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EuFMD regional support 2023-2025

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

(A part of the) EuFMD Team





Food and Agriculture
Organization of the
United Nations



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

Move FAST - Get PREPARED

Workprogramme 2023-2027

European Commission for the Control of Foot-and-Mouth Disease (EuFMD)

Vision

Ensuring safer Europe from foot-and-mouth (FMD) disease and similar transboundary animal diseases (FAST).

Mission

Maintaining, rapidly regaining or achieving freedom from FMD and similar transboundary animal diseases (TADs) in Member Nations. *Ensuring early warning, early detection and quick response, reducing risks of FAST diseases, sustaining Global FMD Control Strategy and FAST global virus intelligence.*

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Focus of the strategy

To improve coordination and collaboration with partners and stakeholders, and in coordination with GF-TADs for reducing the FAST risks through:

- Maintaining effective **risk monitoring** capability;
- Reinforcing **early warning** systems in FAST risk areas within Member Nations and other regions;
- Ensuring high level of **preparedness** for FAST incursion
- Improving efficiency of **surveillance and control** programmes;
- Enhancing **vaccine security**



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Principles

COORDINATION
COLLABORATION
COMMUNICATION
RESOURCE MOBILIZATION
PARTNERING
DIGITALIZATION
SCIENCE AND INNOVATION
EFFICIENCY





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The strategy builds upon

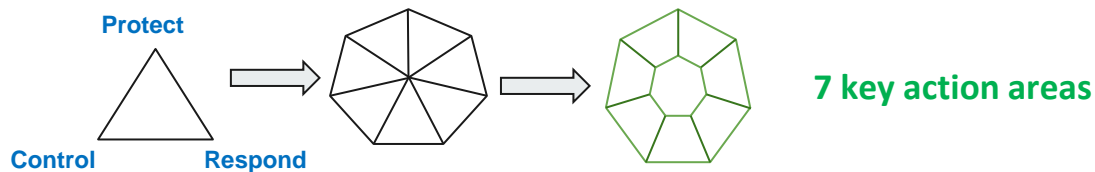
- Successful EufMD training initiatives and virtual learning platform
- Availability of adaptable **systems/tools** to improve preparedness (EufMD, Get prepared, Strategic, emergency toolkit, program)
- Established **network** with experts, reference centers, regional and international organizations and neighbouring countries;
- **Early warning** systems established in high risk hot-spots (**neighbourhood**);
- **PQy system** - phase 1 with procedures developed and implemented
- **Global surveillance and FMD virus intelligence** to anticipate threats to Europe.



The overall **Impact**: *strengthened and better performing national and international integrated One Health systems*

The **Outcome** of the project is expected to be *a lower FAST disease risk on, and better preparedness of Member Nations ensuring a safer Europe from FAST diseases*

Three outputs (focus objectives)



7 key action areas

Protect livestock

Respond to crises

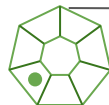
Improve control



Risk monitoring



Capacity development



Global FMD control



Risk mitigation



Enhance response
(tools and resources)



FAST control

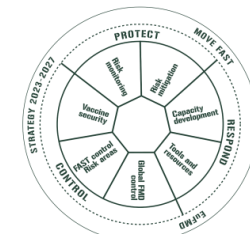


Vaccine security

- Expected results
- Tactics
- Detailed activities
- Key performance ind.

