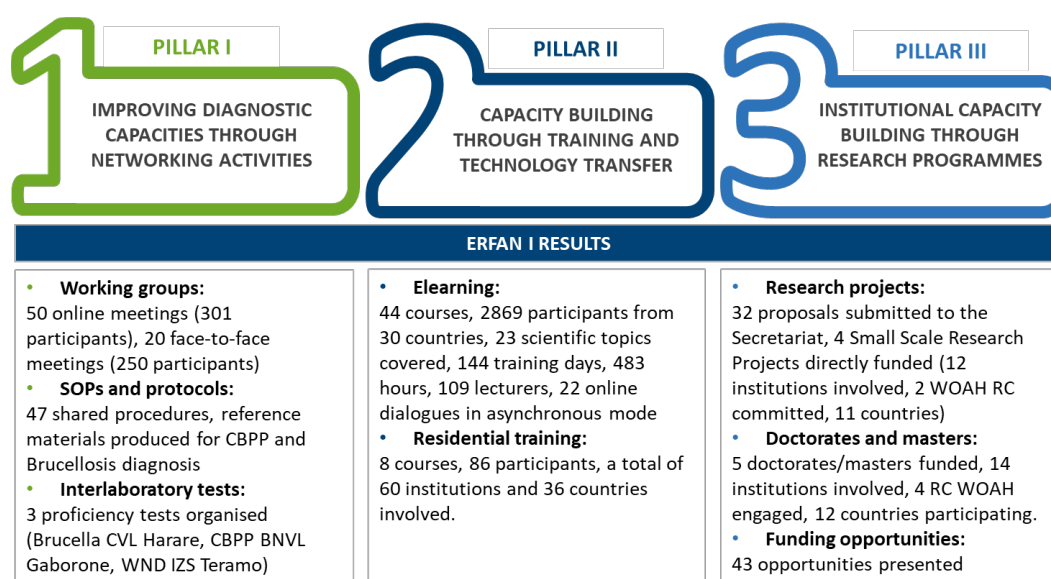


Figure 1. ERFAN I achievements

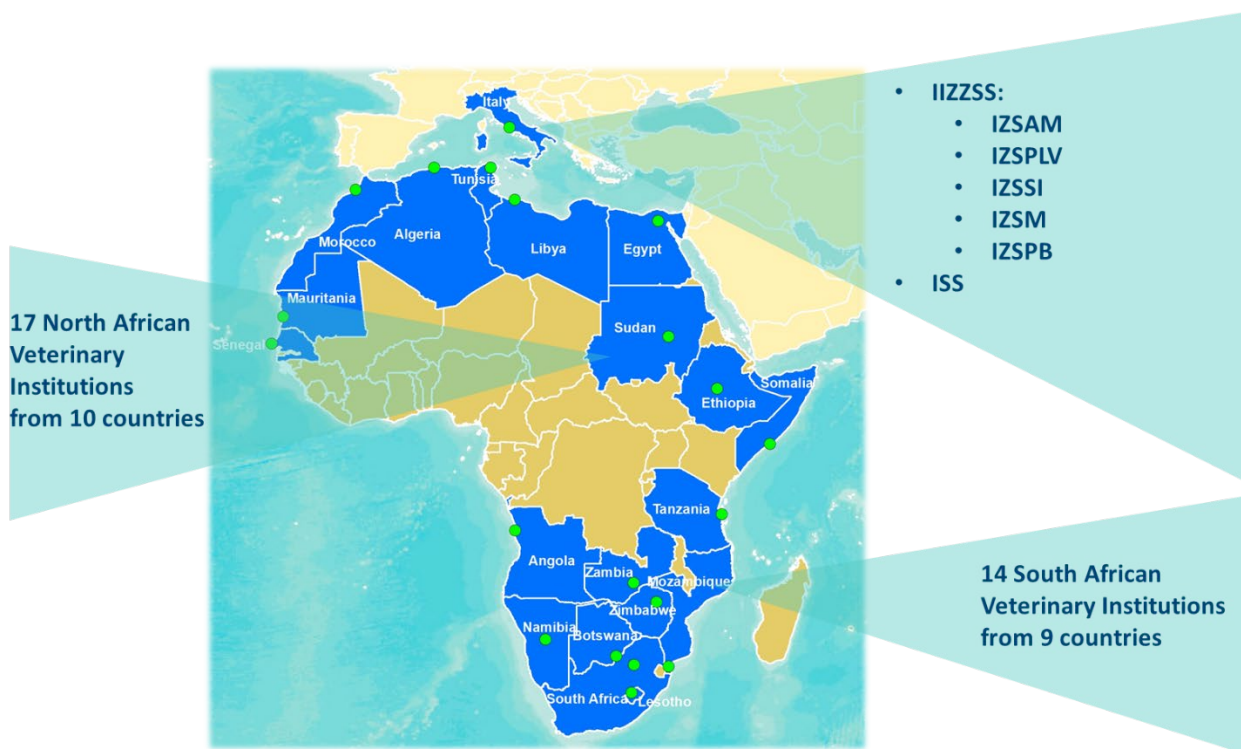


Figure 2. ERFAN I Partners Map

To consolidate the significant results achieved thus far and to take further strategic steps forward, ERFAN partners decided to promote a second three-year activity cycle (ERFAN II), involving also another Italian veterinary institution: the Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER).

ERFAN II aims at consolidating and expanding the VS network to strategically improve - through capacity building, innovation and synergies - disease diagnosis, control and surveillance systems, ultimately contributing to global efforts for One Health in Africa.

Theory of Change

The Theory of Change (ToC) is a strategic framework that defines and maps the processes leading to a desired long-term goal. It outlines the causal pathways that connect activities, outputs, outcomes, and impacts, clarifying how specific interventions will drive the intended change.

For the ERFAN II project, the Theory of Change is illustrated in *Figure 3*, beginning with the description of the **Impact**: the expected long-term, broader changes or overarching goals of the project that are often beyond its direct control or influence.

It falls under the “**Sphere of Interest**” and inspires the General objective that the project aims to achieve. It requires a collective effort from multiple stakeholders that goes over and beyond a single initiative.

Moving deeper, three **Specific objectives (outcomes)** contribute to the **General objective**, which is situated within the “**Sphere of Influence**”. It refers to the objectives significantly influenced by the project, but not fully controlled; this includes the outcomes that are expected to result from the project’s activities. The project can drive change, but external factors (such as stakeholders’ engagement, external resources, or

broader socio-political environments) may also play a role in determining success.

These objectives are expected to be achieved through to three **outputs (results)**, directly linked to the planned **activities** within ERFAN II and falling under the “**Sphere of Control**”. Activities are organised around three pillars in line with ERFAN I:

Pillar 1: Improving diagnostic capacities through networking activities

Pillar 2: Capacity building through training and technology transfer

Pillar 3: Capacity building through research programs

Following the diagram from the bottom to the top, each activity leads to an output that determines an outcome, progressively moving towards the overarching objective.

The Theory of Change provides a clear path to measurable and tangible impact, clearly highlighting also how it will contribute to the **Sustainable Development Goals (SDGs)**: ERFAN II objectives are in particular aligned with SDGs 3 (Good Health and Well-being), 9 (Build resilient infrastructure, promote sustainable industrialization and foster innovation) and 17 (Revitalize the global partnership for sustainable development) targets.

However, ERFAN networking approach aims to produce a broader and more sustainable impact by coordinating interrelated activities. The Theory of Change also highlights the essential role of the **stakeholders**, whose engagement and commitment is crucial for the success of this initiative. These key actors are listed on the left-hand side of the Theory of Change diagram.

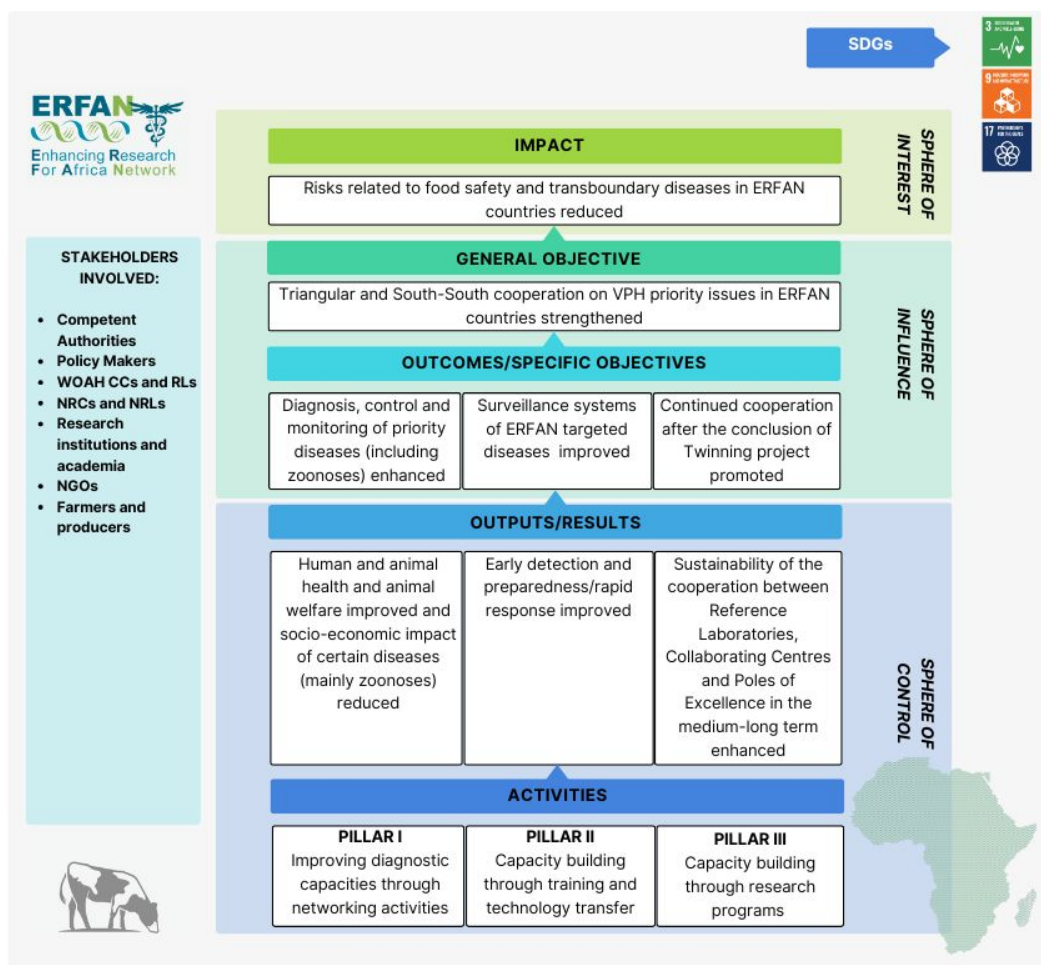


Figure 3. ERFAN II TOC Diagram

Logical framework

	NARRATIVE SUMMARY OF THE INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS AND PREREQUISITES
Outcomes (Specific objectives)	1. Diagnosis, control and monitoring of priority diseases (including zoonoses) enhanced	N. of National control programmes for priority diseases drafted/updated N. of new outbreaks detected in the involved Regions/Countries N. of Countries adopting/implementing WOAHA International Standards N. of countries with preparedness and response plans for endemic and emerging diseases	WOAHA Member Country Annual Progress Reports Reports from meetings and expert missions Feedback from PVS Pathway Activities Official notification through WAHIS recognition, etc. Tools used by National Veterinary Services to carry out surveillance Country reports National preparedness and response Plans Report on the current implementation of AW WOAHA Standards in African countries	Countries show policy commitment to disease prevention and control and transparency in disease notification Government and local authorities continue to support the intervention and facilitate implementation of the project activities Local contexts facilitate the implementation of the planned activities Changes in livestock movement pathways, increased demand for and consumption of meat, on-going and new regional and global crises (e.g., human health pandemics, climate change, economic dynamics) in the Region do not exceed member countries capacity to deal with the effects on disease prevention and control
	2. Surveillance systems of ERFAN targeted diseases improved	Presence of disease reporting systems at national level in the involved Countries Average time for immediate notification to WOAHA	WOAHA Member Country Annual Progress Reports Reports from meetings and expert missions Feedback from PVS Pathway Activities Official notification through WAHIS recognition, etc.	Sufficient financial and human resources support from national budgets, partners and donor countries Stakeholders working in the livestock sector and value chains are willing to report suspected outbreaks and to provide samples in a timely way for investigation Official cross-border procedures and protocols can overcome the factors driving

	N. of joint or collaborative activities implemented <u>among partners</u> to enhance disease control N. epidemiological maps developed Common surveillance strategies elaborated N. African countries adopting Sam4dpm (Self-assessment and monitoring for dog population management)	Tools used by National Veterinary Services to carry out surveillance Country reports National preparedness and response Plans Project reports Sam4dpm reports	unofficial cross-border trade in animals and animal products Key partners and donors continue collaborations with the project
3. Continued cooperation after the conclusion of Twinning project promoted	N. of meetings implemented annually N. of collaborations and initiatives at bilateral and regional level established N. of national experts included in international meetings, projects and activities Networks and forums active for interactions and exchange of information within the research community (no. institutions, no. themes, no. meetings, no. participants)	WOAH Member Country Annual Progress Reports Reports from meetings and expert missions Feedback from PVS Pathway Activities Official notification through WAHIS recognition, etc. Tools used by National Veterinary Services to carry out surveillance Country reports National preparedness and response Plans Project reports	

