



Food and Agriculture
Organization of the
United Nations



Components report

Six-month report

April-September 2022

European Commission for the Control of Foot-and-Mouth Disease



FAO Four Better's. Better life, Better environment,
Better nutrition, Better production.

EuFMD's programme, tools and initiatives

FAST

Foot-and-mouth And
Similar Transboundary
animal diseases

Dt

EuFMD digital
transformation

Tom

EuFMD training
management system

Micro learning

EuFMD micro learning

Vlearning

EuFMD virtual learning

SimExOn

Simulation exercises
online

Get prepared

Emergency preparedness toolbox

Risk Comms

EuFMD risk communications

RMT-FAST

Risk monitoring tool for foot-and-mouth
and similar transboundary animal diseases

Pragmatist

Prioritization of antigen management
with international surveillance tool

EuFMDiS

European foot-and-mouth disease
spread model

Vademos

FMD vaccine demand
estimation model

GVS

Global vaccine
security

PQv

Vaccine
prequalification

PCP

Progressive control
pathway

PSO

Pcp practitioner
officers

PPP

Public private
partnership

The EuFMD Pillars

Pillar I

The **Strategic Output**, or Pillar I of the Phase V EuFMD workplan (2019-2021) focuses on **Improving preparedness** for management of FMD and similar TADS ('FAST diseases') crises by Member Nations and across Europe as a whole.

Pillar II

The **Strategic Output**, or Pillar II of the Phase V EuFMD workplan (2019-2021) focuses on **Reduced risk** to Members from the FAST disease (FMD and similar TADS) situation in the European neighbourhood.

Pillar III

The **Strategic Output**, or Pillar, III of the Phase V EuFMD workplan (2019-2020) focuses on **Sustaining and enhancing progress** in the roll out of the GF-TADs Global Strategy for control of FMD, and on increasing security in the supply of effective FMD vaccines.

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Pillar I (Output I)

Pillar Objective

Improved preparedness for management of FMD and similar TADs ('FAST disease') crises by Members and across Europe as a whole.

Pillar Co-ordinator

Tsviatko Alexandrov (September 2021)

Component 1.1 (Activity 1)

Training for Member Nations

Component Objective

Increased European expertise in FAST disease emergency management achieved through the delivery of training and the assistance to Member Nations to cascade training at national level.

Component Manager

Rodrigo Nova

Sub-activity level manager

- 1.1.1 Marcello Nardi
- 1.1.2 Rodrigo Nova / Goran Filipovic
- 1.1.3 Marcello Nardi

1. Background

At the start of each biennium, a **training menu** is developed and offered to the 39 EuFMD Member Nations (MNs). Regular communication with the 39 Training Focal Points (TFP) is kept during the biennia in order to ensure the activities included in the training menu take into account the MNs training needs. This continuous interaction aims to ensure the correct implementation of the program by the end of each biennium (2020-2021 and 2022-2023).

The training menu includes online training (multi-country and national tailored courses) and face-to-face courses (i.e. workshops, Real-Time Trainings and laboratory training). Support for **regional initiatives** and assistance with **national training** are included and encouraged as potential activities. The 2022-2023 menu considers the delivery of face-to-face activities after the enforced hiatus. The current training menu includes a number of topics related to FAST diseases. It focuses on providing countries with practical knowledge to deal with challenges related to disease detection, response (control) and the recovery phase after an outbreak. The new training program considers the risk that FAST diseases pose in the various MNs.

In phase V, an additional effort is being made to support **capacity development** at national level. To achieve this, the EuFMD training support services include training resources and materials that can be used by the trainees who participated in EuFMD courses, and by national education institutions, at national level to cascade knowledge. The number of these **open-access resources** and their visibility and accessibility has increased.

In order to train swiftly a large number of veterinarians involved in emergency response, together with the open-access resources (training resources and job aids), the online **FMD Emergency Preparedness** course and any other relevant training material, will be made available immediately for EuFMD MNs in the event of a **FAST disease incursion**.

In **Phase V**, in order to promote the **engagement of the private sector** in the prevention and control of FAST diseases, training opportunities have been opened for this sector (e.g. livestock industries and associated with livestock value chains), in addition to official veterinary services.

In order to ensure quality across the training programme and to carry out a continuous evaluation of the impact of the training programme, a **Training Quality Management System** (TQMS) is being established. This system should guarantee that EuFMD provides high-quality and high-impact training.

Moreover, during this phase, work is being carried out under component 1.1. to **achieve accreditation** of EuFMD courses as Continuing Professional Development (CPD) and / or part of a wider, European system for the recognition of training for achievement of competencies by veterinary authority personnel.

EuFMD contributes to the Veterinary Continuous Education in Europe (VetCEE) working group developing the framework of a VetCEE dossier of competencies aiming to define the requirements for a postgraduate training programme in the field of Veterinary Public Health (VPH). The identification of a common quality standard for a middle-tier postgraduate specialization program in the field of VPH, could allow for mutual recognition within the EU of the national postgraduate training courses.

Regular meetings are organized during the Phase to guarantee **co-ordination** with, and engagement of the relevant partners. The outputs of those meetings are used to adapt and improve the activities implemented under Component 1.1.

2. Countries or partner organizations involved

The direct beneficiaries of this component are the 39 EuFMD MNs.

Communication with representatives of the **EU initiative *Better Training for Safer Food (BTSF)*** took place during the current workplan to guarantee training complementarity.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent by</i>
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	the Network and Training Support Officer
Every two years to MN	Component manager	Written report; presentation	General Session	
Website report	Component manager	Written report	Website	
Workshop/Mission reports	Lead facilitator	Written report if required	EuFMD, NSAH, others if required	

4. Objective of the component

Increased European expertise in FAST disease emergency management achieved through the delivery of training and the assistance to Member Nations to cascade training at national level

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
1.1 Training for Member Nations	Increased European expertise in FAST disease emergency management achieved through the delivery of training and the assistance to MN to cascade training at national level.	Training on FAST diseases, resources, tools and technical assistance is provided to all MN to enable cascade training at national level in order to develop their capacity to respond to FAST disease emergencies.	60% of the countries to have implemented national training activities using EuFMD training resources and/or training support services in four years.	Regular collection of information through contacts with TFP. Procedure established in the training quality management system.	external evaluations to be carried out by month 38 of Phase V.	Assumes commitment from MN to develop and implement national trainings on FAST diseases and demand to use EuFMD training support services.

5. Planned Component Sub-Activities

The expected result of the component will be achieved through sub-activities.

1.1.1. Training support services providing training resources, materials and expert guidance to cascade training on FAST diseases

Training infrastructure and human resources. *Note this activity is also reported under components 2.3 and 3.3.* The EuFMD Virtual Learning platform was fully functional for the period April 2022 to September 2022. A total of 20 508 users are registered and 1 584 individual users accessed the platform from April 1st 2022 to the time of writing.

Valentina Busin joined the team in June 2022, and coordinates the virtual courses development. Elena FloresRuiz coordinates the virtual courses delivery.

In the reporting period 1, 1226 learners accessed EuFMD **open-access** courses and 376 learners completed at least one course.

Transition of courses to FAO eLearning academy. Following the existing collaboration with FAO eLearning academy to improve the quality of their virtual learning courses and increase the breadth of the animal health professionals audience who took FAST disease courses, the EuFMD is reviewing “Introduction to Foot-and-mouth disease”, before transitioning it to the academy. The course has been re-designed following a different and more application-focused pedagogical approach that will engage learners in learning the basics of FMD diagnosis, outbreak investigation, sampling and biosecurity in a real-world context. This will allow also learners to focus on what they should learn, depending on if they are living in a FMD-free or endemic country. Revised “Introduction to Foot-and-mouth disease” will be published on the FAO eLearning academy site by the end of 2022.

The EuFMD is developing an open-access course upon request from the Special Committee for Biorisk Management Meeting (SCBRM). The **FMD Minimum Biorisk Management Standards** course will ensure that National Competent Authorities, institute directors for FMD facilities and biorisk managers in FMD-free countries in the European region, are aware of the importance and implications of their role in ensuring that laboratories handling infectious FMD virus (Tier D) and performing FMD diagnostic tests without handling infectious FMD virus (Tier C), adhere to the FMD Minimum Biorisk Management Standards.

The course will focus on explaining the risks associated with handling of infectious FMD virus in laboratories and animal facilities, explaining the principles of biological containment, the objectives and scope of the FMD Minimum Biorisk Management Standards and their position within national and international legislation, describing responsibilities and oversight duties of a laboratory or animal facility handling infectious FMD virus, explaining the risks of allocating insufficient resources to biorisk management and championing the containment laboratory issues among other stakeholders. The course will be available to all learners on EuFMD virtual learning platform by the end of the 2022.

1.1.2. Training programme for Member Nations

During this reporting period, five activities relating to the 2020-2021 biennium and one for the current biennium (2022-2023) were delivered.

The 2022-23 training menu was produced after consultation with the Training Focal Points. Allocation of training credits (TCs) was requested and completed in May 2022.

The following courses were delivered during the reporting period:

- Organizing Simulation Exercises for Animal Disease Emergencies for Member Nations. This was a workshop delivered online from April to June 2022. The course consisted in a self-directed component (induction course), live discussion sessions and assignments. A total of 17 participants completed the

course, with a 70.5% completion rate.

- Multi-country Lumpy skin disease training course for EuFMD Member Nations was delivered in May-June 2022. A total of 189 participants from 12 MNs enrolled, with a completion rate of 50.7%
- A Hybrid Real-Time Training (HRTT) course for MNs was delivered in June 2022 using a blend of classwork, virtual reality and on-field training. Participants completed an online induction course composed of six interactive modules, followed by a face-to-face training that took place in June 2022. A total of 11 participants enrolled in this pilot event, six of them through the TCs system. Their feedback was collected during the training and through pre- and post-course surveys and will be used to guide the development of future hybrid events.
- FMD emergency preparation course (FEPC) for Bosnia and Herzegovina. This is the first MN-tailored FEPC and 120 participants are expected. The course started in September and will close on October 2022.
- EuFMD sent three participants to the FMD laboratory training (May, 2022), a two week face-to-face training delivered by The Pirbright institute, UK.
- EuFMD sent four participants to the LSD laboratory training (September, 2022), a one-week face-to-face training delivered by The Pirbright institute, UK.
- EuFMD will support Türkiye veterinary services to deliver a workshop on field epidemiology aimed to early career government veterinarians in regional offices in September 2022. The activity was planned and developed by Türkiye, with EuFMD assisting and advising during the planning and delivery stages. A second edition will follow, with February 2023 as tentative date.

Training Quality Management System to ensure the quality across EuFMD training programme and the continuous evaluation of the impact of EuFMD training

The training impact process has been reviewed. Following the indications received during the external review of the Training Quality Management System (TQMS) in 2021, the revision of the process aimed to identify:

1. Actionable impact objectives that could be linked with the overall pillar objectives in the EuFMD workplan;
2. A manageable process to create training-specific objectives.

The new procedures will allow easier identification of the impact of application and cascading of the learning, and linking learning with the ultimate objectives of the capacity development framework within the EuFMD workplan.

The EuFMD is developing a plan to identify best cascading practices and processes, to support actions of the learners in spreading their knowledge to others and thus enhancing the impact of capacity development interventions. *Note this activity is also reported under components 2.3 and 3.3.*

A regular quality revision of the content of the assessments of the main virtual learning activities offered by EuFMD was finalized as part of the TQMS. This alignment should boost the validity of the learners' evaluation, and was completed in September 2022. The regular review will be performed on at least a bi-annual basis and aims to ensure the appropriate quality level of the evaluation of the learners of virtual courses.

Implementation of a Training Management System (TOM)

The first version of TOM web app, a tool which will support the capacity developing by allowing National Veterinary Services to monitor the increased learning of the veterinarians, was finalized and has been launched for external pilots in Türkiye and Tunisia. The initial purpose will be to receive usability feedback from the users and identify future modifications for the development of TOM.

The EuFMD has developed a plan to identify and engage countries in Pillar I, II and III areas for piloting the tool, ensuring the process creates the opportunity to receive feedback for improvements as well as preparing for its' future sustainability in the country, following a participatory approach. The piloting process would identify the priorities for the selection of the countries, according to the expected impact

on the objectives indicated in the EuFMD workplan for Phase V.

A Steering Committee was appointed to advise and set the direction of the future development of the system. The committee will convene twice a year and is composed by the EuFMD, FAO and WOAHA as *ex-officio*, plus members selected among veterinary training providers, regional educational bodies and veterinary associations and training managers of the National Veterinary services. The selection was managed through a call for expression of interest in May 2022. Screening took place to ensure each of the categories was represented and, at the same time, guaranteeing geographical balance. A scoring system validated the screening and the proposed candidates were agreed during the Standing Technical Committee meeting in July. The engagement of the Steering Committee should provide a basis for the identification of future sustainability of the tool after the initial piloting phase. The committee will be chaired and coordinated initially by the EuFMD and the first meeting will be scheduled in the month before the end of the year.

Sub-activities and their indicators

<i>Sub-activity level</i>	<i>Description</i>	<i>Progress in the current period</i>	<i>Progress overall towards biennium indicator</i>
Training support services: Training infrastructure.	Maintenance and improvement of the training infrastructure, including online platform.	EuFMD online platform has been fully functioning 100% of the time April 2022 to September 2022.	EuFMD online platform fully functioning and accessible.
1.1.1. Training support services	Availability of the existing open-access resources and generation of new training materials and job aids that can be used by MN in their trainings at national level. Development of new open-access courses. Whenever possible, the development of new resources will be done using material developed under 1.1.2. Some of the new resources developed under this sub-activity will be linked to the GET Prepared toolbox, as relevant.	New open-access course on Biorisk management will be finalized by the end of the year. Revised Introduction to FMD will be published on FAO eLearning academy by 2022.	Two new open-access online course added and additional open access cascade material available.
1.1.2. Training programme	1.1.2.1. Evaluation of the training needs and development of a training menu according to these. Each country will receive 10 training credits to choose from a range of options established in the training menu. Implementation of the training programme, delivering the different training courses (online and face-to-face), regional initiatives, missions and tailored in-country assistance. Co-ordination with the TFP including regular on-line and/or face-to-face meetings.	The implementation of the training programme is ongoing, adapting the trainings planned to the current situation through the conversion of workshops to online solutions.	Implementation of the training menu is on-going. Nearly 90% of the 2022-2023 training credits have been allocated of which 3% were donated. 2% were spent.

1.1.3. TQMS	1.1.3.1. Quality assurance across the training programme and assessment of its impact.	Development of a Training Quality Management System in order to ensure the quality across the training programme; carry out regular evaluations of the impact of our training programme to improve the training design that can achieve higher capacity development at country level. This system will guarantee that EuFMD provides high-quality and high impact training.	Revised Impact report process	Development of a TQMS finalized in first half of 2020. A training Impact evaluation framework for regular analysis has been created.
	1.1.3.2. Accreditation of EuFMD training courses.	Accreditation of EuFMD training courses as continuing professional development (CPD) and/or part of a wider system for recognition of training for achievement of competences by veterinary authority personnel. Participation in the working group to define requirements for a post graduate training programme in the field of veterinary public health (VPH), within the framework of a VetCEE dossier of Competence.	No progress on this activity during the reporting period.	The EuFMD is liaising with countries where course delivery is planned before the end of the biennium to explore accreditation to CPD options.

6. Issues for the Executive Committee attention

As 30% of the TCs for the 2020-2021 biennium have been carried forward, the number of activities that need to be delivered for MNs have increased. This may result in higher demand for human resources.

Continued demand for virtual training is expected and careful attention to the prioritization of training development, together with ensuring that there are sufficient human resources available to support the training programme, will therefore continue to be important to balance in person and virtual training events. A number of virtual learning courses have been requested and new modalities for virtual learning should be evaluated for the upcoming courses.

The identification and engagement of Veterinary Services in countries in Pillar, I, II and III will be core not only to validate and refine the usability of the tool, but also to identify needs that the TOM does not currently address. The expected outcome is the identification, through a participatory approach, of a plan for the increased involvement of target countries in the adoption of the tool. The growing need to engage with countries in planning of piloting and adoption process requires additional resources dedicated to the project.

7. Priorities for the next six months

Open-access training resources

The focus for the open-access courses will be the transition of the Introduction to Foot-and-Mouth disease course to the FAO Virtual Learning Academy and the translation of the Rift-Valley fever introduction course in Arabic. As the virtual learning programme continues to evolve in response to the COVID-19 pandemic, it will be important to explore potential to release further content on an open-access basis and explore different type of asynchronous courses, including microlearning content.

Training programme

A number of courses are to be completed and/or planned for the period. The FEPC Bosnia and Herzegovina should end mid-October 2022. The face-to-face Wildlife Surveillance workshop and a multicounty FEPC are scheduled for November 2022. The FEPC North Macedonia is scheduled for January-February 2023. The second version of the workshop “Organizing Simulation Exercises for Animal Disease Emergencies” for Member Nations, has a tentative date February 2023. Additionally, the possibility of running between two and four RTT courses during this period is being explored.

TOM Training Management System

TOM pilots will run in parallel in countries in Pillars, I, II and III. The priorities will still include identifying further countries and engaging local stakeholders. Launching of Steering Committee to drive critical improvements in the development of the tool and plan for the future sustainability of the tool will be among the priorities for the next reporting period.

TQMS Impact of the training programme

A new report for the identification of impact of the training activities delivered during 2021 will be prepared and outcomes be presented during the next reporting.

8. Success stories and outputs

Training programme

EuFMD supported the planning and conduction of two RVF tabletop simulation exercises (Spain and Portugal).

Nearly 90% of the training credits for the 2022-2023 biennium have been allocated, which include donation of TCs.

Training Management System (TOM)

The finalization of the first draft of the TOM web app has allowed an initial pilot in Türkiye. The appointment of a Steering Committee for TOM Training Management System will be crucial to the development of the tool, engaging multiple stakeholders in the identification of priorities for the projects, areas of growth and potential adaptation of system to needs yet not identified.

9. Budget (€) COMP. 1.1

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.1	45,797	37,042	8,756
<u>Consultancy Operational</u>			
Component 1.1	91,131	72,259	18,872
<u>Consultancy Technical</u>			
Component 1.1	621,700	387,555	234,145
<u>Travel</u>			
Component 1.1	111,320	34,484	76,836
<u>Training</u>			
Component 1.1	88,660	81,297	7,363
<u>Contracts</u>			
Component 1.1	56,000	45,793	10,207
<u>Procurement</u>			
Component 1.1	20,000	14,403	5,597
<u>General Operating Expenses</u>			
Component 1.1	76,250	74,175	2,075
Total Direct Eligible Cost	1,238,012	747,007	363,851

Component 1.2 (Activity 2)

Emergency Preparedness

Objective

Improved national and regional capacity in FAST disease emergency preparedness through the provision of tools to test and improve contingency plans and through the establishment of networks for emergency preparedness and public-private engagement

Component Manager

Katherine Gibson

Sub-activity level manager

- 1.2.1 Katherine Gibson
- 1.2.2 Shankar Yadav / Koen Mintiens
- 1.2.3 Katherine Gibson
- 1.2.4 Koen Mintiens

1. Background

The activities in this component will engage with, and be provided to, each of the 39 Member Nations. Some additional European countries, that are not EuFMD members, might be invited to activities under this component.

GET Prepared. During phase IV of the program, the EuFMD developed the concept for a comprehensive toolbox (**GET Prepared**) of resources for contingency planners. It was presented during the 43rd General Session of the EuFMD (April 2019) and received support from the Member Nations (MN). Development of the tool is continuing, illustrated as a wall of bricks, divided into foundation, alert, emergency and reconstruction, each brick populated with guidance documents, assessment tools and best practices. The first building block in the foundation of the **GET Prepared** wall was launched at the 44th General Session of the EuFMD (April 2021). The contents for additional bricks (Vaccination, Depopulation and Disposal) have been developed and are undergoing review. During the second biennium of phase V, the development of **GET Prepared** will continue with the addition of more components in the “wall” and filling the existing bricks with more content. Options for updating the design and usability of the wall are being considered.

EuFMDiS. EuFMDiS is now available for use in thirteen countries and model development is in progress for Latvia. Discussion is ongoing with two countries (Sweden and France) for the adaptation of this model. The user group has been expanded to include Baltic and North-West European countries. New features of the model were further developed. Post-outbreak management has been incorporated in the EuFMDiS model for Denmark and work is in progress to include this feature for the models of other pilot countries (such as Austria). Work is in progress to include new functionality such as rendering/disposal capacity. ‘Shared pastures’ and markets are included as additional transmission pathways in the model. Farm-level biosecurity as a component of disease management will be further developed for facilitating compartmentalization and estimation of spread during an outbreak. Adaption of EuFMDiS to other FAST diseases remains a priority and model is being developed and at final stage for PPR in Bulgaria. Work is in progress for the expansion of the EuFMDiS model for Sheep pox and goat pox. Support for model users will be ongoing, with structured training, assistance with national studies, and centralized studies organized by the EuFMD.

Emergency Preparedness Network. During the first biennium of phase V, the **Emergency Preparedness Network (EPN)** list was created from the previous Modelling, Vaccination and Contingency Planning Networks. While the combined group is provided access to up-to-date information on different topics related to FAST disease Emergency Preparedness (EP), in this format, it has not proved useful in acting as a forum for EP experts. EuFMD will review the purpose and scope of this group and may consider the formation of ad hoc groups when seeking member nation input on aspects of emergency preparedness.

Public-Private Partnership (PPP) for Anticipating FAST- Disease Outbreaks. During the last biennium, work to increase **collaboration and engagement of the private sector** in the prevention and control of FAST diseases started, and a public-private partnership network was created. A workplan has been developed together with the private partners for the second biennium of Phase V, considering the priority gaps identified. Activities in the workplan have been partly achieved, with some delays. EuFMD will endeavor to include the PPP group in broader emergency preparedness activities including workshops and simulation exercises.

2. Countries or partner organizations involved

The 39 Member Nations of EuFMD are the direct beneficiaries of this component. As the activities under this component have a strong relevance to Ukraine and Moldova, and other such European countries that are not currently MN, the agreement of the EC for their participation may be proposed.

The work done under this component requires the collaboration of the MN and different technical partners in the EU Commission, particularly EFSA (EuFMDiS) and Directorate F of DG-SANTE (GET Prepared). Cooperation will also be maintained with the World Organisation for Animal Health (WOAH) and the FAO Emergency Management Center (EMC), to guarantee complementarity of work on emergency preparedness by the different organizations. The work involves representatives of European private sector organizations to increase collaboration and engagement of the private sector in the prevention and control of FAST diseases, addressing public and private concerns and challenges of disease control.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent by</i>
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	the Network and Training Support Officer
Every two years report to MN	Component manager	Written report; presentation	General Session	
Website	Component manager	Written report	Website	
Workshop/Mission	Lead facilitator	Written report if required	EuFMD, NSAH, others if required	

4. Objective of the component

Improved national and regional capacity in FAST disease emergency preparedness through the provision of tools to test and improve contingency plans and through the establishment of networks for emergency preparedness and public-private engagement.

Comp.(Activity)	Objective	Narrative	Expected results	Monitoring	Evaluation	Assumptions and risks
1.2 Emergency Preparedness	Improved national and regional capacity in FAST disease emergency preparedness through the provision of tools to assess and improve contingency plans and through the development of networks for emergency preparedness and public-private engagement.	Tools to assess and improve MN contingency plans are developed; Mechanism to facilitate discussion among experts in emergency preparedness and among private and public sector are developed.	80% of the countries to have introduced some improvement in their contingency plans by the end of the phase as a result of the work done under this component.	Regular collection of information through contacts with TFP.	Evaluations to be carried out by month 38 of phase V.	Assumes commitment from MN to contribute in their development and use. Assumes engagement of members of the networks.

5. Planned Component Sub-Activities

The expected results of the component will be achieved through sub-activities:

1.2.1. Tools for contingency planning and decision support for the better management of FAST disease risks

GET Prepared. Screening of existing resources and resource development is continuing, with development focusing on priority areas for emergency response, to create components of a complete wall protecting against incursions of FAST diseases, including the foundation as well as for alert, emergency and reconstruction.

Development of resources. New resources have been developed for three more bricks and are currently undergoing a review process. Further bricks have been identified for development. The original objective to fill 50% of bricks by the end of the workplan will not be achieved due to previous resource constraints but the progress rate has improved.

1.2.2. FAST disease modelling for Europe

European Foot and mouth Disease Spread Model (EuFMDiS). As per the EuFMD's plan to include more countries in the EuFMDiS, the model is in progress for Latvia and development is also planned in Sweden, The Netherlands, Belgium, and France. The new features and concepts such as post-outbreak management, wildlife component, the rendering plants/carcass disposal in the EuFMDiS model were further developed. The development of the model for PPR is in the final stage.

1.2.3. Emergency Preparedness Network for contingency planners and experts in emergency preparedness

Online network. During the period the "Emergency Preparedness Network" has not been active as a forum for engaging on emergency preparedness, and EuFMD will review its purpose.

Working groups and meetings. No working groups or other meetings were planned during this period according to the workplan.

1.2.4. Public-private partnerships for the prevention and control of FAST diseases

Public-private partnership Initiative for anticipating FAST disease outbreaks. The private partners of the PPP Initiative, or their nominated representatives, took part in two emergency vaccination workshops in March and June 2022, along with representatives from EuFMD MN and other organizations. More webinars, workshops and simulation exercises are planned for 2022 and 2023, with an emphasis on including the PPP group in other EuFMD emergency preparedness activities.

Sub-activities and their indicators:

	<i>Sub-activity level</i>	<i>Description</i>	<i>Progress in the current period</i>	<i>Progress overall towards biennium indicator</i>
1.2.1. Tools for Contingency planning	1.2.1.1 GET Prepared	Development of a comprehensive toolbox (“GET Prepared”) of resources for contingency planners.	Ongoing identification of examples of good practice and other resources. Existing resources identified for many of the 54 GET Prepared components and new resources being developed for several components.	a) Progress is delayed for identification and compilation of examples of good practice in EP during the first year of phase V. b) Progress is delayed for indicator for the online GET Prepared tool to be available by the end of the first biennium c) Progress is delayed for the indicator for at least 50% of the components of emergency preparedness (‘bricks in the wall’) will contain assessment resources and examples of good practice by the third year of phase V.
	1.2.1.2 Dev of resources	Development of resources such as guidance documents or assessment tools to fill a gap within a ‘brick’ in GET Prepared.	New resources developed on simulation exercises and risk communication.	Progress is delayed for the indicator for two new resources developed per biennium, if a need is identified.
1.2.2. FAST disease modelling	1.2.2.1 EuFMDiS	Incorporation of new countries to EuFMDiS to enable both national and Europe-scale assessment of the effects of FMD incursions and control measures. Addition of new features in EuFMDiS as agreed by the expert panel under the STC. Adaptation of the model to other FAST diseases. Support to EuFMDiS users to facilitate the use of the model to carry out studies that are useful to test their contingency plan.	Model has been developed for Denmark, Estonia, and Lithuania. Data is being collected from Latvia. Sweden, the Netherlands and France will join the modeling project soon. Work is underway to include the new model components and additional diseases. Users are supported through webinars, online and face-to-face meetings. Model advocacy is being done through oral and poster presentations and online meetings.	All activities are achievable within the given timeline: a) EuFMDiS models for Denmark, Estonia, and Lithuania are available and are operational. We performed model demonstrations for Sweden and France; their decision to join the modeling project is awaited. b) EuFMDiS adaptation to CSF finalized by September 2022. Development of the model for PPR model for Bulgaria is underway. c) Post-outbreak management feature is already included in the Denmark model. Market, Pastures pathway, and wildlife components will be available in the model in the next months. d) Fifteen users support activities have been provided since the beginning of phase V: seven webinars, seven exercises with instructions to complete them and one face-to-face meeting.

1.2.3. Emergency Prep Network	1.2.3.1. Online network	Development of an online page to host the new Emergency Preparedness Network, integrating the previous Modelling, Vaccination and Contingency Planning networks. Provide opportunities for members to interact and learn through webinars or other resources related to contingency planning, emergency vaccination and disease modelling. Provide a forum to increase the sharing of good practices in emergency preparedness.	Network used in 2021 for online survey and online meeting on emergency vaccination for FAST diseases (comp 1.3.1), and for notification of open access webinars	<p>a) Online site developed and participants enrolled with four months of delay in relation to indicator.</p> <p>b) The result of the scoping work on preparedness for emergency vaccination for FAST diseases (comp 1.3.1) was made available through the network in the last reporting period. However, there has been little further activity involving the EPN and its purpose is being reconsidered.</p>
	1.2.3.2. Working groups and meetings	Organization of working groups and meetings to reinforce the discussion forum provided by the online network. Joint TFP/EP preparedness experts meetings might be considered	No activities planned for this period	EuFMD will consider the formation of ad-hoc groups as needed to progress discussions or conduct peer review of emergency preparedness activities.
1.2.4. PPP	1.2.4.1. Public-private partnership Initiative for anticipating FAST disease outbreaks	Establish a discussion forum to work with different stakeholders on a) best practices to increase collaboration and engagement of the private sector in the prevention and control of FAST diseases; b) concerns and challenges of disease control for the private sector; c) better ways to raise awareness on FAST diseases among the private sector.	<p>The PPP initiative meets on a monthly basis to plan the activities as provided in the workplan.</p> <p>A second webinar on Business continuity during FAST disease outbreaks was conducted.</p> <p>The PPP Initiative representatives contributed to the March 2022 workshop on Preparedness to use emergency vaccination to evaluate decision criteria for implementing emergency vaccination in four different regions of the EU (Component 1.3).</p>	<p>The PPP Initiative had met monthly, but there has been a hiatus in meetings due to staff movements.</p> <p>b)</p> <p>c) The PPP initiative contributed to two Preparedness to use emergency vaccination workshops</p>

6. Issues for the Executive Committee attention

GET Prepared

The development of the components of the Get Prepared wall is ongoing. The publication of one additional brick is delayed by an external review process. Resource constraints have been addressed and increased rate of progress is expected. Indicators and milestones were revised during PI meeting in July 2022. Some MN have shown willingness to share resources that can be used or adapted for use in various bricks in the wall.