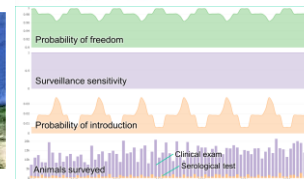
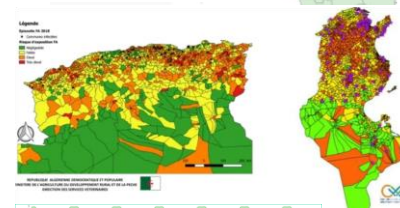
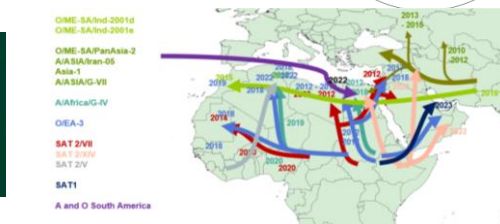
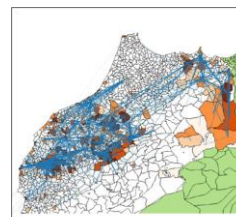
I - Improved PROTECTION of LIVESTOCK sector in EuFMD Member Nations from FAST introduction and spread.

39 EuFMD members, plus 20 countries in the European Neighbourhood (which are recognized as having a high risk of FMD as a result of their proximity to FMD and similar TADs risk sources).



- AA1 – RISK MONITORING
 - FAST global surveillance and virus intelligence
 - Risk monitoring
 - FAST early warning

- AA2 – RISK MITIGATION
 - Livestock biosecurity
 - Evidence of freedom/early detection
 - FMDv laboratory biorisk



II - Adequate capacities to RESPOND TO CRISES and improved resilience of livestock sector to FAST diseases in Member Nations

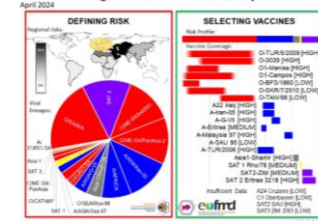
39 EuFMD-members plus the Republics of Ukraine and Moldova, which are European countries with land borders with the MNs and which are recognised as having a high risk of FMD as a result of their proximity to FMD risk sources



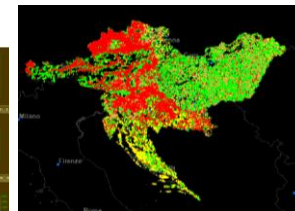
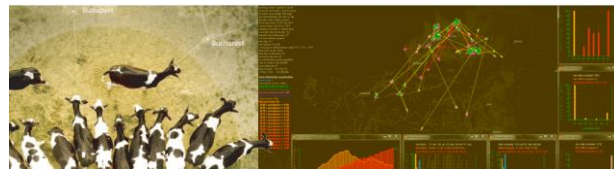
- AA3 – CAPACITY DEVELOPMENT
 - Training programme for MNs
 - Skills and competencies
 - Emergency management practices



Vaccine Antigen Prioritisation: Europe



- AA4 – TOOLS and RESOURCES
 - Response tools
 - Assessment of contingency planning capacity
 - Diagnostic capacity



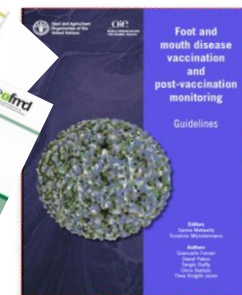
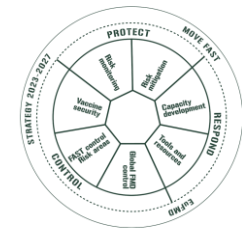
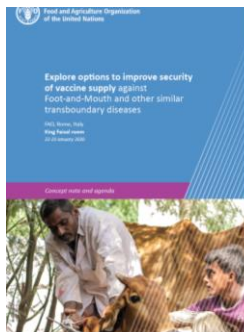
III - Greater CONTROL OF FAST diseases in risk areas to reduce the spread of diseases and their impact on livestock sector.

Countries which are priorities for PCP-FMD progress as indicated in the GF-TADS Global Strategy, with a specific reference and priority to countries considered at risk for Europe.