Outputs (Results)	1. Human and animal health and animal welfare improved and socio-economic impact of certain diseases (mainly zoonoses) reduced	Average animal morbidity rate Average animal mortality rate Percentage of Zoonoses/Total infectious diseases Livestock production Livestock productivity	FAO reports World Animal Health Information System (WAHIS)	
	2. Early detection and preparedness/rapid response improved	N. training activities conducted N. technicians trained N. beneficiary countries involved N. training hours/ days N. training toolkits distributed N. relevant pathogens identified N. data collected and analysed N. sources of zoonotic agents in animals, food, feed and humans found N. of prevention and control plans endorsed by the relevant ministry and with funding commitment Ad hoc consultancy to set up diagnostic methods consistent with the WOAHA Manual requirements established N. Standard Operating Procedures (SOPs) for research and identification of the microorganisms developed/shared/applied N. Test methods validated according to WOAHA standards applied	Training reports Lists of presence Training agendas Training packages Laboratory reports Project reports Surveillance reports	

		N. Proficiency tests organised N. simulation exercises organised N. scientific protocols and procedures developed N. national guidelines for surveillance/control published N. validated national workplans and regional operational plans N. surveillance reports published Percentage of reported outbreaks with full investigation		
	3. Sustainability of the cooperation between Reference Laboratories, Collaborating Centres and Poles of Excellence in the medium-long term enhanced	N. new applications as WOAHC/reference lab N. institutions recognised as WOAHC/reference lab N. of small scale projects funded N. of international projects involving ERFAN partners submitted and funded	Project reports WOAH reports and Resolutions	

Partners and Project Team

The project partnership in a nutshell

This initiative has been promoted by six Italian Istituti Zooprofilattici Sperimentali (IIZZSS):

- Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise (IZSAM) – Leading partner
- Istituto Zooprofilattico Sperimentale del Mezzogiorno (IZSM)
- Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata (IZSPB)
- Istituto Zooprofilattico Sperimentale della Sicilia (IZSSI)
- Istituto Zooprofilattico Sperimentale Del Piemonte-Liguria-Valle D'Aosta (IZSPLV)
- Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna (IZSLER)

The above mentioned public veterinary research institutes are part of a network of excellence under the Italian Ministry of Health, supporting animal and human health. In close coordination with regional Veterinary Services and health authorities, the IIZZSS provide research, diagnostics, surveillance, and capacity building on animal health and welfare and food safety in the One Health perspective, meeting EU legal requirements and International Standards.

The table below illustrate in detail the National Reference Centres and Laboratories, as well as the WOA, EU and FAO Collaborating Centres and Reference Laboratories hosted by each involved IZS:

IZS	National Reference Centres and Laboratories	WOAH Collaborating Centres and Reference Laboratories	Other EU and international Collaborating Centres and Reference Laboratories
Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise (IZSAM)	National Reference Centre (NRC) for: • Study and verification of Foreign Animal Diseases (CESME) • Veterinary Epidemiology, Programming, Information and Risk Analysis (COVEPI) • National Animal Identification and Registration (CSN) • Brucellosis • Urban Hygiene and Non-Epidemic Emergencies (IUVENE) • Whole Genome Sequencing of microbial pathogens: database and bioinformatics analysis National Reference Laboratory (NRL) for: • <i>Listeria monocytogenes</i> • <i>Campylobacter</i>	WOAH Collaborating Centre (CC) for: • Veterinary Training and Capacity Building • Epidemiology, Modelling and Surveillance • Animal Production Food Safety Multinational WOA Collaborating Centre for Animal Welfare WOAH Reference Laboratory (RL) for: • Brucellosis • Bluetongue • Contagious Bovine Pleuropneumonia (CBPP) • West Nile Fever	EU Reference Laboratory (RL) for Rift Valley Fever European Reference Centre for the welfare of ruminants and equines (EURCAW Ruminants and Equines) FAO Reference Centre (RC) for: • Veterinarian Epidemiology • Zoonotic Coronaviruses (with IZS-Venezie) • One Health • Animal Health and Food Safety

	• Halogenated Persistent Organic Pollutants in Feed and Food		
Istituto Zooprofilattico Sperimentale del Mezzogiorno (IZSM)	National Reference Centre (NRC) for: • Analysis and Study of the Correlation between Environment, Animal and Human • Hygiene and Technologies of Water Buffalo Farming and Productions		
Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata (IZSPB)	National Reference Centre (NRC) for: • Anthrax • Radioactivity Research in the Veterinary Livestock Sector National Reference Laboratory (NRL) for: • Treatment of Food and Food Ingredients with Ionising Radiation		
Istituto Zooprofilattico Sperimentale della Sicilia (IZSSI)	National Reference Centre (NRC) for: • Anaplasma, Babesia, Rickettsia, Theileria • Leishmaniasis • Toxoplasmosis • Anisakiasis • Welfare, Monitoring and Diagnosis of Sea Turtle Diseases	WOAH Reference Laboratory (RL) for: • Babesiosis • Contagious agalactia • Leishmaniosis • Theileriosis	
Istituto Zooprofilattico Sperimentale Del Piemonte-Liguria-Valle D'Aosta (IZSPLV)	National Reference Centre (NRC) for: • Diagnostic Activities in Stranded Marine Mammals • Detection in food of substances and products that cause allergies or intolerances. • Biological Investigations on Animal Anabolic Agents (CIBA) • Veterinary and Comparative Oncology (CEROVEC) • Diseases of Wild Animals (CeRMAS) • Study and Research on Animal Encephalopathies and Comparative Neuropathologies (CEA) • Surveillance and Control of Foodstuffs for Animals (C.Re.A.A.)	WOAH Reference Laboratory (RL) for: • Bovine spongiform encephalopathy • Scrapie WOAH Collaborating center for the Health of Marine Mammals	EU Reference Laboratory (RL) for Transmissible Spongiform Encephalopathies

	National Reference Laboratory (NRL) for: • CPS North Ireland • Coagulase-positive staphylococci including <i>S.aureus</i> • Animal proteins in feed • Additives used in animal feed • Metals and nitrogen compounds in animal feed • Pesticides in cereals and animal feed		
Istituto Zooprofilattico Sperimentale della Lombardia ed Emilia Romagna (IZSLER)	National Reference Centre (NRC) for: • Vesicular Disease (CERVES) • Leptospirosis • Chlamydiosis (CRenClA) • Aujeszky's-disease • Animal welfare • Education in veterinary public health • Alternative methods, welfare and care of laboratory animals • Bovine tuberculosis (M. bovis) • Tularaemia • Viral diseases of lagomorphs • Quality of bovine milk • Paratuberculosis • emerging risks in food safety National Reference Laboratory (NRL) for: • Foot and Mouth Disease • Bovine tuberculosis (M. bovis)	WOAH Reference Laboratory (RL) for: • Foot and Mouth Disease • Swine vesicular disease • Rabbit Haemorrhagic Disease • Swine Influenza • Myxomatosis of rabbits • Paratuberculosis • Collaborative centre WOAHA for Veterinary Biologicals Biobank	FAO Reference Centre (RC) for: • Foot and Mouth Disease and Swine Vesicular Disease

IZSAM - Leading partner

Since 1991, IZSAM has been active in Africa, in particular with the CESME activities to study exotic diseases in domestic and wild animals, which do not occur in Italy. This has brought about collaboration between Italy and several African Institutions, such as National Laboratories and Veterinary Faculties.

Since 2017 these long-term collaborations has led to a dialogue between IZSAM, the other IIZZSS and WOAHA which culminated with the creation of the ERFAN formally launched in 2019, with IZSAM as the leading partner, reaffirmed in its current project proposal.

Project team

Team leader (TL)



Alessandro Ripani

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Role and responsibilities

The Project leader is designed to be Alessandro Ripani from the leading partner IZSAM; he will be the interface with WOAHA and the ERFAN partners for monitoring both the scientific activities and financial progresses. He will chair the Scientific Committee and the Steering Committee. With the support of ERFAN Secretariat, he will ensure the execution of administrative, legal and financial tasks, as well as the internal and external communication activities and the liaison activities to further enhance cooperation opportunities. Annex 3 illustrates more in detail the governance of the project.

Short profile

DVM, currently appointed as "Responsible for the International Activities" and Head of the National Reference Centre for Urban Hygiene and Non-Epidemic Emergencies (IUVENTE) at IZSAM, where he has been employed since 2002.

From 2002 to 2008, his work focused on:

- operating in the IZSAM Hygiene Laboratory, where he performed analyses to detect and identify pathogenic microorganisms in food, alongside participating in research projects and epidemiological investigations for food- or water-borne pathogen outbreaks;
- engaging in activities at the National Reference Centre for Veterinary Epidemiology, Programming, Information and Risk Analysis.

In 2008, he was seconded to the World Organisation for Animal Health (WOAH), contributing in various capacities:

- 2008-10: WOAH Animal Health Information Department, collaborating to promote global transparency on animal diseases through the World Animal Health Information System (WAHIS);
- 2010–13: WOAH Scientific and Technical Department, primarily on the issues relating to the official recognition of diseases status for diseases critical to international trade, such as AHS, BSE, CBPP, CSF, FMD, and PPR.
- 2014–22: After a period back in Teramo to work in the International Projects Department, Chargé de mission at the WOAH Sub-Regional Representation for North Africa in Tunis, focusing on strengthening and harmonising animal disease surveillance and control in the sub-region, also by providing adapted local services to WOAH Member Countries in the sub-region.

In the course of his professional career, Alessandro has had the opportunity to establish strong relationships in the field of development cooperation and collaborative research initiatives, particularly in the context of the African region.

Partners' Representatives



Claudio De Martinis

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Claudio De Martinis is Head of the Exotic and Vector-borne Diseases - Virology Unit and responsible for cooperation and international relations activities at the Istituto Zooprofilattico Sperimentale del Mezzogiorno.

He holds a degree in Veterinary Medicine, with a specialisation in Physiopathology of the Reproductive System in Domestic Animals, and a PhD in Infectious Diseases in Veterinary Medicine and Animal Production from the University of Naples Federico II.

Since 2013 he has been Honorary Fellow in 'Infectious Disease Prophylaxis and Veterinary Police'. He is professionally qualified as health director and unit manager of regional health bodies through master training with Foromez Campania Region.



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Domenico Galante is Veterinary Director of the Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata, based in Foggia, which is also the Italian National Reference Centre for Anthrax. His professional activity is mainly based on the diagnosis of infectious diseases in the context of Animal Health and of highly pathogenic bacteria, in particular *Bacillus anthracis*, as well as other zoonotic agents. He is also experienced on the production of the Sterne vaccine against anthrax, of stabulogenic vaccines and on the area of MALDI-TOF mass spectrometry. He has participated as coordinator and/or operational unit in various research and cooperation projects at national and international level, also carrying out training activities. He is co-author of over 45 articles published on peer reviewed international journals with impact factor, of numerous scientific contributions at national and international congresses, and is referee for many scientific journals.

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Guido Ruggero Loria is Director of the Specialised Diagnostic Unit of the Istituto Zooprofilattico Sperimentale della Sicilia, where he also works as Head of the WOAHP Reference Laboratory for Contagious agalactia and as a Resident Technical Advisor for STOR - REMESA Scientific Technical Office. He holds a degree in Veterinary Medicine (University of Messina) with a specialisation in Avian Pathology and Technology (University of Naples) and a PhD in Life Science (at King's College, London). He is a member of the Italian Ministry of Health's working group for the development of legislation to implement Regulation (EU) 2016/429 of the European Parliament and of the Council of 9 March 2016 on transmissible animal diseases and amending and repealing certain acts in the area of animal health ('Animal Health Law').

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Cristina Casalone graduated in Veterinary Medicine at the University of Turin. She is head of the laboratory of Neuropathology at the Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta. She is head of two WOAHP Reference Laboratories (for BSE and Scrapie) and the WOAHP Collaborating Centre for the Health of Marine Mammals. From 2009 to 2018 she was head of the Department of Neuroscience with annexed the National Reference Centre for Animal Encephalopathies (CEA). From 2021 to 2024, she was Scientific Director of the Scientific & Technical Office REMESA (STOR) for international cooperation in the Mediterranean area.

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Tiziana Trogu graduated in Veterinary Medicine at the University of Milan, where she later obtained a doctorate in Veterinary Hygiene and Public Health, and a specialization in Technology and Pathology of Poultry, Rabbit and Game Species. After two fellowships in the department of virology, she has been working at the National Reference Center for Vesicular Diseases since 2022.

Members of the ERFAN Secretariat



Chiara Albanello

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Chiara Albanello is a senior professional with dual honors degrees in Education Sciences and Public Management, as well as an MBA from University of Bologna.

Currently Project Officer at the IZSAM Project Development and Management Centre, she specialises in developing and carrying complex projects focused on innovation and capacity building.

Her career includes roles such as Senior Project Manager for EU-funded initiatives, Coordinator of an Innovation Pole for Social Innovation, and Head of EU Funding Project Area for SME innovation in Emilia-Romagna. With extensive experience in training, she has contributed to international projects and was appointed as Event Manager for the Better Training for Safer Food Programme. Fluent in English, she contributed in accrediting the IZSAM International Centre for Veterinary Training and Information (CIFIV) to ISO 9001:2015 standards and integrates risk-based approaches, such as FMEA, into her work, covering also the role of Quality Manager in multiple EU Projects.