PPP

The Public-Private Partnership should be promoted more. EuFMD will look for ways to include the PPP group in broader emergency preparedness activities including workshops and simulation exercises. The collaboration between public and private stakeholders is an opportunity to improve FAST disease control measures so they have minimal impact on animal health and welfare, and business continuity. This will allow best support to FAST by supported by all stakeholders involved.

7. Priorities for the next six months

GET Prepared and development of resources

- Ongoing development of new components (bricks) according to availability of suitable, peer-reviewed resources;
- Prioritization of new components (bricks) to be drafted;
- Obtaining feedback from (selected) MNs to improve utility of the GET Prepared toolbox;
- Continuing identification of relevant resources and information exchange;
- Updating the Get Prepared platform to a modern and user-friendly format.

EuFMDiS

- Development of the EuFMDiS model for Latvia. Further collaboration with countries such as France, Sweden, Belgium, and the Netherlands for the adaption of the models and data collection;
- Further development and finalization of the different components as per the workplan;
- Development of the EuFMDiS for other FAST diseases such as Sheep pox and goat pox and Lumpy skin disease;
- User support activities such as webinar, country support training.

PPP

The PPP Initiative will organize a webinar: Issues that arise with disposing of animals when controlling FMD outbreaks and a discussion exercise on disposal is proposed to follow the webinar on disposal issues.

The group will be invited to nominate representatives to attend relevant EuFMD activities on emergency preparedness, including future work on contingency planning for emergency vaccination.

8. Success stories and outputs

PPP

The PPP Initiative contributed to discussions in the two workshops on Preparedness to use emergency vaccination, held in March and June 2022 (Component 1.3). EuFMDiS was used for preparing and running the scenarios for FMD evolution for the workshops and received positive feedback from countries. The EuFMDiS is available for **13** countries and work is in progress for other countries. Models are under development for other FAST diseases (PPR to be finalized and SPGP in progress) and can be very relevant and useful for the contingency planners and decision makers in case of disease occurrence.

9. Budget (€) COMP. 1.2

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.2	24,425	19,945	4,479
<u>Consultancy Operational</u>			
Component 1.2	91,131	72,259	18,872
<u>Consultancy Technical</u>			
Component 1.2	391,860	444,716	52,856
<u>Travel</u>			
Component 1.2	30,360	29,005	1,355
<u>Training</u>			
Component 1.2	44,330	30,920	13,410
<u>Contracts</u>			
Component 1.2	80,000	35,614	44,386
<u>Procurement</u>			
Component 1.2	-	-	-
<u>General Operating Expenses</u>			
Component 1.2	26,130	17,071	9,059
Total Direct Eligible Cost	688,236	649,531	38,705

Component 1.3 (Activity 3)

Emergency vaccination

Objective

Increased preparedness for use of vaccination in emergency response plans for FAST diseases through an increased understanding of the constraints to use vaccination and through the establishment of new system to increase FMD vaccine security.

Component manager: Katherine Gibson

Sub-activity level manager

- 1.3.1** Katherine Gibson / David Mackay
- 1.3.2** David Mackay
- 1.3.3** Martin Illott

1. Background

The activities in this component will engage with, and be relevant to, each of the 39 Member Nations. The EuFMD will provide **regular guidance** to contingency planners at national and European (EU and GF-TADs) scale on all aspects of vaccine availability and performance for use in emergency vaccination programmes, for the priority FAST diseases. This activity will be linked closely to the work done under **component 7** of Pillar I to update and use regularly the PRAGMATIST to provide information of the FMD risks and the relative value of the antigens available for use in European emergency reserves.

A **Multi-stakeholder platform (MSP)** for FAST disease vaccine security has been established. These relations need to be developed in order to generate information, to improve understanding of issues and to identify pathways or actions to improve the availability of vaccines suitable for use by Member Nations in disease emergencies.

A workshop series 'Preparing to use emergency vaccination for FAST diseases' was held in March and June 2022 to discuss the decision, and impacts of the decision, to use emergency vaccination for FAST diseases in EuFMD member nations. Work to address constraints to using emergency vaccination will continue in the next six months, with a focus on resourcing for vaccination and surveillance options for demonstrating freedom following use of emergency vaccination in a previously FMD-free area.

A new system to improve vaccine quality and availability will be established:

- A **prequalification system for FAST vaccines (PQv)**, with an initial focus on FMD vaccines, is in the process of being implemented to provide assurance in advance of need on the quality of vaccines procured for vaccination against FAST diseases.
- An emergency procurement and supply mechanism for FMD vaccines, operating through FAO procurement procedures through application of the PQv scheme with or without an assurance (Assured Supply) contracting modality: Assured Emergency Supply Options (**AESOP**), is considered an important step to ensure vaccine security. Once established, PQv could form an important element of AESOP that has the potential to supplement existing vaccine and antigen banks by creating long-term supply arrangements for FAST vaccines of assured quality in emergency and endemic situations.

These new systems are relevant for Member Nations, and for the Global Strategy for the control of FMD. The work will be done in collaboration with Pillars II and III. The prequalification of vaccines AESOP systems may be a model for other FAST diseases. By the end of phase V or in future phases of the program, the extension to other diseases may be considered.

2. Countries or partner organizations involved

The direct beneficiaries of this component are the 39 Member Nations of EuFMD. Cooperation will be established with the World Organisation for Animal Health (WOAH) and the Emergency Management Center (EMC) of FAO, GF-TADS for the development of most of the sub-activities under this component.

3. Reporting

Reporting format	Responsibility	Output	Distribution	Sent out by
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager	Written report; presentation	General Session	
Website	Component manager	Written report	Website	
Mission/Meeting	Team leader	Written report	EuFMD, NSAH, others if required	

4. Objective of the component

Increased preparedness for use of vaccination in emergency response plans for FAST diseases through an increased understanding of the constraints to use vaccination and through the establishment of new system to increase FMD vaccine security.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
1.3 Emergency vaccination	Increased preparedness for use of vaccination in emergency response plans for FAST diseases through an increased understanding of the constraints to use vaccination and through the establishment of new system to increase FMD vaccine security.	Development of a multi-stakeholder platform for FAST disease vaccination security and work to improve the level of preparedness to use emergency vaccination for FAST diseases in MN; Establishment of new system to increase FMD vaccine security.	60% of the countries to have incorporated changes in their contingency plans regarding the use of emergency vaccination against FAST diseases, as a result of the work done under this component, by the end of the phase; 3 million vaccine doses assured under AESOP/assurance programme.	Regular collection of information through contacts with focal points in the MN.	To be carried out by month 38 of phase V.	Assumes commitment from MN to incorporate the recommendations given by the PPSP or to consider the use of the new system to increase vaccine security Risk of lack of interest from manufacturers in submitting their vaccines for prequalification and/or involvement in long term supply arrangements

5. Planned Component Sub-Activities

The expected result of the component will be achieved through **sub-activities**:

1.3.1. Sub-activities to better support the use emergency vaccination for FAST diseases in Member Nations

Following the 2020 Open Session, there were follow-up online workshops with contingency planners/risk managers in which scenario-based discussions took place on decision criteria for implementing emergency vaccination, and modelling (using EuFMDiS) of vaccination and other control measures for FMD scenarios in different countries. Future work is proposed on resourcing for vaccination, and evaluation of post-vaccination surveillance strategies to confirm freedom of disease (FMD).

Development of a multi-stakeholder platform (MSP) for FAST disease vaccination security:

The work of the secretariat to address the main issues identifies by vaccine security multi-stakeholder platform (MSP) at the workshop held virtually on the 25th January 2022 as a follow-up to the meeting 'Explore options to improve security of vaccine supply against Foot-and-Mouth and other similar transboundary diseases (FAST)', held at the FAO headquarters, in Rome in January 2020.

The workshop focused on a number of issues critical for FAST vaccines security including Vaccine prequalification system (PQv); Vaccine demand estimation, utilizing VADEMOS (Vaccine Demand Estimation Model - FMD); the impact of the Nagoya Protocol on vaccine development; How PPSPs could be utilized effectively to address these issues and improve the availability and deployment of FAST vaccines. In addition, updates from the AgResults FMD Vaccine Challenge Project in Eastern African were discussed to provide a paradigm for private-public partnerships in facilitating vaccine security.

The main actions agreed were:

- EuFMD needs to develop and implement the PQv procedure that is cost-effective for stakeholders and optimizes resources to ensure an efficient system that enhances vaccine security;
- EuFMD should consider how FAST disease vaccines developed using novel technologies that have been authorized by a national regulatory authority capable of assessing such technologies, could be incorporated within the scope of PQv;
- Stakeholders should provide input for the further development of the VADEMOS model. A user group will be created aiming at finalizing the model;
- VADEMOS will be tested with different disease and user groups. Outcomes will be presented at the EuFMD Open Session in October, 2022;
- The Multi-Stakeholder Platform (MSP) will prepare a document describing the practical impact that application of the Nagoya Protocol is having on the development of vaccines against FAST diseases, which can be fed into discussions between multinational organizations who are developing guidance on the application of the protocol.

Development of guidance papers and studies

The technical guidance and administrative procedure for the prequalification (PQv) of FMD vaccines is under public consultation until the 30 September. Following the 2020 meeting in Rome, a Technical Advisory Group on Prequalification (Initially, PQTAG, now referred to as **PQvTAG**) was established, involving experts from a range of public and private stakeholders. A prequalification procedure for vaccines against FAST diseases, developed by PQvTAG, was published on the EuFMD website. The 'Post Consultation document for the establishment of a Prequalification procedure for vaccines against Foot-and-mouth And Similar Transboundary animals diseases (FAST)' will form the basis of PQv procedure, initially for FMD vaccines with a view to extend the procedure to other TADs once PQv is implemented. PQvTAG will continue to develop guidance and provide advice on technical and procedural during the implementation phase of PQv. The Standing Committee on Prequalification of Vaccines (SCPQv), decision-making, governance and oversight committee has been established from nominated members from MNs and Observers from partner organizations, with Dr Gábor Kulcsár, elected Chair of the committee. The SCPQv has provided advice on the implementation of the PQv scheme and draft administrative procedure and technical guidance and adopted the two documents for public consultation.

1.3.2. New system to improve FMD vaccine quality and availability

During the reporting period, the EuFMD PQv team focused its effort to implement PQv in 2022 for FMD vaccines with the aim to be in a position to receive PQv applications from manufacturers in Q1 2023. Once a functional PQv system has been established and sufficient experience has been gained, a decision will be taken whether to continue to operate PQv 'in house' or to outsource the activity, or certain elements of it. The PQv project plan is being actioned and key milestones identified to is to try to ensure all the elements of the PQv scheme, including the technical, administrative guidance and IT system will be operational by Q4 2022.

The Standing Committee on Prequalification of Vaccines (SCPQv) elected Dr Gábor Kulcsár, Head of the Directorate of Veterinary Medicinal Products, at the National Food Chain Safety Office, in Hungary, as Chair of the committee. The SCPQv has provided advice on the strategy for implementation of the PQv scheme and development of the draft administrative procedure and technical guidance that are now subject to public consultation with a closing date of the 30 September.

A critical element of the PQv system is to identify suitably qualified independent scientific and technical experts (ISTEs) to evaluate PQv applications. Work is ongoing to recruit providers of evaluation services through a Public Invitation with the objective to have evaluation teams in place by Q4 2022. Following the closure of the Call for Independent Scientific and Technical Evaluation Services to EuFMD for Prequalification of FMD vaccines on the 30 June, three Letters of Agreement (LoAs) are being progressed with experienced European regulatory and research organizations to provide evaluation services at Stage

1 of the implementation of the PQv scheme. In addition to LoAs with public institutions, a call for independent experts was published in August with the aim of identifying suitable Fast vaccine experts to support the evaluation of PQv applications.

Once the technical and procedural elements of the PQv system are in place, vaccine manufacturers will be invited to submit applications for PQv which will be evaluated and information on vaccines meeting the criteria for PQv will be published on the EuFMD website. Once sufficient applications have been evaluated, a review of the procedure will be carried out and appropriate changes made, potentially increasing the scope to include vaccines against other FAST diseases if appropriate.

Assured emergency Supply Options (AESOP) for FMD vaccines

The work on developing a PQv procedure is intended to provide one element of the Assured Emergency Supply Options for FMD vaccines (**AESOP**). In order to develop further options for long term agreements (LTAs) for supply of FMD vaccines as part of AESOP, it will first be necessary to put in place the systems both to ensure the quality of vaccines supplied and to provide assurance to manufacturers that if they invest in PQv of their vaccines, then a market for these vaccines will exist, thereby reducing risk and promoting vaccine security. The second element required will be a clearer picture of the demand for FMD vaccines and the impediments that exist to their use. This aspect will be addressed through Pillar III and sub-activity 1.3.1 of Pillar I. Work will therefore be phased and specific actions to achieve AESOP will start once the PQv project is sufficiently developed. The PQv Team will work with FAO procurement experts on how best to integrate PQv into FAO procurement procedures as part of establishing LTAs that can supplement existing arrangement for national and international vaccine banks. It is envisaged that PQv will enable eligibility for access to restricted tender procedures as part of AESOPs.

Sub-activities and their indicators

Sub-activity level	Description	Progress in the current	Progress overall towards biennium indicator
1.3.1. Preparedness for emergency vaccination	Improve the level of preparedness to use emergency vaccination for FAST diseases in MN by addressing the constraints identified through the scoping work conducted by EuFMD.	A workshop series to discuss implementing vaccination was held in March and June 2022.	On track towards achieving the indicator.
	Regular reporting and guidance to MN.	Regular reporting to MN on the state of preparedness for emergency vaccination in the contingency plans across Europe and on the issues that constrain MN to include emergency vaccination in their plans. Regular updating to the MN on the work done by the MSP, including the communication of identified pathways or actions to improve vaccine availability. Regular guidance to contingency planners on aspects of vaccine availability and performance for use in emergency vaccination programmes for the priority FAST diseases.	Report MSP meeting has been made available online and shared with the MN. MSP meeting report has been sent out and made available according to what was established in the workplan. Reporting to MN during GS44.

1.3.2. PPSP	1.3.2.1. MSP regular meetings	Development of the Multi-stakeholder platform for FAST (disease vaccination security) that will meet regularly to share information and opinions in order to improve understanding of issues and to identify pathways or actions to improve the availability of vaccines suitable for use by Member Nations in disease emergencies.	The Second meeting of the PPSP “Improving FAST vaccine security through stakeholder engagement” was held virtually 25 January 2022	A second meeting took place to review progress on the actions agreed at the Rome 2020 meeting on vaccine security and identify new actions for improving access to high quality vaccines for FAST diseases.
	1.3.2.2. Development of guidance papers and studies	Development of guidance papers through the establishment of and support to working groups of experts and/or development of studies on vaccine related issues. Priorities on the guidance papers and studies to develop will be established during the MSP meetings.	A detailed proposal for a PQv system has been published on the EuFMD website following consultation with stakeholders.	Discussion document on a proposal for a prequalification system for FAST vaccines has been published that will form the basis for a series of guidance documents on operation of the PQv procedure.
	1.3.3.1. Pre qualification system for the immediate procurement of vaccines meeting pre-agreed quality criteria for use in MN.	Establishment of a prequalification system for the procurement of vaccines meeting pre-agreed quality criteria for use in MN. Once established, PQv <u>could</u> form an important element of a system of Assured Emergency Supply Options (AESOPS) that have the potential to supplement existing vaccine <u>and antigen</u> banks by creating long-term supply arrangements for FAST vaccines of assured quality in emergency and endemic situations.	A strategy and plan for the implementation of the PQv system has been developed and a team recruited within EuFMD for its operation. A Standing Committee for Pre-Qualification of FAST Vaccines (SCPQv) has been established that will act as the decision making and governance committee for PQv.	A PQv system is in the process of implementation and should be in a position to receive applications by Q1 2023.
	1.3.3.2. Assured emergency Supply Options (AESOP) for FMD vaccines.	Establishment of an emergency procurement and supply mechanism for FMD vaccines, operating through FAO procurement procedures through application of the pre-qualification system with or without an assurance (Assured Supply) contracting modality (AESOP). In a first phase, the system will be defined and the cost of maintaining the AESOP for 3 million FMD vaccine doses will be estimated. In a second phase, the system will be established and the vaccines for emergency response in Member Nations and in neighbouring countries will be available according to the contracts and/ or agreements established with the countries. In a third phase, the extension of the AESOP to other FAST disease might be considered.	FAO procurement division is involved in the discussion of the PQv system.	The project plan envisages establishing the PQv system as first step in the development of AESOP.
1.3.3 System for vaccine security				

6. Issues for the Executive Committee attention

N/A

7. Priorities for the next six months

Emergency vaccination

Further work further to improve the state of preparedness for emergency vaccination in the plans of the MN and on the issues that constrain them from inclusion of vaccination in their plans. This should be done in close collaboration with components 1.2 and 1.4 of pillar I. An internal working group will ensure coordination of activities related to vaccination for FAST diseases across all three pillars.

Implementation of the system for PQv

Put in place the elements necessary for operation of the PQv procedure, namely the secretariat at EuFMD, the scientific evaluation teams, the Standing Committee on PQv and the documentation necessary for operation and guidance.

8. Success stories and outputs

The work on the state of preparedness for emergency vaccination for FAST diseases engages MN in understanding the constraints for implementing emergency vaccination and the potential role for emergency vaccination in contingency planning. By combining this work with tools such as EuFMDiS and Get Prepared and platforms such as PPP and MPS, the leverage of any actions or recommendations can be enhanced.

The document 'Post Consultation document for the establishment of a pre-qualification procedure for vaccines against FAST diseases' is available on the EuFMD website [here](#).

9. Budget (€) COMP. 1.3

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.3	45,798	34,111	8,756
<u>Consultancy Operational</u>			
Component 1.3	91,131	72,259	18,872
<u>Consultancy Technical</u>			
Component 1.3	194,920	102,418	92,502
<u>Travel</u>			
Component 1.3	20,240		20,240
<u>Training</u>			
Component 1.3	25,773		25,773
<u>Contracts</u>			
Component 1.3	80,000		80,000
<u>Procurement</u>			
Component 1.3	-	-	-
<u>General Operating Expenses</u>			
Component 1.3	12,440	276	12,164
Total Direct Eligible Cost	470,302	211,994	258,307

Component 1.4 (Activity 4)

South-Eastern Europe

Objective

Improved surveillance and emergency preparedness against FAST diseases in South- Eastern Europe achieved through increased collaboration in the region, implementation of risk-based surveillance approaches, assessment and improvement of contingency plans and access to a diagnostic bank

Component manager

Tsviatko Alexandrov

Sub-activity level manager

1.4.1 Charlotte Rendina / Mattia Begovoeva

1.4.2 Goran Filipovic / Mirzet Sabirovic

1.4.3 Goran Filipovic / Kiril Krstevski

1.4.4 Kiril Krstevski

1. Background

Components 1.3. Thrace and 1.4. Balkans have been merged into this new component. Activities in this component are provided specifically to the following eight countries: Albania, Bosnia and Herzegovina, Bulgaria, Greece, Montenegro, North Macedonia, Serbia and Türkiye. Moldova and Ukraine could be included in activities organized under this component

Historically, the Thrace region of Greece, Bulgaria and Türkiye has been a high-risk area for the introduction of FMD and other trans-boundaries diseases into Europe. Coordinated activities and risk-based approach to surveillance during phase IV of the programme, has led to greater confidence in the FMD-free status of the region. The likelihood of early detection of an incursion is greatly increased. During phase V, this **risk-based surveillance approach** is being adapted to other FAST diseases and applied in other regions and/or countries covered by component (e.g. adaptation to LSD in Balkans countries). During the first biennium of phase V, a new database to register active surveillance information was developed for Thrace, and the FMD model to estimate the confidence of disease freedom based on the surveillance information was adapted to two FAST diseases (PPR, SPGP). In the other countries of SEE, it was concluded that the support in the region in relation to LSD and PPR is already covered by other partners/projects working in the region and countries agreed on activities for the second biennium aiming to transfer the knowledge and methodologies for various surveillance options available, including improving passive surveillance through the identification and collection of individual and population health indicators and its impact on early detection of FAST diseases. In phase V, the work **to improve emergency preparedness** against FAST diseases in the region will remain a priority using different tools such as GET Prepared, adaptation of EuFMDiS to countries in the region, workshops, simulation exercises, and in-country support. During the first biennium of phase V, multiple simulation exercises were supported in SEE, using an innovative approach to online simulation exercises with the assistance of a crisis simulation software. Activities to transfer knowledge and skills to improve emergency preparedness were organized (e.g., workshop on simulation exercise organization and FAST disease laboratory detection and laboratory contingency planning). Specific in-country support to improve SEE countries preparedness work for TADs and other similar FAST diseases management, was provided to the countries, based on request and priorities.

One of the components to improve preparedness in Phase V, will be the establishment of a **diagnostic bank** of reagents for FAST diseases available for the countries in the region. This will be accompanied by activities to improve **laboratory proficiency and capacity** for FAST diseases across the region, for example supporting the organization of laboratory simulation exercises. During the first biennium of phase V, the diagnostic bank of reagents was established for FMD in the first year, broadening some of its reagents to other FAST diseases from the second year of this biennium.

A key element of this component will continue to be facilitation of the co-ordination between the countries of the region. In the new phase, management meetings will be organized as **joint meetings**. This cost-efficient approach will facilitate co-ordination among South-Eastern European countries. There will also be smaller parallel meetings to discuss specific topics within the region, as necessary. During the first biennium of phase V, regular SEE Management meetings took place, two a year, to define priorities in the region and follow up the outcomes of the activities carried out involving all the countries, beneficiaries of the Component.

In this new phase, support will be given to the establishment of **national stakeholders networks** to connect veterinary services, laboratories, research institutions and universities in order to guarantee a transfer of knowledge from research institutions to decision-makers and that research is orientated to generate evidence to fill knowledge gaps identified by national competent veterinary services. Support was given for the establishment of national networks to connect veterinary services, laboratories, research institutions and universities in order to guarantee a transfer of knowledge from research institutions to decision-makers and that research is oriented to fill knowledge gaps identified by veterinary services. A draft Guide and a Checklist for stakeholders' networks engagement has been developed and approved by the countries. A call for research studies with the aim to promote the creation of stakeholder networks between veterinary services and research institutions and research based on policy needs, led to the selection and funding of five projects in SEE.

The research studies done with EuFMDiS in the region will be encouraged. EuFMDiS can assist to improve contingency plans by modelling for example, which control strategies would be more effective in the case of a FMD (or other FAST disease outbreak), resources needed in the case of an outbreak, etc. Currently, Bulgaria is part of EuFMDiS (as are Croatia and Romania), North Macedonia is working in the data collection to be included in the model and Türkiye has shown great interest in adapting EuFMDiS to Thrace. Through component 2 of Pillar I, economic and technical support will be given for the incorporation of new South-Eastern European countries into the model.

2. Countries or partner organizations involved

The direct beneficiaries of this component are Albania, Bosnia and Herzegovina, Bulgaria, Greece, Montenegro, North Macedonia, Serbia and Türkiye. Croatia and Romania will be considered for some of the activities under this component. Additionally, Moldova and Ukraine could be included in activities organized under this component. The work done under this component will require the close collaboration of the MN involved and of FAO REUT.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
Six monthly report to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years report to MN	Component manager	Written report; presentation	General Session	
Website report	Component manager	Written report	Website	
Workshop/Mission reports	Lead facilitator/Leader of the Mission	Written report if required	EuFMD, NSAH, others if required	

4. Objective of the component

Improved surveillance and emergency preparedness against FAST diseases in South-Eastern Europe achieved through increased collaboration in the region, implementation of risk-based surveillance approaches, assessment and improvement of contingency plans and access to a diagnostic bank.

Comp.	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
1.4 SEE	Improved surveillance and emergency preparedness against FAST diseases in South-Eastern Europe achieved through increased collaboration in the region, implementation of risk-based surveillance (RBS), assessment and improvement of contingency plans and access to a diagnostic bank.	Risk-based surveillance system for FAST diseases are established and supported; Activities to facilitate collaboration, information sharing and to improve contingency planning in the region are carried out; A diagnostic bank is established.	Confidence of FAST disease freedom over 90 % in Thrace maintained for 48 months; Focal points of eight countries in the region consider that their preparedness against FAST diseases has increase by the end of the phase (assessed in a scale 0 to 7).	Cameron model to calculate regularly level of confidence in absence of disease; Collection of information through surveys done to the focal points at different moments of the phase.	Evaluations to be carried out by month 38 of phase V.	Assumes commitment from MN to participate actively in the various activities organized or supported by EuFMD.

5. Planned Component Sub-Activities

The expected result of the component will be achieved through sub-activities:

1.4.1. Risk-Based Surveillance (RBS) to maintain high level of confidence in the absence of FAST diseases in the region and in capacity for early detection of a FAST disease incursion

Support to Greece, Bulgaria and Türkiye to maintain, improve or update the RBS system established in Thrace as necessary

Data concerning FMD, lumpy skin disease (LSD), Peste des petits ruminants (PPR), and sheep pox and goat pox (SPGP) are submitted regularly by countries. No FAST disease cases were detected in this period and the probability of freedom from FMD, LSD, PPR, and SPGP in the Thrace region presents a stable trend. The guide “*THRACE risk-based surveillance system. Countries' data requirements and database user manual*” has been submitted to Thrace countries' collaborators for their review and will be used to describe the risk-based surveillance system implemented in Thrace and promote its adoption by other SEE countries. A scientific poster was developed to present recent updates to the Thrace risk-based surveillance programme and its contribution in increasing the confidence in disease freedom and reconfirming the countries' disease-free status by the World Organization for Animal Health (WOAH). The poster will be presented at the 30th WOAH Regional Conference in Catania, Italy, 3-7 October 2022.

Active surveillance by collaborators in Thrace countries includes clinical examinations and serological testing for FMD. However, passive surveillance through disease reporting by farmers and members of the public is an important component of FMD detection. To increase reporting of potential FMD and other FAST disease cases, awareness handouts and a video were produced for distribution in all Thrace countries.

These activities should not only increase detection of potential incursions of FMD and other FAST diseases into the Thrace region, but also provide capacity building by increasing communication between farmers and regulatory officials for all animal disease reporting.

Establish new RBS system for FAST diseases in other countries or regions, as considered necessary

The Cameron model for “confidence in FMD freedom” was adapted to other FAST diseases (PPR, SPGP, LSD) during the previous reporting period. The models’ parameters have been updated to reflect the current situation in terms of surveillance components implemented in the different countries and the performance of the tests used. Confidence of freedom from PPR, SPGP, and LSD is currently included in the cycle reports.

SEE countries agreed on activities for the second biennium aiming to transfer the knowledge and methodologies for various surveillance options available, including improving passive surveillance through the identification and collection of individual and population health indicators and its impact on early detection of FAST diseases.

Extension of RBS from Thrace to other countries, envisaged in the work plan is progressing well and Cameron Model is successfully adapted for other FAST diseases with flexibility to be used in other territories outside of the scope of Thrace RBS programme. Support co-ordination activities at national and regional level in South-Eastern Europe: Improve regional co-ordination

A South Eastern Europe (SEE) and Thrace management meeting was held on 14-15 July 2022, in Herceg Novi, Montenegro, in hybrid mode, to resent progress done in the implementation of EuFMD Phase V work plan for the South Eastern Europe region during the last six months, and agree on additional areas of interest where further support is required to improve emergency preparedness and coordination across the region, including the implementation of syndromic surveillance

Strengthening of the regional collaboration through regular exchange of experiences and information on epidemiological situation and surveillance programs implementation, have been established through joint Thrace and SEE MM meetings.

For improved coordination of the activities in the region, representatives from the European Commission, DG SANTE, FAO Regional Office for Europe and Central Asia (FAO REU), and regional EU funded IPA project ADWEB were invited to scope and discuss the activities planned in the region.

A coordination meeting of the SEE Laboratory network was organized on the 14 July, with input from representatives from the EU and FAO FMD Reference Laboratories (ANSES, IZSLER). The meeting addressed some of the key challenges related to the routine diagnostic and applied research work of the of the SEE national laboratories. The conclusions were presented at the SEE Management Meeting to be taken into consideration with the future planning of support activities.

Establish national networks to connect veterinary services, laboratories, research institutions and universities

Following the 2nd call for proposals in May 2022 (for policy and stakeholder networks engagement in generating evidence to meet specified national competent veterinary authority policy needs), four small research projects were endorsed to be implemented in the SEE region. One of them has the regional approach (North Macedonia and Montenegro) transferring the knowledge and good practices and enhancing cooperation in the SEE region.

A Guide and a Checklist for stakeholders and policy-makers network engagement has been developed and is now available.