- AA5 – GLOBAL FMD CONTROL
 - PCP implementation
 - Tailored support to countries

- AA6 – FAST CONTROL
 - FAST capacity development
 - Prioritization of investment

- AA7 – VACCINE SECURITY
 - Multi-stakeholder platform



Expected results

- Overall, the programme is expected to:
 - 1) maintain an **effective risk monitoring** capability;
 - 2) ensure good **level of preparedness** and prevention for FAST incursion;
 - 3) reinforce **early warning systems** in FAST risk areas within Member Nations and other regions;
 - 4) improve the efficiency and effectiveness of **surveillance and control** programmes; and,
 - 5) enhance **vaccine security** through multistakeholder platform collaborations.



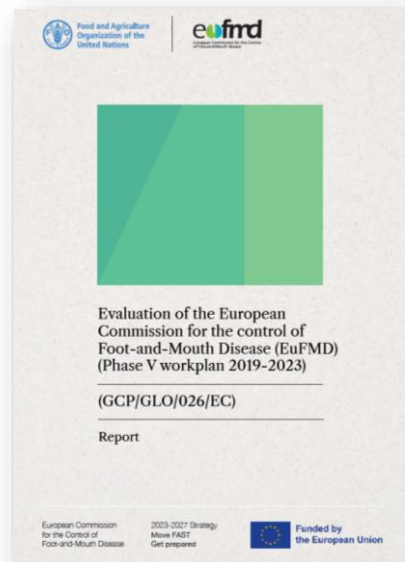
Evaluation of the EuFMD Phase V workplan 2019-23

Conclusions

...

- EuFMD activities resulted in the provision of **high-quality technical support** and **innovative and practical risk reduction solutions** in SEEN countries.

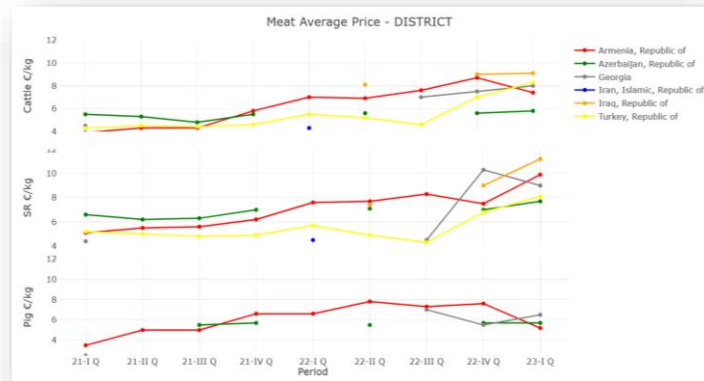
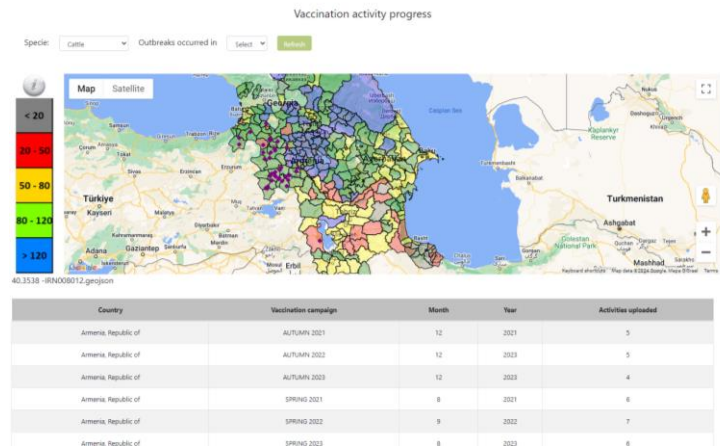
These include strengthening laboratory capacities for FAST diseases, the support for effective vaccines and efficient vaccination programmes.