Annalisa Falconi

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Research project collaborator at CIFIV, Annalisa Falconi got a Bachelor's degree with honours in Linguistic Mediation and Intercultural Communication, and a Master's degree in Languages and Cultures for the International Communication and Cooperation. She has been working at IZS Teramo Training and Project Management Unit since April 2017. She is actively participating in the organisation, delivering and evaluation of national and international projects - both traditional and eLearning - funded by the EU Commission, the Italian Ministry of Health and other donors, mainly focused on animal health, animal welfare and food safety. She has been working as Event Manager in many of the "Better Training for Safer Food (BTSF)" training courses implemented by IZSAM. Currently she is mainly in charge of managing the communication and dissemination activities linked to the ICRAD Project and the European Partnership on Animal Health and Welfare (EUPAHW). She speaks Italian, English, French and Spanish.

**Francesca Pompei**

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Project officer at the IZSAM Project development and management Centre, Francesca Pompei has a good experience in planning and managing international projects, mainly funded by the European Commission. She has been working as Event Manager in most of the "Better Training for Safer Food (BTSF)" training courses implemented by IZSAM and has participated, as expert trainer/capacity building manager, in missions abroad. She has been also tutor in several traditional and eLearning courses.

From 2002 to 2011, she worked in Italy and abroad for non-governmental cooperation, being in charge of the implementation and monitoring of development projects in training and social sectors.

She speaks Italian, English, French and Spanish.

**Stefania Silvestri**

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Stefania Silvestri works at the IZSAM Project Development and Management Centre. She has a long experience in project and public funds management, coordination of working groups, promotion of the territory and planning of sustainable development policies. She has also worked for many years as a teacher in the fields of communication, learning methods and business organisation. In recent years, she has mainly worked in the administrative management of projects.

Beneficiaries and Geographical scope

In line with its founding principles, ERFAN is dedicated to fostering scientific collaboration between Italy and Africa. During the first cycle of activities, ERFAN steadily expanded its network of partners, growing from **15** institutions in **2016** to **38** in **2025**. Today ERFANs includes **31** African veterinary institutions (**17** from Northern Africa, **14** from Southern Africa) and **7** Italian institutions, representing a total of **20 countries**.

Based on previous and parallel research and collaboration activities undertaken by the partners on priority diseases, common interests and specific activities that could benefit from the ERFAN network were identified. Once these arrangements had been defined, each member of the network signed a **Letter of Agreement (LoA)** with the ERFAN Secretariat.

To streamline collaboration, particularly in terms of logistics, language, and epidemiological priorities, the African partners were grouped into Northern and Southern regions (See *Figure 2*). This regional classification will guide the organisation of General Meetings and Working Groups, though activities may also involve both regions, depending on specific collaboration, research and capacity building interests. Each African and Italian institution can participate in the working groups through a designated delegate. Each working group is, when applicable, co-led by two coordinators, one representing the African side and the other the Italian side. Detailed tasks are described in “Working Group” section.

During the ERFAN II project design, several interesting opportunities for collaboration with additional new partners were identified. The most advanced in terms of feasibility have already been included, supported by specific *Letters of Intent*, with the aim of creating the basis for signing the LoA upon the project approval.

The list of partners and candidates, classified per Region and Country, is detailed as follows:

Northern African partners

Algeria

1. Laboratoire Central Vétérinaire d'Alger, Institut National de la Médecine Vétérinaire (INMV)
2. Institut des Sciences Vétérinaires, Université Saâd Dahlab de Blida
3. Ecole normale supérieure d'Ouargla

Egypt

4. Faculty of Veterinary Medicine, Cairo University

Ethiopia

5. Animal Health Institute (AHI)

Libya

6. National Centre for Animal Health (NCAH)
7. Faculty of Veterinary Medicine, University of Tripoli
8. National Research Center for Tropical and Transboundary Diseases (NRCTTD)

Mauritania

9. Office National de Recherches et de Développement de l'Élevage et du Pastoralisme (ONARDEP)

Morocco

- 10. Laboratoire Régional d'analyses et de recherches de Rabat
- 11. Institut Agronomique et Vétérinaire (IAV) Hassan II

Senegal

- 12. Laboratoire National de l'Elevage et des Recherches Vétérinaires (LNERV)

Somalia

- 13. Benadir University
- 14. Central Veterinary Laboratory

Sudan

- 15. Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)

Tunisia

- 16. Institut de la Recherche Vétérinaire de Tunisie (IRVT)
- 17. Ecole Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV)

Southern African partners

Angola

- 18. Instituto de Investigação Veterinária (IIV)

Botswana

- 19. Botswana National Veterinary Laboratory (BNVL)

Lesotho

- 20. Department of Livestock Services, Central Veterinary Laboratory, Maseru

Namibia

- 21. Central Veterinary Laboratory (CVL)
- 22. Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)

Republic of South Africa

- 23. Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR)
- 24. Faculty of Veterinary Science, University of Pretoria (UP)
- 25. Jembi Health Systems

Tanzania

- 26. Tanzania Veterinary Laboratory Agency (TVLA)

Mozambique

- 27. Laboratório Central de Veterinária, Instituto de Investigação Agrária de Moçambique (IIAM)
- 28. Centro de Biotecnologia, Universidade Eduardo Mondlane (CB-UEM)

Zambia

29. Central Veterinary Research Institute (CVRI)

Zimbabwe

30. Central Veterinary Laboratory (CVL)

31. Faculty of Veterinary Science, University of Zimbabwe

Identification of risks during implementation of the project and measures to overcome the risks

Managing risks through ongoing identification, assessment, and mitigation is a continuous process: every time a new risk is identified, it must be addressed. The IZSAM International Relations and Training Department is certified as compliant to the **ISO 9001:2015**. This means that, in particular, the Project Development and Management Unit that belongs to it, will manage this project in accordance with a "**risk-based thinking**" approach.

Incorporating risk management from the outset will enable **potential risks** to be predicted and monitored, and appropriate **mitigation measures** to be planned if necessary. Throughout the implementation of the project, the ERFAN Secretariat will regularly assess risks in different areas in order to react quickly according to the risk matrix outlined below. This matrix includes identified risks, their probability levels and corresponding mitigation measures, thus helping to anticipate risks and implement control measures effectively.

Risk No	Risk	WP/s involved	Probability	Impact	Mitigation strategies
1	Lack of coordination within the ERFAN organisational structure	WP1	Low	High	Robust quality, risk and project management procedures based on clear roles, defined responsibilities and structured workflows in place ensuring assignments are carried out effectively, supported by strong supervision of the Project Leader to ensure timely implementation of solutions/negotiations needed. WP1 sets up an effective internal coordination mechanism to ensure that partners carry out the activities according to the GANTT Chart and deliver the outputs on time. In case of motivated delays back-up measures are adopted.
2	Lack of communication within ERFAN Network	WP1	Low	Medium	WP1 coordinates an internal communication mechanism to ensure that partners and network members are constantly and promptly informed about activities and outcomes. A share point is adopted and customised for this scope and jointly used by the parties as virtual cooperation environment. Furthermore, web-based coordination meetings will be organised for internal communication purposes. Minutes and reports always circulate for transparency.
3	Unexpected unavailability of key personnel	WP1, WP2, WP3	Medium	Medium	ERFAN Project backup policy: each assigned position has at least one backup person. In addition, a pool of "Support Staff" assists the different positions and ensure immediate backup in case of emergency. Ongoing recruitment process of new personnel. In case of unexpected leave, the project leader will receive prompt information and proposal for solution of equivalent skills/experience. Handover notes are prepared to facilitate smooth knowledge transfer between team members, ensuring continuity and minimising disruptions.
4	Political instability and turnover of	WP1, WP2, WP3	Low	High	Close cooperation with government authorities for a prompt and immediate reorganisation of

	local government representatives				activities in accordance with the recommendations of the Ministry of Foreign Affairs.
5	Limited stakeholders' engagement	WP1, WP2, WP3	Low	High	Close cooperation with stakeholders mapped since the early project stage, direct and continuous involvement also thanks to the participation of CVOs in Regional and General Meetings, regular updates through multiple communication channels to inform about project achievements.
6	Travel restrictions	WP1, WP2, WP3	Medium	High	Project partners have adapted to remote collaboration, allowing most events and trainings to be conducted virtually when needed. If in-person meetings or training sessions are impacted, adjustments such as rescheduling or reallocation of resources will be considered. In cases of security concerns, local ERFAN members will be engaged early in the planning process to assess and address specific security conditions in the affected region.
7	Overlapping of activities requiring the same personnel and/or involving the same organisations	WP1, WP2	Medium	Low	Prior coordination within the Scientific Committee and rescheduling of staff workload and/or calendar of activities. All possible synergies will be explored and promoted in order to maximise the benefits of intersecting activities rather than suffer from duplications.
8	Delays in the project progress, in reporting, or over/under-spending resources	WP1	Low	Low	To ensure smooth project flow, periodic reports and dedicated checklists will be employed to monitor activity progress and financial status. This will enable flexible resource reallocation and proactive identification of potential issues.
9	Limited or inadequate laboratory facilities and equipment among ERFAN members.	WP2 Task 1, WP2 Task 3	High	Low	The equipment of most ERFAN members was assessed during the first ERFAN cycle. Diagnostic methods will be adapted to fit local resources whenever possible. Additionally, ERFAN-designated Poles of Excellence will provide support as needed, and, if necessary, samples may be sent to Italy for analysis as a final option.
10	Insufficient or inadequate consumable in involved ERFAN members	WP2 Task 1, WP2 Task 3	High	Low	Working Group budgets already allocated resources to ensure that necessary consumables will be available to perform planned tests and analyses effectively.
11	High turnover of both technical and administrative staff trained during the first or second phase of the ERFAN project.	WP2 Task 2	Medium	Low	Training activities will always include the preparation of handover materials, such as training toolkits for cascade training, video tutorials, asynchronous e-learning courses, etc.
12	Difficulties in identifying targets for training, both at technical and administrative level	WP2 Task 2	Medium	Low	Preliminary learning needs analysis and audience mapping are planned
13	Lack of partners/companies/universities	WP2 Task 3	Medium	Medium	Check for additional funding. Refocusing of activities according to the priorities defined by the WG leaders

	willing to co-fund PhDs and/or Small Scale Research projects				
14	Limited competitiveness of proposals (PhDs, SSR Projects, ...) to co-finance	WP2 Task 3	Medium	Medium	Organisation of workshops and mentoring actions to improve the quality of proposals and to facilitate dialogue within the scientific community and the academia.

Annex 1 - Gantt Chart



Project ERFAN “Enhancing Research for Africa Network” – II Cycle Activity

WP / TASK No	Title	Start	Duration (days)	End	Budget 2025-27	2025												2026												2027																							
						I				II				III				IV				I				II				III				IV				I				II				III				IV			
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
1	Project Management	01/01/2025	1095	31/12/2027	461.294,00 €																																																
1.1	Strategic and operational management	01/01/2025	1095	31/12/2027	34.269,83 €																																																
1.2	Financial and administrative management	01/01/2025	1095	31/12/2027	10.269,83 €																																																
1.3	Working Groups Coordination	01/02/2025	1033	31/11/2027	34.269,83 €																																																
1.4	Stakeholder Engagement (incl. General Meetings)	01/02/2025	1033	31/11/2027	382.484,53 €																																																
2	WGs activities	01/01/2025	1095	31/12/2027	1.225.960,00 €																																																
2.1	WG AW - Work Plan	01/02/2025	970	31/11/2027	61.200,00 €																																																
2.2	WG Anthrax - Work Plan	01/02/2025	970	31/11/2027	233.350,00 €																																																
2.3	WG Bovine Tuberculosis - Work Plan	01/02/2025	970	31/11/2027	244.650,00 €																																																
2.4	WG Brucellosis - Work Plan	01/02/25	970	31/11/2027	70.000,00 €																																																
2.5	WG Mycoplasmoses/AMR - Work Plan	01/02/25	970	31/11/2027	147.300,00 €																																																
2.6	WG CBPP - Work Plan	01/02/25	970	31/11/2027	100.885,00 €																																																
2.7	WG TSE - Work Plan	01/02/25	970	31/11/2027	114.200,00 €																																																
2.8	WG Food hygiene - Work Plan	01/02/25	970	31/11/2027	41.575,00 €																																																
2.9	WG VBD/RVF - Work Plan	01/02/25	970	31/11/2027	10.000,00 €																																																
2.10	WG Foot-and-mouth disease - Work Plan	01/02/25	970	31/11/2027	202.800,00 €																																																
3	Communication and Dissemination	01/01/2025	1095	31/12/2027	26.000,00 €																																																
3.1	Management of internal communication	01/01/2025	1095	31/12/2027	4.000,00 €																																																
3.2	Development of CDP	01/01/2025	120	30/04/2025																																																	
3.3	Digital presence	01/03/2025	1036	31/12/2027	14.000,00 €																																																
3.4	Development of communication materials and event support	01/01/2025	365	31/12/2027	8.000,00 €																																																
3.5	Monitoring and evaluation of communication activities	01/01/2025	272	31/12/2027																																																	

1.713.254,00 €

Annex 2 - Detailed budget



Budget distribution per partner

Budget	IZSAM	IZSTO	IZSPB	IZSS	IZSM	IZSLER	TOTAL
Staff	48.000,00 €				87.300,00 €	42.000,00 €	177.300,00 €
Meetings	241.260,70 €	57.750,00 €	56.650,00 €	25.600,00 €	34.100,00 €	10.454,00 €	425.814,70 €
Training	83.660,00 €	20.400,00 €	55.500,00 €	39.300,00 €	47.800,00 €	30.800,00 €	277.460,00 €
Small Scale Research Projects, PhDs, Fellowships	140.000,00 €	43.000,00 €	119.000,00 €	61.300,00 €	80.650,00 €	25.000,00 €	468.950,00 €
Consumables (including reagents), Shipments	60.000,00 €	18.850,00 €	58.850,00 €	33.800,00 €	20.150,00 €	105.000,00 €	296.650,00 €
Communication and Dissemination	26.000,00 €						26.000,00 €
Overheads	41.079,30 €						41.079,30 €
TOTAL	640.000,00 €	140.000,00 €	290.000,00 €	160.000,00 €	270.000,00 €	213.254,00 €	1.713.254,00 €

Note: the expenditure forecast may be subject to change, in particular costs for airline tickets and accommodation

Annex 3 – Governance of the project and Work Packages description

The organisational structure of ERFAN is designed to manage a complex and interconnected network in which cooperation activities are carried out in parallel, involve several countries and establish horizontal and vertical linkages. This structure aims to optimise resources, prevent duplication and redundancy, and ensure the timely exchange of information. It also aims to monitor and promote the continuous exchange of information among ERFAN partners and the Veterinary Services (VS) of participating countries, with the goal of defining strategies to maximise the impact of ERFAN results.