1.4.2. Sub-activities aimed at improving emergency preparedness, contingency plans and standard operating procedures

Training activities

Animal health surveillance workshop, with focus on improving passive surveillance through the identification and collection of individual and population health indicators and its impact on early detection of FAST diseases was organized on 13th July 2022 in Herceg Novi, Montenegro, as hybrid event, preceding Thrace and SEE management meeting, gathering the EuFMD NFPs and NRL's LFPs from the region, while relevant officials from national epidemiological services participated online. Technical support in workshop preparation and delivery was provided by EuFMD's partner SAFOSO.

Simulation exercises

- A Laboratory simulation exercise (tabletop) was conducted on 14th of September in the Croatian Veterinary Institute to test preselected laboratory procedures from the contingency plan. The nominated relevant regional NRL representatives, who had active roles during the exercise debriefing session, participated in the exercise. It allowed exchange of experiences and good practices among FAST diseases NRLs, with the impact in work on laboratory contingency plans and procedures, building on laboratory preparedness work.
- Multi-country simulation exercise (drill) is planned for November/December 2022, gathering official veterinarians and other staff involved in AH emergency control from Montenegro and North Macedonia.

1.4.3 Diagnostic bank of reagents for FAST diseases available for the countries in the region

Development and maintenance of diagnostic bank of reagents for FAST diseases available for the countries in the region

All SEE national laboratories received support in reagents from the diagnostic bank to ensure continuous availability of the FMD diagnostic procedures, and an annual external quality control through the Proficiency Testing organized by the EU Reference Laboratory for FMD.

The new Letter of Agreement with the IZSLER institute has been finalized and will be used to manage and maintain the diagnostic bank until the end of this biennium.

The concept of the SEE diagnostic bank, as well as the three-year experience with its implementation, have been incorporated in the feasibility study for a wider European bank of reagents, prepared by the assigned Working group.

Sub-activities and their indicators

	<i>Sub-activity level</i>	<i>Description</i>	<i>Progress in the current period</i>	<i>Progress overall towards biennium indicator</i>
1.4.1. RBS	1.4.1.1. RBS in Thrace	Support to Greece, Bulgaria and Türkiye to maintain and improve the RBS established in Thrace. This will include the revision of the Cameron model, as necessary.	RBS is well maintained and fully operational. New functionalities to the database have been developed and added. Awareness video and handouts produced for distribution to farmers to increase passive surveillance of FMD.	The surveillance system continues to work regularly as foreseen and some important improvements have been included.
	1.4.1.2. Establishment of new RBS system.	Adaptation of the current RBS to other countries or regions and to other diseases, as considered necessary, for example to support the exit strategy in the Balkan countries to recover the LSD- free status.	The new PPR and SPGP models need to be revised before use, but preliminary results show a level of confidence above 90% in Greece and Bulgaria. Other SEE countries agreed on activities for the second biennium aiming to transfer the knowledge and methodologies for various surveillance options available, including the syndromic surveillance.	Western Balkan countries confirmed an interest in taking part in Thrace countries meetings.
1.4.2. Co-ordination activities	1.4.2.1. Improve regional co-ordination	Management meetings will be organized regularly to define priorities in the region and follow up the outcomes of the activities carried out under this component. Additional multi-country activities such as simulation exercises will also contribute to improve the collaboration between countries in the region.	The SEE Management Meeting and Thrace meeting were held online on 14-15 July 2022. Laboratory coordination meeting held on 14 July 2022	The next management meeting is planned for February 2023.
	1.4.2.2. Establish national networks to connect veterinary services, laboratories, research institutions and universities.	Support for the establishment of national networks to connect veterinary services, laboratories, research institutions and universities in order to guarantee knowledge transfer from research institutions to decision makers and that research is orientated to fill knowledge gaps identified by veterinary services. The key stakeholders that should be part of these national networks will be identified by each country and support will be given for these networks to produce studies or to organize activities that aim at improving emergency preparedness and response. Research studies done with EuFMDiS in the region will be encourage, as this tool can assist to improve contingency plans.	The 2 nd SEE FAR call has been issued to further promote the engagement of stakeholders in the region.	Four successful project proposals have been submitted and supported through finalization of Letters of Agreement.

1.4.3. Emergency	1.4.3.1. Training activities	Specific workshops about topics of interest in the region will be organized or additional seats for participants from South-Eastern Europe will be offered to attend workshops organized under component 1. Specific laboratory training activities will be considered according to the needs of the countries. These might include training to comply with the “Minimum standards for laboratories working with FMDv”, following the guidance given by the SCBRM	AH workshop on syndromic surveillance was held on 13 th July 2022 in Montenegro in hybrid mode gathering the EuFMD’s NFPs and LFPs representatives and epidemiologists from the national veterinary services	There is a high interest on the syndromic surveillance systems implantation in the region, and some SEE MNs allocated national resources for this activity. The EuFMD will continue to provide technical support in the implementation of syndromic surveillance systems through the in-country support subcomponent. The next workshop on this subject which should gather operational level staff in the implementation of syndromic surveillance systems is planned in the third quarter of 2023
	1.4.3.2. Simulation exercises	Technical support to organize national simulation exercises (including laboratory simulation exercises) will be offered to the countries from South-Eastern Europe. Economic support will also be given to facilitate that observer from other countries can attend national simulation exercises. Multi-country simulation exercise will be organized for participants from South-Eastern Europe countries. Representatives from different institutions will be invited to participate in these simulation exercises (laboratories, veterinary services, universities, industry...).	Laboratory simulation exercise (tabletop) will be conducted on 14 th September 2022, in Croatia, with the participation of NRLs representatives from Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia	Simulation exercises have been completed or planned based on the country needs. Interest was expressed by SEE for future simulation exercises to be addressed.
	1.4.3.3. In-country assistance	In-country assistance to apply GET Prepared toolbox and to improve contingency plans. This support will be given by EuFMD consultant or by experts within the region supported by EuFMD	Posters for FMD, LSD, RVF, and PPR clinical signs and transmission and animated video are developed and will contribute to raising awareness amongst farmers and increase reporting of FMD and other FAST diseases. In addition, two posters/leaflets for PPR clinical signs and transmission have been developed in Serbian.	Other SEE countries expressed their interest for the FMD posters and awareness video adaptation and translation. More effort will be allocated to follow-up the gaps identified during the simulation exercises already organized in the first biennium
1.4.4. Diagnostic Bank	1.4.4.1 Dev and maintenance of a diagnostic bank of reagents for FAST available for countries in the region.	Establishment of a diagnostic bank of reagents for FAST diseases available for the countries in the region.	LoA with IZSLER for management of the diagnostic bank finalized. Experience gained with the SEE bank incorporated in the feasibility study for European reagent bank.	Diagnostic bank already established for FMD and maintenance continues as planned. Additionally, PCR reagents for PPR, LSD, SPGP diagnosis (PCR) are included in the actual re-stocking plan. Diagnostic bank established, its maintenance will continue under the new LoA with IZSLER

6. Issues for the Executive Committee attention

Western Balkan countries expressed an interest in taking part in the Thrace countries meetings. Transport disruptions due to the war in Ukraine did not allow delivery of FMD reagents to the national laboratories in Ukraine.

7. Priorities for the next six months

- 1) Strengthen the cooperation between SEE MNs, including Thrace region.
- 2) Continue to work on the adaptation and evolution of the EuFMD risk-based surveillance model to improve the sensitivity of the surveillance systems in the region and the collaboration between countries.
- 3) To adapt the system in terms of parameters and other FAST diseases.
- 4) Organize a workshop to transfer knowledge and methodologies for improving passive surveillance through the identification and collection of individual and population health indicators and its impact on early detection of FAST diseases with the subjects concerning national operational level staff in these systems implementation
- 5) Support expressed interest in the organization of multi-country and national simulation exercises.

Regional coordination

The next management meeting will be organized in February 2023, a workshop with projects under the 1st SEE FAR call will be organized and invitations extended to representatives from the national networks from other countries.

The 2nd SEE FAR call has been issued with the aim of promoting cooperation between government and scientific institutions at national and international level. Three national and one regional small research projects proposals have been endorsed for implementation during the second half of the second biennium.

Training and simulation exercises

In the next six months, the priorities will be to conduct and adapt the planned trainings, including training and in-country support for syndromic and other types of surveillance, and simulation exercises agreed for the region and plan additional ones.

Diagnostic bank of reagents

Dispatch of reagents to national laboratories (second group of countries).

Maintenance of the bank in its planned capacity.

8. Success stories and outputs

The Cameron model has been further developed to include diseases other than FMD.

The 2nd FAR call for small research projects was issued. Three national and one regional project proposals have been endorsed for the implementation until the end of biennium.

The regional cooperation has been improved and the request by the Western Balkan countries to actively participate in the Thrace meetings have been supported.

The organization of the SEE laboratory network meeting was seen very positively by the laboratory participants, as this was the unique opportunity to meet and discuss specifically the regional laboratory issues and collaboration opportunities.

A scientific poster was developed to present recent updates to the Thrace risk-based surveillance programme and its contribution in increasing the confidence in disease freedom and reconfirming the countries' disease-free status by the World Organization for Animal Health (WOAH). The poster will be presented at the 30th WOAH Regional Conference in Catania, Italy, 3-7 October 2022.

Budget (€) COMP. 1.4

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.4	56,415	45,590	10,826
<u>Consultancy Operational</u>			
Component 1.4	91,131	72,259	18,872
<u>Consultancy Technical</u>			
Component 1.4	871,663	395,169	476,494
<u>Travel</u>			
Component 1.4	42,500	21,992	20,508
<u>Training</u>			
Component 1.4	89,690	39,619	50,071
<u>Contracts</u>			
Component 1.4	185,000	56,057	128,943
<u>Procurement</u>			
Component 1.4	127,000	89,138	37,862
<u>General Operating Expenses</u>			
Component 1.4	72,170	53,983	18,187
Total Direct Eligible Cost	1,535,569	773,807	761,762

Component 1.5 (Activity 5)

Applied Research

Objective

Delivery of valuable tools and knowledge addressing technical issues considered Europe- wide priorities for national preparedness against FAST diseases through the implementation of an Applied Research Program (ARP)

Component Manager

Etienne Chevanne / Mattia Begovoeva

Sub-activity level manager

1.5.1 Etienne Chevanne / Mattia Begovoeva

1. Background

Since 2008 the EuFMD has provided support for small applied research projects that are relevant to the priority technical issues of the EuFMD Member Nations (MN). The EuFMD Fund for Applied Research, **EuFMD-FAR**, is under Pillar I for management purposes. The priorities for applied research - identified during the 41st EuFMD General Session- are primarily technical and economic issues affecting FAST emergency management in the MN. However, applied research supporting Pillar II and III objectives is also eligible for funding.

The Standing Technical Committee (**STC**) and the Special Committee on Surveillance and Applied Research (**SCSAR**) assist in identifying thematic priorities. **Two calls per year** will be launched for these research studies to be assigned to institutions that better fit with the established criteria. The **criteria** established to select the applicants during phase IV will be maintained in the new phase:

- Relevance to strategic objectives or specific components of the EuFMD Strategy;
- Address generic problem identified as common to many Member Nation veterinary services;
- Likelihood of tangible results or outputs;
- Urgency of need for results/outputs and lack of alternative funding;
- Synergy or complementarity with field-based activities relating to FMD;
- Value for money.

Applications are welcome from any source and are not limited by geographical origin and the proposals will be assessed in **two stages**. **Firstly** by external referees (Referee Panel), **then** by the STC (acting as the Grant Review Board). The STC are a multidisciplinary panel of experts who are familiar with the priorities, scope of the fund and the context of the institutions which are expected to utilize the knowledge, tools and outputs.

Funding will be allocated by the EuFMD through **Letters of Agreement (LoA)**, which are contracts between the FAO of the UN and not-for-profit institutions. In exceptional circumstances, for instance where LoAs cannot be applied, the funds may also be allocated through direct implementation mechanism by the Secretariat.

Co-ordination and communication between institutions in the FAST disease surveillance networks will be a key element of this component, which will also aim at providing a platform for review of progress and prioritization. Regular meetings will be organized to provide a discussion forum for the members of the STC, the SCSAR and also the Special Committee on Biorisk Management (SCBRM).

The **EuFMD Open Sessions**, organized every two years, will aim to continue to be the largest technical and scientific meeting on FMD to be held on a regular basis, with nearly 300 participants, drawn mainly from the public sector, scientific institutions and regulators, academia and private sector. In the new phase, the Open Sessions will have a broader scope covering FAST diseases.

2. Countries or partner organizations involved

The direct beneficiaries of this component are the 39 Member Nations of EuFMD. Priority is given to research outputs which will directly benefit EuFMD Member Nations; however, neighbourhood countries and countries worldwide are also likely to impact from funded projects with global application.

The STC and SCSAR advise on research priorities and assist in reviewing applications.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager	Written report; presentation	General Session	
Reports established in the LoAs	LoAs contractees	Written report and a presentation if required	STC, Open Session	

4. Objective of the component

Delivery of valuable tools and knowledge addressing technical issues considered Europe-wide priorities for national preparedness against FAST diseases through the implementation of an Applied Research Program (ARP).

Component (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
1.5 Applied research	Delivery of valuable tools and knowledge addressing technical issues considered Europe-wide priorities for national preparedness against FAST diseases through the implementation of an applied research program (ARP).	Research studies carried out in order to deliver tools and knowledge that address technical issues considered Europe-wide priorities for national preparedness against FAST diseases.	20 peer reviewed papers and reports published by the end of the phase; average impact level of these publications 7 (scale 0 to 10) as assessed by external technical Panel.	Peer reviewed papers and reports published.	Evaluations to be carried out by month 38 of phase V.	Assumes the generated knowledge and tools will have high impact and MN will make use of them.

5. Planned Component Sub-Activities

The expected result of the component will be achieved through **sub-activities**:

1.5.1. Funded research projects, Call for research proposals

During the reporting period, the implementation of the following applications awarded under the 9th competitive Fund for Applied Research (FAR) Call for application (March 2021) was followed-up:

- Tools to calculate the cost of diseases affecting ruminants – University of Barcelona (Theme 2), first interim report received and reviewed by the EuFMD, and abstract submitted for the EPIZONE conference in Barcelona (May 2022);
- Optimization of an environmental sampling approach integrating network models and nanopore portable sequencing for FMD risk-based surveillance in endemic settings – The Roslin Institute (Theme 3) - issues related to intellectual property and funding of PhD were addressed and an LoA signed in December 2021;
- Optimizing environmental surveillance for FAST diseases – The Pirbright Institute (Theme 3) - interim report was received and reviewed by the EuFMD in January 2022
- The study on ‘Harmonisation and calibration of VNT methods used for post-vaccination monitoring in different FMD Reference Laboratories’: interim and final reports were shared by the lead applicant (The Pirbright Institute) .

The final report of the study awarded under the 8th FAR call was reviewed: ‘Study on the evaluation of the role of small ruminants in the spread and endemicity of foot-and-mouth disease in Northern Nigeria’.

The 10th call of the EuFMD Fund for Applied Research (EuFMD-FAR) was issued to:

1. Promote the study of criteria, guidelines and impact of emergency vaccination against FAST diseases in disease free countries.
2. Enhance laboratory capacity for FAST diseases in non-endemic countries.
3. Evaluate vaccination approaches/strategies and vaccine types for FAST diseases.
4. Promote the development of digital support tools for optimization of surveillance and other control activities for FAST diseases.

Twenty-two applications were received, one of which was withdrawn, two categorized as out of the scope of the present call, and 19 brought forward for review by the grant review board (composed of members of the EuFMD Standing Technical Committee and Special Committee for Surveillance and Applied Research). Nine applications passed the first stage review (scoring 3 or more according to the criteria utilized for the first stage process). Five of these were recommended for support while three were recommended subject to clarifications. After the second stage review, 4 out of the 5 recommended were endorsed by the grant review board. There was a good match between the score assigned by the first stage reviewers and the priority assigned by the grant review board.

The grant review board selected the following four projects:

- Development of an Analytical and Data Processing Tool for EuFMDiS Model Output to Support FMD Contingency Planning, University of Veterinary Medicine Vienna, Austria.
- Validation of Lateral Flow Devices (LFD) for detection and serotyping of FMDV and antigenic detection of LSDV, *Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna (IZSLER)*, with *Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise (IZSAM)*, The Pirbright Institute, *Friedrich-Loeffler-Institut*.
- Immunogenicity following simultaneous vaccination of FMD and LSD in indigenous cattle in Nigeria, National Veterinary Research Institute (NVRI), Vom, Plateau State, Nigeria, with TPI.

- Open-FMD: a data sharing portal to enhance FMD surveillance, The Pirbright Institute, UK, with Epi-Interactive.

Letters of agreement with institutes leading the projects selected are currently under development.

1.5.2. EuFMD Open Session

The EuFMD Open Session 2022 (OS22) will be held on 26-28 October in a hybrid format allowing attendees to participate either in person (limited to 180 persons) or virtually.

During the reporting period, 88 abstracts were reviewed and selected for oral or poster presentations based on their relevance to conference theme, scientific quality, and quality of abstract writing. The OS22 Scientific Committee developed the overall agenda of the event and selected 56 speakers for the three-day event. A total of 360 potential attendees registered their interest: official invitations to register are being sent out.

Sub-activities and their indicators:

	<i>Sub-activity level</i>	<i>Description</i>	<i>Progress in the current period</i>	<i>Progress overall towards biennium indicator</i>
1.5.1. Funded research projects	1.5.1.1. Call for research proposals	Following advice received by the STC, the SCSAR, and the SCBRM, a call for research proposals will be released and widely circulated on a regular basis. Research applications will be reviewed in a two stage process, first by external referees (Referee Panel) then by the STC (acting as the Grant Review Board). Successful applications will be contracted through LoAs.	A FAR call for proposal was launched in April 2022. Applications were reviewed and four projects were selected for funding.	Studies awarded under the 8 th and 9 th FAR Calls were followed-up. Projects for the 10 th Call have been selected.
	1.5.1.2. Research studies	Research projects will be carried out according to the signed LoA, completed project will be assessed and results will be made available.	Administrative process and technical follow-up for the retained proposals are ongoing.	Interim and final reports on the activities conducted under the LoAs and results of the research studies have been received and technically reviewed. Publication of the results on peer review journals has to be monitored together with the Universities and Research institutes.
1.5.2. Meetings	1.5.2.1. Regular meetings of the STC, SCSAR and SCBRM	Meeting will be regularly organized to for the STC and the SCSAR so they can discuss and produce advice and guidance on research priorities. This includes meeting at the Open Session which is held every two years, and guiding the Secretariat on the format and content of the session. Meetings of the SCBRM will also be regularly organized so they can discuss and provide guidance on laboratory training, including the	STC online meeting in July 2022. SCBRM online meetings in late September 2021, mid November 2021 and late March 2022.	a) The STC has met once during the reporting period. c) The SCBRM has met three times during the reporting period.

		Minimum Standards and support needs of the FMD Biorisk management community.		
	1.5.2.2. EuFMD Open Sessions	The EuFMD Open Session is organized every two years and the topic of these sessions will be decided following the advice of the STC and the SCSAR.	Abstracts for oral and poster communications were reviewed and selected. Presenters and panelists were identified. Logistics are being defined.	The Open Session will be held in October 2022, in hybrid format.

6. Issues for the Executive Committee attention

The results of the studies awarded under the 10th call for applied research will be used and promoted within the EuFMD activities to improve FAST disease control and preparedness in EuFMD MN and beyond.

7. Priorities for the next six months

Increase visibility of FAR-funded research projects on the EuFMD website, improve networking and sharing of results among research institutions, and define a methodology to assess the impact of the FAR.

Develop a full proposal to US DTRA on Bio-threat research network, on behalf of FAO NSAH, aiming at establishing a mechanism capable to improve the global and regional research networks – if any - on TADs, and develop new research partnerships and regional research networks in a sustainable manner; such networks would facilitate the sharing of scientific knowledge and innovative tools to policy-makers, to better control, eradicate and prevent TADs. Synergies between such project and the component 1.5 of the EuFMD will be sought for the next two years.

8. Success stories and outputs

Four projects have been selected to be awarded for funding under the 10th FAR call.

9. Budget (€) COMP. 1.5

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.5	38,170	31,343	6,827
<u>Consultancy Operational</u>			
Component 1.5	91,131	72,259	18,872
<u>Consultancy Technical</u>			
Component 1.5	-	-	-
<u>Travel</u>			
Component 1.5	36,430	26,221	10,209
<u>Training</u>			
Component 1.5	41,237	3,695	37,542
<u>Contracts</u>			
Component 1.5	400,000	131,920	268,080
<u>Procurement</u>			
Component 1.5	-	-	-
<u>General Operating Expenses</u>			
Component 1.5	31,110	4,740	26,370
Total Direct Eligible Cost	638,078	270,178	367,900

Component 1.6 (Activity 6)

Proficiency Test Services

Objective

Europe-wide participation in Proficiency Test Services run by the FMD EU Reference Laboratory through support for countries that are not part of the EU or candidates states

Component Manager

Kiril Krstevski

Sub-activity level manager

1.6.1 Kiril Krstevski

1. Background

The new **component 6** of Pillar I will continue to have the same objective as in the previous phase. It will still be managed through a LoA with the EU Reference Laboratory (EU-RL), who will administer the PTS and also will facilitate the participation of representatives from the supported countries involved in the annual EU reference laboratory meetings.

The intention is that the activities of this component ensure better alignment of neighbourhood NRLs with the EuFMD and EU standard for FMD diagnostic NRLS performance.

2. Countries or partner organizations involved

The activities in this component will be specifically provided to EuFMD Member Nations that are not EU members and those for which the agreement with DG SANTE is that they cover the cost of their participation in the PTS: Bosnia and Herzegovina, Belarus, Kosovo*, Moldova, Norway, Switzerland and Ukraine.

3. Reporting

Reporting format	Responsibility	Output	Distribution	Sent out by
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager	Written report; presentation	General Session	
Reports established in the LoAs	LoA contractees	Written report; presentation if required	STC, Open Session	

4. Objective of the component

Europe-wide participation in proficiency test services run by the FMD EU Reference Laboratory through support for countries that are not part of the EU or candidates states.

Component (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
1.6 PTS	Europe-wide participation in proficiency test services run by the FMD EU Reference Laboratory through support for countries that are not part of the EU or candidates states.	Non-EU countries that are EuFMD MN are able to participate in PTS on an annual basis.	7 eligible countries to participate each year in the PTS and attend the annual EU-RL meeting.	LoA interim and final reports	Two external evaluations to be carried out by month 18 and 38 of phase V.	Assumes commitment from the beneficiary countries to participate in the mentioned activities.

5. Planned Component Sub-Activities

The expected result of the component will be achieved through **sub-activities**:

1.6.1. Support to eligible countries

Support to eligible countries to participate in PTS for FMD NRL

The new Letter of Agreement with the FMD EURL was signed to support eligible countries participate in the PT.

This year, all seven beneficiary countries registered on time. However, due to the war in Ukraine, it was not possible to dispatch the PT panels to the national laboratory in Ukraine. The remaining six countries received and tested the PT samples and their results are being analyzed by the EU-RL.

A five-day training on molecular detection and typing was organized at EU RL (ANSES) for nominated candidates from Moldova and Kosovo. This training took place between 18 and 22 July and aimed to address the gaps that have been identified through the previous PT schemes.

Support to eligible countries to participate in the annual EU-RL meeting

The annual workshop of the EU-RL network will be held on 27 and 28 September in Paris, France. Representatives from the beneficiary countries have been timely invited to participate the meeting. EuFMD will contribute with a presentation on its program and update of activities, as well as in the delivery of dedicated session on European reagent bank.

Sub-activities and their indicators:

	Sub-activity level	Progress in the current period	Progress overall towards biennium indicator
1.6.1. Support	1.6.1.1. Support to eligible countries to participate in PTS for FMD NRL	All beneficiary laboratories registered for PT. Training at ANSES organized for two countries. New LoA with ANSES signed.	All seven beneficiary laboratories registered to participate, however, it was not possible to deliver PT samples in Ukraine.
	1.6.1.2. Support to eligible countries to assist the annual EU-RL meetings	All seven beneficiary countries have been asked to nominated one participant for the EU-RL meeting.	EU RL meeting to be held at 27 and 28 September in Paris, France.

6. Issues for the Executive Committee attention

The war in Ukraine has not allowed the participation of Ukraine and Belarus in the annual PT (it was not possible to deliver the PT samples, nor reagents, to Ukraine and Belarus).

7. Priorities for the next six months

1. Coordination with the EU-RL to identify further training needs for the eligible countries, based on the outcomes of the last PT).
2. Communication with laboratory focal points to encourage their participation in the next PTS and help with the registration process whenever needed.
3. Participation at the annual workshop organized by the EU-RL.
4. Coordination with the EU-RL to define a training program and address the gaps identified with the EU-RL PT report.

8. Success stories and outputs

This year, all seven beneficiary countries registered to participate in the annual PT, indicating the success of the Component in promoting the PT and facilitating achievement of Europe-wide PT participation.

9. Budget (€) COMP. 1.6

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.6	4,580	2,849	2,446
<u>Consultancy Operational</u>			
Component 1.6	91,131	72,259	20,546
<u>Consultancy Technical</u>			
Component 1.6		-	-
<u>Travel</u>			
Component 1.6	-	-	-
<u>Training</u>			
Component 1.6	-	-	-
<u>Contracts</u>			
Component 1.6	70,000	69,188	812
<u>Procurement</u>			
Component 1.6	-	-	-
<u>General Operating Expenses</u>			
Component 1.6	-	-	-
Total Direct Eligible Cost	165,711	144,296	21,415

Component 1.7 (Activity 7)

Disease risk assessment and forecasting

Objective

Improved global and neighborhood FAST disease risk assessment and forecasting, with information to Member Nations and the public made available on a regular basis.

Component Manager

Melissa McLaws

Sub-activity level manager

1.7.1 Roberto Condoleo / Melissa McLaws / Shankar Yadav

1.7.2 Bryony Armson / Melissa McLaws

1.7.3 Etienne Chevanne / Kees Van Maanen

1. Background

The objective of this component is to improve the quality, usefulness and availability of information gathered concerning FMD risk of entry into MN. It should also facilitate the use of this information by risk managers, in order to prepare countries to respond in the event of an incursion.

This component will establish a **system for integration of sources of information** relevant to FAST disease risk forecasting in the European neighborhood region, including support to use and validation of expert opinion forecasting on epidemic trends for FAST diseases in the endemic viral ecosystem.

In this new phase, the Quarterly FMD Report (prepared jointly with the WRL) will be transformed into an on-line version with a user-friendly adaptable **dashboard** that will produce user-tailored reports. The new report will better integrate risk information from different sources to provide FAST disease forecasting in the European neighborhood.

The **PRAGMATIST** tool, developed by EuFMD and the WRLFMD, will continue being a key in providing a clear summary of the risks and the relative value of the antigens available for use in European emergency reserves (antigen banks) and its outputs will be better integrated in the quarterly global report. The PRAGMATIST tool will be further developed during the new phase, as our ability to forecast FMD epidemics improves.

During the new phase, EuFMD will assist countries identified as priorities by the SCSAR to monitor viral circulation of FAST diseases. **Active support will be provided for the submission of samples** to institutes in the SCSAR that have the capacity to provide laboratory support to surveillance for FAST diseases. This activity and the funds allocated to it will be coordinated with those carried out/funded under Pillars II and III.

2. Countries or partner organizations involved

The direct beneficiaries of this component are the 39 Member Nations of EuFMD, including all EU Member Nations. This component will involve work with countries identified as priorities by the SCSAR.

Involvement of the WOA and FAO will be essential for this component, in particular to share risk information and coordinate efforts to develop efficient reporting and risk communication tools. Greater integration of reporting between the EuFMD and European FMD references centers (EU-RL, and WOA and FAO centers) will be an objective of this component 7.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
Six monthly to ExCom	Component manager	Written report and presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager	Written report and presentation	General Session	
On-line tool	Component manager	On-line tool monthly update	Website	

4. Objective of the component

Improved global and neighborhood FAST disease risk assessment and forecasting, with information to Member Nations and the public made available on a regular basis.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
Disease risk assessment and forecasting	Improved global and neighbourhood FAST disease risk assessment and forecasting, with information to Member Nations and the public made available on a regular basis	Information on FAST disease risk is collected and analyzed; risk assessment and forecasting information is made available to European risk managers	Improved information on FAST disease risks and on antigens available to MN 36 months during phase V	Published monthly reports and recording of updates done to tools (online on-line map-based tool and PRAGMATIST)	evaluations to be carried out by month 38 of phase V	Assumes enough information will be available to assess the risk and forecast important changes in risk and/or disease outbreaks

5. Planned Component Sub-Activities

The expected results of the component will be achieved through sub-activities:

1.7.1. System to provide information on FAST disease risk assessment and forecasting: Collection and integration of risk information from various sources

Disease risk assessment and forecasting. Under this sub-activity, a system to monitor changes in the risk of introduction of FAST diseases from the European neighbourhood to EuFMD Member Nations is under development, building on the experience and knowledge of *the Generic risk assessment for the introduction of animal diseases (G-RAID) consortium*. This system will combine risk information from the source (Pillar II) countries with the pathways by which the different FAST diseases could enter Europe. Six pathways have been identified, namely airborne, vector, wild animals, live animals, animal products and fomites. The possibility of adapting existing models from the G-RAID group is being explored.

This work is building on previous work to assess the likelihood of introduction of FMDV from Northern African countries (Algeria, Morocco, and Tunisia) to Spain, which provided valuable information about the available data and resources available to devote to monitoring the risk.