Statement of Intentions (SOI)

- Update on reporting of FAST outbreaks, FMD vaccination and key market indicators

IC Personal data Configuration Outbreaks Vaccinations Tools SOI Database Maps Data management



Summary of the outbreaks registered

Year	Country	Specie	Serotype	Number
2016	Armenia, Republic of	CATTLE	A	1
2017	Iran, Islamic Republic of	SMALL RUMINANTS	---	1
2017	Turkey, Republic of	CATTLE	A	11
2017	Turkey, Republic of	CATTLE	O	16
2017	Turkey, Republic of	CATTLE	PCR(v)	2
2017	Turkey, Republic of	SMALL RUMINANTS	A	1
2017	Turkey, Republic of	SMALL RUMINANTS	O	1
2018	Turkey, Republic of	CATTLE	O	9
2018	Turkey, Republic of	CATTLE	PCR(v)	2
2019	Russian Federation	CATTLE	O	2
2019	Russian Federation	PISS	O	16
2019	Russian Federation	SMALL RUMINANTS	O	3
2019	Turkey, Republic of	CATTLE	O	8
2019	Turkey, Republic of	CATTLE	PCR(v)	1
2020	Iraq, Republic of	BUFFALO	---	6
2020	Iraq, Republic of	CATTLE	---	14
2020	Iraq, Republic of	SMALL RUMINANTS	---	4
2020	Russian Federation	CATTLE	O	1

FAST reports

- Published by EuFMD quarterly, since 2020
- Provide regular information on FAST diseases (in EU neighborhood, risk factors and control measures)

Process

- Information requested to NFPs (Word template)
- Complete information received with:
 - 1) Internal sources (meetings info)
 - 2) External sources (WAHIS, PromedMail)
- Report writing, review and publication

Structure:

- Significant events and information = Tables
- Summary with important disease incidents since the end of the reporting period

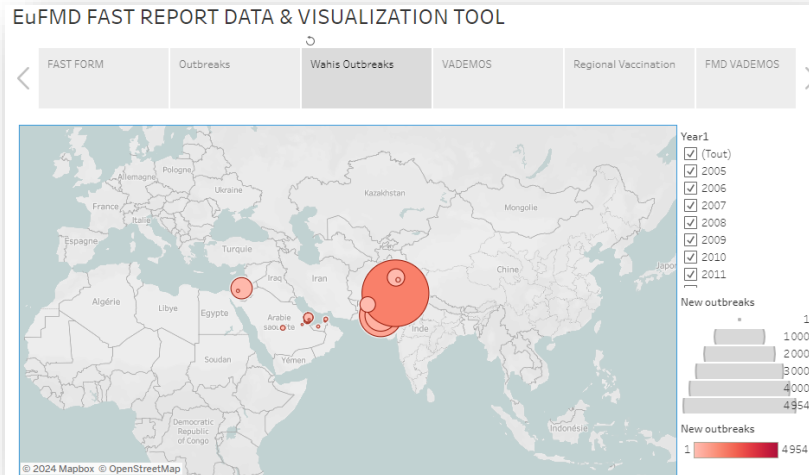


FAST reports / Way forward

- Ease **data collection** (user/DB manager)
- Improve data **homogeneity & quality**
- Collect **baseline** data (trends)
- ➔ Use of an online form
- ➔ Regional regular meetings should be hold in coordination with FAST report periods

FAST reports (.pdf; 1-2 p) supplemented by online dashboard (maps & graphs):

- Improve information sharing
- Provide spatial information
- Keep track of past information



Important

Countries share risk information,
Should they wish to share more, it should be in their
interest and be implemented upon a formal agreement

SOI activities / Coordination & Communication

- **FMDV SAT2 preparedness and control in SEEN: bi-weekly laboratory meetings until December 2023**
- **Bilateral protocol for sample shipment and laboratory support established between Türkiye and Iraq**
- **Rapid regional (NE/WEA) risk assessment for SAT2 spread conducted with EMPRES/EuFMD and countries in SEEN**
- **EuFMD contributions to webinar organized by the Razi Institute, 2 Oct. 2023 “How risk information sharing in the South-East European neighbourhood leads to better control of animal diseases”**
T. Chaligava, C. Pöttsch



Quarterly - Quadripartite meeting

Islamic Republic of Iran, Iraq, Pakistan, Türkiye and EuFMD/FAO



- share updates on:
 - the occurrence of FAST diseases and FAST control measures in the four participating countries;
 - relevant changes in disease risks;
 - information sharing on FAST diseases outbreaks and vaccination under the SOI, and its improvement;
 - EuFMD activities and events.
- agree on priority actions and mutual collaboration between Türkiye, I.R. Iran, Iraq, Pakistan and in the region.