Involved IIZZSS will co-lead Working Groups based on their areas of expertise and their roles as National and WOAHA Reference Centres/Laboratories. Horizontal cooperation is maintained through the common participation in the Scientific Committee.

Figure 4 illustrates the organisational structure of the ERFAN Network.



Figure 4. ERFAN II Organisational Structure

Its articulation and related roles are detailed as follows:

- **Steering Committee (SteeC):**

The Steering Committee consists of WOAHA Representatives, Partners' Representatives, Chief Veterinary Officers (CVOs) from ERFAN countries, and the Project Leader. It convenes in person at least during the Regional Meetings (Kick-off) and the Final Meeting. Other meetings will be organised online when necessary. Its role is to provide strategic direction and monitor progress, with a focus on ensuring that key issues identified in Veterinary Public Health (VPH) within African Partner Countries guide the activities of ERFAN Working Groups. Simultaneously, it aims to ensure that the project's advancements can be implemented in relevant countries, fostering mutual trust.

- **Scientific Committee (SciC):**

The Scientific Committee is composed of the Working Group Coordinators and the Project Leader. It acts as the primary scientific management body, ensuring that the activities and projects meet scientific standards and promoting potential synergies between the activities of the different WGs, as well as further projects having interconnected research interests.

Main duties and responsibilities are:

- Identifying local research and development needs in the veterinary field.
- Ensuring the scientific value of the Working Groups' activities.
- Promoting meetings and fostering networking with local scientific organisations and relevant stakeholders.
- Evaluating scientific projects and small scale research projects proposals and outcomes.
- Encouraging and proposing applications for international grants.
- Creating synergies with other networks and projects.
- Assessing each WG's action plans and reports on activities.
- Approving the involvement of other institutions in the project, upon request of the ERFAN secretariat.

- **Advisory Board (AB):**

The Advisory Board is a consultation body composed by the ERFAN II relevant stakeholders not involved in the Steering Committee (e.g. international organisations and agencies, research performing organisations and their stable consortia, professional organisations, industry and farmers' associations, foundations, and NGOs). It offers guidance to address the Steering Committee, supporting the identification of specific needs or gaps to fill-in and further opportunities and collaborations, in accordance with the One Health approach. It convenes remotely twice a year and, in person, at the Final meetings. The AB accesses reports and project information via a shared workspace on the ERFAN website.

- **ERFAN Secretariat (ES):**

Established at IZSAM to work as technical and administrative body of the ERFAN Network, the Secretariat, led by the Project Leader, manages day-to-day operations and communication between different committees and working groups, supporting at the same time the implementation of the network's policies. Its primary tasks involve coordination, training and communication. It also acts as a liaison between different stakeholders to ensure project outputs and outcomes dissemination.

Moreover, the Secretariat works closely with the Working Groups to ensure excellence and continuous improvement in scientific research.

Main duties and responsibilities include:

- Coordinating with local staff to ensure the effectiveness of regional and general meetings.
- Organising logistics and infrastructure for these meetings in collaboration with local support.
- Supporting partners providing them with the necessary information and assistance for effective project implementation from a technical, administrative and financial perspective.
- Plan and coordinate capacity building activities.
- Plan and coordinate communication and dissemination activities.
- Supporting Working Groups coordinators in preparing technical and financial reports on their activities.
- Building and maintaining relationships with partners to support the Working Groups and achieve ERFAN's objectives.
- Compiling background data, documentation, and research summaries.
- Collecting data on research projects.
- Establishing and maintaining contact with stakeholders, while actively seeking opportunities for joint activities and promoting them within the Network.

- **Working Groups (WGs):**

The Working Groups established during the previous five-year period, which have gradually expanded in number, will continue their activities with the objective of making progress along the three pillars.

This continuity is further supported by the African and Italian partners who have gradually joined the working groups during ERFAN I and have remained involved. Additionally, new members may be admitted as activities evolve.

Each Working Group is co-led by one or more coordinators both from Italian and African sides. At the start of the project, WG coordinators from either Northern or African countries will be appointed if they have not already been designated during the first ERFAN cycle.

Financial management of each working group is overseen by the Italian coordinator, while all other activities are jointly coordinated by both Italian and African leaders, playing a crucial role in fostering a productive and engaged group. Their key responsibilities include:

- Proposing WG strategies (scientific, technical, communicative, and financial) to support ERFAN’s objectives.
- Coordinating the WGs Activity plan drafting and implementation, along the three Pillars.
- Reporting on the activities carried out.
- Maintaining stable cooperation with WOA Reference Laboratories and Collaborating Centres.
- Proposing ideas and concept notes for further developments and possible international funding opportunities.

The ERFAN II Working Groups are listed below:

WGs NORTHERN AFRICA	WGs SOUTHERN AFRICA	ITALIAN COORDINATOR	NORTHERN AFRICA COORDINATOR	SOUTHERN AFRICA COORDINATOR
“Bien-être des animaux”	“Animal Welfare”	IZSAM	Only one group* ENMV (Tunisia) UP (South Africa)	
“UNE SEULE SANTE”: Fièvre charbonneuse	“ONE HEALTH”: Anthrax	IZSPB	AHI (Ethiopia)	UP (South Africa)
“UNE SEULE SANTE”: Tuberculose bovine	“ONE HEALTH”: Bovine Tuberculosis	IZSM	IAV Hassan II (Morocco)	ARC-OVR (South Africa)
“UNE SEULE SANTE”: Brucelloses	“ONE HEALTH”: Brucellosis	IZSAM	DGSV (Tunisia)	CVL (Zimbabwe)
"Mycoplasmoses des petits ruminants et RAM"	"Animal Mycoplasmoses and AMR"	IZSSI	TBD	BNVL (Botswana)
"Péripleurmonie contagieuse bovine"***	"Contagious bovine pleuropneumonia"***	IZSAM	TBD	BNVL (Botswana)
"UNE SEULE SANTE": Encéphalopathies spongiformes transmissibles	“ONE HEALTH”: Transmissible Spongiform Encephalopathies	IZSPLV	TBD	UNAM (Namibia)
"UNE SEULE SANTE": Sécurité sanitaire des aliments	“ONE HEALTH”: Food hygiene	IZSAM	TBD	CVL (Namibia)
	WG “ONE HEALTH”: Vector borne diseases – RVF***	IZSAM	-	UP (South Africa)

Fièvre aphteuse	Foot-and-mouth disease	IZSLER	TBD	TBD
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Notes:

* The WG “Bien-être des animaux”/“Welfare of Animals” is presented as a single entity with a unified strategy to address the related issues in the Region, although members will participate in Regional Meetings and Sub-activities according to their geographical and priority criteria.

** Based on the results of the first cycle and the work plan for this second cycle, it was considered appropriate to establish separate and dedicated working groups for each of these priority diseases.

*** In light of the optimal cost allocation and the potential for synergies with other WOA projects, the activities planned for the group on "Vector-borne diseases-RVF" in Northern Africa will be continued by the project “Defining Ecoregions and Prototyping on EO-based Vector-borne Disease Surveillance System for North Africa (PROVNA)”. With regard to Southern Africa, the University of Pretoria will assume responsibility for the coordination of scientific activities, while IZSAM will ensure the appropriate allocation of financial resources.

Work Packages Description

ERFAN II has been designed to ensure **continuity** with the previous activity plan, while introducing some **innovative** elements suggested by the evaluation of the significant achievements obtained so far and in view of the **sustainability** of the network in the medium to long term.

It can thus be confirmed that the matrix structure of ERFAN activities, which aims to interrelate **thematic working groups** with **cross-cutting objectives (Pillars)**, has proven to be a successful strategy.

On the one hand, in accordance with the needs and priorities defined by the partners in collaboration with the VS of the countries involved and the WOA (in particular the WOA Sub-Regional Representations for North Africa and Southern Africa), specific objectives have been delineated with a view to contributing to the realisation of ERFAN overarching objective. As detailed above, the activities to be undertaken have been structured into three main Pillars.

Pillar 1: Improving diagnostic capacities through networking activities

Pillar 2: Capacity building through training and technology transfer

Pillar 3: Capacity building through research programs

The aforementioned activities will be, in turn, delineated in accordance with the activity plan of each thematic Working Group, described below in detail.

In addition, the project management, as well as communication and dissemination activities, will be conducted by the Project Leader, with the support of the ERFAN Secretariat. This will be carried out in accordance with the three-year work plan, thus facilitating effective internal and external coordination and enabling the maximisation of the results of ERFAN II.

The diagram outlined in *Figure 5* illustrates the general project architecture.

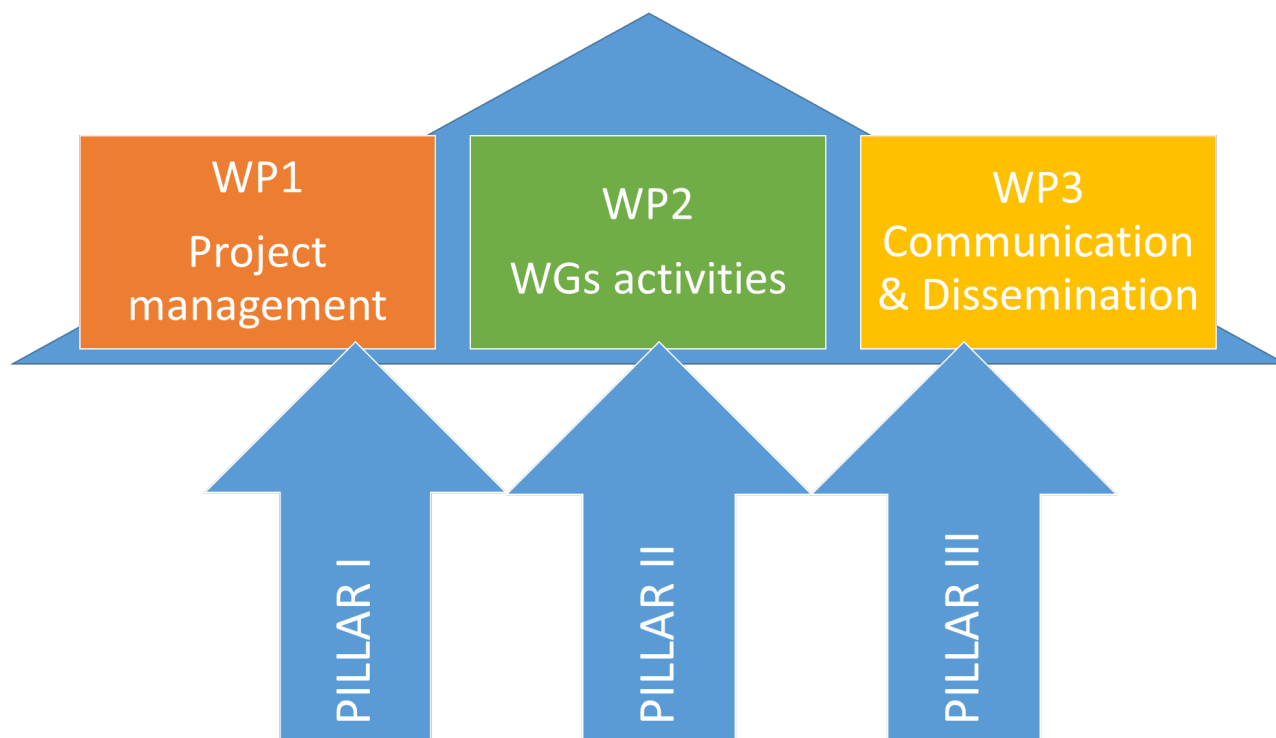


Figure 5. ERFAN II Project architecture

Work Packages Description

WP 1 Project Management

WP1 focuses on overall project coordination and management, favouring the growth of the ERFAN Network and preparing for actions beyond the project lifetime to ensure long-term sustainability.

It relies on three key dimensions:

- Strategic and operational management
- Technical and scientific expertise
- Capacity building and development

The organisational structure, outlined at the beginning of Annex 3, is composed of the following entities: the Steering Committee, Scientific Committee, ERFAN Secretariat, Working Groups, and Advisory Board.

The ERFAN Secretariat, led by the Project Leader, is responsible for coordinating all activities within WP1. In this role, the Secretariat oversees the daily operations of the ERFAN Network while incorporating input from other governing bodies to ensure inclusive and effective management.

Specific objectives

The overall aim is to ensure an efficient and transparent implementation of the project.