On-line reporting tool. The FMD quarterly report continues to be produced jointly with the WRL. Information gathered from EuFMD's activities in Pillar II is included in this report.

The EuFMD has defined FMD risk parameters that are not currently available from any other data source. The plan going forward is that data on these parameters would be collected and maintained by EuFMD and combined with other data (laboratory data, outbreak reports) on an online dashboard. Most of these parameters relate to the PCP-FMD and would be collected during FMD Roadmap Meetings.

A detailed concept note describing the dashboard has been developed. The Pirbright Institute and Epi-Interactive have recently been awarded funds under the FAR call (component 1.5) to develop a database of FMD surveillance data and a dashboard that will enable users to access and visualize the data. Regular

discussions are underway with the WRL and FAO (Empres-i) ensure that the tools are inter-operable, building on synergies and avoid duplication with other initiatives.

1.7.2. System to provide information about the risks and the relative value of the antigens available for use in European emergency reserves

Prioritization of Antigen Management with International Surveillance Tool (PRAGMATIST).The information required to update PRAGMATIST is included in the FMD quarterly report. A paper describing the PRAGMATIST has been drafted in collaboration with the Pirbright Institute and the University of Surrey, and submitted to a peer reviewed journal for publication. The Pirbright Institute is developing an online app of the PRAGMATIST, in collaboration with Epi-Interactive and EuFMD. Efforts are underway to adapt the PRAGMATIST for use in endemic settings.

1.7.3. Support for submission of samples from countries identified as priorities by the SCSAR to institutes that have the capacity to provide laboratory support to surveillance for FAST diseases

See activities under components 3.1 and 3.2.

Sub-activities and their indicators

Sub-activity level	Description	Progress in the current period	Progress overall towards biennium indicator
1.7.1.1. Collection and integration of risk information from different sources	Definition of a system for regular collection of specific information from different sources, including information collected through the work developed under Pillars II and III and information provided by key informants. Harmonization and quality check of the collected information.	Global FMD Quarterly reports published regularly in collaboration with the WRL. Information from the FAST disease report was included in the FMD quarterly report	Progress is aligned with the biennium indicators
1.7.1.2 Disease risk assessment and forecasting	Regular assessment of the collected information in order to understand FAST disease trends and risk factors, allowing to provide some forecasting	Further development of the <i>Risk Monitoring Tool (RMT-FAST)</i> : -tool piloted with Libya -Additional version of RMT-FAST adapted to be used by Pillar II countries Beta-RMT-FAST version advertisement: short video presentation and FAO-EuFMD webpage creation, presentation in technical meetings and conferences. Implementation of the user guide	Progress is aligned with the biennium indicators
1.7.1.3 On-line reporting tool	Development of an on-line map-based tool with an adaptable dashboard for regular reporting to Member Nations on FAST disease risks. Monthly update of the information available through the tool	Proof-of-concept dashboards for FMD surveillance data and PCP stages are available, developed using an 'off-the-shelf' free product (Tableau Public). The Pirbright Institute and Epi-Interactive will develop an FMD surveillance database and dashboard (project awarded under FAR call).	Good progress, further effort needed develop a system to maintain the data going forwards and ensure operability with EMPRES-i.

1.7.1.4 Generation of information	Research studies to generate information necessary to understand FAST disease risks (e.g. livestock movement studies in priority countries or regions)	Work has been undertaken in Pillar II	N/A
1.7.2.1. Prioritization of Antigen Management with International Surveillance Tool (PRAGMATIS T)	The PRAGMATIST tool will be kept updated and the results of the validation and sensitivity analysis carried out will be incorporated. In coordination with Pillars II and III, work might be being done to make the PRAGMATIST tool more flexible and increase its availability, adapting it to endemic countries. A “user-guide” will also be developed.	Vaccine matching and risk information required to update PRAGMATIST is included in the FMD quarterly report. A paper has been submitted for publication in partnership with the WRL and U of Surrey. Work has started to consider adaptation of the tool for use by endemic countries.	Good progress, although improved sharing of vaccine performance or matching data would improve the flexibility of the tool in different regions
1.7.3.1. Procurement of sampling and/or diagnostic	Provision of sampling and/or diagnostic material to priority countries. Support for samples shipping to institutes in the SCSAR that have the capacity to provide laboratory support to FAST diseases surveillance	See components 3.1 and 3.2	
1.7.3.2. Training for sampling		See components 3.1 and 3.2	

6. Issues for the Executive Committee attention

N/a

7. Priorities for the next six months

- 1) Further development of the data flow system required to regularly update the Risk Monitoring Tool, included the possibility to use scanning surveillance to exploit additional data sources besides the EuFMD expert’s network.
- 2) Resources will be invested to present/discuss RMT-FAST during the OS22 and an “ad-hoc” workshop to collect advice from experts in order to improve risk monitoring for FAST diseases. A sensitivity analysis will be performed to analyze the impact of the single tool’s components on the outputs and to increase the accuracy of the estimates.
- 3) Further work is needed to identify a sustainable way to collect and collate data required to maintain the data the surveillance and PCP dashboards in collaboration with the WRL and EMPRES-i.
- 4) The PRAGMATIST tool will be adapted and implemented in at least one endemic region.

8. Success stories and outputs

After the pilot with a Pillar II country (Libya), comments and (positive) feedback regarding RMT-FAST have been used to create an additional version that might be used by EU neighboring countries.

Risk Monitoring Tool is currently presented through FAO and EuFMD website: the theory behind the tool, practical instructions for its usage and a short presentation video can be freely consulted. As a result, expressions of interest for RMT have been received by academic/governmental institutions from Mali, New Zealand and the USA. The prototypes dashboards developed for FMD surveillance and PCP have been published, and the surveillance dashboard will be further improved and developed by the WRL and Epi-Interactive as part of a project funded under the recent FAR call.

The joint [EuFMD/WRLFMD](#) quarterly report on FMD global situation continues to be published on time and includes information from work in Pillar II.

9. Budget (€) COMP. 1.7

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 1.7	22,910	17,096	5,814
<u>Consultancy Operational</u>			
Component 1.7	91,134	65,690	25,444
<u>Consultancy Technical</u>			
Component 1.7	233,900	119,161	114,739
<u>Travel</u>			
Component 1.7	13,150		13,150
<u>Training</u>			
Component 1.7	10,310		10,310
<u>Contracts</u>			
Component 1.7	68,000	67,424	576
<u>Procurement</u>			
Component 1.7	18,000		18,000
<u>General Operating Expenses</u>			
Component 1.7	12,450	159	12,291
Total Direct Eligible Cost	469,854	269,530	200,324

Pillar II (Output II)

Pillar Objective

Reduced risk to EuFMD Members from the European neighbourhood (progressive control of FAST diseases in EU neighbouring regions)

Pillar Co-ordinator

Francesca Ambrosini

Introduction

The presence and regular occurrence of Foot-and-mouth and Similar Transboundary Animal Diseases (**FAST**) in countries neighbouring European borders, is a constant risk for introduction and spread into Europe. Actions aimed at **improving the surveillance and control in European neighbourhood** can **reduce** the probability of FAST spreading towards European borders, **improve** production and reduce the **impact** that such diseases have on the economy and livelihoods in European neighbouring countries. Furthermore, the constant monitoring of the epidemiological situation can provide relevant risk information and contribute to increase awareness on major animal disease threats in the regions neighbouring Europe.

Foot-and-mouth disease (FMD) is present in European neighbouring countries with various serotypes and lineages reported. The increased **animal movements** driven by seasonality, climate, and festivities, as well as social and economic factors compound the risk of spreading FMD virus towards European borders. This is evidenced by the genotyping analysis carried out on isolates sent to the international reference laboratories from different regions. Other transboundary animal diseases affecting FMD susceptible species such as **Peste des Petits Ruminants (PPR)**, **Sheep and Goat Pox (SGP)**, **Lumpy Skin Disease (LSD)**, **Rift Valley Fever (RVF)**, and Bovine Ephemeral Fever (BEF), are also present at various levels in the European neighbouring regions. Considering that these diseases have similar risk factors and/or control measures, the definition and implementation of **integrated controls for multiple diseases** can lead to improved results and better use of resources.

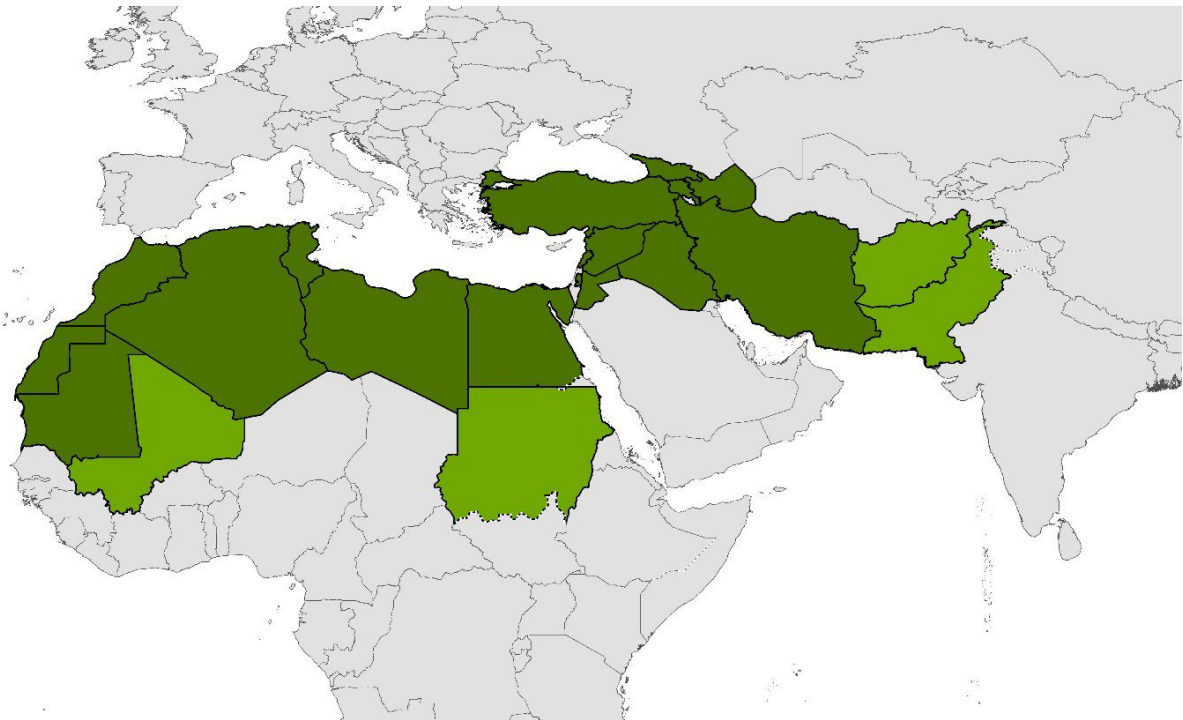
An integrated approach for FAST risk-based surveillance and control in the European neighbourhood and the availability of timely information to risk managers can improve the capacity for **early detection and prompt reaction to FAST incursion and circulation**. The regular submission of diagnostic samples to international reference laboratories improves the understanding of the connection between different disease events, and allows the detection of new strains which could threaten the European neighbourhood and beyond. An increase in national and regional capacity for FAST prevention and control, achieved through the development and delivery of **training programme** for national staff, is essential to prevent and control animal diseases. Furthermore, **Public Private Partnerships (PPP)** can contribute to adequate emergency arrangements for vaccine supply in situations where the international vaccine banks would be unable to provide effectively.

The activities included in Pillar II are targeted to the 16 European neighbouring countries (Algeria, Armenia, Azerbaijan, Egypt, Georgia, IR Iran, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Syria, Tunisia, and Türkiye) in three sub-regions (South East Europe, South-East Mediterranean and North Africa). The outputs of the three components of Pillar II, respectively addressing the three sub-regions to optimize resources, make use of the expertise developed and promote the dissemination of results within the EU neighbourhood. Activities proposed at the country level will be adapted to the specific country needs and to the different contexts, in order to improve impact and achieved significant results.

Considering the outputs identified, and the cost-benefits of extending the planned activities to other countries according to the indication and guidance of the Executive Committee, the EuFMD could involve West Africa, the Sahel, Middle East and West Eurasia in events and training programmes organized within the Pillar II workplan.

The European neighbourhood

The neighbourhood of the current 39 EuFMD Member Nations (MN) is defined as the neighbouring countries which are **not MN** and which **either** have land borders with EuFMD MN **or** are members of the Mediterranean animal health network (REMESA), **or** whose animal health status provides an early warning for FAST disease spread to the neighbourhood of Europe. The activity of Pillar II includes EuFMD Member Nations in European neighbouring region (Türkiye, Georgia).



Specifically:

EuFMD Member Nations in European neighbouring region: Türkiye, Georgia.

Having land-borders with EuFMD Member Nations: Armenia, Azerbaijan, IR Iran, Iraq, Syria, Lebanon, Palestine, Jordan, and Egypt.

Non-EU Members of REMESA: Jordan, Lebanon, Egypt, Libya, Tunisia, Algeria, Morocco, and Mauritania.

Countries significant for epidemic spread of FAST diseases to the above countries: Sudan, Mali, Afghanistan and Pakistan.

Component 2.1 (Activity 2.1)

Component Objective

Enhanced co-ordination with GF-TADs partners, international agencies and national competent authorities and improved implementation of strategic plans for FAST control at national and regional level

Component managers

South-East European Neighbourhood	Carsten Potzsch
South-East Mediterranean	Shahin Baiomy
North Africa	Karima Ouali

1. Background

Various national, regional, and international organizations are involved in activities in the European neighbourhood aimed at **improving national capacities and capabilities** to prevent and control transboundary animal diseases. The use of training methodologies, tools, experience, networks developed by EuFMD for diseases similar to FMD, is beneficial to improve the prevention and control of other transboundary animal diseases (TADs), without duplicating initiatives and activities already in place. An **improved co-ordination** with other institutions will allow a **better use of the resources** available and enhance support to countries.

Regular updates on the progress of the EuFMD workplan can allow a better harmonization of the activities implemented in European neighbourhood. The **regular reporting of FAST situation** and control strategies adopted in EU neighbouring countries can lead to a better understanding of the epidemiological situation and **major risks present at the EU borders**.

The **Progressive Control Pathway (PCP)** for FMD control is a tool to assist endemic countries to manage progressively the FMD risks. The value of this approach for national and regional progress has been demonstrated and has stimulated the development of several similar (progressive and stepwise) approaches for international action against Rabies, Peste des Petits Ruminants (PPR), and African Trypanosomiasis. The PCP-FMD approach has been applied by the EuFMD in the past years to assist European neighbouring countries to define their national strategy and then monitor its impact.

Progression along the PCP remains the main expected achievement within this programme for the EU neighbouring countries to improve control of FMD. The co-ordination mechanism is aimed at better identifying the specific needs of the different countries in the neighbourhood to **develop and revise the FMD control strategies** according to the different PCP stages, taking into consideration risks, socio-economic benefits, and difficulties in the implementation of control measures. Within this component, the EuFMD will assist countries in progression of PCP, within the roadmaps supported by GF-TADs and will assist the delivery of the programme established by EPINET and LABNET (network established within roadmaps).

The promotion of **Public-Private Partnerships** through the development of new collaboration schemes between public services and private sector in the veterinary domain, is key for improved FAST monitoring and control. The implementation of **new synergies** between public and private sectors can support the achievement of relevant goals, especially regarding surveillance of diseases, emergency preparedness and availability of vaccines.

2. Countries or partner organizations involved

Direct beneficiaries of this component are the EuFMD Member Nations, Türkiye and Georgia, and non-EuFMD Members of the European neighbourhood. Other EuFMD Member Nations will benefit in terms of improved risk information and reduced risk from neighbouring countries.

Partners include FAO, WOA (Regional and Sub-regional offices), the EU Commission, regional organizations active in agricultural sector such as the Arab Organization for Agricultural Development, regional economic and trade unions such as the Arab Maghreb Union, the Economic Cooperation Organization (ECO) and others, in addition to networks established under GF-TADs such as REMESA and signatories of the Statement of Intentions (SOI).

The FAO/WOA reference laboratories, international centers of expertise and European reference laboratories will be involved in the activities according to the different expertise available and required.

Training opportunities and other activities developed and delivered might be extended to countries in the regions, which are significant for epidemic spread of FAST diseases to the above countries such as Sudan, Mali, Afghanistan, and Pakistan.

3. Reporting

Reporting format	Responsibility	Output	Distribution	Sent out by Network and Training Support Officer
Six monthly to ExCom	Component managers for the three sub-regions	Written report; presentation	ExCom, STC	
Every two years to MN	Component managers for the three sub-regions in co-ordination with oversight board	Written report; presentation	General Session	
Workshop reports	Lead facilitator	Written report	ExCom, oversight members	

4. Objective of the component

Enhanced co-ordination with GF-TADs partners, international agencies and national competent authorities and improved implementation of strategic plans for FAST control at national and regional level.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
2.1 Co-ordination and FAST control framework	Enhanced co-ordination with GF-TADs and other partners, and improved implementation of strategic plans for FAST control.	Implementation of co-ordination mechanism aimed at better identifying the specific needs of the different countries in the neighbourhood for FAST control and provision of assistance to develop and revise the FMD control strategies according to the different PCP stages.	Activities coordinated at regional level with synergies among partners. At least 5 countries reinforced in PCP Stage 2 or advancing to PCP stage 3 or above and/or providing FMDV circulation data in PCP stage 2. Reduced risk months where emergency management responses is required against FAST diseases.	Six- month progress report and official reported data.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Commitments of GF-TADs and other partners on co-ordination & collaboration. Identification of FMD as a priority by national competent authorities and implementation of integrated strategies for FAST diseases.

5. Planned Component Sub-Activities

Activities and expected results

The activities within this component will contribute to or ensure:

1) Co-ordination with the GF-TADs partners (FAO, WOAH), with other international agencies providing technical support to countries (e.g. AOAD), achieving a jointly agreed workplan, with close regular interaction in the implementation and reporting to the regional steering committees and Joint Permanent Committee (JPC) of REMESA and the SOI.

This should ensure:

-an agreed basis for delivery of national support to FMD and FAST disease surveillance and control with the National Competent Authorities;

-an established framework for regular monitoring and reporting of the FAST situation, response to emergency events, and prioritization of efforts to promote surveillance and control in the European neighbourhood.

2) Improved implementation of strategic plans for FAST control at national level, based on PCP principles, availability of resources and results of control strategies already in place.

3) Co-ordination of inputs and efforts with the leading technical institutional partners (including CIRAD, EFSA, IZSs, ANSES), to achieve improved laboratory and epidemiology networking in the European neighbourhood for better early warning and support to risk-based control strategies, with increased efficacy and improved guidance to the countries of the sub-regional epidemiology and laboratory networks of the PCP roadmaps.

4) Improved engagement with private sector (including private sector veterinarians, education and training providers and vaccine producers) in line with PCP and PPP principles.

The expected results under this component will be expressed mainly in terms of:

- a) progress in cooperation with regionally coordinated GF-TADs programmes and roadmaps;
- b) regular reporting to Member Nations and partners of the FAST situation and national progression on the PCP in the EU neighborhood;
- c) sharing of data and information on FMD and other FAST diseases in Transcaucasia and neighbouring countries in the frame of the Statement of Intentions (SOI) agreement;
- d) implementation of the epi-lab networks workplans and enhancements of regional networks;
- e) clear roles and active collaboration between public and private sectors in national control strategies (PCP implementation) in the neighbouring region.

2.1. Regular monitoring and reporting of FAST situation and control strategies adopted in European neighborhood and regular co-ordination with GF-TADs and other partners

All meetings held during the reporting period continued to be carried out through the online modality.

South East European Neighbourhood (SEEN)

The FAST situation and control strategies adopted in SEEN countries are regularly monitored and reported through: i) recurring online meetings with focal points in SEEN countries; and ii) three-monthly reports of the national consultants of the TransCaucasus countries (TCC). This includes updating and monitoring progress in the implementation of national FMD control plans (OCP, RBSP) in the region.

The following activities and meetings were conducted within the framework of the *Implementation of the Statement of Intentions (SOI) agreement for mutual cooperation between Transcaucasia and neighbouring countries for the control of FMD and FAST diseases* and the SEEN workplan:

- Maintain the reporting system of outbreaks and vaccinations
 - Regular monthly reporting of FMD vaccination and outbreaks continued by the Republic of Türkiye, I.R. Iran and the Transcaucasus countries (TCC) Armenia, Azerbaijan and Georgia, and six-monthly reporting by the Russian Federation. Iraq continued to report outbreaks to the SOI database. The I.R. Pakistan reiterated its willingness to contribute to the database, but no progress was made during the reporting period.
 - Monthly tables and progress maps with vaccination and outbreak data are available to highlight the regional FMD risk situation. The immediate sharing of outbreak information by the Republic of Türkiye with the neighbouring countries prompted early response measures including early start of or additional vaccinations, awareness campaigns among veterinarians and farmers in the areas of the neighbouring countries close to the outbreaks.
 - The IZSLT (Italy) continues hosting the SOI platform through a Letter of Agreement with EuFMD, recently renewed for one year.

- Improved risk information sharing

In the reporting period, some changes aimed at the improvement of the SOI reporting platform have been provided such as:

- Data on market prices of live animals (cattle, small ruminants, pigs) and their meat, divided between capital and regional markets, are available.
- Maps are updated on a quarterly basis and populated with data by six countries.
- An improved, user-friendly display of vaccination and outbreak on the same map is implemented.
- Several meetings to improve risk information sharing were held between EuFMD, IZSLT and the SOI country focal points on the status of reporting to the SOI database, planning and implementation of changes and improvements.

- Quarterly reporting

Contributions from the SEEN region led to the following reports:

- European neighbourhood EuFMD Pillar II - Report on significant FAST disease events and information (on a quarterly basis).
- Pillar II Report on significant FAST disease events and information.
- Foot-and-Mouth Disease (EuFMD, WRL).

- Use of EuFMD tools for improved risk assessment and vaccine strains selection

- Risk Monitoring tool
- Data and information from the SEEN countries on all FAST diseases have contributed to regional risk scores.

- Pragmatist

Further development of the EuFMD/WRL Pragmatist tool is being outlined for application in FMD endemic countries. This will assist to determine suitability (fitness for purpose) of the vaccines purchased, and to interpret the results of post vaccination monitoring in the field. A pilot testing in the SEEN countries is planned.

- Surveillance evaluation tool (SET)

This tool is under development to assess surveillance in endemic countries, based on indicators to evaluate how the requirements for each PCP stage are met.

- Meetings between the Republic of Türkiye, I.R. Iran, Pakistan and EuFMD

Quarterly tripartite meetings are organized by EuFMD in which the three countries give updates against the agreed framework for regular sharing of risk information from bordering areas on the occurrence of outbreaks, vaccination programmes, animal movements, surveillance results and control measures implementations, vaccine and vaccination effectiveness and capacity building. During the reporting period, two meetings were held in May and in September 2022.

- Coordination of activities related to FAST diseases with FAO and WOAHA

The quarterly coordination meeting was held in July 2022 between EuFMD, FAO SEC, FAO REU, FAO RAP and WOAHA on FAST diseases programmes in the European neighbourhood and West Eurasian region.

Middle East and North Africa

Sub-regional Consultation Meeting on Foot and Mouth Disease in Israel, Jordan Palestine, 9-10 August 2022

Following the FMD outbreaks reported by Jordan, Israel, and Palestine in late 2021 and early 2022, and the technical assistance provided by the EuFMD to these countries, the EuFMD and the Emergency Management Centre for Animal Health (EMC-AH) organized a Sub-regional Consultation Meeting on Foot and Mouth Disease in August 2022, in Rome.

The objectives:

- Discuss policies and levels of preparedness and response to the current FMD outbreaks, especially FMD vaccine and vaccination challenges;
- Establish a coordination mechanism at the sub-regional level for sharing technical information;
- Agree on the next steps to be implemented on this topic in the sub-region.

The outputs:

- Tripartite meetings proposed to be held on a three-monthly basis, either virtual or physical;
- Investigations of vaccination failure in each country to be conducted with EuFMD support on practical approaches;
- Outbreak investigation protocols to be shared and harmonized;
- The involvement of the GVA-ME in assisting countries to review vaccination strategies, design and conduct SSIGS and PVM studies, and interpret the results.

FAO/WOAH Consultative Seminar on Progress Made in the FMD and PPR Regional Roadmap for East Mediterranean Countries, September 2022- Beirut, Lebanon.

The FAO/WOAH GF-TADs regional Steering Committee organized this meeting, to which the EuFMD participated, to discuss progress made in the two diseases' roadmaps implementation and the identification of suitable solutions with the support of partner organizations.

The objectives:

- Evaluate the progress made by countries of the East Mediterranean: Egypt, Iraq, Jordan, Lebanon, Syria, and Sudan in the FMD and PPR roadmaps after recommendations of the 2021 related meetings, especially to countries in the provisional stage;
- Identify challenges faced by Member Countries during the preparation, and implementation of the RBSP and propose relevant solutions; Discuss the use of the various vaccines for FMD in the region and the post-vaccination matching; Identify critical areas for support by international organizations to Members in the progress and control of FMD and PPR.

Progress made by the countries and the challenges were presented, and the recommendations will be formally communicated shortly.

Virtual follow-up meetings on Applied Public-Private Partnership (PPP) to FAST diseases control in Sudan held in May and June 2022:

For detailed information (see 2.1.3)

- Coordination of activities related to FAST diseases with FAO and WOA. H.
- Two quarterly coordination meetings between EuFMD, FAO RNE, and WOA. H-ME on FAST disease programs in the Middle East held, in April 2022 and August 2022. These meetings allowed to update on the past, ongoing, and planned main activities in the Middle East region on TADs and FAST diseases and to identify activities of common interest and potential synergies.

2.1.1 Revision of national FAST strategic plans according to updated risk assessment, socio-economic analysis, monitoring and evaluation results

South East European Neighbourhood (SEEN)

Official Control Programme of Georgia and Risk-Based Strategic Plan for FMD control of the Republic of Türkiye, I.R. Iran, Azerbaijan and Armenia

The Republic of Türkiye, Armenia and Azerbaijan are currently drafting their Official Control Programmes (OCPs) and planning to submit the control plans to the GF-TADs FMD Working Group (FMD WG) in 2022. A country mission to Armenia was conducted in July 2022 to assess the stage progress. The export of live animals and animal products to the Russian Federation are driving factors and political support is in place. The SEEN component manager is also part of the PCP-Support Officer (PSO) (see component 3.1) and in the frame of this system, he assists countries in Central Asia and Central and West Africa in the development of FMD control plans.

Country missions to evaluate PCP progress and receive updates related to the EuFMD workplan

A country mission was conducted by the Component Manager to Georgia and Armenia, in July 2022.

Main mission results:

Both countries

- are interested and willing to progress along the PCP. The export of live animals and animal products are driving factors and political support is in place;
- plan to submit dossiers for PPR freedom. Armenia will implement a FAO TCP and Georgia will start working on this objective, after this year's vaccination;
- are interested in advances in national and regional GIS and risk mapping, and plan to establish national GIS teams. The EuFMD national consultant will assist to coordinate activities in TCC/SEEN countries;
- have made progress with animal identification and registration. In Georgia, animals and farms are currently entered into an electronic system (NAITS) based on spring vaccination data. In Armenia, project activities will start in autumn with the Austrian Development Agency.

Georgia

- The national focus is on PCP stage 4; the endorsement of the Official Control Programme by WOA. H is envisaged in the next two years and the EuFMD support is requested.

Armenia

- the CVO expressed interest in EuFMD membership and will seek approval from the relevant Ministries.
- An OCP for progression to PCP stage 3 is currently drafted for submission to the FMD Working Group (WG) in this semester, after EuFMD review. It was discussed to aim at stage 3 for the whole

country instead of zoning in Lori and Syunik marzes.

EuFMD Support to Iraq for FAST surveillance and control and EuFMD workplan implementation

Meetings were held in May and July 2022 to support Iraq in FAST surveillance and control and EuFMD workplan implementation.

The main points agreed were:

- Shipment of FMD samples to the Sap Institute for testing under the Protocol for the submission of FMD samples to the Sap Institute, *see 2.2.3.*
- Support in updating of FMD control strategy and RBSP.
- Improving the cooperation with the Kurdistan Region of Iraq. This will be facilitated together with FAO Iraq and the proposed Identification of a EuFMD focal point from the Kurdistan Region.

Middle East

Jordan

EuFMD assisted Jordan in revising and updating the RBSP with the assistance of the PSO assigned to the country, and the plan was subsequently approved by the RAG in the Middle East in August 2022.

Sudan

EuFMD assisted Sudan in updating and responding to the FMD – WG's feedback on the first draft submitted in 2019, and a revised plan was submitted to the WG in July 2022 and is currently under review.

2.1.2 Implementation of laboratory and epidemiology network work plans in the European neighborhood with development of best practices promoted in Roadmap regions

South East European Neighbourhood (SEEN)

Epi and lab networks of the WestEurasia Roadmap

Republic of Türkiye. A virtual meeting of the Epidemiology Network was organized jointly by the network leader, the EuFMD and WOAHA office in Nur Sultan, in June 2022. An update of the national FMD situation was presented. It was agreed that the PCP progress should be a regional priority. The PCP support should be provided through the PSO system, as requested by the countries. The EuFMD will specifically support SEEN/EuFMD Pillar II countries, while the WOAHA Nur Sultan will continue supporting Central Asian countries. It was agreed that six-monthly EpiNet meetings should be continued and that the organizational support to the meeting could be a model for WelNet and networks of other regions.