The objectives of WP1 are:

- to ensure efficient liaison with the WOA and carry out the contractual obligations regarding legal, financial and administrative management;
- to enable adequate coordination and communication between the different governing bodies and within the project partnership and network;
- to ensure efficient project management and risk assessment related to the project implementation for the achievement of the expected outcomes;
- to support Working Groups activities and maintain close cooperation among their coordinators;
- to promote capacity building and enhance the collaboration between the ERFAN Network and its main stakeholders, with a particular focus on VS Competent Authorities and CVOs.

Tasks

Task No	Task Name	Description	Responsible and participants
T1.1	Strategic and operational management	Development and adoption of a customised application of the PM ² methodology to ensure that the initiative is managed and coordinated in full compliance with the terms of the contract and is in line with the requirements of the WOA and the addresses of the relevant governing bodies.	<u>ERFAN Secretariat</u> , Project partners
T1.2	Financial and administrative management	Application of Standard Operating Procedures already in place at IZSAM for the financial and administrative management of WOA funded projects, in accordance with the legislative framework, the ISO 9001:2015 Standard for effective grant management,	<u>ERFAN Secretariat</u> , Project partners

		and the agreements defined with the project partners.	
T1.3	Working Groups Coordination	Effective coordination among Working Groups to ensure clear objectives and synergy through the regular organisation of Scientific Committee meetings, in person and virtually, as well as internal communication activities.	<u>Scientific Committee</u> , ERFAN Secretariat
T1.4	Stakeholder Engagement	Effective collaboration with stakeholders, in particular with WOA H Representatives and VS Competent Authorities/CVOs, to improve and adapt project activities to the real needs of the ERFAN countries and to ensure an effective implementation on the ground. Regular organisation of Advisory Board meetings, both face-to-face and virtual, as well as internal communication activities.	<u>Advisory Board</u> , ERFAN Secretariat

Expected results

Milestone No	Milestone Name	Description	Due Date (month number)	Deliverables
M1.1	Kick-off Regional Meeting Northern Africa	Organisation of a Kick-off Regional Meeting aimed at starting ERFAN II activities and WGs involving Northern African Countries. All project partners and ERFAN Members of Northern Africa, relevant stakeholders will be invited. Side meetings involving Governing Bodies (Scientific Committee, Steering Committee, and Advisory Board) will be foreseen. This meeting will be held in Tunis (Tunisia).	6	D1.1 Kick-off Regional Meeting Northern Africa – report activity
M1.2	Kick-off Regional Meeting Southern Africa	Organisation of a Kick-off Regional Meeting aimed at starting ERFAN II activities and WGs involving Southern African Countries. All project partners and ERFAN Members of Southern Africa, relevant stakeholders will be invited. Side meetings involving Governing Bodies (Scientific Committee,	6	D1.2 Kick-off Regional Meeting Southern Africa - report activity

		Steering Committee, and Advisory Board) will be foreseen. This meeting will be held in Addis Abeba (Ethiopia).		
M1.3	Year-1 Progress Reporting	A detailed yearly progress report is prepared with inputs of WGs activities and outcomes from Governing Bodies meetings, and complemented by financial reporting.	14	D1.3 Year-1 Progress Report
M1.4	Interim Regional Meeting Northern Africa	Organisation of an Interim Regional Meeting aimed at sharing the intermediate results of ERFAN II activities and WGs involving Northern African Countries. All project partners and ERFAN Members of Northern Africa, relevant stakeholders will be invited. Side meetings involving Governing Bodies (Scientific Committee, Steering Committee, and Advisory Board) will be foreseen. This meeting will be on-line.	20	D1.4 Interim Regional Meeting Northern Africa – report activity
M1.5	Interim Regional Meeting Southern Africa	Organisation of an Interim Regional Meeting aimed at sharing the intermediate results of ERFAN II activities and WGs involving Southern African Countries. All project partners and ERFAN Members of Southern Africa, relevant stakeholders will be invited. Side meetings involving Governing Bodies (Scientific Committee, Steering Committee, and Advisory Board) will be foreseen. This meeting will be on-line.	20	D1.5 Interim Regional Meeting Southern Africa – report activity
M1.6	Year-2 Progress Reporting	A detailed yearly progress report is prepared with inputs of WGs activities and outcomes from Governing Bodies meetings, and	26	D1.6 Year-2 Progress Report

		complemented by financial reporting.		
M1.7	Final General Meeting Italy	Organisation of the Final General Meeting aimed at sharing ERFAN II main outcomes and draw future directions. It will involve all WGs and all project partners and ERFAN Members. Relevant stakeholders will be invited. Side meetings involving Governing Bodies (Scientific Committee, Steering Committee, and Advisory Board) will be foreseen. This meeting will be held in Rome (Italy).	35	D1.7 Final General Meeting – report activity
M1.8	Year-3 Progress Reporting	A detailed yearly progress report is prepared with inputs of WGs activities and outcomes from Governing Bodies meetings, and complemented by financial reporting.	36	D1.8 Year-3 Progress Report
M1.9	Final Reporting	An overall comprehensive report of the main outcomes achieved, as well as strategic recommendations to address future actions.	36	D1.9 Final Report

WP 2 WG Activities

WP2 focuses on the activities of thematic Working Groups (WGs) to address the priority challenges in VS across the involved African partner countries. These activities, group by group, are spread into the three ERFAN pillars:

- Pillar I: Improving diagnostic capacities through networking activities
- Pillar II: Capacity building through training and technology transfer
- Pillar III: Capacity building through research programs

Based on the results achieved during ERFAN I and the needs and priorities that have already emerged, each WG coordinator has already drafted a WG plan to be fine-tuned at the start of the project.

Specific objectives

WP2, transversally to priority diseases, aims to:

- strengthen diagnostic and surveillance systems in participating countries to improve the detection, control, and prevention of priority diseases;
- develop and implement training programs to enhance technical and scientific capacities;
- promote collaborative research projects;
- facilitate knowledge exchange and foster sustainable partnerships between African and Italian institutions;
- ensure integration of WOAHS standards and guidelines.

The following table details the tasks of WP2 by allocating them to each WG and then breaking them down into activities corresponding to the three Pillars.

Tasks

Task No	Task Name	Description/activities*	Responsible and participants
T2.1	WG “Bien-être des animaux”/“Animal Welfare” - Work Plan	<i>Pillar 1</i> A2.1.1 Support for the application for a new WOAHS CC for Animal Welfare A2.1.2 Extension of the WG activities to the Northern African Countries A2.1.3 Updating of the report on the current implementation of AW WOAHS Standards in African countries <i>Pillar 2</i> A2.1.4 Organisation of training activities A2.1.5 Enhancement of the activities of the Tunisian Training Centre for Animal Welfare <i>Pillar 3</i> A2.1.6 Identification of “minigoals” A2.1.7 Definition of 2 Small Scale Research projects	<u>IZSAM</u> ENMV (Tunisia) UP (South Africa) WG Members
T2.2	WG “UNE SEULE SANTE”: Fièvre charbonneuse/“ONE HEALTH”: Anthrax - Work Plan	<i>Pillar 1</i> A2.2.1 Exchange of Standard Operating Procedures (SOPs) A2.2.2 Distribution of reference reagents A2.2.3 Organisation of proficiency tests	<u>IZSPB</u> AHI (Ethiopia) UP (South Africa) WG Members

		<i>Pillar 2</i> A2.2.4 Organisation of training activities	
		<i>Pillar 3</i> A2.2.5 Definition of 3 Small Scale Research projects and funding of 2 fellowships	
T2.3	WG "UNE SEULE SANTE": Tuberculose bovine"/"ONE HEALTH": Bovine Tuberculosis - Work Plan	<i>Pillar 1</i> A2.3.1 Organisation of interlaboratory proficiency tests A2.3.2 Exchange of SOPs	<u>IZSM</u> IAV Hassan II (Morocco) ARC-OVR (South Africa) WG Members
		<i>Pillar 2</i> A2.3.3 Organisation of training activities A2.3.4 Organisation of a Congress on Bovine Tuberculosis	
		<i>Pillar 3</i> A2.3.5 Definition of 2 Small Scale Research projects	
T2.4	WG "UNE SEULE SANTE": Brucelloses"/"ONE HEALTH": Brucellosis - Work Plan	<i>Pillar 1</i> A2.4.1 Maintenance and supply of BioBank for reagents A2.4.2 Organisation of inter-laboratory tests A2.4.3 Organisation of technical meetings	<u>IZSAM</u> DGSV (Tunisia) CVL (Zimbabwe) WG Members
		<i>Pillar 2</i> A2.4.4 Organisation of training activities	
		<i>Pillar 3</i> A2.4.5 Funding of a PhD A2.4.6 Definition of 1 Small Scale Research project	
T2.5	WG "Mycoplasmoses des petits ruminants et RAM"/"Animal Mycoplasmoses and AMR" - Work Plan	<i>Pillar 1</i> A2.5.1 Exchange of SOPs A2.5.2 Organisation of proficiency tests A2.5.2 Organisation of virtual support (the expert answers) for consultancy.	<u>IZSSI</u> BNVL (Botswana) WG Members
		<i>Pillar 2</i> A2.5.3 Organisation of training activities	
		<i>Pillar 3</i> A2.5.4 Definition of 1 Small Scale Research project A2.5.5 Funding of 2 PhD and 2 internships	
T2.6	WG "Péripleumonie contagieuse bovine"/"Contagious bovine pleuropneumonia" - Work Plan	<i>Pillar 1</i> A2.6.1 Organisation of Ring Test A2.6.2 Organisation of WG meetings	<u>IZSAM</u> BNVL (Botswana) WG Members
		<i>Pillar 2</i> A2.6.3 Organisation of training activities	
		<i>Pillar 3</i> A2.6.4 Definition of 1 Small Scale Research project	

T2.7	WG "UNE SEULE SANTE": Encephalopathies spongiformes transmissibles/"ONE HEALTH": Transmissible Spongiform Encephalopathies - Work Plan	<i>Pillar 1</i> A2.7.1 ad hoc consultancy to set up diagnostic methods A2.7.2 Development of guidelines and SOPs A2.7.3 Support in developing or implementing surveillance systems and risk assessment activities A2.7.4 Support in the control of processed animal protein (PAPs). A2.7.5 Organisation of laboratory ring trials	<u>IZSPLV</u> UNAM (Namibia) WG Members
		<i>Pillar 2</i> A2.7.6 Organisation of training activities	
		<i>Pillar 3</i> A2.7.7 Definition of 2 Small Scale Research projects	
T2.8	WG "UNE SEULE SANTE": Sécurité sanitaire des aliments/"ONE HEALTH": Food hygiene - Work Plan	<i>Pillar 1</i> A2.8.1 Support in developing diagnostic tests and procedures A2.8.2 Exchange of SOPs	<u>IZSAM</u> CVL (Namibia) WG Members
		<i>Pillar 2</i> A2.8.3 Organisation of training activities	
		<i>Pillar 3</i> A2.8.4 Definition of 1 Small Scale Research project	
T2.9	WG "ONE HEALTH": Vector borne diseases – RVF - Work Plan	<i>Pillar 1</i> A2.9.1 Organisation of Proficiency Tests A2.9.2 Exchange of SOPs	<u>IZSAM</u> <u>UP (South Africa)</u> WG Members
		<i>Pillar 2</i> A2.9.3 Organisation of training activities	
T2.10	WG "Fièvre aphteuse"/ "Foot-and-Mouth Disease (FMD)" – Work Plan	<i>Pillar 1</i> A2.10.1 Diagnostic support A2.10.2 Distribution of reagents/kits A2.10.3. Exchange of SOPs	<u>IZSLER</u> <u>WG Members</u>
		<i>Pillar 2</i> A2.10.4 Organisation of training activities	
		<i>Pillar 3</i> A2.10.5 Definition of 1 Small Scale Research project	

**Further details on the activities planned are provided in the section "WGs: composition, general description and planned activities"*

Expected results

Milestone No	Milestone Name	Description	Due Date (month number)	Deliverables
M2.1	Network on Animal welfare reinforced	ERFAN network on AW will be reinforced and enlarged through the extension of the WG activities to the Northern African Countries.	36	D2.1.1 Application for a new WOAHC for Animal Welfare
			36	D2.1.2 Updated report on the current implementation of AW WOAHC Standards in African countries
M2.2	Capacities of Veterinary Services to implement Animal welfare enhanced	Capacities of Veterinary Services to implement Animal welfare will be enhanced through training and research activities.	36	D2.2.1 Online training activity implemented
			24	D2.2.2 In presence training activity implemented
			18	D2.2.3 “minigoals” identified
			36	D2.2.4 Two Small Scale Research projects defined
M2.3	Detection and surveillance of Anthrax improved	Detection and surveillance of Anthrax will be improved through networking, training and research activities.	36	D2.3.1 SOPs exchanged
			36	D2.3.2 Reagents distributed
			36	D2.3.3 Proficiency tests organised
			12	D2.3.4 In presence training activity

				implemented in Northern Africa
			12	D2.3.5 In presence training activity implemented in Southern Africa
			12	D2.3.6 Small Scale Research project in Namibia
			24	D2.3.7 Small Scale Research project in Senegal
			36	D2.3.8 Small Scale Research project in Ethiopia
			12	D2.3.9 One fellowship funded
			24	D2.3.10 One fellowship funded
M2.4	Detection and surveillance of Bovine Tuberculosis improved	Detection and surveillance of Bovine Tuberculosis will be improved through networking, training and research activities.	36	D2.4.1 In presence training activities implemented
			36	D2.4.2 Congress on Bovine Tuberculosis organised
			24	D2.4.3 Two Small Scale Research projects defined
M2.5	Detection and surveillance of Brucellosis improved	Detection and surveillance of Brucellosis will be improved through networking, training and research activities.	36	D2.5.1 BioBank for reagents implemented
			36	D2.5.2 Inter-laboratory tests organised