Middle East

Epi-lab network

Following the decisions made at the 5th GF-TADs Middle East Roadmap Meeting for Foot-and-Mouth Disease (Dec 2021), a meeting was held with the WOAHA representative in the Middle East how to promote the two networks. A proposal was agreed upon where the regional GF-TAD in the ME will manage and promote the networks. The EuFMD will provide technical assistance.

2.1.3 Promotion of public-private partnerships for FAST monitoring and control and development of new partnerships

EuFMD has developed, within the current workplan, a series of v-learning courses, which aim to build the skills needed to develop and implement FMD control strategies under the PCP-FMD.

South East European Neighbourhood (SEEN)

A pilot project on PPP for improved PVM in the dairy sector was implemented with EuFMD support. As several local and imported vaccines are used in I.R. Iran, the objective of this small-scale immunogenicity study (SSIS) was to assess the effectiveness of FMD vaccines used in the dairy sector, with support from veterinarians working in this sector. According to the Iranian Veterinary Organisation (IVO), the study has been completed, and results under review for publication.

Middle East

Following the workshops held in January and February 2022, facilitated by the AOAD, two follow-up meetings were organized in May and June 2022.

They aimed at designing and defining the components of the pilot project of public-private partnerships applied to the export of live animals and animal products from Sudan through strengthening the surveillance activities.

The objectives:

- define goals, objectives, and expected outcomes of the pilot project;
- identify challenges with the current surveillance program and how this PPP could take action;
- identify the available and required resources to achieve the objective;
- define the activities and components of the pilot project;
- define the roles of responsibilities of each partner;
- plan for actions and next step.

A series of actions were identified, as follows:

- The representatives from the VS will provide a detailed written description of the current surveillance system, highlighting the most significant gaps, challenges, and available resources for implementing the system.
- Quarantine representatives to provide a detailed written description of the current status of the quarantines identified in this pilot project, emphasizing the infrastructure, regulations, operating system, certification, etc.
- The Laboratory representative to provide a full written description of the capacity of the laboratory, available tests, diagnostic requirements of importer countries, SOPs, Protocols, etc.
- The private sector representatives to indicate the available resources that can assist with the implementation of the surveillance system and increase the capacity of quarantines within the identified pathway indicated in this pilot project.
- Representatives of the PPP unit are to provide background information on the existence of PPP projects in Sudan and highlight the opportunities and obstacles encountered.

An abstract on the EuFMD approach on potential PPPs for control of FAST diseases in Sudan was submitted to the EuFMD Open Session 2022.

Sub-activities and their indicators

Sub-activity level	Description	Progress in the current period	Progress overall towards biennium indicator
2.1.1 Improved national FAST control plans, networks and regular co-ordination with Gf-TADs partners and international agencies	1. Regular monitoring and reporting of FAST situation and control strategies adopted in European neighbourhood and regular co-ordination with GF-TADs and other partners.	<p>Co-ordination with the GF-TADs partners (FAO, TADS Secretariat, WOAAH), with other International agencies providing technical support to countries (e.g. AOAD) and networks established in the regions, achieving a jointly agreed workplan with close daily interaction in the implementation and reporting to the regional steering committees and Joint Permanent Committee (JPC, REMESA).</p> <p>EuFMD shared human resources with the GF-TADS Secretariat.</p> <p>A joint Pillar II and Pillar III meeting was held in Rome 26-28 July to share information, design strategies and actions across regions.</p> <p>FAO and WOAAH sub-regional offices of North Africa, Middle East and Europe/South east Europe, Central Asia and Asia-Pacific, were involved in the planning of the six-month activities, and regularly invited in the events organized during this period.</p> <p>EuFMD Deputy Executive Secretary nominated as member in the steering committee of the regional program for control TADS adopted by AOAD.</p> <p>A statement of intention (SOI) between EuFMD and AOAD is implemented.</p> <p>Two follow-up meetings on potential areas for developing PPPs for the control of FAST diseases in Sudan were held, hosted, and facilitated jointly with AOAD.</p> <p>Regular online meetings were organized with focal points in SEEN countries and three-monthly reports of the TransCaucasus countries (TCC) national consultants regular provided to monitor progress in the implementation of national FMD control plans (OCP, RBSP).</p> <p>Sub-regional meeting on FMD held Jointly with EMC-AH in Rome with Israel, Jordan and Palestine.</p> <p>EuFMD participated in the FAO/WOAH Consultative Seminar on Progress Made in the FMD and PPR Regional Roadmap for East Mediterranean Countries in September 2022-Beirut Lebanon.</p> <p>Within the framework of the Statement of Intention agreement, meeting have been held with the participation of Türkiye and I.R. Iran.to share risk information and database improvements. Pakistan did not attend the meeting held in September 2022.</p> <p>Quarterly coordination meetings on FAST</p>	<p>Data and information from the SOI database and the quarterly reports were used for improved monitoring of the FAST risk situation in the countries of the Statement of Intentions (SOI) and improved regional risk assessments and modelling of potential spread.</p> <p>The implementation of the SOI with AOAD is leading to the design of a Memorandum of Understanding between EuFMD and AOAD, under development to assist the Middle east and North Africa country members.</p>

<p>diseases between EuFMD, FAO and WOA in support of the global GF-TADs strategy implementation.</p> <p>Use/adaption of EuFMD tools on risk monitoring and vaccine assessment (Risk-Monitoring tool, Pragmatist, Surveillance Evaluation Tool).</p>			
2.	<p>Provide technical assistance for implementation of strategic plans for FAST control at national level on the basis of PCP principles, availability of resources and results of control strategies already in place. Tools already developed by FAO (LMT, SET, EMAI) and results of their implementation will be considered for enhancing the assistance provided according to needs. Emergency support for FAST diseases will be provided to countries under this component, according to the priorities identified with EC and GF-TADs partners and considering the risks for EuFMD MN identified.</p>	<p>Support to SEEN countries to develop OCPs (Armenia).</p> <p>RAG in the ME approved RBSP of Jordan RBSP of Sudan submitted to the FMD-WG.</p> <p>RBSP support to Lebanon and Syrian Arab republic.</p> <p>Results of the assessment of laboratory capacity and capabilities of national reference laboratories for FAST diseases in REMESA countries of North Africa and Middle East have been discussed and shared with countries to identify priorities and laboratory network action plans.</p> <p>Physical meetings and country missions resumed after Covid-19 restrictions.</p>	<p>Progress in the finalization of RBSP in Sudan, OCP and Jordan and strategic plan in Morocco.</p>
<p>Revision of national FAST strategic plans according to updated risk assessment, socio-economic analysis, monitoring, and evaluation results</p>			

3. Implementation of laboratory and epidemiology network work plans in the European neighbourhood with development of best practices promoted in Roadmap regions.	Co-ordination of inputs and efforts with the leading technical institutional partners (including CIRAD, EFSA, IZSs, ANSES and others) to achieve improved laboratory and epidemiology networking in the European neighbourhood for better early warning and support to risk-based control strategies with increased efficacy and improved guidance to the countries of the sub- regional epidemiology and laboratory networks established in roadmaps.	A virtual workshop has been organized on improving surveillance and early warning in the Middle East countries. The v- workshop replaces the REPIVET and RELABSA workshop that cannot be held due to Covid19 situation. Followed by two meetings with Libya and Egypt. Support to Epi and lab networks of the WestEurasia Roadmap	In North Africa, REPIVET and RELABSA are regularly involved in the GVA activities. Additional meeting will be organized to define new priorities and actions in line with EuFMD workplan Synergies between WestEurasia network workplan and SEEN priorities, network leaders are from SEEN countries.
4. Promotion of public-private partnerships (PPP) for FAST monitoring and control and development of new partnerships.	Improved engagement with private sector (including private veterinarians, training providers and vaccine producers) in line with PCP and PPP principles.	PPP project on improved PVM in the dairy sector of I.R Iran with EuFMD support completed. A series of workshops on potential areas for developing PPPs for the control of FAST diseases in Sudan were held, hosted, and facilitated jointly with AOAD, followed by two follow-up meetings	Role of private sector in surveillance has been studied and improvement identified to enhance sensitivity of surveillance.

6. Priorities for the next six months

1. Production of the FAST reports, considering different ways of presenting data, and updating the country cards and informing risk analysis components of other parts of the workplan.
2. Follow up to the PPP and SEI v-learning courses through liaising with relevant stakeholders from various countries.
3. Continue support to SEEN countries on the progression along the PCP, especially Georgia, Türkiye, Armenia and Azerbaijan to stage 3. Also continued support to I.R of Iran and Sudan.
4. Continue coordination meetings between EuFMD, FAO SEC, FAO REU, FAO RAP and WOA on FAST diseases programmes in the European neighbourhood and West Eurasian region to improve mutual cooperation and utilize synergy effects between different national and regional FAST related activities.
5. Continue the implementation of improved sharing of data and information on FMD and other FAST diseases in the frame of the SOI. Develop database solutions to link the SOI database with other EuFMD FAST data collection including country cards, risk monitoring tool, Pragmatist.
6. Continue to collaboration with AOAD and develop the MoU to deliver activities within joint AOAD and EuFMD member countries.

7. Success stories and outputs

The Epidemiology Network was organized jointly by the network leader, the EuFMD and WOAHA office in Nur Sultan in June 2022. This organizational support could be a model for WelNet and networks of other regions.

Israel, Jordan and Palestine collaborated to share information during the meeting held in Rome, in August 2022, to design appropriate surveillance strategies at sub-regional level.

The collaboration with the Arab Organization for Agricultural Development (AOAD) has continued and a Memorandum of Understanding is under development.

8. Budget (€) COMP. 2.1

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 2.1	30,040	25,644	4,395
<u>Consultancy Operational</u>			
Component 2.1	160,860	131,380	29,480
<u>Consultancy Technical</u>			
Component 2.1	399,090	337,340	61,750
<u>Travel</u>			
Component 2.1	39,390	22,290	17,100
<u>Training</u>			
Component 2.1	64,212	34,346	29,866
<u>Contracts</u>			
Component 2.1	92,065	90,188	1,877
<u>Procurement</u>			
Component 2.1	20,000	13,795	6,205
<u>General Operating Expenses</u>			
Component 2.1	29,580	14,085	15,495
Total Direct Eligible Cost	835,237	669,069	166,168

Component 2.2 (Activity 2.2)

Improved early warning for FAST diseases

Component Objective

Develop and implement integrated disease surveillance program focused on specific risk hubs, in order to provide updated risk information, optimize the veterinary service resources and improve the effectiveness of control measures implemented.

Component managers

South-East European Neighbourhood	Carsten Potzsch
South-East Mediterranean	Shahin Baiomy
North Africa	Karima Ouali

1. Background

The European neighbouring sub-regions of the Maghreb, South East Mediterranean and South East Europe are key areas for a number of emerging risks for Europe. A better knowledge of the **livestock flows** in these regions would be a major advantage in forecasting dangers threatening Europe. It would also be useful information for the national veterinary services in designing more **effective national disease surveillance and control program**.

The implementation of specific surveys and the **monitoring of proxy indicators** of animal movements, especially in areas with a general lack of national animal identification system and movement monitoring (e.g. North Africa or Near East), are key elements to tailor a risk-based approach for surveillance and for the development of an early warning system. The combination of **qualitative risk analysis and risk mapping** can contribute to assess the risk of introducing and disseminating FMD and similar TADs within the EU neighbouring countries and across their borders. The resulting risk-maps will be useful to develop **disease surveillance** program focused **on specific risk hubs**, to optimize the veterinary service resources deployed in the field and improve the effectiveness of control measures implemented.

2. Countries or partner organizations involved

Direct beneficiaries of this component are the EuFMD Member Nations Türkiye and Georgia and non EuFMD Members of the European neighbourhood. Other EuFMD Member Nations will benefit in term of improved risk information and reduced risk from neighbouring countries.

Partners include FAO, WOA (Regional and Sub-regional offices) and EU Commission, regional organization active in agricultural sector such as Arab Organization for Agricultural Development, as well as regional economic and trade unions such as Union Maghreb Arab (UMA), Economic Cooperation Organization (ECO) and others and networks established under GF-TADs such as REMESA. The training programme on risk mapping for the countries of the European neighborhood was delivered in the framework of a 1.5 year partnership with CIRAD.

FAO/WOA reference laboratories, international centers of expertise and European reference laboratories will be involved in the activities according to the different expertise available and required.

Training opportunities and other activities developed and delivered might be extended to countries in the regions significant for epidemic spread of FAST diseases to the above countries such as Sudan, Mali, Afghanistan and Pakistan.

3. Reporting

Reporting format	Responsibility	Output	Distribution	Sent out by
Six monthly to ExCom	Component managers for the three sub-regions.	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component managers for the three sub-regions in co-ordination with oversight board.	Written report; presentation	General Session	
Workshop reports	Lead facilitator	Written report	ExCom, oversight members	

4. Objective of the component

Develop disease surveillance program focused on specific risk hubs, in order to provide timely risk information, optimize the veterinary service resources deployed in the field and improve the effectiveness of control measures implemented.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
2.2 Improved early warning for FAST diseases	Develop integrated disease surveillance program focused on specific risk hubs	Identification of risk hotspots in the European neighbourhood and develop disease surveillance program focused on specific risk hubs, to improve availability of updated risk information, optimize the veterinary service resources deployed in the field and improve the effectiveness of control measures implemented.	Risk hot-spots for FAST diseases identified in at least six EU neighbouring countries and risk maps regularly updated. Regular risk- based surveillance for multiple diseases implemented for 12 months in 2of the EU neighbourhood hot spot locations. At least seven countries regularly participating in multi-country risk information sharing system.	Six- month progress report and official reported data.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Country commitments and interest on implementing regular integrated surveillance in risk hotspots and sharing of information

5. Planned Component Sub-Activities

Activities and expected results

The activities will implement mainly the workplans agreed at the co-ordination level (comp 2.1) and will take place at the national level, with the advanced technical institutions and reference centers providing support services to surveillance.

The activities within this component will contribute to or ensure:

1. Identification of risk hot spots for FAST diseases taking into consideration animal movements, presence and circulation of animal diseases, efficacy of control programmes, socio-economic aspects and other risk factors;
2. Implement a programme of risk-based surveillance for multiple diseases in risk hot-spot locations on a regular or continuous basis for detection of virus circulation and early warning of FAST unusual epidemiological events;
3. Improve the sharing of risk information between countries and between technical expert networks, promote the collaboration between countries for improved surveillance of FMD and similar TADs.

The expected results under this component will mainly be expressed in term of quantifiable indicators for improved communication of surveillance results. This includes the number of neighbouring countries which

have identified risk hot-spots for FAST diseases and utilizes the risk maps based on animal mobility in surveillance and control plans; the number of countries which conduct regular risk-based surveillance implemented for multiple diseases in hot spot locations able to provide valuable risk information; the number of countries regularly participating in multi- country risk information sharing practice for FAST diseases similar to the THRACE and Trans-Caucasus “statement of intentions” agreements.

2.2.1 Identification risk hot-spots for FAST diseases and development of updated risk maps based on animal mobility and other risk factors

South East European Neighbourhood (SEEN)

Risk mapping for improved FAST surveillance and early detection, and follow-up meetings.

Risk maps are regularly and extensively used by SOI countries; this includes national reporting, national diseases control plans and PCP-FMD control plans (Risk-based Strategic Plans, Official Control Programmes), scientific and animal health strategic publications. The national consultant from Georgia was assigned to assist the coordination of GIS and risk mapping activities in the SEEN region.

- LoAs with CIRAD and identification of GIS training provider.
- Under the new LoA with CIRAD, follow up activities will be conducted on the identification of drivers of animal mobility with I.R of Iran as one of the three pilot countries in the European Neighborhood.
- Animal mobility - identification of its drivers.
- The steps of the next project will include the design and implementation of cross-sectional and longitudinal studies to collect information from the different actors in the production and trade livestock chain, with the aim to identify socio-economic drivers of livestock mobility that could be monitored as proxies of live animal movements.
- An abstract was submitted by the IVO on Network and risk Analysis of Iran's livestock movement in 2020 and 2021. The research was based on EUFMD risk mapping activities and training.

Middle East

Risk mapping for improved FAST surveillance and early detection, and proposal for animal mobility survey

Following the workshops organized in collaboration with CIRAD on the *Understanding the drivers of livestock mobility in Egypt*, a protocol was developed to collect information and to understand the determinants of small and large ruminant movement in Egypt.

Two types of studies will be conducted:

- A cross-sectional study on all types of small ruminant production (large farms, breeders, feedlot, smallholders) and intermediary premises (livestock markets, small medium and large) whose objectives are to (i) collect retrospective information on the evolution of price and quantity of small ruminants exchanged in the past year (possibly with proportional piling) and (ii) gather factors of decisions to buy and sell animals.
- A longitudinal study, which will focus on a limited number of key livestock markets and key hotspots for small ruminant production and connected premises. These samples of premises must be connected together i.e. forming a subnetwork for commercial-type movements (the “markets network”) and production-type movements (the “farms network”). Objectives are to (i) gather precise monthly data on animals entering and leaving the premise and sale prices, and (ii) detect possible abrupt variation in the structure and quantity of animals exchanged.

North Africa

Risk mapping for improved FAST surveillance and early detection,

Since 2016, the EuFMD has delivered an innovative training programme on spatial qualitative risk assessment for national Veterinary Services of North Africa and connected countries that are significant for epidemic spread of FAST diseases.

The countries received in-person and virtual training and workshops focusing on qualitative risk mapping for FAST diseases, **integrating livestock mobility and other risk factors**.

An LoA is under renewal with CIRAD to follow up activities on the identification of drivers of animal mobility. A GIS training provider is being identified.

2.2.2 Implementation of regular risk-based surveillance (RBS) for multiple diseases in hot-spot locations.

South East European Neighbourhood (SEEN)

Risk-based surveillance is regularly conducted in all SEEN countries for FMD. All SEEN countries are in PCP stage 2 or 3 and risk-based FMD vaccination and control are implemented and are consequently linked with risk-based surveillance. The RBSP and OCP serve as templates for risk-based control and surveillance for other FAST diseases especially in Republic of Türkiye, TCC and the IR of Iran. The results of the small-scale immunogenicity studies in the TCC are also used to target FMD surveillance efforts. Surveillance and control for other regionally important FAST diseases are also implemented and reported quarterly to the EuFMD.

The Republic of Türkiye and the TCC conduct annual representative serological surveys to estimate the levels of NSP and SP antibodies in different subpopulations, including large and small ruminants. Through survey results, risk hotspots and gaps in national control are identified and addressed.

Middle East

Jordan: Technical assistance was provided to Jordan in designing FMD sero-surveillance targeting LR and SR in the central and northern regions of the country. A total of 1686 samples of SR and 1124 samples of LR will be collected simultaneously with the FMD mass vaccination campaign, which is planned to be launched by the mid-September 2022. The samples of the SR will be tested for PPR.

Sudan: under the LoA with the World Reference Laboratory for Foot-and-Mouth Disease, a total of 41 samples from Sudan were shipped for analysis from 2019 to 2022.

Lebanon: An article on Serological survey for the detection of Foot-and-Mouth Disease (FMD) in livestock, Lebanon, winter 2020-2021, supported by the EuFMD, was submitted to the PVM Journal and is currently undergoing peer review, along with an abstract on the same topic that was submitted to the EuFMD open session 2022.

2.2.3 Regular participation of countries in multi-country risk information sharing system for FAST diseases

South East European Neighbourhood (SEEN)

Regular reporting and risk information sharing within the Statement of Intention between Transcaucasia (TCC) and neighbouring countries.

See 2.1. for activities under the SOI

Türkiye has continued to report outbreaks in the border regions with other SOI countries immediately after laboratory confirmation. This has resulted in targeted and timely vaccination campaigns in neighbouring Armenia and Georgia.

Quarterly reporting

The FAST disease situation is reported on a quarterly basis in the EuFMD reports:

- Pillar II “Report on significant FAST disease events and information”
This report includes outbreaks, control, vaccination and surveillance and changes of the epidemiological and risk situation of FAST diseases in the SOI countries (except Russian Federation) and the wider European neighbourhood (EuFMD Pillar II);
- Foot-and-Mouth Disease – Quarterly Report, joint EuFMD-World Reference Laboratory (WRL) report.

The two reports and their quarterly reporting intervals formed the basis for most data and information on FAST disease used in the SOI and in Southeast European Neighbourhood (SEEN) countries. This led to a harmonized and synchronized use of data and information on FAST diseases and their risks in the region.

Protocol for the submission of FMD samples to the Sap Institute

Under this protocol, FMD samples from Türkiye, Iraq should be shipped to the Sap Institute for serotyping, sequencing and vaccine matching (*see 2.1.1. for more information*).

Middle East

Sharing risk information has been promoted in the region, in particular, through the sub-regional meeting between Israel, Jordan, and Palestine in Rome and FAO/WOAH Consultative Seminar held in Beirut where the countries shared risk information related to the FMD outbreaks reported recently (*see 2.1*).

Quarterly reporting

The FAST disease situation is reported quarterly with contributions from the ME region in the EuFMD reports:

- Pillar II “Report on significant FAST disease events and information
- Foot-and-Mouth Disease (EuFMD, WRL)
- Risk Monitoring tool piloted in Libya).
- Data and information from the ME countries on all FAST diseases were included in the Risk Monitoring tool and have contributed to regional risk scores.

Sub-activities and their indicators

Sub-activity level	Description	Progress in the current period	Progress overall towards biennium indicator
2.2.1 Identification of risk hot spots for FAST diseases and implementation of regular risk-based surveillance	1. Identification risk hot-spots for FAST diseases and development of updated risk maps based on animal mobility and other risk factors.	<p>Identification of risk hot spots for FAST diseases considering animal mvts, wildlife, presence and circulation of animal diseases, efficacy of control programmes, socio-economic situation and other risk factors.</p> <p>Risk mapping training by CIRAD has led to:</p> <ul style="list-style-type: none"> - an EuFMD repository of national and regional risk maps - Risk maps being regularly and extensively used by SOI countries. 	<p>Risk mapping activities with the support of GIS in progress through service provider training in the neighbourhood. Training services identified, designed and selection of provider in course for immediate training implementation and community of practice to be in place by the next six months. LoA with CIRAD to follow up the previous collaborative support under development.</p>
	2. Implementation of regular risk-based surveillance (RBS) for multiple diseases in hot spot locations	<p>Implementation of risk-based surveillance for multiple diseases in risk hot-spot locations of neighbouring region on a regular or continuous basis for detection of FAST virus circulation and early warning of FAST unusual epidemiological events.</p> <p>EuFMD provided technical assistance and diagnostic support for designing and implementing surveillance in Jordan, and Lebanon</p> <p>To continue the activities implemented under REPIVET-RELBSA networks, including the plans developed for FAST risk-based surveillance for early detection/case finding, EuFMD is seeking expertise provider to lead the follow up on national-base activity in the region.</p>	<p>Design and diagnostic support provided for surveillance in Egypt, Lebanon and Syria. Targeted surveillance in high-risk areas planned in North Africa to be followed up with national meetings. Shared results of the surveillance in Egypt. Annual representative NSP and SP surveys in Türkiye and the TCC, results are shared with EuFMD. SSIS in the above countries and I.R. Iran to assess vaccine suitability.</p>
	3. Regular participation of countries in multi-country risk information sharing system for FAST diseases.	<p>Improve the sharing of risk information between countries and among technical networks, and promote the collaboration between countries for improved surveillance of FMD and similar TADs.</p> <p>Continued reporting of FMD outbreaks and vaccination in SEEN countries. Currently FMD outbreaks and vaccination progress are reported monthly by Türkiye, I.R. Iran, TCC and Iraq (outbreaks), and six-monthly by the Russian Federation.</p> <p>FMD outbreaks in the border areas according to the SOI are reported immediately, usually on the day of confirmation, to the participating countries and EuFMD. The database for sharing of data on FMD outbreaks and vaccinations has been transferred from Google maps/fusion table based platform to a database developed and currently hosted at the IZSLT, Italy.</p>	<p>SOI system for data sharing continued and improved.</p> <p>Continuation of information sharing in SEEN Information sharing has been identified a priority in REMESA and FMD EPI-Lab networks in Middle East and North Africa.</p>

6. Issues for the Executive Committee attention

Travelling: covid-19 restrictions have limited activities in the field (i.e. regular country technical meetings). Travelling is resuming and it is foreseen improved possibility to organize field and face-to-face activities

Impact of Russia-Ukraine conflict: EuFMD is maintaining a high level of assistance in SEEN countries to anticipate any virus incursion and spread towards Europe.

Control of outbreaks in endemic countries: the outbreaks of FMD in Jordan, Palestine, Tunisia, have highlighted the capacity of the countries to collaborate in the control of the disease but, on the other hand, have underlined the lack of financial sustainability for the implementation of appropriate control measures.

7. Priorities for the next six months

- 1) Continuing the implementation of risk-based surveillance and put in place a Community of Risk assessors supported by the GIS visual spatial analysis to design predictive and control models.
- 2) Test and pilot the tools under development within Pillar I such as Vaccination Estimation Model (VADEMOS), Prioritization of Antigen Management with International Surveillance Tool (PRAGMATIST), and Risk Monitoring Tool. Start developing a common platform or dashboard for collection, storage and analysis of data on FAST diseases, incl. epidemiological situation, outbreaks, control measures and vaccination, surveillance. This data could be used in the quarterly FAST reports, the quarterly FMD report, the SOI FAST diseases reports, the country cards and the risk monitoring tool.
- 3) Improve sensitivity of passive surveillance through improved involvement of stakeholders and digital solutions.
- 4) Develop and launch entomological surveillance models through studies and training. Consider further expansion of the entomological surveillance building on the experience of implementing this activity in Libya and other countries
- 5) Improve the sharing of data and information in the SOI database to better facilitate early warning of FAST diseases and user friendliness. Further development of the SOI database.
- 6) Identify research areas of priority for Pillar II through the FAR mechanism.
- 7) Publish results of activities and produce visibility material.

8. Success stories and outputs

Türkiye reports outbreaks in the border regions with other SOI countries immediately after laboratory confirmation that results in targeted and timely vaccination of high-risk populations in neighbouring Armenia and Georgia.

All countries in the neighbourhood has developed capacity in risk mapping and are interested in further expand skills in this area.

Pilot projects on animal mobility drivers have been conducted with positive results.

The collaboration of EuFMD with the EMC-AH FAO allowed the organization of the meeting in Rome attended in presence by representatives of Jordan, Israel and Palestine to strengthen the sub-regional collaboration and the immediate control of the FMD outbreaks.

9. Budget (€) COMP. 2.2

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 2.2	24,996	19,945	5,051
<u>Consultancy Operational</u>			
Component 2.2	160,860	131,380	29,480
<u>Consultancy Technical</u>			
Component 2.2	285,066	270,744	14,322
<u>Travel</u>			
Component 2.2	41,440	32,967	8,473
<u>Training</u>			
Component 2.2	52,508	17,440	35,068
<u>Contracts</u>			
Component 2.2	341,955	203,236	138,719
<u>Procurement</u>			
Component 2.2	38,750	18,194	20,556
<u>General Operating Expenses</u>			
Component 2.2	9,235	9,001	234
Total Direct Eligible Cost	954,810	702,908	251,902

Component 2.3 (Activity 2.3)

Capacity development for surveillance and improved control programmes

Component Objective:

Develop and implement a program for capacity building that supports national and regional activities for improved PCP progress and FAST disease control (comp.2.1) and improved early warning surveillance, notification and early response (comp 2.2)

Component managers

South-East European Neighbourhood	Carsten Potzsch
South-East Mediterranean	Shahin Baiomy
North Africa	Karima Ouali

1. Background

The **capacity development opportunities** offered to the European neighbouring regions by the EuFMD in the past years, have been intense and focused on assisting countries in improving their national FMD control plans and monitoring their effectiveness. Specific attention has been given to the development and delivery of various training courses (e.g. FMD outbreak investigation, post-vaccination monitoring, risk assessment along the value chain, FMD socio-economic impact assessment, laboratory diagnosis, safe trade, progressive control) in order to improve knowledge on FMD surveillance and control, and guarantee sustainability of the achievement reached in different countries.

Face-to-face training and **v-learning** has allowed the national veterinary services to gain a more sustainable and long- term capacity to investigate outbreaks and collect samples of good quality, implement risk-based control measures, better understand FAST impact and identify options to reduce risk associated with trade. **Socio-economic** and **cost benefit analysis** for FAST control can be promoted through specific training opportunities aimed at assisting policy makers in defining best integrated control strategies with proper engagement of stakeholders.

Laboratory capacity to confirm, and investigate, suspicions and epidemiological skills to adapt surveillance according to the risk, are necessary to implement an early detection system with a good level of sensitivity. Regular training and **networking between centres of expertise** can contribute to build capacities in Europe and neighbouring countries.

Component 2.3 will use the EuFMD training platform to cover the specificities of other TADS or other learning priorities to improve preparedness for the threats identified. The training programme of Pillar II will be based on the concept of '**progressive applied training**' to combine training events at sub-regional and national level with practical implementation (field activities and studies) of the subjects taught. Specific attention will be also dedicated to the improved regional and national capacity to "**cascade**" training as well as to the **induction courses** before the events organized within Pillar II.

2. Countries or partner organizations involved

Direct beneficiaries of this component are the EuFMD Member Nations Türkiye and Georgia, and non EuFMD Members of the European neighbourhood. Other EuFMD Member Nations will benefit in terms of improved risk information and reduced risk from neighbouring countries.

Partners include FAO, WOA (Regional and Sub-regional offices) and EU Commission, regional organization active in agricultural sector such as Arab Organization for Agricultural Development, as well as regional economic and trade unions such as Union Maghreb Arab (UMA), Economic Cooperation Organization (ECO) and others and networks established under GF-TADs such as REMESA.

FAO/WOA reference laboratories, international centres of expertise and European reference laboratories will be involved in the activities according to the different expertise available and required.

Training opportunities and other activities developed and delivered might be extended to countries in the regions significant for epidemic spread of FAST diseases to the above countries such as Sudan, Mali, Afghanistan and Pakistan.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i> Network and Training Support Officer
Six monthly to ExCom	Component managers for the three sub-regions	Written report; presentation	ExCom, STC	
Every two years to MN	Component managers for the three sub-regions in co-ordination with oversight board.	Written report; presentation	General Session	
Workshop reports	Lead facilitator	Written report	ExCom, oversight members	

4. Objective of the component

Support the capacity development needed to develop and implement control strategies and surveillance for FAST diseases (comp 2.1) and early warning system (comp 2.2).

Component (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
2.3 Capacity development for surveillance and improved control programmes	Improved capacity to develop and implement control strategies and surveillance for FAST diseases	Develop and implement a program for capacity building that supports national and regional activities for improved PCP progress and FAST disease control (comp.2.1), improved early warning surveillance, notification and early response to FAST diseases (comp 2.2)	Evidence of improved capacities of national laboratories on FAST diagnosis in three countries, and two new training course scheme developed to assist FAST control and early warning system	Six-month progress report and official reported data.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Identification of participants to training with active role in control and surveillance programmes and interest in the topics proposed.

5. Planned Component Sub-Activities

Activities and expected results

The activities will implement mainly the capacity development work plans agreed at the co-ordination level (component 2.1). The 16 neighbouring countries plus four or five of the most significant neighbours for risk and early warning will be direct beneficiaries. Experienced technical institutions and reference centers will be supported to ensure overall capacity.

The activities within this component will contribute to or ensure:

- Development and implementation of a program of capacity building that will support national and regional activities required for improved PCP progress and FAST disease control (comp.2.1) and implement improved early warning surveillance, notification and early response activities (comp 2.2). As part of this:

- o Develop improved capacity in the network of FAST disease reference laboratories in the neighbourhood to undertake the confirmatory and specialized tests required by the programme;

- o Develop resources that enable “national cascade” training on progressive control and on recognition and control of FAST diseases;

- o Develop a body of evidence on vaccine efficacy and vaccination effectiveness for FAST diseases through studies conducted at national level or by regional technical partners and facilitate the sharing of the results to improve decision on vaccination programmes (including the scheduling of FAST vaccination).

- Building international awareness and understanding among public and private veterinarians and paraprofessionals in the EU neighbouring region on FAST disease recognition, surveillance and control through v-learning courses and online events.

To ensure that EuFMD’s courses are of world-leading standard, educational quality will be maintained through a quality assurance system, co-ordinated across the three Pillars of the EuFMD work programme (see components 1.1 and 3.3). Focus will be on developing training which will have lasting impact, and this will be guided by an impact evaluation system in line with guidance of an external international panel of adult-learning experts, and again co-ordinated across the three pillars.

The expected results under this component will be evaluated at the mid-term stage, and mainly expressed in terms of number of national laboratories with improved capacity for FAST diagnosis; number of studies on vaccine efficacy and vaccination effectiveness implemented and results shared; number of training course schemes developed and delivered to assist FAST control and surveillance; number of trainees completing e-learning courses and the impact of the course measured by their recall and subsequent application.

2.3.1 Training infrastructure and quality assurance system across the training programme

Note this activity is also reported under components 1.1 and 3.3.

The EuFMD Virtual Learning platform has continued to be fully functional for the period April to September 2022.

The EuFMD finalized a new process for the identification of the impact of trainings. *Please refer to 1.1 for further indications about this report.*

2.3.2 Improvement of national laboratories capacity for FAST diagnosis.

South East European Neighbourhood South East European Neighbourhood

Participation in Proficiency Testing Schemes (PTS)

- All SEEN countries participate in the PTS of the FMD World Reference Laboratory.
- The Turkish, Azeri and Georgian veterinary laboratory participate annually in the PPR international PTS. Support for Armenia to participate in PPR International PTS was facilitated by EuFMD through inclusion in an ongoing FAO TCP.

2.3.3 Implementation of studies on vaccine efficacy and vaccination effectiveness and sharing of results

South East European Neighbourhood (SEEN)

Immunogenicity studies

FMD small scale immunogenicity studies (SSIS) in large and small ruminants with local vaccines, was conducted in Georgia, Azerbaijan and Armenia in 2018/19. The results indicate that the vaccines evaluated are not expected to induce a protective and long-lasting population immunity, and also the antibody raise after the second vaccination rapidly declined in three months. As a response to the study results, the vaccine tenders in the TCC were amended and 2021 serological population surveys indicate improved vaccine effectiveness. The results were reported during the GVA meeting in September 2022. The results will be presented at the OS 2022 and published in a scientific paper.

The TCC and Iraq have expressed the needs for new SSIS with EuFMD support. Planning is currently underway considering experiences from the previous studies and with diagnostic support from IZSLER Brescia.

Group for vaccination advice, guidance and consultation for SEEN countries (GVA)

The third GVA meeting was held in September 2022, in which the results of the small scale immunogenicity studies in the TCC were presented by IZSLER and the continuation of similar studies in the SEEN region and planning steps were agreed (see point above). The next meeting is planned for early 2023.

Middle East

Immunogenicity studies

FMD

Post-Vaccination Monitoring for the Northwest Syria Dairy Cattle Population

Following the online training course that EuFMD jointly conducted with the Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER) to provide backstopping for laboratory staff in conducting ELISA-based FMD tests at two veterinary field laboratories in NW Syria, regular on-the-job assistance has been provided in conducting tests that are about to be finalized and the results will be released shortly.

Regional group for FAST vaccination advice, guidance and consultation

Following the second GVA meeting held in January 2022, the core group experts organized nine online meetings during which they provided feedback on vaccination strategies addressed by the countries and PVM proposals submitted to the group. The group has recently received and discussed PVM proposals from Jordan and Libya. The group is currently working on the final report, which will include feedback on the vaccination strategies and the available results of the PVM studies that were reviewed with the countries. The report will be released prior to the 3rd GVA meeting, scheduled for the end of the year. An abstract on the activities of the GVA in the ME submitted to the EuFMD open session 2022.

2.3.4 Development and delivery of training course schemes to assist FAST control and Early Warning System

South East European Neighbourhood (SEEN)

A training workshop on “Outbreak investigations and control and surveillance of FAST diseases in Anatolia” was carried out in September 2022. Participants are veterinarians from the provinces, while trainers are EuFMD members of the central epidemiology and monitoring unit of GDFC, the Sap Institute and C. Potzsch, Component manager. Between 2017 and 2018, the EuFMD together with the GDFC jointly conducted a series of seven workshops to improve the capacity of Anatolian provincial veterinarians in FMD control and surveillance as well

as outbreak investigation. To extend the capacity to FAST diseases and offer training opportunities to veterinarians who entered the GDFC since 2018, two more workshops were agreed to be conducted in 2022 and 2023.

Other trainings in the 3rd quarter of 2022 include:

- FMD Investigation Training Course in Turkish for vets from Republic of Türkiye, Azerbaijan, and Iran.
- FMD Laboratory Investigation Training Course.
- Risk Analysis along the value chain.

2.3.5 Delivery of learning courses to audience of vets and para-professionals to promote awareness of FAST diseases and national cascade of training and resources

Introduction to Rift Valley Fever – Arabic and French

This open-access course was released in July 2021 for English speaking audience, and is currently undergoing a translation for the creation of an Arabic and French versions. Both should be of interest for the veterinarians and paraveterinarians in the European neighbourhood and sub-Saharan Africa in Arabic and French speaking countries and is expected to increase the audience reach.

North Africa

FMD Investigation trainings for Tunisia

Following the recent resurgence of FMD during the month of January in Tunisia, and to better address the emergency, the support of the EuFMD was requested. EuFMD thus delivered an FMD Investigation training for Tunisian public and private veterinarians, particularly aimed at field veterinarians and veterinarians involved in FMD control. The 12 hours long course was offered in a virtual format over duration of four weeks. It started on the 8th of March 2022 and closed on April 17th. Among the 145 invited participants, 69 successfully completed the course. It provided the basics in diagnosing, investigating and controlling outbreaks of FMD, was well received by the participants and the CVOs. This has been part of the discussion for the start of a TOM pilot, which is detailed below in this report.

FMD Investigation training for Algeria

As a response to the increased number of outbreaks and risks in Algeria, the EuFMD discussed with the CVO and made available the FMD Investigation training virtual content for the official and private veterinarians in the country in a short timeframe for information sharing and enhancing the capacity on the field during the outbreaks. The closing webinar organized with the support of trainers from ANSES, allowed to have a live session focused on the FMD detection and investigation, share experience and provide answers and practical orientations to the learners. The access to the course was opened for 194 learners, mainly in order to provide them with resources they could use on field during the outbreak. Only 31 successfully completed all the mandatory activities to obtain a certificate: the low completion rate can be explained by the limited time for alerting and involving the participants, who might have not allocated enough time to complete it, and the poor availability of the veterinarians during the summer period. Nevertheless, being the request linked with an outbreak response, the EuFMD aimed at providing access to the learning resources for the widest audience of participants.

Training

During the reporting period, EuFMD focused on developing new approaches for existing courses and explore the development of new areas of capacity development intervention, with a particular focus on the capacity development activities linked with supporting the progress through the Progressive Control Pathway (PCP) of neighbourhood countries and the areas that sustained the implementation of the FMD Global Strategy achieved through improved technical guidance to countries and assistance to GF-TADs.

A calendar of the upcoming courses involving Pillar II and III countries has been developed and the following courses will start during the end of this reporting period or shortly afterwards:

- **Foot-and-mouth disease Risk Analysis along the Value Chain training:** a 16 hour, four-week virtual training course will start on October 4th, targeting veterinarians working in government veterinary services and responsible for disease control, epidemiology or risk assessment for FMD or similar transboundary animal diseases in over 90 countries. The fourth edition of this course has been revised to enhance the learning experience and the length of the weeks reduced from six to four weeks with the objective of increasing the completion of learners. Veterinary services are currently being asked to nominate four participants who are expected to apply the learnings.
- **FMD Investigation training for North and Western Central Africa training:** a 12 hour virtual course that provides an overview of the FMD outbreak investigation for endemic countries, targeting English and French speaking countries in Africa. The course started on September 13th and will pilot a new microlearning approach that should allow learners to improve their learning experience and identify better which learning content could be re-used as a reference tool when on field.
- **FMD Laboratory Investigation training:** a 14 hours, 4-week long bilingual virtual training course will start on November 15th in collaboration with The Pirbright Institute (TPI). The course targets individuals working in Foot-and-mouth disease laboratories involved in carrying out or managing laboratory testing activities, including interaction with field staff, selection of appropriate diagnostic tests, identification of virus detection test methods and techniques, laboratory quality assurance and biosafety. The course is directed to participants in over 100 countries and will be offered, for the first time also in French;
- **FMD investigation training for Turkish speaking participants:** the virtual course will be offered for approximately 400 veterinarians from Türkiye, Iran and Azerbaijan in Turkish. The course will start in November 2022.

The EuFMD is developing a plan to identify cascading best practices and processes, to support the actions of the learners in cascading what they learnt to others and enhance the impact of capacity development interventions. Note this activity is also reported under components 1.1 and 3.3.

Sub-activities and their indicators:

Sub-activity level	Description	Progress in the current period	Progress overall towards biennium indicator
2.3.1 Develop	1. Training infrastructure and quality assurance system across the training programme Maintenance and improvement of the training infrastructure, including online platform. Development of Training Quality Management System (TQMN) to ensure high quality across the training programme (this sub-activity is coordinated with Pillar I/ III)	EuFMD online platform functioning.	A Training Quality Management System has been developed and is currently being implemented for all courses organized.

2. Improved of national laboratories capacity for FAST diagnosis.	Definition of training programme according to the outcomes of Laboratory Mapping Tool exercise and PTSs results. Support and facilitate the implementation of PTSs in the neighbouring regions.		All SEEN countries annually participate in the PTS of the FMD World Reference Laboratory. The Turkish, Azeri and Georgian veterinary laboratory also annually participate in PPR international PTS A Laboratory virtual training was delivered to north Africa countries with the aim of organizing one for Middle East regions.
3. Implementation of studies on vaccine efficacy and vaccination effectiveness and sharing of results	Assistance further implementation of PVM studies in North Africa, Transcaucasus and new studies in Iran, Iraq and Middle East countries. Build and assist vaccination advisory groups within epi- lab networks in different FMD roadmaps.	EuFMD provided technical assistance in assessment of PVM studies (serological NSP & SP) surveys, SSIS) in TCC of the SEEN region Türkiye	R Results of PVM studies in TCC and NA were made available and shared. Georgia and Azerbaijan took actions with regards to the results of the study for the procurement of new vaccines. New SSIS studies are planned (SEEN), designed and implemented (e.g. Jordan) The regional group for vaccination advice, guidance and consultation will facilitate, upon request, the design, the implementation and/or the interpretation of PVM studies and results.
4. Development and delivery of training course schemes to assist FAST control and Early Warning System.	Organization of v-learning, workshops and in-country meetings on topics which have been identified as a priority to assist progressive control of FAST diseases, surveillance and early warning system. This may include, but is not limited to topics such as PPP, socioeconomic analysis, serosurveillance design, early detection and exercises to assess FAST emergency preparedness. Delivery of training material and courses in local languages and assist implementation of cascade training and related field studies and activities. Develop track training system to map training for vets.	Specific training on animal mobility launched in collaboration with CIRAD has been concluded- for six countries in North and West Africa. An EuFMD Risk Mapping supported by GIS Community of Practice will be set up to guide training and individual country support and following up on risk mapping; the national consultant of Georgia will assist implementation in SEEN countries as part of this group.	V-learning and virtual workshop on risk mapping and surveillance can be progressively expanded in training schemes.
5. Delivery of learning courses to audience of vets and para-professionals to promote awareness of FAST diseases	Development and delivery of online courses and resources for wide dissemination of training which aim to raise awareness of FAST diseases, their clinical signs, diagnosis, reporting mechanism and control. This will include	FMD Investigation Trainings for participants in Tunisia and Algeria, has have delivered in March/April and July/August 2022	FITC Tunisia: final number of completed participants to be provided in next report.

and national cascade of training and resources.	adaptation of existing EuFMD online courses together with the creation of new courses and resources. Courses will be made available in local languages, and support provided to enable the cascade of these courses and resources at national level.	respectively. Introduction to RVF open access course is in translation in French and Arabic.
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6. Issues for the Executive Committee attention

Bidding procedures to select private Service Providers: the bidding processes to select the Service Providers for the passive surveillance assistance/training and the GIS-risk mapping trainings took more than expected and the start of these services are envisaged to start in late 2022.

7. Priorities for the next six months

1) Continue the training on spatial analysis, GIS, animal mobility and value chain reconstruction, in collaboration with CIRAD, and an additional Service Provider to build capacity in the countries and elaborate national risk maps.

2) Continue the socioeconomic studies and the design of models of public private partnerships, in collaboration with the Arab Organization for Agricultural Development (AOAD) member countries.

3) Engage countries with a participatory approach to assess the need that might lead to local TOM adaptation to ensure progress in the adoption of the tool. TOM pilots will run in parallel in countries in the Pillars, I, II and III. Identifying further countries and engaging local stakeholders will continue being among the priorities. Launching of Steering Committee to drive critical improvements in the development of the tool and plan for the future sustainability of the tool will be among the priorities before next reporting period;

4) Continue to strengthen the laboratory capacities in the neighbouring countries and the shipment of samples to reference laboratories.

5) Continue the training in risk-based surveillance both in Francophone and English speaking countries.

6) Publish results of activities and produce visibility material.

7) Development of training material for veterinarians, paravets and farmers to assist the recognition and reporting of FAST diseases:

- Develop new courses and update existing courses as defined by strategic prioritization and continue defining a calendar of priorities for courses revisions and development;
- Develop best practices for the cascading and promotion of training to national level and improved monitoring of cascade.

8) In NA and ME countries:

Building expertise on entomology in the North Africa and Middle East through specific training modality on vectors assessment for LSD and RVF.

8. Success stories and outputs

An initial TOM pilot has been launched in Türkiye. A second pilot in Tunisia is expected to start shortly.

9. Budget (€) COMP. 2.3

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 2.3	20,996	17,096	3,900
<u>Consultancy Operational</u>			
Component 2.3	160,860	131,380	29,480
<u>Consultancy Technical</u>			
Component 2.3	441,854	329,067	112,787
<u>Travel</u>			
Component 2.3	29,170	13,125	16,045
<u>Training</u>			
Component 2.3	58,344	34,129	24,215
<u>Contracts</u>			
Component 2.3	170,980	37,106	133,874
<u>Procurement</u>			
Component 2.3	21,250	2,807	18,443
<u>General Operating Expenses</u>			
Component 2.3	22,180	5,083	17,097
Total Direct Eligible Cost	925,634	569,793	355,841

Pillar III (Output III)

Pillar Objective

Sustained Global Strategy, Cascading capacity building for FAST control, Laboratory networking for surveillance

Pillar Coordinators

Kees van Maanen / Wilmot Chikurunhe

Component 3.1 (Activity 3.1)

Global Strategy Implementation

Component Objective

Sustained and effective implementation of the FMD Global Strategy achieved through improved technical guidance to countries and assistance to GF-TADs Regional Roadmaps meetings.

Component Manager

Etienne Chevanne

Sub-activity level manager

3.1.1 Etienne Chevanne / Melissa McLaws

3.1.2 Etienne Chevanne / Wilmot Chikurunhe

3.1.3 Etienne Chevanne/ Melissa McLaws

1. Background

The overall aim of this component for Phase V is to sustain further the effective implementation of the GF-TADs FMD Global Strategy and to promote and assist the progress of the Global Strategy.

The activities carried out under Component 3.1 offer a range of direct **initiatives supporting the FAO/WOAHWOAH Working Group** on FMD control for regionally-coordinated and targeted national assistance to countries for the effective implementation of the Progressive Control Pathway for FMD (**PCP-FMD**). The achievement of the GF-TADs Working Group action plan at global and regional levels will also be supported also taking into account the requests from the Working Group. Cooperation will also be co-ordinated with the FAO/WOAHWOAH PPR Global Eradication Programme (GEP) Secretariat.

Tailored **PCP-FMD application tools** and guidance documents will be developed to improve quality and timing of the review of national control plans and the effectiveness of the assistance to countries of the GF-TADs Working Group.

Support will be provided to the **GF-TADs Regional Roadmaps** meetings for FMD control, and to improve the assessment and evaluation mechanism of countries. Support to **Regional Networks** and co-ordination with Regional institutional bodies will be established to improve capacities for strategy development, PCP-FMD progress at national levels, and for the implementation of risk-based approaches for FAST diseases surveillance and control.

Technical guidance to PCP-FMD implementation by countries will be improved through the management and development of the **PCP-FMD Support Officer (PSO) system** and by the further roll-out of its' implementation. This will include PSO training and capacity development, and support to PSOs to improve guidance to countries, including informatics and web applications. Appropriate guidance documents will be improved to better assist the development and implementation of strategies at national level.

The visibility and impact of these activities will be promoted through support to improved communication and improved online presence (GF-TADs website on FMD Global Strategy).

2. Countries or partner organizations involved

This component involves collection of data at global level from countries working through the PCP-FMD and benefitting from support through regional roadmap meetings and Epidemiology and Laboratory Networks meetings, and which are indicated as priorities for PCP-FMD progress in the GF-TADs Global Strategy. Currently, these are about 80 countries in Asia, the Middle- East and Africa (with the exception of North African countries which are members of REMESA and Southern African countries with FMD free zones).

Activities under this component are carried-out to assist the activities of the GF-TADs FMD Working Group and co-operation is foreseen with the World Organisation for Animal Health (WOAHWOAH), and with FAO/WOAHWOAH PPR GEP Secretariat through the GF-TADs Global Secretariat coordination.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager in co-ordination with FAO colleagues GF-TADs FMD Working Group	Written report; presentation	General Session	
Workshop	Lead facilitator	Written report	ExCom, oversight members	

4. Objective of the component

Sustained and effective implementation of the FMD Global Strategy achieved through improved technical guidance to countries and assistance to GF-TADs Regional Roadmaps meetings.

This will involve continued support to the GF-TADs FMD Working Group (WG) and assistance to the achievement of the action plan at global and regional levels, consistently with the requests from the WG for support from EuFMD.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
3.1 Global Strategy Implementation	Sustained and effective implementation of the FMD Global Strategy achieved through improved technical guidance to countries and assistance to GF-TADS Regional Roadmaps meetings.	Significant improvement in quality, rate of approval and national implementation of FMD Control plans is supported by the enhancement of the PCP-FMD support officer (PSO) system, support of regional technical networks, assistance to GF-TADs Regional Roadmaps meetings and engagement with Regional institutional Bodies.	Increase to 25 in certified PCP-FMD support officers by the end of Phase V; Increase to 15 the submission by countries and processing by GF-TADs WG of strategic plans (risk assessment, risk-based surveillance and/or control plans) every two years.	GF-TADs Steering Report; Regular collection of info through procedure established through the PSO system.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Assumes collaboration and request for EuFMD support from target countries Risk that institutional procedures (FAO/WOAH WOH) change the scope or do not accept EuFMD expertise and inputs.

5. Planned Component Sub-Activities

The expected result of the component will be achieved through **sub-activities**:

3.1.1 Improved technical guidance and support to PCP-FMD implementation by countries, through the management and development of the PCP-support officer (PSO) system

PCP Support Officer (PSO) Network co-ordination and development for improving guidance to countries

To date, over 80 countries are engaged in the PCP-FMD and, from 2019, the GF-TADs WG has officially assigned PCP-FMD Support Officers (PSO) to 30 of these countries (most recently Togo and Somalia, upon request of the countries). Specific PSO support was provided by the Support Unit team (under Pillar III) to the Veterinary Services of the Guinea Bissau and Niger during this reporting period. Similarly, official PSO support was provided also to Pillar II countries (see Component 2.1 for more details).

The EuFMD has led the development of a proposal for the restructuration and expansion of the PSO network and the piloting of a training development framework, based on the recommendations provided by Senior PSOs; the proposal was accepted by the GF-TADs FMD Working Group and sources of funding are being identified from GF-TADs partners to sustain the PSO system over the next two years.

Within the framework of the **PSO Training Development Framework**, a series of short open-access virtual learning courses providing guidance on the PCP-FMD national strategies for each PCP-FMD Stage were developed under the umbrella of the GF-TADs, with the technical involvement of the PSOs network (collaboration with Comp. 3.3). In particular, the courses 'Introduction to the RAP' and 'Introduction to the OCP' have been

developed and are currently in the hands of instructional designers and should be completed by the second semester of 2022.

3.1.2 Collaborate with FAO and WOAAH to support expert team missions in assisting countries

Due to the SARS-CoV-2 crisis and travel restrictions during this reporting period, field missions have hardly taken place. Nevertheless, in early 2022, a EuFMD expert was part of an Emergency Management Center (EMC-AH) mission in Indonesia. Follow-up support was provided by the VLC-RAP and EuFMD, based on the recommendations of the EMC-AH team (for further details please see Component 3.3).

3.1.3 GF-TADs Regional Roadmaps meetings for FMD control supported and regional technical networks of experts on disciplines related to PCP-FMD progress strengthened through Regional institutional bodies engagement

Ensure roll-out and follow-up of GF-TADs Regional Roadmaps meetings (RM) for FMD control

During the reporting period, the 4th Eastern Africa roadmap meeting was organized and held in a virtual format in March 2022, in collaboration with the WOAAH sub regional representation for Eastern Africa and the FAO sub-regional Office for Eastern Africa. Operational and technical assistance was provided by the Support Unit, ensuring the involvement and visibility of the regional FAO Virtual Learning Center (VLC) in Eastern Africa. In addition, support was provided by the EuFMD Support Unit – in collaboration with the VLC for Southern Africa - for the organization of the 2nd Central Africa Roadmap meeting for FMD control planned 27 - 29 September 2022. More in depth support will be provided by the EuFMD as lead organization of the upcoming virtual West Eurasia Roadmap meeting for FMD planned in early December 2022.

Support Regional Networks and coordinate with Regional institutional bodies to improve capacities for national strategy development and PCP progress, and for implementation of risk based approaches for FAST diseases surveillance and control

Support to regional networks has also been provided and coordinated via the VLCs following the most recent Roadmap meetings in Southern Africa, in the Middle East and in Eastern Africa (see Comp. 3.3). Through the Support Unit, the EuFMD is also providing technical and operational support to the organization of regular meetings of the Global Coordination Committee for FMD (GCC-FMD).

In July 2022, initial discussions were held with the University of Warwick to facilitate the implementation of a modelling project of FMD in Eastern Africa (three countries are initially targeted), looking for the minimum data requirement to generate robust enough outputs for decision-making processes.

3.1.4 Development of tailored PCP-FMD application tools to (i) improve the functional efficiency of the Secretariat GF-TADS WG, and (ii) increase visibility and impact through support to improved communication and online presence (GF-TADs website on FMD Global Strategy)

Support the GF-TADs FMD Working Group in improving the timing and efficiency of review of national control plans

The PCP-FMD Self-Assessment tool (SAT), scripts for videos tutorials on the SAT (in English and French) were developed and video recorded, for further editing. During the Pillar Week meeting in Rome (July 2022) it was suggested to review the SAT to make it more concise, user-friendly and a useful tool to identify country needs that could be addressed via training.

The PCP-FMD Review Support System, supported by the EuFMD, has been further mobilized during the reporting period to review the Gambia and Nigeria Risk Assessment Plans, the Sudanese, Saudi Arabian and Jordan's Risk Based Strategic Plans. Weekly and bi-weekly meetings with the GF-TADs FMD WG have been organized. Particular

follow-up with relevant Regional Advisory Groups to seek acceptance of the plans was provided.

The PCP-FMD Tool for Review and Communication, final version was shown to the GF-TADs FMD WG, and is now entering in a refinement phase and operationalization in several roadmap regions. Moreover, the Support Unit collaborated with the FMD WG to propose amendments on the RAG Terms of Reference, and procedures for RAG virtual elections, and RAG virtual acceptance of plans/programmes submitted.

The Support Unit was further engaged in the development of VADEMOS, sought to be an FAO corporate tool within the PCP-FMD toolkit (more detail in component 3.4). There has been initial discussion to integrate the OutCostRum tool developed by University of Barcelona under a FAR project – see component 1.5 – in the PCP-FMD Toolkit.

Support the improvement of communication and online presence to enhance visibility and impact

The Communication officer of the GF-TADs Global Secretariat in FAO, the FAO regional and country communication officers and the EuFMD Communication Office have kept on working together during the reporting period, to ensure the timely publication of the PCP-FMD related documents and meetings report, and coordinate social media campaigns around regional GF-TADs events

A storyline for an FMD awareness video targeting audience from the endemic settings was accepted by the GF-TADs FMD Working Group, and the video produced under EuFMD funding.

Sub-activities and their indicators

	Sub-activity level	Description	Progress in the current period	Biennium indicator
3.1.1. Improved technical guidance and support to PCP-FMD implementation	3.1.1.1. PSO Network co-ordination and development for improving guidance to countries.	Ensure support to countries in provisional and full stages of the PCP-FMD, by improving the guidance for progressive control programmes.	a) RAP, OCP course 1st draft sent to instructional designer (RAP second review by Oct 22): PSO competency framework initiated, 4 new PSO appointments for 3 new countries since Sept 2021 b) 2021: 6 plans reviewed 2022: 6 plans reviewed.	a) Training and mentorship scheme for PSOs fully implemented by Sept 2020, and at least 15 new PSOs certified by Sept 2021 b) Increase to 10 the submission by countries and processing by GF-TADS WG of strategic plans (risk assessment, risk-based surveillance and/or control plans) by Sept 2023.
	3.1.1.2. Collaborate with FAO and WOAHA to support expert team missions in assisting countries according to WG Requests.	Provide technical assistance and support EuFMD experts to respond to emerging FMD, and FAST diseases situations, for progressive control at regional or national levels.	Technical support was provided to the EMC for the mission in Indonesia, EuFMD coordinated with VLC-RAP to deliver FITC. Further technical support was provided to Jordan/Lebanon/Israel & NA PII activities.	EuFMD experts are involved in at least three countries or regional requests for technical support to FAST situations by September 2023.