			36	D2.5.3 Technical meetings organised
			36	D2.5.4 Online training activity implemented
			36	D2.5.5 One PhD funded
			24	D2.5.6 1 Small Scale Research project defined
M2.6	Detection and surveillance of Animal Mycoplasmoses and AMR improved	Detection and surveillance of Animal Mycoplasmoses and AMR will be improved through networking, training and research activities.	36	D2.6.1 SOPs exchanged
			36	D2.6.2 Proficiency tests organised
			36	D2.6.3 Virtual support organised
			12	D2.6.4 In presence training activity implemented
			12	D2.6.5 1 Small Scale Research project in Egypt defined
			24	D2.6.6 1 Small Scale Research project in Morocco defined
			24	D2.6.7 Two PhD and two internships funded
M2.7	Detection and surveillance of Contagious bovine	Detection and surveillance of Contagious bovine pleuropneumonia will be improved through	36	D2.7.1 Ring test organised
			36	D2.7.2 Technical meetings organised

	pleuropneumonia improved	networking, training and research activities.	12	D2.7.3 In presence training activity implemented in Senegal
			24	D2.7.4 In presence training activity implemented in Botswana
			24	D2.7.5 1 Small Scale Research project defined
M2.8	Detection and surveillance of Transmissible Spongiform Encephalopathies improved	Detection and surveillance of Transmissible Spongiform Encephalopathies will be improved through networking, training and research activities	36	D2.8.1 Guidelines and SOPs developed
			36	D2.8.2 Ring trials organised
			36	D2.8.3 In presence training activities implemented
			36	D2.8.4 Online training activity implemented
			36	D2.8.5 2 Small Scale Research projects defined
M2.9	Detection and surveillance of food pathogens and AMR improved	Detection and surveillance of food pathogens and AMR will be improved through networking, training and research activities	36	D2.9.1 SOPs exchanged
			12	D2.9.2 In presence training activity implemented
			36	D2.9.3 Online training activity implemented
			36	D2.9.4 1 Small Scale Research project defined

M2.10	Detection and surveillance of Vector borne diseases – RVF improved	Detection and surveillance of Vector borne diseases – RVF will be improved through networking, training and research activities	36	D2.10.1 SOPs exchanged
			36	D2.10.2 Proficiency tests organised
			36	D2.10.3 Online training activity implemented
M2.11	Detection and surveillance Foot-and-Mouth Disease (FMD) improved	Detection and surveillance of Foot-and-Mouth Disease (FMD) will be improved through networking, training and research activities	36	D2.11.1 SOPs exchanged
			36	D2.11.2 Reagents/kits distributed
			36	D2.11.3 Online training activity implemented
			24	D2.11.4 In presence training activity implemented
			24	D2.11.5 1 Small Scale Research project defined

WP 3 Communication and dissemination

WP3 is dedicated to implementing communication and dissemination measures to ensure that the activities and outcomes of the ERFAN Network are effectively shared with both internal and external audiences.

It will support internal communication among ERFAN members, closely cooperating with WP1, and will build on the execution and progress monitoring in WP2 on the different WGs projects to identify content for communication and dissemination. By implementing the *Communication and Dissemination Plan (CDP)* - guided by the principles outlined in the *WOAH Communication Handbook for Veterinary Services* - WP3 aims to engage key actors and stakeholders, maximizing the impact of ERFAN's outputs. These efforts will strengthen Italian-African collaboration while promoting scientific excellence in relevant fields.

The ERFAN Secretariat will oversee the design, coordination, monitoring, and evaluation of all communication and dissemination activities.

Specific objectives

The overarching goal of WP3 is to ensure effective communication and dissemination of project results to diverse target audiences. To this end, the following specific objectives have been identified:

- Facilitate internal communication: establish a continuous and open communication channel to facilitate internal communication among WGs and Governing Bodies, established within the ERFAN website and other internal tools;
- Conduct a detailed stakeholders' analysis: identify target audiences and define roles, responsibilities, timelines, and methods for achieving communication and dissemination goals tailored to each audience;
- Develop a Communication and Dissemination Plan: define activities with a focus on stakeholder group analysis, communication strategies, key messages, evaluation indicators, and expected impacts
- Maintain digital presence: ensure the regular maintenance, updates, and optimisation of the ERFAN website and social media channels to enhance visibility and outreach;
- Produce targeted communication materials: including leaflets, press releases, newsletters, conference signage, kits, and other resources to support outreach efforts;
- Evaluate communication impact: monitor and evaluate the effectiveness of communication and dissemination activities to ensure continuous improvement.

Tasks

Task No	Task Name	Description	Responsible and participants
T3.1	Management of internal communication	Effective internal communication is crucial for aligning the efforts of the Project partners, WGs, and Governing bodies. This task ensures that communication flows smoothly using tools like ERFAN collaborative workspaces and other platforms, fostering regular information exchange and favouring mutual trust and engagement.	<u>ERFAN Secretariat</u>
T3.2	Development of CDP	This task involves drafting a comprehensive Communication and Dissemination Plan to serve as the backbone of all WP3 activities.	<u>ERFAN Secretariat</u>

		The plan will be developed based on stakeholders' group analysis, identifying target audiences, defining tailored communication strategies, and setting measurable objectives. It will include key elements such as stakeholder group profiles, communication methods, geographic and organisational considerations, key messages, evaluation indicators, and expected impacts.	
T3.3	Digital presence	Maintaining a strong presence on social media is vital for disseminating ERFAN activities and results to a broad audience. This task focuses on keeping the ERFAN website and social media platforms active, updated, and aligned with the project's goals. It includes posting regular updates, sharing achievements, and optimising content for visibility.	<u>ERFAN Secretariat</u>
T3.4	Development of communication materials and event support	This task focuses on creating high-quality communication materials that may include leaflets, press releases, newsletters, conference kits, and visuals designed to enhance the project's visibility and impact. It also aims at supporting the events, meetings and further initiatives promoted by WGs.	<u>ERFAN Secretariat, WGs</u>
T3.5	Monitoring and evaluation of communication activities	Monitoring and evaluation are essential to ensure the effectiveness of communication efforts. This task involves tracking the reach, engagement, and impact of communication activities, also with the aim to adapt strategies as needed.	<u>ERFAN Secretariat</u>

Expected results

Milestone No	Milestone Name	Description	Due Date (month number)	Deliverables
M3.1	Communication and Dissemination Planning finalised	The CPD will include the outcomes of the stakeholders' group analysis, the identification of target audiences, the definition of tailored communication strategies and the setting measurable objectives. It will incorporate also the social media strategy.	4	D3.1 Stakeholder analysis D3.2 Communication and Dissemination Plan

M3.2	ERFAN website updated and maintained	A graphic restyling of the website will be done on the basis of a modern design, with a focus on clarity and intuitive navigation, meeting the specific needs of the ERFAN project in connection with the target audiences. The layout will simplify the navigation and will appear visually appealing, adopting the latest trends in terms of user interface, with a focus on usability. It will include collaborative workspace for internal communication.	5 36 (ongoing maintenance)	D.3.3 Updated ERFAN Website D.3.4 Integrated collaborative workspace for internal communication
M3.3	First set of communication tools (e.g., leaflets, press releases) produced and distributed	A visual identity set of communication tools to be used in occasion of Regional Meetings and other dissemination opportunities.	6 36 (ongoing updates)	D.3.5 Communication tools
M3.4	1 st Interim evaluation on communication impact	Evaluation of the audience reached, its engagement and the overall impact of communication activities. It will be integrated in the Year-1 Progress Report.	14	D.3.6 Year-1 Interim Communication Impact Report
M3.5	2 nd Interim evaluation on communication impact	Evaluation of the audience reached, its engagement and the overall impact of communication activities. It will be integrated in the Year-2 Progress Report.	26	D.3.7 2 nd Year-2 Interim Communication Impact Report
M3.6	3 rd Interim evaluation on communication impact	Evaluation of the audience reached, its engagement and the overall impact of communication activities. It will be integrated in the Year-3 Progress Report.	36	D.3.8 Year-3 Interim Communication Impact Report
M3.7	Final evaluation of communication impact	Evaluation of the audience reached, its engagement and the overall impact of communication activities. It will be integrated in the Final Progress Report.	36	D.3.9 Final Communication Impact Report

WGs: composition, general description and planned activities

This section includes an overview of the ERFAN WGs. For each group coordinators, members, general description and planned activities are indicated. Among WG members, some VS of African countries may be included. Furthermore, some candidate partners having expressed their interest in joining ERFAN Network have been included and marked with an asterisk (*).

WG “Bien-être des animaux” / “Animal Welfare”

Italian coordinator	Istituto Zooprofilattico Sperimentale Abruzzo e Molise (IZSAM)
Scientific coordinators	Luigi Iannetti Head of Animal testing Unit, IZSAM l.iannetti@izs.it; +39 0861 332704 Michele Podaliri Head of Animal Welfare Unit, IZSAM m.podaliri@izs.it; +39 0861 332703
African coordinators	Ecole Nationale de Médecine Vétérinaire de Sidi Thabet - ENMV (Tunisia) and Faculty of Veterinary Science, University of Pretoria - UP (South Africa)

WG Members	Country
Direction des Services Vétérinaires (DSV)	Algeria
Botswana National Veterinary Laboratory (BNVL)	Botswana
Veterinary Services	Eswatini
Istituto Zooprofilattico Sperimentale Abruzzo e Molise (IZSAM)	Italy
Department of Livestock Services, Central Veterinary Laboratory, Maseru	Lesotho
Animal Production Department, Ministry of Agriculture	Mozambique
Veterinary Services Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia
Faculty of Veterinary Science, University of Pretoria (UP)	South Africa
École Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV)	Tunisia
Ministry of Agriculture and Livestock	Zambia
Department of Veterinary Services, Ministry of Agriculture	Zimbabwe

WG general description

In recent years, animal welfare has become an increasingly important issue worldwide. In Africa, the level of animal welfare varies from country to country. Even though all countries have signed the WOA standards, they are not always implemented due to cultural, social and economic factors. Adopting good animal welfare practices in Africa will be very important to increase animal productivity and product quality, thereby contributing to food security.

In ERFAN I, the WG “Bien-être des animaux” / “Animal Welfare” worked only in the Southern Africa. In ERFAN II, the group activities will also be carried out in the Northern Africa, in close cooperation with the École Nationale de Médecine Vétérinaire (ENMV) of Sidi Thabet (Tunisia). WOA Animal Welfare contact points from Northern African countries will be contacted with the collaboration of ENMV and of the Tunis

WOAH SRR for Northern Africa and involved in the ERFAN II network. The participatory approach already successfully adopted in ERFAN I in Southern Africa will be extended to the Northern African countries included in the WG with the main objective of mapping the current implementation of WOAH standards in the entire region.

Even if the group is only one, different activities could be organised in the UMA and SADC countries, according to the specific regional needs. For example, animal welfare during transport and dog population management will be key subjects for training in the UMA countries, while capacity building activities in the SADC countries will focus more on animal welfare at slaughter and at farm, including sustainability aspects.

WG planned activities

ERFAN efforts to promote Animal welfare in Africa focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Support the application of a new WOAH CC for Animal Welfare involving Northern and Southern African partners. Strengthen the ERFAN AW network by extending the WG activities to the Northern African Countries. Update the report on the current implementation of AW WOAH Standards in African countries, including UMA countries and using online tools such as SAM TOOL 2.0.	Design and deliver 1 online and 1 in presence training activities on AW with particular reference to WOAH standards, focusing on priority topics detected during the first phase (AW at farm, AW during transport, AW at slaughter, Dog population management). Strengthen the activities of the Tunisian Training Centre for Animal Welfare, established in Tunisia at the École Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV) as outcome of the WOAH Twinning project, and open them to other North African Countries.	Identify “minigoals” for Northern Africa countries, and check the state of the art of the ones identified in Southern Africa countries, with particular reference to Animal welfare during transport, dog population management and farming. Define 2 Small Scale Research projects to evaluate different approaches to Dog Population Management, including a survey to test the state of the art in the different countries (update of the ERFAN survey carried out in 2019), and to evaluate animal welfare and sustainability in Southern Africa small scale farming systems.

WG “ONE HEALTH”: Anthrax / “UNE SEULE SANTE”: Fièvre charbonneuse

Italian coordinator	Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata (IZSPB)
Scientific coordinator	Domenico Galante Veterinary Director, National Reference Centre for Anthrax, IZSPB domenico.galante@izspb.it; +39 0881 786330
Northern African coordinator	Animal Health Institute (AHI) - Ethiopia
Southern African coordinator	Faculty of Veterinary Science, University of Pretoria (UP) – South Africa

Northern Africa – UMA Region: WG Members	Country
Direction des Services Vétérinaires (DSV) Laboratoire Central Vétérinaire d’Alger, Institut National de la Médecine Vétérinaire - INMV (tbc)	Algeria
Animal Health Institute (AHI) University of Gondar*	Ethiopia
Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata	Italy
National Centre for Animal Health (NCAH)	Libya
Office National de Recherches et de Développement de l’Elevage et du Pastoralisme (ONARDEP)	Mauritania
Laboratoire National de l’Elevage et des Recherches Vétérinaires (LNERV)	Senegal
Benadir University AHPI*	Somalia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Institut de la Recherche Vétérinaire de Tunisie (IRVT) - Centre régional de recherches vétérinaires de Sousse	Tunisia
Southern Africa – SADC Region: WG Members	Country
Instituto de Investigação Veterinária (IIV)	Angola
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata	Italy
Central Veterinary Laboratory (CVL) Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia
Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR) Faculty of Veterinary Science, University of Pretoria (UP)	South Africa
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania
Central Veterinary Research Institute (CVRI)	Zambia
Faculty of Veterinary Science, University of Zimbabwe	Zimbabwe

WG general description

Anthrax is a zoonotic disease prevalent in most sub-Saharan African countries, causing severe disease in animals, with a high mortality rate. The disease is also a public health concern since it can be observed also in humans exposed to infected animals, to contaminated animal products, or in people consuming raw and not well-cooked contaminated meat.

WG planned activities

ERFAN efforts to prevent the spread of the disease focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Exchange SOPs for diagnostic tests related to <i>Bacillus anthracis</i>, for biological and environmental samples, related to biosafety and biosecurity, for the production of Sterne vaccine against anthrax for veterinary use. Distribute reference reagents for the diagnosis of anthrax such as sera, antigens, <i>B. anthracis</i> DNAs etc. Organise proficiency tests for the detection of <i>B. anthracis</i> by molecular methods and/or by other methods.	Facilitate knowledge transfer by organising comprehensive training sessions in presence (one in Northern Africa and one in Southern Africa) on topics such as aetiology, pathogenesis, epidemiology, diagnosis, and prevention of anthrax, as well as outbreak management, bio-containment, and quality assurance. In particular, in SADC countries where anthrax is more prevalent, specific field activities will be carried out on the collection of biological and environmental samples and their transport to laboratories in accordance with biosafety rules, while in North Africa countries training will be focused mainly on microbiological and molecular biology methods (PCR, Real Time PCR, NGS) for improving anthrax diagnosis.	Define 3 Small Scale Research projects (one in Namibia, one in Ethiopia and one in Senegal) and 2 fellowships to develop new diagnostic protocols and methods and to obtain epidemiological data in order to generate epidemiological maps. This is crucial to understand the spread of the disease and to implement effective prevention strategies across Africa.

WG “ONE HEALTH”: Bovine Tuberculosis / “UNE SEULE SANTE”: Tuberculose bovine

Italian coordinator	Istituto Zooprofilattico Sperimentale del Mezzogiorno (IZSM)
Scientific coordinator	Claudio De Martinis Head of the Exotic and Vector-borne Diseases, IZSM claudio.demartinis@izsmportici.it; +39 081 7865509
Northern African coordinator	Institut Agronomique et Vétérinaire (IAV) Hassan II – Morocco
Southern African coordinator	Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR) – South Africa

Northern Africa – UMA Region: WG Members	Country
Institut National de la Médecine Vétérinaire (INMV) Direction des Services Vétérinaires (DSV)	Algeria
National Animal Health Diagnosis and Investigation Center (NAHDIC)* Animal Health Institute (AHI)	Ethiopia
Istituto Zooprofilattico Sperimentale del Mezzogiorno	Italy
National Centre for Animal Health (NCAH)	Libya
Office National de Recherches et de Développement de l’Elevage et du Pastoralisme (ONARDEP)	Mauritania
Institut Agronomique et Vétérinaire (IAV) Hassan II	Morocco
Laboratoire National de l’Elevage et des Recherches Vétérinaires (LNERV) Institut Sénégalais de Recherches Agricoles*	Senegal
Institut de la Recherche Vétérinaire de Tunisie (IRVT) Ecole Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV) Direction Générale des Services Vétérinaires (DGSV)	Tunisia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Southern Africa – SADC Region: WG Members	Country
Istituto Zooprofilattico Sperimentale del Mezzogiorno	Italy
Istituto Zooprofilattico Sperimentale del Piemonte Liguria e Valle d’Aosta	Italy
Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR)	South Africa
Faculty of Veterinary Science, University of Zimbabwe	Zimbabwe

WG general description

Bovine tuberculosis is a major infectious disease affecting cattle, other domesticated animals, and certain wildlife populations. While it is under control in many developed countries, it continues to pose serious challenges to animal and human health in Africa.

WG Planned activities

ERFAN efforts to prevent the spread of the disease focus on several key initiatives

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Improve diagnostic procedures by transferring and validating methods such as molecular biology techniques, gamma interferon assays, and bacterial isolation through interlaboratory proficiency tests. Facilitate the exchange of SOPs for sampling, sample treatment, and diagnostic tests, including <i>Mycobacterium bovis</i> isolation, strain collection, Real-Time PCR, and third-generation Digital Droplet PCR.	Organise comprehensive training sessions in presence covering topics like the aetiology, pathogenesis, epidemiology, and diagnosis of tuberculosis, outbreak management, sample handling, bio-containment procedures, and quality assurance. Training sessions, in presence and on-line, will also be useful to discuss the results in diagnostic approach between various countries. Furthermore, also in order to follow up on what has been done in the first five years of ERFAN, a 2nd ERFAN Congress on Bovine Tuberculosis will be organized to discuss the objectives achieved.	Develop 2 small scale projects to provide a complete overview on the circulation in animals and humans of <i>Mycobacterium bovis</i> and other mycobacteria belonging to <i>Mycobacterium tuberculosis</i> complex in North Africa and the SADC regions. This integrated approach based on full cooperation between public health and animal health professionals is essential to control the disease.

WG “ONE HEALTH”: Brucellosis / “UNE SEULE SANTE”: Brucelloses

Italian coordinator	Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise (IZSAM)
Scientific coordinators	Giuliano Garofolo Head of Bacteriology Unit, National Reference Laboratory for <i>Campylobacter</i> , IZSAM g.garofolo@izs.it; +39 0861 332411 Fabrizio De Massis, Head of WOAHP Reference Laboratory for Brucellosis, IZSAM f.demassis@izs.it; +39 0861 332626
Northern African coordinator	Direction Générale des Services Vétérinaires (DGSV), Tunisia
Southern African coordinator	Central Veterinary Laboratory (CVL), Zimbabwe

Northern Africa – UMA Region: WG Members	Country
Direction des Services Vétérinaires (DSV) Institut National de la Médecine Vétérinaire (INMV) - Laboratoire vétérinaire régional el Tarf	Algeria
National Animal Health Diagnosis and Investigation Center (NAHDIC)*	Ethiopia
Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise	Italy
Faculty of Veterinary Medicine, University of Tripoli	Libya
Office National de Recherches et de Développement de l’Elevage et du Pastoralisme (ONARDEP)	Mauritania
Laboratoire National de l’Elevage et des Recherches Vétérinaires (LNERV) Institut Sénégalais de Recherches Agricoles*	Senegal
Institut de la Recherche Vétérinaire de Tunisie (IRVT) - Centre régional de recherches vétérinaires de Sousse	Tunisia
Direction Générale des Services Vétérinaires (DGSV)	Tunisia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Southern Africa – SADC Region: WG Members	Country
Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise	Italy
Laboratório Central de Veterinária, Instituto de Investigação Agrária de Moçambique (IIAM)	Mozambique
Central Veterinary Laboratory (CVL) Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia
Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR) Faculty of Veterinary Science, University of Pretoria (UP) Jembi Health Systems	South Africa
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania

Central Veterinary Research Institute (CVRI)	Zambia
Central Veterinary Laboratory (CVL)	Zimbabwe

WG general description

Brucellosis is a zoonosis widespread worldwide and endemic in most African countries, where it represents a public health problem with significant socio- economic impact. The true impact of brucellosis on livestock and wildlife in Africa remains inadequately defined, highlighting the need for comprehensive data collection and analysis. Effective control strategies are crucial to mitigate the spread of the disease, reduce economic losses, and prevent public health.

The WG seeks to establish a robust and collaborative research network aimed at enhancing research and management of brucellosis in Africa. The WG aims to improve disease surveillance and diagnostics to control brucellosis and minimise the risk of transmission to humans.

WG Planned activities

ERFAN efforts to prevent the spread of the disease focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Standardise brucellosis testing in the Region through the implementation, maintenance and supply of BioBank for reagents, the organisation of inter-laboratory tests and of technical meetings for the Brucella network.	Organise online training courses on: - Brucellosis diagnostics and research -Quality systems for brucellosis laboratories - Methods and Procedures for Accreditation - Development and validation of diagnostic tests - Biosafety and Biosecurity	Fund a PhD on Molecular epidemiology of brucellosis in animals and selected human categories in SADC region Define 1 Small scale project on surveillance and control systems assessing the presence of the disease through sampling for bacteriological and serological analysis in farms or abattoirs, including camel brucellosis in SADC and/or UMA regions.

WG "Animal Mycoplasmoses and AMR" / "Mycoplasmoses des petits ruminants et RAM"

Italian coordinator	Istituto Zooprofilattico Sperimentale della Sicilia WOAH Reference Laboratory for <i>Contagious Agalactia</i> (CA)
Scientific coordinators	Guido Ruggero Loria Director of the Specialised Diagnostic Unit Head of the WOAH Reference Laboratory for <i>Contagious agalactia</i> , IZSSI guidoruggero.loria@izssicilia.it, +39 3351385824 Roberto Puleio DVM, Diagnostic Department, IZSSI roberto.puleio@izssicilia.it, +39 3665858529 Sergio Migliore Researcher, Diagnostic Department, IZSSI sergio.migliore@izssicilia.it, +39 091 6565561
Northern African coordinator	<i>To be defined</i>
Southern African coordinator	Botswana National Veterinary Laboratory (BNVL)

Northern Africa – UMA Region: WG Members	Country
Institut National de la Médecine Vétérinaire (INMV) - Laboratoire vétérinaire régional - Tizi Ouzou	Algeria
Faculty of Veterinary Medicine, Cairo University	Egypt
Animal Health Institute (AHI)	Ethiopia
Istituto Zooprofilattico Sperimentale della Sicilia	Italy
National Centre for Animal Health (NCAH)	Libya
Institut Agronomique et Vétérinaire (IAV) Hassan II	Morocco
Office National de Recherches et de Développement de l’Elevage et du Pastoralisme (ONARDEP)	Mauritania
Laboratoire National de l’Elevage et des Recherches Vétérinaires (LNERV) Institut Sénégalais de Recherches Agricoles*	Senegal
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Institut de la Recherche Vétérinaire de Tunisie (IRVT)	Tunisia
Southern Africa – SADC Region: WG Members	Country
Direction of Veterinary Services	Angola
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale della Sicilia Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise	Italy
Central Veterinary Laboratory (CVL)	Namibia
Central Veterinary Research Institute (CVRI)	Zambia
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania

WG general description

Mycoplasma species cause many clinically important diseases in large ruminants, pigs and poultry and can also affect wildlife and humans. The overuse of antimicrobials to treat mycoplasma diseases risks promoting the emergence of resistant strains and possibly masking symptoms, allowing further spread of infection.

WG Planned activities

ERFAN efforts to prevent the spread of the disease focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Improve surveillance and control of <i>Mycoplasma</i> and AMR in animals by sharing Laboratory SOPs, organising proficiency tests, providing virtual support (the expert answers) for consultancy.	Organising on-site training in Egypt, Morocco, Tunisia and Ethiopia on diagnostic methods (Molecular test and sequencing) for <i>Mycoplasma</i> and AMR detection, sequencing, AMR investigation and farm vaccines.	Defining 2 Small-scale projects in Egypt and Morocco to develop a rapid field test based on LAMP technology to identify endemic <i>Mycoplasma</i> infection of livestock. Strengthening collaborative research between Italy and Africa by supporting 2 PhD students involved in the project and 2 internships for two African researchers at the IZS Sicily

WG "Contagious bovine pleuropneumonia" / "Péripleuropneumonie contagieuse bovine"

Italian coordinator	Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM)
Scientific coordinator	Massimo Scacchia Head of WOAHP Reference Laboratory, IZSAM m.scacchia@izs.it, +39 0861 332405
Northern African coordinator	It will be defined during the first WG meeting
Southern African coordinator	Botswana National Veterinary Laboratory (BNVL)

Northern Africa – UMA Region: WG Members	Country
Institut National de la Médecine Vétérinaire (INMV) - Laboratoire vétérinaire régional -Tizi Ouzou	Algeria
Animal Health Institute (AHI)	Ethiopia
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise	Italy
National Centre for Animal Health (NCAH)	Libya
Institut Agronomique et Vétérinaire (IAV) Hassan II	Morocco
Office National de Recherches et de Développement de l'Elevage et du Pastoralisme (ONARDEP)	Mauritania
Laboratoire National de l'Elevage et des Recherches Vétérinaires (LNERV) Institut Sénégalais de Recherches Agricoles*	Senegal
Institut de la Recherche Vétérinaire de Tunisie (IRVT)	Tunisia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Central Veterinary Laboratory	Somalia
Southern Africa – SADC Region: WG Members	Country
Direction of Veterinary Services	Angola
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise	Italy
Central Veterinary Laboratory (CVL)	Namibia
Central Veterinary Research Institute (CVRI)	Zambia
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania

WG general description

Contagious bovine pleuropneumonia (CBPP) is one of the most serious transboundary diseases caused by *Mycoplasma mycoides* subsp. *mycoides*. The livestock losses related to the death of animals and the dramatic reduction of livestock production play a negative role with respect to the UN Sustainable Development Goals, in particular poverty reduction and fight against hunger. It is an endemic disease in many Sahel and sub-Saharan countries and at high risk of introduction into the Mediterranean basin due to political-military instability in some countries.