3.1.2. Support GF-TADS Regional Roadmaps, regional networks and bodies	3.1.2.1. Ensure roll-out and follow-up of GF-TADS Regional Roadmaps meetings for FMD control.	Organization and facilitation of regional Roadmap Meetings (MENA, West Eurasian, Eastern Africa, Central Africa, West Africa, SADC, SAARC) incl. the support in technical assessment and follow-up actions; Co-ordination with the Working Group including regular on-line and/or face-to-face meetings.	EuFMD (through its Support Unit) has provided operational and technical assistance for the organization and delivery of the 3 rd West Africa, 5 th Middle East and 4 th East Africa roadmap meetings,	Support the organization in co-ordination with the FMD WG of at least two Roadmap Meetings by Sept 2023.
	3.1.2.2. Support Regional networks and coordinate with Regional institutional bodies to improve capacities for national strategy development, PCP-FMD progress, and implementation of RB approaches for FAST diseases surveillance and control	Strengthen technical capacities and the network of PSOs to provide tailored nat. support to countries on epi and lab issues relevant for PCP- FMD progress in target regions. Achieved through: (i) support of the relevant Regional Epi and Lab Networks and (ii) engagement and collaboration with Regional institutional bodies (AU-IBAR, IGAD, SADEC, SARC, SACIDS). The activities of PSO mentoring and training network to be linked to the training dev and delivery under comp. 3.3.	Epi and Lab networks meetings facilitated (WEA, ME), network discussions encouraged during meetings and on VLCs platforms Discussions with Univ. Warwick and FMD modelling project in EA (Uganda, Tanzania, Kenya)	a) Support to the formulation and implementation of regional Epi and Lab networks workplan in at least one Roadmap region by September 2023. b) Collaboration agreement achieved and implemented with regional bodies in at least 1 Roadmap region and by Sept 2023
3.1.3. Application tools	3.1.3.1. Support the GF-TADS Working Group in improving the timing and efficiency of review of national control plans	Provision and improvement of tools and guidance documents to (i) facilitate and assist country ability to develop national strategic plans for PCP progression and (ii) assist the GF-TADS WG documents assessment and review mechanism	TRAC piloting with SU Support to VADEMOS refinement New SAT tutorial recorded. SAT results shared by 26 countries so far. SU & EuFMD experts (as members of RST) engaged in all plan/programme reviews	a) TRAC is used in at least 2 roadmap regions by September 2023 and other tools are regularly adopted by countries for strategy development and/or monitoring (SAT and vaccine demand model). b) Time between submission of strategic plan by a country and final acceptance not to exceed six months by Sept 2023
	3.1.3.2. Support the improvement of communication and online presence to enhance visibility and impact.	Dev of an interactive online dashboard for the integration and communication of relevant information on the PCP-FMD stage, progress activities and objectives, and to display the planning of related events.	Support for the dashboard refinement Strong liaison with GF-TADS communications (publications, website, social media, Sharepoint)	a) Online FMD dashboard developed and finalized by Sept 2022 and quarterly updated. b) Websites updated on monthly basis

6. Issues for the Executive Committee attention

The SARS-CoV-2 global crisis has further impacted some of the activities under Component 3.1 during the reporting period. Nevertheless, new virtual solutions have been developed and adapted to address the needs of the EuFMD work programme and have also been proposed and agreed in support to the GF-TADS FMD WG.

Among the other challenges to be reported to the Executive Committee attention up to the end of the Phase V:

- Consistent commitment of GF-TADS partners to the PSO network, and opportunities of DTRA funding for supporting PSO and induction workshops in the following 2 years.
- Continued support to the GF-TADS FMD WG for event organization and delivery and improved internal

coordination mechanisms; particular attention should be given to effective collaboration with Regional Advisory Groups.

- Focus support to regional technical networks under 3.1.2 in EU neighborhood up to the end of this Phase.
- Define coordination mechanisms with other units within FAO (relevant for sub activity 3.1.2, and component 3.2).

7. Priorities for the next six months

3.1.1.

Expand the PSO roster based on the agreed restructuring of the system and through the operationalization of the PSO training development framework, using DTRA source of funding to support PSO induction workshops in at least 3 roadmap regions where PSO support is lacking or insufficient.

Keep refining and extending the PCP-FMD Toolkit. This includes coordination with Comp. 3.4, for the validation and piloting of the Vaccine Demand Estimation model (VADEMOS) as new FMD-PCP tool, and with Comp. 3.3, for training and guiding resources to assist countries in the development of strategic plans.

3.1.2.

Further support Comp. 3.3 in support to the Virtual Learning Centers in Southern Africa, FAO REU, and potentially West Africa.

Support Comp.3.2 in the development of collaboration with regional partners in Eastern Africa for the establishment of a regional advisory group on vaccines and vaccination through a technical collaboration with the University of Warwick on FMD modelling.

Support the organization of the other (virtual) RMM and RAG meetings as per the GF-TADs FMD WG action plan for 2022-2024.

3.1.3.

Keep strengthening the support provided by the EuFMD to the GF-TADs FMD WG within the framework of a newly established Support Unit.

8. Success stories and outputs

New virtual solutions and formats have been developed and adapted to address the needs of the EuFMD work programme and have also been proposed and agreed in support to the GF-TADs FMD WG. These include a virtual Eastern Africa Roadmap meeting and the organization of the upcoming virtual Central Africa and West Eurasian FMD Roadmap meetings during the reporting period.

The PSO re-structuring proposal has been accepted by the GF-TADs partners to support more efficient national authorities and progress in the PCP-FMD.

9. Budget (€) COMP. 3.1

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 3.1	12,003	8,548	3,455
<u>Consultancy Operational</u>			
Component 3.1	109,950	105,104	4,846
<u>Consultancy Technical</u>			
Component 3.1	340,810	203,204	137,606
<u>Travel</u>			
Component 3.1	40,830	17,299	23,531
<u>Training</u>			
Component 3.1	30,665	7,594	23,071
<u>Contracts</u>			
Component 3.1	59,000	43,804	14,196
<u>Procurement</u>			
Component 3.1	-	1,055	1,055
<u>General Operating Expenses</u>			
Component 3.1	13,185	3,728	9,457
Total Direct Eligible Cost	605,443	390,337	215,106

Component 3.2 (Activity 3.2)

Improved Global Laboratory Support

Component Objective

Strengthened global laboratory surveillance support and improved FMD virus intelligence to guide regional and national implementation of the GF- TADs Strategy

Component Manager

Kees van Maanen

Sub-activity level manager

3.2.1 Kees van Maanen

3.2.2 Kees van Maanen

3.2.3 Kees van Maanen / Etienne Chevanne

1. Background

Under the EuFMD Phase IV workplan Component 3.3, support to the global FMD laboratory network was implemented as part of the joint FAO/WOAH Global FMD Control Strategy to improve **regional laboratory networks** and ensure better **technical expertise development at regional levels**. The core of the international surveillance required was through a contract with The Pirbright Institute (TPI) to provide services globally, including diagnostic service, vaccine matching, molecular epidemiological analysis of worldwide and regional FMD patterns, and provision of laboratory proficiency test (PTS) ring trials to FMD laboratories in non-EU states and internationally.

The strategy for Phase V builds on this experience, adding further emphasis in increasing the level and quality of support to Regional Laboratories and the WWOAH /FAO Laboratory Network, including associated surveillance and training for all the Roadmap regions (mainly through online programmes). This Component 3.2 will aim to improve FMD virus intelligence to guide GF-TADs and regional and national risk managers. It will also support progress towards the targets required for regional Roadmap vaccine priority and provide a global surveillance information base relevant to EuFMD member nations (MN) and to all countries which are not officially free of FMD.

The activities under this Component provide direct support to the co-ordination and activities of the annual workplan of the **WOAH / FAO FMD Reference Laboratory Network** to ensure better technical expertise development and networking at regional levels. Global and regional epidemio-surveillance networks will also be supported through online and virtual **training in FMD laboratory surveillance** for all Roadmap regions.

The role of TPI in providing the core of the international surveillance required will be supported by a contract to provide the services described above, and to continue as Secretariat of the WOAHWAOH/FAO FMD Laboratory Network. It will also continue to support a set of Regional Support Laboratories in pools 3, 4 and 5 to screen samples from their regions as part of the need to achieve Pool level surveillance targets. To improve the sample collection and typing and address surveillance gaps in regions identified by the WOAHWAOH/FAO Reference Centres as priorities, support will be tailored for **diagnostic services**. This will include laboratory typing of FMD samples from the six virus Pools by WOAHWAOH/FAO Reference Centres, aimed at the attainment of surveillance targets in each pool required for guidance to Regional Roadmaps and risk managers in each region, as well as for global threat forecasting.

To sustain a shift in emphasis towards **regional vaccine selection and performance**, a system for vaccine performance and matching needed by the Roadmaps will be supported. A specific focus will be placed on better uptake and accurate application of test systems by WOAHWAOH/FAO Reference Centres and Regional Support Laboratories (RSLs) in Africa and Asia, including the associated work to validate tests and identify correlates of protection. Progress towards validation of new tests for vaccine matching and measures of protection will be supported during the first 24 months with the aim of transfer to RSLs and others in the second 24 months.

2. Countries or partner organizations involved

A close collaboration is foreseen with WOAHWAOH/FAO Reference Centres and Regional Support Laboratories (RSLs) in Africa and Asia, and work will be implemented also in support of the global WOAHWAOH/FAO FMD Reference Laboratory network. This Component will work closely with the World Reference Laboratory-FMD at The Pirbright Institute (TPI) in particular, as well as with the European Reference Laboratory-FMD at ANSES and other relevant RSLs partners. Activities in this component are in support of the implementation of the Global Strategy for FMD Control, particularly in West Africa, East and Southern Africa and South Asia. During the first 24 months, new collaborations with regional partners will be sought, particularly in East Africa in support of the establishment of a Group for Vaccination Advice, Guidance and Consultation (GVA).

3. Reporting

Reporting format	Responsibility	Output	Distribution	Sent out by
Six monthly to ExCom	Head of WRL	Written report; presentation	ExCom, STC	Network and Training Support Officer
Yearly	WRL	Annual network report from head of the WRL	ExCom, STC	
Every two years to MN	Component manager	Written report; presentation	General Session	
Report from workshop or v-learning course	Component manager or lead facilitator	Written report		

4. Objective of the component

Strengthened global laboratory surveillance support and improved FMD virus intelligence to guide region and national implementation of the GF-TADs Strategy.

This will involve continued support to the WOAHH/OAH/FAO FMD Reference Laboratory Network to support progress of regional diagnostic services and vaccine selection and performance, consistent with the needs of the WOAHH/OAH/FAO FMD Reference Laboratory Network.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
3.2 Improvement of global laboratory support	Strengthened global laboratory surveillance support and improved FMD virus intelligence to guide regional and national implementation the GF-TADs Strategy.	Surveillance targets by WOAHH/OAH/FAO FMD RLN and Reg. Support Labs for each pool required for guidance to Regional Roadmaps will be supported through improved diagnostic services and system for vaccine performance and matching	Enhanced level and quality of surveillance information FMD Reference Laboratory Network with an increase in the virus Pool achieving sampling targets for laboratory surveillance (from 1 to 4 out of 6).	Annual Reports the global WOAHH/OAH/FAO FMD Ref. Lab. network. Regular collection of information through procedure established and Quarterly reports of the WRLFMD and EuFMD.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Relies on the functioning and commitment of global WOAHH/OAH/FAO FMD Ref. Lab. network, and the engagement of countries to attain surveillance targets in each pool.

5. Planned Component Sub-Activities

3.2.1 Strengthened co-ordination of the WOAHH/OAH/FAO FMD Reference Laboratory network

Due to the SARS-CoV-2 pandemic, the **annual meeting of the WOAHH/OAH/FAO FMD Laboratory Network** is planned in hybrid format (likely) by end of 2022.

In collaboration with TPI, a new bilingual FLITC course (4th edition) in French and in English has been developed and will start on 15 November 2022, initially targeting 94 countries globally.

The development of an interactive genotyping dashboard has also been successful and was demonstrated to

EuFMD and will shortly be shared with the FAO/WOAH laboratory network. Some constraints were identified regarding the management of dashboards (server capacity at TPI, cyber security issues, collaboration with FAO Empres-i)

The preparations for the development of a Biorisk Management course have started.

3.2.2 International surveillance and guidance to Regional Roadmaps and risk managers enhanced in each pool

Support diagnostic services by WOA/FAO Reference Centres, including laboratory typing of FMD samples from the six virus Pools

Quarterly reports summarizing WRLFMD activities are available both on the WRL and EuFMD websites. The joint quarterly global reports (including input from EuFMD GMR) have been prepared and reports are available for the reporting period of 2022.

During the current reporting period a new LoA with TPI for the period March 2022 – September 2023 was finalized. In the current reporting period, the number of shipments and samples received by the WRLFMD has increased considerably. However, only annual data is available of all samples tested by the WOA/FAO Reference Laboratory network. This information is available once a meeting report is released, publication of such report is usually delayed.

Development of an FMD surveillance dashboard has started with funding through the 10th FAR Call (see component 1.5), collaboration between WRLFMD, Epi Interactive and EuFMD is foreseen to improve the surveillance dashboard, to be hosted on the WRLFMD website. The overarching aim of this dashboard is to improve timely communication on virological surveillance results, complement genotyping data with relevant epidemiological data on outbreaks and finally allow end-users to collaboratively enrich the dataset.

Sample panels for a new proficiency testing scheme (Phase IV) have been prepared, and most panels have been shipped to the participating laboratories including the 32 countries supported in the WRLFMD LoA. All but one laboratories funded by EuFMD responded positively to the invitation.

Improve the sample collection and typing from regions identified by the WOA/FAO Reference Centres as priorities and in countries identified as priorities for more targeted surveillance

During the reporting period, the COVID-19 pandemic has had a major impact on the collection of samples in the field and on the submission of samples to the WRLFMD. Recently, however, submissions have increased again also due to targeted communication and support for these shipments. Core capability to process and generate data for submitted samples within WRLFMD has been maintained, and recently submissions have increased again also due to targeted communication and support for these shipments. In this reporting period, samples have been received from Algeria, Ethiopia, Indonesia, Israel, Mongolia, Palestinian Autonomous Territories, Sudan, Thailand, Tunisia and UAE. The impact of the pandemic for global FMD surveillance in years to come remains to be seen.

In order to improve virological surveillance and identify current gaps and priorities in surveillance, a **comprehensive historical analysis** has been conducted by EuFMD of all virological data available from the WOA/FAO FMD Reference Laboratories Network reports published between 2012 and 2019. This work has contributed significantly to discussions between EuFMD, WRLFMD and the WOA/FAO FMD reference laboratories network for more targeted virological surveillance and will be incorporated in the development of risk assessment and surveillance dashboards.

Kits and reagents have been provided on request and an EuFMD diagnostic bank concept note was developed. Effective collaboration and interactions with WRLFMD, ANSES, IZSLER, EuFMD in the support to countries under pillar II and pillar III regarding sample collection, shipment, data analysis and advice was achieved. LoAs with all these institutes were signed.

The EuFMD will continue the support to the WRLFMD and the WOA/FAO FMD reference laboratory network to improve virological surveillance. This includes a new mechanism supporting more targeted virological surveillance

and better characterizing the technical, logistical, capacity hurdles limiting the surveillance and diagnostics capacities and the further development of the interoperable digital repository and online dashboard for virological and risk information initiated during the current reporting period.

In coordination with component 1.5, a project submitted by IZLER – with foreseen collaboration with IZAM, TPI and FLI - and aiming at ‘validation of Lateral Flow Devices (LFD for detection and serotyping of Foot and Mouth Disease Virus (FMDV) and antigenic detection of Lumpy Skin Disease Virus (LSDV)’ has been selected for funding in 2022-2023. This project is particularly relevant as the pan FMD LFD previously produced and marketed by Svanova is no longer available, and there is only one alternative produced in South Korea. This project is building upon a previous project between IZLER, the University of Turin and In3Diagnostic for the development of a prototype LFD to detect and type FMDV (Multiplex-LFD) and detect LSDV. Project outputs would be as follows: an LFD for detection and serotyping of FMDV O, A, Asia 1 and Pan FMD; an LFD for detection and serotyping of FMDV SAT 1, SAT2 and Pan FMD; and an LFD for detection of LSD and eventually other Capripoxviruses.

3.2.3 Vaccine selection and performance supported, including sustenance for improved methods for matching and protection measures

Improve uptake and accurate application of test system by WOA/FAO Reference Centres and Regional Support Laboratories in Africa and Asia, including to better define regional risks and the specific aspect of regional reference antigens for vaccine selection

The international COVID-19 crisis and the consequences for WRLFMD have significantly affected the progress of activities to support vaccine selection and performance. WRLFMD has recently signed an agreement with Biogenesis Bago (Argentina) to include their vaccines in the routine testing that is undertaken for field viruses and results for O Campos vaccine strains are already included in the vaccine matching reports, other vaccine strains and post-vaccinal bovine antisera are under investigation.

Reference antigen panels that can be used to evaluate the serological responses of FMDV vaccines in the context of their suitability have been developed for use in eastern African countries. This approach has been discussed in the various Groups for Vaccine Advice, Guidance and Consultation (GVA) meetings and during Roadmap Meetings and will be extended to other regions.

Following the establishment of a regional GVA in Northern Africa, a similar regional advisory group has been established in the Middle East, in the South East European Neighbourhood (SEEN) and all GVA groups are now operational and have had their second or third meeting in this reporting period (see Pillar II report). In the reporting period, initial discussions and regional consultations were held to explore interest in the establishment of an Advisory Group for Vaccination and technical guidance for Eastern Africa, to define regional risks, including the specific aspect of regional reference antigens for vaccine selection. This activity will be conducted in coordination with the other Components of PIII, leveraging on the VLC in Eastern Africa and the support of the FMD-WG.

There were effective collaboration and interactions with WRLFMD, ANSES, IZSLER, and EuFMD in the support to countries under Pillar II and III regarding sample collection, shipment, data analysis and advice. LoAs with all these institutes have been signed for the year to come.

Progressively support advancement towards validation of new tests for vaccine matching and measures of protection

The support to vaccine matching tests and VNTs and the development and validation of new tests for vaccine matching and measures of protection will be continued.

No immediate plans exist to update the vaccine matching method. However, we are moving more and more towards using heterologous titres based on reference field viruses and the vaccines that are being used in the field.

Post vaccination monitoring (PVM)/Small Scale Immunogenicity Studies (SSIS) were supported in Uganda, Jordan,

Palestine, and the SEEN countries. Analysis and publications are underway.

A VNT harmonization final (virtual) workshop was held on 4 April 2022 with Reference Laboratories in the framework of an inter-laboratory study sponsored by the EuFMD (see comp 1.5) and discussions should continue in the second semester of 2022.

Sub-activity level	Description	Progress in the current period	Biennium indicator	
3.2.1 WOA/FAO FMD Laboratory network	3.2.1.1 Co-ordination support for the WOA/FAO FMD Reference Laboratory network	Provide direct support to the annual workplan co-ordination and activities of the WOA/FAO FMD Reference Laboratory network to ensure better technical expertise development and networking at regional levels, including support in the organization of the annual workplan co-ordination meeting. Development of an interactive online dashboard and a maintenance system for the integration and communication of relevant surveillance information.	A FMD genomics dashboard has been developed in collaboration with WRLFMD and Epi Interactive and has been demonstrated to EuFMD. This dashboard will be shared at the annual network meeting planned at the end of 2022 and then with the wider FMD research community	a) One annual meeting organized per year and the number of invited representatives attending from regional laboratories is at least equal to the number of attendees supported in the first biennium of Phase V. b) Online FMD surveillance dashboard developed and finalized by Sept 2022
	3.2.1.2 Delivery of FMD laboratory surveillance training in all Roadmap regions	Develop and conduct a global (online) bilingual training in FMD laboratory surveillance in English and in French.	WRLFMD and EuFMD have translated the contents of a series of e-learning modules for the delivery of FMD laboratory surveillance training course (FLITC) in French and the translation was technically revised in collaboration with component 3.1. The course will be delivered in November 2022.	a) One online global training organized and delivered and attended by 250 trainees by Sept 2023
3.2.2	3.2.2.1 Support diagnostic services by WOA/FAO Reference Centres, including laboratory typing of FMD samples from the 6 virus Pools	Support diagnostic services for samples submitted to the WRL, as well as testing that can be delegated to leading laboratories in the WOA/FAO FMD Reference Laboratory Network with WRL support and supervision.	Quarterly reports summarizing WRLFMD activities are available: http://www.fao.org/eufmd/resources/reports/quarterly-report/en/ And https://www.wrlfmd.org/ref-lab-reports . Due to the COVID pandemic initially less samples have been tested.	a) 1500 samples submitted for antigen detection and serotyping, and 200 samples for vaccine matching by Sept 2023; b) 200 samples for VP1 sequencing by Sept 2023
	3.2.2.2 Improve the sample collection and typing from regions identified by the WOA/FAO Reference Centres as Priorities.	Support sampling from outbreaks and testing, including procurement of reagents and kits, and assist sample shipment mechanism from National Labs in Pools 3, 4, and 5 to the Regional and International Reference Laboratories. Develop further investigations to better characterize technical, logistical, capacity hurdles limiting the	However, the submission of samples to the FMD World Reference Laboratory has improved in 2022 with per July 2022 already 265 samples from 17 countries received, but several issues persist (e.g., difficulties in collecting samples at central level, maintenance of cold chain, funds for shipping to the World Reference Laboratory).	a) Adequate number of antigen ELISA kits and PCR reagents provided for surveillance. Report of the analysis on issues limiting surveillance and diagnostic capacities.

		surveillance and diagnostics capacities.		
3.2.3 Vaccine selection and performance support*	3.2.3.1 Improve uptake and accurate application of test system by WOA/FAO Reference Centers and Regional Support Laboratories in Africa and Asia, including to better define regional risks and the specific aspect of regional reference antigens for vaccine selection	Support sample screening at laboratories in Pools 3, 4 and 5 and shipment from these and other areas of high strategic importance to International Ref Labs. Support vaccine matching tests or complete genome sequencing (where appropriate), virus neutralization tests (VNTs) in the context of PVM studies and vaccine quality studies. Support better definition of regional risks in priority regions, including the specific aspect of regional reference antigens for vaccine selection - both their selection and communication of the approach. This includes support to the establishment of a regional advisory group in East Africa.	Effective collaboration and interactions with WRLFMD, ANSES, IZSLER, EuFMD in the support to countries under pillar II and pillar III regarding sample collection, shipment, data analysis and advice.	a) Characterization of FMDV from at least 30 different outbreaks across six different countries, and 100 FMD viruses per pool by Sept 2023 b) Regional advisory group established in East Africa by Sept 2023.
	3.2.3.2 Progressively support advancement towards validation of new tests for vaccine matching and measures of protection *	Review and assist the development of improved vaccine matching methods, for prioritizing development and implementation of tests to cover a wider range of reference viruses and vaccine strains.	No immediate plans to update the vaccine matching method. However, moving more and more towards using heterologous titre based on reference field viruses and the vaccines that are being used in the field. PVM/SSIS studies were supported in Uganda, Jordan, Palestine, and the SEEN countries. Analysis and publications are underway.	a) Outcomes of ongoing studies for novel methods reviewed and assessed by Sept 2022; b) collaboration with Regional Laboratories at least two Pools to cover reference viruses and vaccine strains established by Sept 2023;
* The validation and implementation of improved vaccine matching methods will be progressively supported through the workplan and may be expanded in months 25-48 after review of progress.				

6. Issues for the Executive Committee attention

- 1) As a consequence of the COVID19 pandemic the shipping costs for PT panels have gone up dramatically, which has been taken into account with the drafting of the new LoA with TPI.
- 2) Characterization of FMDV from at least 30 different outbreaks across six different countries, and 100 FMD viruses per pool cannot be reached without targeted sample shipments/collaboration of specific countries.
- 3) Management of dashboards (server capacity, cyber security issues, Empres-i) is a point of attention now that several dashboards are being developed.
- 4) Based on the results of the assessment of national reference laboratory' capacities across the REMESA region on FAST diseases (which will be reproduced in SEEN), systems should be defined to guarantee technical assistance from the international references laboratories to improve the capacity of the national laboratories for FAST diagnosis.
- 5) Sustainability of laboratory staff at national level is an issue (however beyond EuFMD control).

7. Priorities for the next six months

Programme relies on the functioning and commitment of global WOA/FAO FMD Ref. Lab. network, and the engagement of countries to attain surveillance targets in each pool. Characterization of FMDV from at least 30 different outbreaks across 6 different countries, and 100 FMD viruses per pool cannot be reached without targeted sample shipments/collaboration of specific countries. Historical analysis of 2012-2020 virological surveillance data from global WOA/FAO FMD laboratories network available and should be updated for 2021-2023.

Discuss with TPI, IZSLER and ANSES/EU-RL possibilities and contributions to improved sample collection, shipment and analysis under the LoAs signed with these institutes. Identify important gaps and targeted support needed, for example the use of LFDs and FTA cards, distribution of LFDs to the right places such as CAHWs, VPPs, VFUs, the use of RNALater. A survey could be designed with Ref. Labs and disseminated to better understand the barriers for sample collection.

Finalize the interactive genomics dashboard developed in collaboration with WRLFMD and Epi Interactive, make it available as a pilot for the WOA/FAO international FMD network and then to the wider FMD research community.

Support the development and implementation of workplans and the discussions in the discussion forums for the GVA established in the different regions.

Continue discussion about harmonization and reporting of vaccine matching methods and results and the development of reference antigen panels and define the desired outcomes.

8. Success stories and outputs

Development of an interactive genomics dashboard nearly ready for launch with WRLFMD and Epi interactive.

Effective collaboration and interactions with WRLFMD, ANSES, IZSLER, EuFMD in the support to countries under pillar II and pillar III regarding sample collection, shipment, data analysis and advice, as well as roll-out of PTS.

A bilingual FLITC course has been prepared and has already received significant interest, particularly from Francophone countries and will be delivered end of 2022.

9. Budget (€) COMP. 3.2

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 3.2	22,593	14,247	8,346
<u>Consultancy Operational</u>			
Component 3.2	109,950	105,104	4,846
<u>Consultancy Technical</u>			
Component 3.2	49,980	91,222	41,242
<u>Travel</u>			
Component 3.2	9,920	2,295	7,625
<u>Training</u>			
Component 3.2	9,335	662	8,673
<u>Contracts</u>			
Component 3.2	845,000	844,678	322
<u>Procurement</u>			
Component 3.2	30,000	20,138	9,862
<u>General Operating Expenses</u>			
Component 3.2	14,505	12,604	1,901
Total Direct Eligible Cost	1,091,283	1,090,950	333

Component 3.3 (Activity 3.3)

Better training for Progressive

Control Component Objective

Improved national and regional capacity for progressive control of FMD through delivery of high impact training in at least six roadmap regions

Component

Manager

Wilmot

Chikurunhe

Sub-activity level manager

3.3.1 Marcello Nardi

3.3.2 Marcello Nardi

3.3.3 Wilmot Chikurunhe

3.3.4 Marcello Nardi / Wilmot Chikurunhe

1. Background

Under Components 2.4 and 3.4 of the EuFMD Phase IV workplan (2015-19) a series of **v-learning courses** were developed in support of the roll out of the **Global Strategy for FMD Control**. These included open access training courses on the PCP-FMD, FMD investigation, a series of three in-depth training courses on risk-based FMD control strategies, and initiatives exploring novel modalities for online networking, including through **mobile phone** communication tools such as WhatsApp™. These courses have been delivered to veterinarians in countries across the European neighborhood and additionally from five Roadmap regions (West, Central, East and Southern Africa, South Asia) and have been delivered in English, French, Arabic and Russian.

The strategy for Phase V builds on this experience, adding further emphasis on mechanism to decentralize delivery and to **cascade training to national level**, and to link the training provided to real-world outcomes in the development and implementation of FMD control strategies through links with the Progressive Control Pathway Support Officers (**PSO**) system and regional partnerships. The activities in this component should provide globally relevant training resources to all countries which are not officially free of FMD, and those working with such countries to implement progressive control. They will be guided by the findings of the PCP-FMD support officer (PSO) system and the Regional Advisory groups (RAGs) for each Roadmap. The activities of this component will also involve close liaison with GF-TADs partners, and alignment with the availability of resources in partner (GF-TADS) regional offices that can effectively deliver the training at regional or national levels.

The overall aim of this Component will be to **strengthen the training resources available and develop a series of new v-learning courses**, based on the needs and priorities identified by the stakeholders and partners listed above, ensuring relevance across multiple countries and regions. The focus is providing training resources relevant to all countries that are not free of FMD in West and Central Africa, Eastern Africa, Southern Africa and South Asia during the first 24 months of the programme. Additional regions (South-East Asia may be added in months 24-48 after review of progress, and other regions deprioritized.

In order to ensure that EuFMD's courses are of world-leading standard, that the quality is maintained across the training programme and a continuous evaluation of the impact of the training programme is conducted, a **Training Quality Management System** is being established in co-ordination with the three Pillars of the EuFMD work programme (see Components 1.1 and 2.3). Focus will be on developing training which will have lasting impact, and this will be guided by an impact evaluation system in line with guidance of an external international panel of adult-learning experts coordinated across the three pillars.

A key focus for this component will be the **cascade of training to national level** through assisting countries to deliver national level training to their veterinary service staff, together with key wider audiences including in the private sector and veterinary paraprofessionals (VPPs). To promote this at national level, EuFMD will support regional GF-TADs partners, technical networks and institutional bodies in the development of **Virtual Learning Centres (VLCs)**. These VLCs will be managed regionally (e.g., in GF-TADs regional offices) with the support of EuFMD and aim to:

- link to the activities of the Regional Roadmap and the regional PSO support system to prioritize, co-ordinate and deliver tailored training at regional level;
- catalyze and better tailor training resources already available, and attract and assess the regional needs for the development of new training resources;
- provide virtual support to regional epidemiological and laboratory networking;
- support national cascade of training in the region;
- leverage contribution of resources from other providers and additional funding so that the VLC hosts multiple courses relevant to control of FAST diseases and becomes financially and technically self-sustaining;
- develop a system allowing national veterinary services and individual training participants to record and monitor the training undertaken, promoting continuing professional development;
- strengthen the understanding of the policy issues affecting the effective implementation of control measures.