WG Planned activities

ERFAN efforts to prevent the spread of the disease focus on several key initiatives

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Organise Ring Test for serology and PCR. Organise technical meetings, one per year, for South and North Africa Working Groups	Organise training course in Senegal on Complement fixation test for CBPP and Brucella Organise training course in Botswana on PCR for <i>Mmm</i> , <i>Brucella</i> spp and others bacteria	Carry out 1 Small scale project on AMR and <i>Mmm</i> .

WG“ONE HEALTH”: "UNE SEULE SANTE": Encéphalopathies spongiformes transmissibles/"ONE HEALTH": Transmissible Spongiform Encephalopathies (TSE)

Italian coordinator	Istituto Zooprofilattico Sperimentale del Piemonte-Liguria-Valle D'Aosta (IZSPLV)
Scientific coordinators	Cristina Casalone Head of the laboratory of Neuropathology Head of two WOA Reference Laboratories (for BSE and Scrapie) Head of the WOA Collaborating Centre for the Health of Marine Mammals IZSPLV cristina.casalone@izsto.it, +39 0112686296 Elena Bozzetta Head of the National Reference Centre for Biological Investigations on Animal Anabolic Agents (CIBA), IZSPLV elena.bozzetta@izsto.it, +39 0112686361
Northern African coordinator	<i>To be confirmed</i>
Southern African coordinator	Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)

Northern Africa – UMA Region: WG Members	Country
Institut National de la Médecine Vétérinaire (INMV) - Laboratoire vétérinaire régional Mostaganem Ecole normale supérieure d'Ouargla	Algeria
Istituto Zooprofilattico Sperimentale del Piemonte Liguria e Valle d'Aosta Istituto Superiore di Sanità	Italy
<i>To be defined*</i>	Libya
<i>To be defined*</i>	Senegal
Institut Agronomique et Vétérinaire (IAV) Hassan II	Morocco
Ecole Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV)	Tunisia
<i>To be defined*</i>	Sudan
Southern Africa – SADC Region: WG Members	Country
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale del Piemonte Liguria e Valle d'Aosta	Italy
Department of Livestock Services, Central Veterinary Laboratory, Maseru	Lesotho
Centro de Biotecnologia, Universidade Eduardo Mondlane (CB-UEM)	Mozambique
Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia
Faculty of Veterinary Science, University of Pretoria (UP)	South Africa
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania
Central Veterinary Research Institute (CVRI)	Zambia
Central Veterinary Laboratory (CVL)	Zimbabwe

WG general description

TSEs are progressive neurodegenerative diseases that affect the central nervous system of both humans and animals. The only infectious agent that can be transmitted to humans through the consumption of contaminated meat seems to be BSE.

During ERFAN I, the Working Group “TSE” contributed to achieve the objectives of the project and build solid partnership between African and Italian partners. The actions under the WG “TSE” aimed at improving technical skills related to the TSE monitoring system. The establishment and the consolidation of collaborations in both North (UMA) and South Africa (SADC), was carried out over the years providing guidelines, technical and scientific support both in presence and distance.

WG Planned activities

ERFAN II efforts to prevent the spread of the disease focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
- Establish <i>ad hoc</i> consultancy to set up diagnostic methods consistent with the WOAHP Manual requirements. - Develop guidelines and SOPs consistent with the WOAHP Manual requirements for setting up diagnostic methods. - Provide support in developing or implementing TSEs surveillance systems through active and passive surveillance. - Provide support in the development of active and passive CPrD and scrapie epidemiological surveillance network, for those countries who are interested. - Provide support in implementing risk assessment activities consistent with WOAHP guidelines in order to obtain, for the countries who are interested, the TSE risk status. - Provide technical and scientific support in the control of processed animal protein (PAPs) in animal feed through light microscopy techniques to differentiate between aquatic and terrestrial	- Organize training courses in presence in Africa and in Italy according to the needs and requests of the member countries. Possible topics could be: clinics, aetiology, pathogenesis, genetics, epidemiology, general gross pathology and histology, differential diagnosis, immunohistochemistry (IHC) and neuropathology, rapid test and confirmatory tests. - Organize webinars on the following possible subjects: principles of genetic resistance to TSEs and other infectious diseases; PrPc genotyping techniques both on domestic and wild species present in the area; PrPc genotyping of African sheep and goats breeds to assess their genetic resistance to scrapie; epidemiology, risk assessment activities consistent with WOAHP guidelines, data collection and database management concerning TSE surveillance systems, neuropathology, rapid test and confirmatory tests for TSEs; clinical symptoms related to	Carry out 2 Small scale projects on TSE (one in North Africa and one in South Africa)

animal PAPs and PCR techniques to discriminate between ruminant and non-ruminant PAPs. - Organise laboratory ring trials concerning the diagnosis of TSE.	neurological disorders to inform on the suspicion of TSE at the slaughterhouse or at the farm; control of processed animal protein (PAPs) in animal feed; telediagnosis.	
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WG "UNE SEULE SANTE": Sécurité sanitaire des aliments/"ONE HEALTH": Food hygiene

Italian coordinator	Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM)
Scientific coordinator	Francesco Pomilio Head of Food Hygiene Unit Head of WOAHC Collaborating Centre for Animal Production Food Safety Head of National Reference Centre <i>Listeria monocytogenes</i> IZSAM f.pomilio@izs.it, +39 0861 332462
Northern African coordinator	<i>To be defined</i>
Southern African coordinator	Central Veterinary Laboratory (CVL), Namibia

Northern Africa – UMA Region: WG Members	Country
Institut National de la Médecine Vétérinaire (INMV) - Laboratoire vétérinaire régional el Tarf	Algeria
Animal Health Institute (AHI)	Ethiopia
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise	Italy
Faculty of Veterinary Medicine, University of Tripoli	Libya
Office National de Recherches et de Développement de l'Elevage et du Pastoralisme (ONARDEP)	Mauritania
Office national de sécurité sanitaire des produits alimentaires (ONSSA)*	Morocco
Laboratoire National de l'Elevage et des Recherches Vétérinaires (LNERV) Institut Sénégalais de Recherches Agricoles*	Senegal
Benadir University AHPI*	Somalia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Institut de la Recherche Vétérinaire de Tunisie (IRVT) - Centre régional de recherches vétérinaires de Sousse Ecole Nationale de Médecine Vétérinaire de Sidi Thabet (ENMV) Ministry of Health*	Tunisia
Southern Africa – SADC Region: WG Members	Country
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise	Italy
Laboratório Central de Veterinária, Instituto de Investigação Agrária de Moçambique (IIAM)	Mozambique
Central Veterinary Laboratory (CVL) Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia

Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR)	South Africa
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania
Central Veterinary Research Institute (CVRI)	Zambia
Faculty of Veterinary Science, University of Zimbabwe Department of Veterinary Services, Ministry of Agriculture	Zimbabwe

WG general description

Food hygiene is an essential component for food safety: it is the set of rules, behaviours and practices that must be followed to guarantee the protection of consumer health.

WG Planned activities

ERFAN efforts to enhance Food hygiene in African countries focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
- Provide support in developing diagnostic tests, related to food pathogens of interest (<i>Salmonella</i>, <i>Campylobacter</i>, <i>Listeria</i>, <i>Klebsiella</i>) and procedures based on molecular methods regarding detection of food pathogens - Share SOPs regarding detection and surveillance of anti-microbial resistance (AMR)	Organise both online and in presence training for laboratory staff on the following topics that emerged during ERFAN I: detection of <i>Salmonella</i>, <i>Listeria</i>, <i>Klebsiella</i>, <i>Campylobacter</i> with classical and molecular methods, enumeration, typing; detection of AMR; surveillance system of food pathogen. The training activities will involve partners from both UMA and SADC regions.	Carry out 1 small scale project. Possible subjects could be: molecular detection and characterization of <i>Salmonella</i>, conventional and molecular isolation and characterization of <i>Listeria</i>, <i>Klebsiella</i> and <i>Campylobacter</i> and methods aiming to obtain good quality DNA to use for molecular typing.

WG “ONE HEALTH”: Vector borne diseases – RVF

Italian coordinator	Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise (IZSAM)
Scientific coordinator	Luis Neves Professor of Veterinary Parasitology, Department of Veterinary Tropical Diseases, Faculty of Veterinary Science, University of Pretoria luis.neves@up.ac.za + 27 12 5298335
African coordinator	Faculty of Veterinary Science, University of Pretoria (UP)

WG Members	Country
Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise	Italy
Centro de Biotecnologia, Universidade Eduardo Mondlane (CB-UEM)	Mozambique
Faculty of Health Sciences & Veterinary Medicine, University of Namibia (UNAM)	Namibia
Agricultural Research Council - Onderstepoort Veterinary Research (ARC-OVR) Faculty of Veterinary Science, University of Pretoria (UP)	South Africa

WG general description

Vector-borne diseases are caused by parasites, viruses and bacteria transmitted by vectors. They represent more than 17% of all infectious diseases and cause more than 700 000 human deaths per year. They are spread especially in tropical and subtropical areas.

International travel, animal trade, uncontrolled urbanization, global warming and the adaptation of the vectors to new latitude and altitude have contributed to the spread of vector-borne diseases.

Among the vector borne diseases, Rift Valley fever (RVF) is one of the most important zoonoses currently present in countries bordering Europe and has a transboundary potential. It can cause severe disease in both animals and humans and significant economic losses due to death and abortion in livestock.

WG Planned activities

ERFAN efforts to combat Vector-borne diseases focus on several key initiatives:

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
Support for the organisation and performance of Proficiency Tests and the sharing of SOPs	Online activities on RVF aetiology, epidemiology, vectors and the disease in humans and animals, diagnosis, risk reduction and control.	Collaborations and participation in international grants will be promoted.

WG " Foot-and-Mouth Disease (FMD)"/ Fièvre aphteuse

Italian coordinator	Istituto Zooprofilattico Sperimentale della Lombardia ed Emilia Romagna 8IZSLER)
Scientific coordinators	Tiziana Trogu Vesicular Unit (CERVES) tiziana.trogu@izsler.it, +39 0302290310 Santina Grazioli Head of NRC/ FAO FMDV Reference Centre and head of WOA Reference Laboratory for FMD santina.grazioli@izsler.it, +39 030 2290370
Northern African coordinator	It will be defined during the first WG meeting
Southern African coordinator	It will be defined during the first WG meeting

Northern Africa – UMA Region: WG Members	Country
Laboratoire Central Vétérinaire d'Alger, Institut National de la Médecine Vétérinaire (INMV)	Algeria
Faculty of Veterinary Medicine, Cairo University	Egypt
Animal Health Institute (AHI)	Ethiopia
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (COVEPI)	Italy
Istituto Zooprofilattico Sperimentale della Lombardia ed Emilia Romagna	Italy
National Centre for Animal Health (NCAH)	Libya
Laboratoire Régional d'analyses et de recherches de Rabat Institut Agronomique et Vétérinaire (IAV) Hassan II	Morocco
Office National de Recherches et de Développement de l'Elevage et du Pastoralisme (ONARDEP)	Mauritania
Laboratoire National de l'Elevage et des Recherches Vétérinaires (LNERV)	Senegal
Institut de la Recherche Vétérinaire de Tunisie (IRVT)	Tunisia
Animal Resources Research Corporation - Central Veterinary Research Laboratory (CVRL)	Sudan
Central Veterinary Laboratory	Somalia
Southern Africa – SADC Region: WG Members	Country
Direction of Veterinary Services	Angola
Botswana National Veterinary Laboratory (BNVL)	Botswana
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (COVEPI)	Italy
Department of Livestock Service, Central Veterinary Laboratory, Maseru	Lesotho
Central Veterinary Laboratory (CVL)	Namibia
Central Veterinary Research Institute (CVRI)	Zambia
Tanzania Veterinary Laboratory Agency (TVLA)	Tanzania
Laboratório Central de Veterinária, Instituto de Investigação Agrária de Moçambique (IIAM)	Mozambique

Agricultural Research Council – Onderstepoort Veterinary Research (ARC-OVR)	Republic of South Africa
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WP general description

Foot-and-mouth disease (FMD) is a highly contagious transboundary animal disease, caused by a virus belonging to the Picornaviridae family. It mostly affects cattle, sheep, goats and swine but also wild ungulate species could be susceptible. The disease has a great economic impact due to direct losses (milk drop production, decrease in growth rate, death of newborns) and indirect costs due to outbreak management measures, vaccination, quarantine, stopping animal movement, etc. FMD is endemic in several countries in Africa, Middle East and Asia.

The establishment of regional qualified laboratories is a valuable support in enhancing surveillance activities and more accurately defining the epidemiological situation in the country. These aspects are crucial in assessing the measures taken along the progressive control pathway (PCP) with a view to reducing virus circulation and aiming at eradication

<i>Pillar 1: Improving diagnostic capacities through networking activities</i>	<i>Pillar 2: Capacity building through training and technology transfer</i>	<i>Pillar 3: Capacity building through research programs</i>
- Strengthen the diagnostic capacity to be consistent with the appropriate stage of PCP - Distribute reagents/kit for FMD diagnosis - Provide remote technical support for the elaboration and interpretation of the results obtained on samples tested - Exchange of SOPs for sampling, samples storage, selection of appropriate diagnostic test, shipment to Reference Laboratories	Organise both online and/or on site training for laboratory staff on the following topics: sampling, shipment according to biosecurity rules, sample processing, dedicated training on diagnostic methods (ELISA for antibody and antigen detection, molecular test, LFD)	Carry out 1 small scale project on FMD.