2. Countries or partner organizations involved

Close collaboration is foreseen with regional FAO or WOAHA offices. Additionally, roll-out may make use of collaboration with regional multilateral organizations and bodies, non-governmental organizations (NGOs), academic institutions, especially where such partnerships might bring sources of additional funding or resources. Activities in this component are in support of the implementation of the Global Strategy for FMD Control, particularly in West Africa, Eastern and Southern Africa and South Asia during the first 24 months, and may be expanded in South- East Asia in months 25-48 after review of progress.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
6 monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every 2 years to MN	Component manager	Written report; presentation	General Session	
Report on workshop or v-learning course	Component manager or lead facilitator	Written report		
Report on training quality and impact		Written report		

4. Objective of the component

Improved national and regional capacity and expertise for progressive control of FMD through delivery of high impact training in at least six roadmap regions.

<i>Comp. (Activity)</i>	<i>Objective</i>	<i>Narrative</i>	<i>Expected result</i>	<i>Monitoring</i>	<i>Evaluation</i>	<i>Assumptions and risks</i>
3.3 Better training for progressive control	Improved national and regional capacity and expertise for progressive control of FMD through delivery of high impact training in at least six roadmap regions.	The training provided will link to real-world outcomes in the development and implementation of FMD control strategies. This will be achieved through synergy with the PSO system and regional partnerships in order to strengthen the available training and develop new resources, ensuring quality mgt and cascading to national level.	At least 2500 individuals from the target countries* have completed at least one EuFMD v-learning course.	Regular collection of data through EuFMD v-Learning platform and procedure established in the training quality management system	Two external evaluations to be carried out by month 18 and 38 of phase V.	Relies on the commitment of nat. vet. services and individuals to participate in and complete v-learning courses.

* Target countries for 2019-21 are those in West, Central, East and Southern Africa and South Asia. Training courses developed should also be relevant to regions included under Pillar II activities.

5. Planned Component Sub-Activities

3.3.1 Training infrastructure: maintenance and improvement of online platform

The EuFMD Virtual Learning platform (<https://eufmdlearning.works/>) reached a total of 20 508 users registered and 1 584 users accessed it during the reporting period. The platform has been regularly functioning for the overall reference period. The capacity of EuFMD Training team has been increased with the addition of capacity in instructional design and virtual learning operations.

1. Development of a Training Quality Management System (TQMS) to ensure the quality and the continuous evaluation of the impact of training

This activity is reported also under 1.1 ad 2.3.

The EuFMD has finalized a review of the training impact process. The new procedures will allow easier identification of the impact of application and cascading of the learning and linking the learning with the ultimate objectives of the capacity development framework within the EuFMD workplan.

2. Development and delivery of v-learning courses in support of progressive control

Strategic prioritization for training development

The EuFMD finalized in December 2021 a report for the Strategic prioritization of the training needs in pillars II and III areas. As a result, the EuFMD has focused on developing new approaches for existing courses and explore the development of new areas of capacity development intervention. A calendar of the upcoming courses involving Pillar II and III countries has been developed.

The activity is reported under 2.3 for further details.

Development of new courses

The strategic prioritization tool helped the EuFMD identify also the need for developing new trainings in the following areas:

- Improving the passive reporting, samples collection and shipment and investigation of FMD outbreak of veterinarians, veterinary paraprofessionals and farmers: a course outline for the course has been finalized with the aim to develop the new format before the end of the Phase V.
- Risk Assessment Plan open access course: the course is currently under development and an initial draft will be finalized before the end of 2022;
- Official Control Plans open access course: currently under development, the aim is to have the course available within the next reporting period;

3. Implementation of system for cascade training

Support the development of Virtual Learning Centres (VLCs)

The support to the establishment of VLCs has continued, with a third VLC, for Eastern Africa, established in partnership with the FAO Regional Office in July 2021. The support EuFMD provided to establishment of Virtual Learning Centers in South Africa, Asia and the Pacific and East Africa regions has benefitted more than 300 individuals who have completed at least one course in the VLC virtual learning platform.

Virtual Learning Centre for East Africa (VLC-EA)

The EuFMD is providing financial support for the VLC manager with more intensive mentoring from the EuFMD team to the Virtual Learning Centre for East Africa (VLC-EA). The FAO-MDF project and the FAO Regional Office are also supporting human resources.

Lumpy Skin Preparedness virtual course

The second course supported by EuFMD has been offered March and April 2022. The twelve hours long Lumpy Skin Preparedness virtual course has targeted nine countries in the East Africa region to provide private and public veterinarians involved in the diagnosis of LSD and implementation of surveillance measures an introduction to the disease. Countries in the East Africa region have been invited to nominate private and public veterinarians involved in the diagnosis of LSD and implementation of surveillance measures an introduction to the disease. Out of the 641 participants enrolled, 296 actively accessed the course and 154 completed the course for certification.

The learning objectives of the course were that, after studying the course, participants would be able to:

- describe the global significance of LSD;
- describe the clinical signs of LSD;
- explain how to collect and handle samples to enable laboratory diagnosis of LSD;
- explain main serological and virological diagnostic test for LSD;
- describe key epidemiological features of LSD to include risk factors and routes of transmission;
- explain how to conduct an epidemiological investigation on a premises suspected of LSD;
- explain how to design surveillance programmes for LSD;
- summarize the advantages and disadvantages of available control measures for LSD;
- explain the main consideration in the implementation of vaccination programmes to control LSD.

Virtual Learning Centre for Southern Africa (VLC-SFS)

The VLC continues to support EuFMD regional interests, including hosting the PCP-FMD virtual roadmap meeting for Western Africa in November 2021. Following the successful hosting of the Lumpy skin disease training course for Southern Africa in February/March 2021, supported by the FAO MDF fund, the VLC successfully embarked on the translation of the material to French and Portuguese in order to balance the training for the three languages of the SADC region. The LSD course material developed under EuFMD and delivered to the region in 2021 in English, was translated to French and Portuguese languages. The French language course targeting the DRC, Madagascar, Mauritius, Seychelles and Comoros is on-boarding for delivery from 19 October to 16 November. A call for nominations has also been extended, through VLC Eastern Africa, to the three French-speaking countries in Eastern Africa, Burundi, Djibouti and Rwanda to join this course as these could not fully benefit from the English course delivered for East Africa in 2021. This training is funded from the VLC Southern Africa capacity development activities of 2021. This is a good indication of VLCs gradually building sustainability and collaborating with the EuFMD. The LSD training course for SADC in Portuguese will now take place in 2023 once funds have been realized from VLC activities or from identified partners. This will ensure that no group is left behind in capacity development initiatives on the basis of language.

Virtual Learning Centre for Asia and the Pacific (VLC-RAP)

As a response to the FMD outbreak in Indonesia reported in May 2022, the EuFMD supported, upon request, the FAO regional office in Asia and the Pacific, the EMC and the ECTAD team in Indonesia in the development of a response plan. More specifically, the EuFMD has made available for translation the content of the FMD investigation virtual training that has been offered to approximately 400 among Laboratory and ministry staff, animal quarantine staff and health veterinarians, fields veterinarians and academicians on the virtual learning platform of the FAO Virtual Learning Centers. In addition, the EuFMD experts for technical support in the discussion forum.

Development of resources for cascade training, including for veterinary paraprofessionals

The activities to support training for veterinary paraprofessionals (VPPs) will benefit from additional funds made available through the Bill and Melinda Gates Foundation (BMGF) funded project “Sustainable Business in Animal Health Service Provision through Training for Veterinary Paraprofessionals” implemented in South Africa, Uganda and Nigeria Training resources will focus on business skills and preventive healthcare and will involve mobile first online modules for wider reach audiences and practical workshops delivered by local training partners in the three countries. Training material is currently under development, and a first workshop to cascade the training approach to local training institutes was held in September in Uganda. Training of VPPs in Uganda and Nigeria will commence in November 2022 and follow in South Africa in early 2023.

The need to develop mechanisms for national cascade of training has been discussed among the three pillars coordinators and component managers, more specifically the need to define cascading, to create a plan for the resources, tools, expectations and measures to support the cascading of training resources to strengthen the capacity development action linked with EuFMD programmes. As a result, the EuFMD started drafting, in conjunction with similar actions developed under 1.1 and 2.3, a shared plan for enhancing the capacity development of big populations of learners by involving a small part in training programmes and setting up a mechanism to allow them to cascade their knowledge to others. This cascading mechanism, which will result in an amplification of the learning impact, will be defined in a workplan to be drafted during the next reporting periods, to share best practices for cascading within the team.

Develop a system for monitoring of national training of veterinary service staff (TOM Training Management System)

The first version of TOM web app, a tool which will support the capacity developing by allowing National Veterinary Services to monitor the increased learning of the veterinarians, was finalized and the tool has been launched for external pilots in Türkiye and Tunisia. The initial purpose of the pilot will be to receive usability feedback from the users and identify future modifications for the development of TOM.

This activity is reported also under 1.1 and 2.3.

<i>Sub-activity level</i>	<i>Description</i>	<i>Progress in the current period</i>	<i>Biennium indicator</i>
3.3.1.1 Training infrastructure	Maintenance and improvement of the training infrastructure, including online platform. This sub-activity is co-ordinated with sub-activities 1.1.1.1 and 2.3.1.1.	EuFMD online platform has been fully functioning 100% from April 2022 to September 2022.	a) EuFMD online platform will be functioning and accessible to users more than 23 months per biennium during phase V b) database of training data completed by September 2022. c) report of analysis of training data and platform analytics available on a six monthly basis from September 2022.
3.3.1 Training infrastructures			

3.3.2. TQMN	3.3.2.1	Quality assurance across the training programme and assessment of its impact	Development of a TQMN in order to ensure quality across the training programme; carry out regular evaluations of the impact of the training prog in order to inform the design of a training offer that can achieve higher capacity development at country level. This system will guarantee that EuFMD provides high-quality and high impact training. This sub-activity is co-ordinated with sub-activities 1.1.1.1 and 2.3.1.1.	Revised Impact report process	<p>a) at least one external review of the TQMS conducted by 2023.</p> <p>b) report on impact of training programmes available on a six monthly basis.</p> <p>c) report on impact analysis of courses conducted 2019-21.</p>
	3.3.3.1	Consultation and prioritization for training development and delivery	Priorities for the new training to be developed, and for delivery of existing training will be guided by the findings of the PSO system, the Regional Advisory groups (RAGs) for each Roadmap, by GF-TADS partners and EuFMD's consultations with national and regional partners.	Review of existing virtual training courses Risks Analysis along the Value Chain, Socioeconomic Impact, Post-Vaccination monitoring is ongoing.	Update on training development and delivery prioritization available for EuFMD Executive Committee and GFTADs partners every six months.
	3.3.3.2	Development of new courses	Based on the priorities identified in 3.3.3.1, new courses will be developed, suitable for delivery in multiple regions and translation into regional languages.	Open access RAP and OCP currently in development, to be published by end of next reporting period. Revised Introduction to FMD to be published by 2022.	a) Four new courses developed and delivered by Sept 2023.
	3.3.3.3	Delivery of courses	Courses will be delivered at global, regional or national level, including delivery of training in appropriate regional languages (including English, French, Russian and Arabic).	FMD laboratory investigation training scheduled for November 2022. Risk Analysis along the value chain to start in October 2022. Socioeconomic Impact and Post-Vaccination monitoring courses currently under revision for tentative delivery in first half of 2023. FMD Investigation training for North and West Central Africa has started in September 2022. 1 307 individuals from West, Central, East and Southern Africa and South Asia have completed at least one EuFMD course in the period September 2019 to date.	At least 3000 individuals from the target countries* have completed at least one EuFMD course within Phase V.
3.3.4 Implementation of system for cascade	3.3.4.1	Support the development of virtual learning centers (VLCs)	Support GF-TADs regional partners in the development of VLCs which will provide regionally tailored online courses, support virtual networking, promote national cascade of training courses and	Virtual learning centres established in three regions (Southern Africa, Asia and the Pacific, Eastern Africa). Southern Africa now self-sufficient except for mentoring support. Two virtual courses delivered in VLC East Africa during the reporting period: 1. FMD Investigation Training virtual	At least three regions with VLCs established and supported by EuFMD by end of Phase V with at least two VLCs managed

	resources and attract the specific needs of the region. Support regional partners to transition these VLC's to independent sustainability in the long term.	Course 2. Lumpy Skin Preparedness virtual course The VLC Southern Africa completed the translation of LSD preparedness course to French and Portuguese to target French and Portuguese speaking SADC audiences during the course of 2022.	sustainably (independent of regular ongoing EuFMD support).	
3.3.4.2	Development of resources for cascade training, including for veterinary paraprofessionals	Based on the priorities identified in 3.3.3.1, resources and tools suitable for countries to provide training at national level will be developed. Resources will be developed in a variety of modalities including those suitable for provision of training by mobile phone, and those suitable for training of VPPs.	Development of a plan for cascading resources across all pillars. Training courses for VPPs will now be developed in 2022 under BMGF funded project.	At least 40 of the target countries using EuFMD resources or courses for training of national staff by Sept 2023.
3.3.4.3	Develop system for monitoring of national training of veterinary service staff	Develop system which will allow national veterinary services and individual training participants to record and monitor the training undertaken, promoting continuing professional development and allowing countries to assess capacity building priorities for their veterinary service.	TOM Training Management System web app has been finalized. A Steering Committee has been identified during the reporting period. Pilot completed in two Pillar I countries, identifying further countries in Pillar II. Pilot in Pillar III countries expected to occur under next biennium work programme	Training management system for national training monitoring customized to capacity needs of the countries, developed and piloted in three of the target countries by Sept. 2023.

6. Issues for the Executive Committee attention

Continued demand for virtual training is expected and careful attention to the prioritization of training development, together with ensuring that there are sufficient human resources available to support the training programme, will therefore continue to be important to balance in person and virtual training events.

The identification and engagement of Veterinary Services in countries in Pillar, I, II and III will be core not only to validate and refine the usability of the tool, but also to identify needs that the TOM does not address at the moment and might be addressed in future iterations. The expected outcome is the identification, through a participatory approach, of a plan for the increased involvement of target countries in the adoption of the tool. The increasing need to engage with countries in planning of piloting and adoption process demands additional resources dedicated to the project.

7. Priorities for the next six months

1. Develop new courses as defined by strategic prioritization and continue defining a calendar of priorities for courses revisions and development for revising current format of existing in-depth virtual courses and to focus on further improvements of training tools in the areas of passive surveillance and in developing workshops tools for the countries progressing through the Progressive Control Pathway (PCP) in alignment with FMD Working Group workplan;
2. Explore improved methodologies to promote cascade training to national level and improved monitoring of cascade. These activities should leverage collaboration with the “Sustainable Business through Training for Veterinary Paraprofessionals” project that can provide support in identifying appropriate innovative methodologies and sharing of training materials.
3. TOM Training Management System:
4. Engaging the countries with a participatory approach to assess the need that might lead to adaptation of TOM to local needs will be pivotal to ensure progress of the adoption of the tool. TOM pilots will run in parallel in countries in the Pillars, I, II and III
5. Identifying further countries and engaging local stakeholders will continue being among the priorities.
6. Launching of Steering Committee to drive critical improvements in the development of the tool and plan for the future sustainability of the tool.
7. Development for a plan for cascading mechanism

8. Success stories and outputs

The EuFMD successfully launched the VLC projects, which have been well received by both FAO colleagues and partners within national veterinary services. *With VLC SFS now self-sustaining, it is expected that VLC EA becomes independent at the end of the current contract of its manager.*

The transition of the course Simulation Exercises for Animal Disease Emergencies to the FAO eLearning academy has provided a consistent improvement to the EuFMD’s capacity in virtual course development and gained a visibility to the wider audience managed by the academy’s portal.

9. Budget (€) COMP. 3.3

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 3.3	9,887	5,699	4,188
<u>Consultancy Operational</u>			
Component 3.3	109,950	105,104	4,846
<u>Consultancy Technical</u>			
Component 3.3	524,805	312,437	212,368
<u>Travel</u>			
Component 3.3	10,500	8,402	2,098
<u>Training</u>			
Component 3.3	6,665	-	6,665
<u>Contracts</u>			
Component 3.3	30,000	-	30,000
<u>Procurement</u>			
Component 3.3	-	-	-
<u>General Operating Expenses</u>			
Component 3.3	29,010	8,646	20,364
Total Direct Eligible Cost	720,817	440,287	280,530

Component 3.4 (Activity 3.4)

Improved security in FMD vaccine supply

Component Objective

Improved security in FMD vaccine supply: support the Public Private Sector Platform (PPSP) to identify and promote solutions to improve security in access to effective vaccines.

Component Manager and sub activity manager

Bouda Vosough Ahmadi

1. Background

Component 3.4 aims to provide support to Public Private Sector Platform (**PPSP**) for vaccine security established under Component 1.3 of Pillar I. In particular, it aims to identify and promote solutions to improve security in accessing effective FMD vaccines in endemic settings. The activities of this Component will be linked closely to the work under Component 1.3 of Pillar I.

By bringing together regulators, risk managers, research and private sector stakeholders, the platform will be supported by **working groups**, and associated studies. It will aim to address information gaps affecting investment decisions. In multiple regions, the lack of confidence in supply of available vaccines is a major issue affecting PCP-FMD progress and this Component aims **to support and inform the PPSP** to define and promote solutions to improve security in access to effective vaccines and increase mid to long term levels of supply to assist PCP progress.

Based on the identified priorities by the PPSP and the Secretariat, technical and policy **study reports, guidance papers and application tools** will be developed to:

- i. Analyze the technical and policy issues and constraints limiting access to quality and effective FMD vaccine supply, particularly to countries in PCP FMD Stage 1 to 3, and with a focus upon the lack of vaccine supply for Sub-Saharan Africa (SSA);
- ii. Identify pathways and define actions and mechanism towards creating an enabling environment for investment in vaccine security, ensuring inclusion of all stakeholders in the value chain and increasing mid and long-term supply of quality and effective FMD vaccine;
- iii. Enable the development and implementation of the assured emergency supply options (AESOP) and allied pre-qualification system under the PPSP, to improve confidence and availability of assured quality vaccines.

These outputs will be discussed by the PPSP to inform action-planning for accelerated rate of investment in FMD vaccine production by the private sector, as well as to guide targeted capacity development activities under other Components of the EuFMD workplan and tailored assistance to Regional and National Risk managers.

2. Countries or partner organizations involved

This component involves collection of data at global level from countries that are working along the PCP-FMD and are supported through roadmap meetings, and which are indicated as priorities for PCP-FMD progress in the GF- TADs Global Strategy. In particular, it is foreseen that the activities will involve countries in PCP-FMD Stage 1 to 3, and with a focus upon the lack of vaccine supply for sub-Saharan Africa (SSA).

Activities under this component are carried out in order to complement the activities under Component 1.3 of Pillar I and support the PPSP, and cooperation is foreseen with the World Organisation for Animal Health (WOAH) and the GF-TADs FMD Working Group.

3. Reporting

<i>Reporting format</i>	<i>Responsibility</i>	<i>Output</i>	<i>Distribution</i>	<i>Sent out by</i>
Six monthly to ExCom	Component manager	Written report; presentation	ExCom, STC	Network and Training Support Officer
Every two years to MN	Component manager	Written report; presentation	General Session	
Every two years Evaluation report	Component manager	Guidance papers and/or studies	EuFMD, NSAH, and EuFMD partners if required	
Mission/Meeting reports	Team leader	Written report	EuFMD, NSAH, others if required	

4. Objective of the component

Improved security in FMD vaccine supply: support the Public Private Sector Platform (PPSP) to identify and promote solutions to improve security in access to effective vaccines.

Comp. (Activity)	Objective	Narrative	Expected result	Monitoring	Evaluation	Assumptions and risks
3.4 Improved security in FMD vaccine supply	Improved security in FMD vaccine supply: support to the Public Private Sector Platform (PPSP) for vaccine security to identify and promote solutions to improve security in access to effective vaccines.	Develop significant understanding of technical and policy issues and solutions for access to quality and effective FMD vaccine supply and identify pathways towards increased mid and long term supply particularly in countries in PCP Stage 1 to 3. This will inform and assist action-planning for accelerated rate of investment in FMD vaccine production by private sector.	At least four reports published by the PPSP platform to inform and guide innovative approaches and partnerships for accelerated rate of investment in FMD vaccine production by private sector achieved.	Regular collection of info. through contacts with the working groups.	Two external evaluations to be carried out by month 18 and 38 of phase V.	Assumes commitment from public and private stakeholders to incorporate the recommendations given by the PPSP and/or to consider the use of the new system to increase vaccine security expertise and inputs.

5. Planned Component Sub-Activities

3.4.1. Advance the understanding of technical and policy constraints and solutions for improved vaccine access and supply in countries in PCP-FMD Stage 1 to 3

Understand the barriers and drivers for adoption and factors influencing the supply

Lack of reliable insight and information on increasing demand for quality vaccine has been identified as a major barrier for vaccine supply. Further progress has been made on the model development for quantifying and estimating future demand for vaccine, with contribution of a EuFMD data analyst. The model (Vaccine Demand Estimation Model – VADEMOS) has been developed using R software and, due to the uncertainty and variation surrounding many of the parameters, a stochastic approach was taken. Disease control policy is being linked to the projected PCP-FMD stage as estimated by individual countries at previous regional roadmap meetings. The required vaccine strains are based on WRL-FMD recommendations with vaccine needs reported as mono-strain equivalent doses. A web-based interface for the model has been refined to allow users to adjust input parameters, define suitable scenarios, and run the model under a selected time horizon for one country, or an entire roadmap region. Results are instantly generated for the number of doses of FMD vaccine that will be needed for the specified time horizon given the inputs and the opted scenario.

Further development of the tool has been made based on the recommendations of the two validation workshops and the vaccine security meeting (held between 2020 and 2022) to increase accuracy of the estimations of vaccine dose numbers needed to progressively reduce disease impacts and viral circulation. Feedback received from the experts who attended the workshop has been incorporated in the model. External validation will be pursued

through a peer-reviewed publication that will be submitted in the second semester 2022, for the model to be later added to the PCP-FMD Toolkit in support of the GF-TADs FMD WG and the community of countries engaged in the PCP-FMD. VADEMOS will be presented at the Open Session 2022. A poster has been presented at the GFRA conference.

3.4.2. Development of guidance and advice to the PPSP

Regular co-ordination with the PPSP

A description of VADEMOS and examples of results were presented at the 16th International Symposium of Veterinary Epidemiology and Economics (ISVEE), 7-12 August 2022, as part of the models supporting policies in relation to control TADs, by Dr Keith Sumption, the CVO of FAO. The VADEMOS team is in regular interactions with other units at FAO such as EMPRES to fine-tune the model and improve quality of input data as well as explore possibilities of adapting the model to estimate vaccine demand for other diseases such as LSD and PPR.

	<i>Sub-activity level</i>	<i>Description</i>	<i>Biennium Indicator</i>	<i>Progress in the current period</i>
3.4.1. Advanced understanding	3.4.1.1. Understand the barriers and drivers for adoption and factors influencing the supply	Consultative and research work to quantify the current unmet demand and predicted future growth for vaccines with a special focus in SSA and characterize technical and regulatory challenges for novel vaccine platform opportunities. This work will be in collaboration with Comp 1.7 of Pillar I (through the key informants established under that Component) and Component 3.1 of Pillar III (PSOs system).	One PPSP meeting report produced per year. Develop & finalize a decision-support tool/model to estimate the unmet demand by Dec 2022. Organized activities to validate the assumptions and results of the model by Dec 2022; Report/present estimated current unmet demand and future growth at General and Open Sessions	a) VADEMOS-FMD model & its web interface further developed that includes all endemic countries & regions b) two workshops held; further validation is ongoing/planned. c) a poster presented at GFRA, a talk presented at ISVEE16 in August 2022 & a manuscript is being finalized to be submitted in October 2022. d) Three meetings held & reported on 22-23 Jan 2020; 2 Nov 2021; and 25 Jan 2022; Another meeting planned for Jan 2023.
	3.4.2.1 Regular co-ordination with the PPSP	Regularly share information and guidance in order to improve understanding of issues and to identify pathways or actions to improve vaccine access and inform strategies to increase supply in countries in PCP-FMD Stage1 to 3.	Two PPSP face-to-face or online meetings per biennium within Phase V One PPSP meeting report produced per year	a) Meetings to be held in the next 4 years, more integration between VADEMOS and other tools such as PRAGMATIST, EuFMDiS (for endemic countries). b) Reports of the yearly meetings are expected

<p>3.4.2.2. Produce technical and policy study reports and guidance and promote the development of the AESOP and allied pre-qualification system under the PPSP</p>	<p>Based on the priorities identified during the PPSP meetings and by the Secretariat, guidance papers and advisory documents will be developed through the establishment and support to working groups of experts and/or the development of studies on related issues. This will also facilitate the development and implementation of AESOP to improve confidence and availability of assured quality vaccines.</p>	<p>Three guidance papers and/or studies to be available by Sept 2023</p> <p>Satisfactory review of PPSP members</p>	<p>a) Now that the model is entering its operational phase, we expect to produce policy briefs and present results at regional meetings such as FMD roadmaps meetings.</p> <p>b) Further review of the model and the new features to be conducted by the PPSP members.</p>
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6. Issues for the Executive Committee attention

Development of the Vaccine demand estimation model (VADEMOS) should be completed in three phases. The model is now entering its operational phase, with policy briefs and results at regional meetings such as FMD roadmaps meetings.

7. Priorities for the next six months

- 1) To finalize a manuscript for publication and for advocacy with the GF-TADs FMD WG, and to make available the model for national policy makers as an additional tool in the PCP-FMD Toolkit;
- 2) Add more features to VADEMOS such as higher resolutions, country-specific animal population growth rates, stock density, efficacy of vaccines, compliance of farmers, risk hotspots, different serotypes and also to analyze actual versus optimum vaccine usage. Also, it is foreseen to adapt the model to other FAST diseases such as PPR and LSD; and eventually include economic aspect to the model.
- 3) Invite more countries that are in Stages 1-3 of PCP-FMD and more experts to use the model and provide further feedback; ideally using the roadmap meeting platforms.
- 4) Invite countries to provide country-specific input data (e.g. on population, outbreaks, vaccination coverage and efficacy) that the model can be tailored to their specific conditions;
- 5) Draft and finalize a report on “the current unmet demand and future growth” based on the results of the model (October 2022)” to produce stakeholder-specific reports (e.g., for manufacturers, for national public veterinary authorities, etc.;
- 6) Strengthen the coordination with the PPSP and the collaboration for vaccine demand estimation (Comp. 1.3) and plan a PPSP meeting early 2023;
- 7) Public-private vaccine security platform: a) problem definition and explore options and their feasibility; b) liaise with private sector, experts and economists in FAO and other institutes to describe the best analytical frameworks to be developed, and identify and locate relevant datasets to be used; c) report the findings and plan for implementation;
- 8) Further development of vaccine PPSP liaising with partners based on the recommendation of the vaccine security meeting held on 25 January 2022;
- 9) Strengthen the coordination with the PPSP and the collaboration for vaccine demand estimation (Comp. 1.3).

8. Success stories and outputs

Further development of this tool has progressed based on the recommendations of the two validation workshops (held in Nov 2021) and the vaccine security meeting (held in Jan 2022) to increase accuracy of the estimations of vaccine dose numbers needed to progressively reduce disease impacts and viral circulation. Feedback received from the experts who attended the workshops has been incorporated in the model. External validation will be pursued through a peer-reviewed publication that is under preparation for the model to be added to the PCP-FMD Toolkit in support of the GF-TADs FMD WG and the community of countries engaged in the PCP-FMD. It will provide evidence on cost-effectiveness of different vaccination strategies to inform decisions on national control programs. All countries with endemic FMD status have been added to the model based on FMD Roadmap regions, thus providing valuable information at regional and global levels for the global effort against FMD. It is planned that the model will be finalized, by fulfilling the recommendations mentioned in the above consultation meetings, by October 2022 where the model and results are presented in the EuFMD Open Session 2022.

9. Budget (€) COMP. 3.4

BUDGET CATEGORIES	Budget	Expenses	Balance
<u>Salaries (Professional)</u>			
Component 3.4	3,532	2,849	683
<u>Consultancy Operational</u>			
Component 3.4	109,950	105,104	4,846
<u>Consultancy Technical</u>			
Component 3.4	60,605	60,573	32
<u>Travel</u>			
Component 3.4	8,750	-	8,750
<u>Training</u>			
Component 3.4	3,335	-	3,335
<u>Contracts</u>			
Component 3.4	15,000	-	15,000
<u>Procurement</u>			
Component 3.4	-	-	-
<u>General Operating Expenses</u>			
Component 3.4	3,300	929	2,371
Total Direct Eligible Cost	204,472	169,455	35,018

PROTECT RESPOND CONTROL

MOVE FAST

FAST, Foot-mouth
And Similar Transboundary
animal diseases.

EuFMD Committees

Executive Committee, Standing Technical
Committee (STC), Special Committee for
Surveillance and Applied Research (SCSAR),
Special Committee on Biorisk Management
(SCBRM), Tripartite Groups.

EuFMD Secretariat

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Thinking of the
environmental
footprint

Together against
wasting resources,
think twice before printing



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