Proficiency tests for FMD

	Phase XXXIV (2022)	Phase XXXV (2023)
EUFMD funded participants		
Number of invited participants funded under PTS (European)	14	14
Number of participating laboratories	9 : Algeria, Armenia, Azerbaijan, Egypt, Georgia, Israel, Libya ³ , Morocco, Tunisia	11 : Algeria, Armenia, Azerbaijan, Georgia, <u>Iran</u> , Iraq, <u>Israel</u> , <u>Lebanon</u> , Morocco, <u>Palestine</u> , Tunisia

Countries underlined represent shipments pending

The following FMD Reference Laboratories in the European neighbourhood declined to participate in these PT exercises: Egypt (2023), **Iraq (2022)**, Jordan (2023), and Libya (2023).

Iran (2022) wanted to participate; however, we could not obtain all the required documentation for shipment.

Import licence not received for Jordan (2022). For Lebanon (2022) the shipping documents were received too late.

The results for Libya (2022) were not received.

SOI activities / Emergency procurements to FMD national labs

SAT2 reagents	ELISA Ag detection	ELISA SP Ab SAT2
Armenia	1	
Azerbaijan	1	
Georgia	1	
Iran	1	
Iraq	3	
Türkiye	10	2
TOTAL	17	2

SOI activities / Group for vaccination advice

Topics covered in February 2024

- Preliminary findings of small-scale immunogenicity studies for SAT2 vaccines in Transcaucasus
- Vaccine strains – WRLFMD recommendations for SEEN & discussions
- Vaccine quality, safety and efficacy – Private sector/EuFMD


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

**Group for Vaccination Advice for Foot-and-mouth And Similar
Transboundary animal diseases in the South East European
Neighbourhood countries**

21 February 2024 at 09:00 am CET (Central European Time)
Online meeting
To check your country time zone, please click [here](#)

Draft Agenda

Zoom link: [Here](#) - Passcode: 69363906



09:00-09:10	Welcome and introduction of meeting objectives	T. Chaligava, F. Rosso, EuFMD
09:10-09:25	Small-scale immunogenicity studies (SSIS) planning, incl. for SAT2 vaccines, considering findings of SSIS survey.	T. Aliyeva, EuFMD NFP AZ
09:25-09:35	Discussion	All participants
09:35-09:50	Vaccine recommendations for the SEEN region in 2024 and update from international FMD reference laboratories	K. van Maanen, EuFMD D. King, WRLFMD
09:50-10:00	Discussion	All participants
10:00-10:10	Other topics, incl.: – Survey on FAST proficiency tests in SEEN countries; – SAT2 and other support for SEEN countries.	C. Poetzsch, EuFMD
10:10-10:20	Discussion	All participants
10:20-10:25	Combined vaccinations of ruminants against different diseases – next steps	K. van Maanen, C. Poetzsch, EuFMD
10:25-10:30	Discussion	All participants
10:30-10:45	Comprehensive FMD Vaccine Evaluation and Supply Strategy: – Vaccine specification/characterization (vaccination, booster vaccination, revaccination); – Capacity of vaccine production and distribution; – The potential of supplying countries with vaccines; – Vaccine safety; – Vaccine immune response; – Vaccine minimum doses in each package (in each bottle); – Countries in which vaccine has been used	P. Hudelet, Boehringer Ingelheim Animal Health
10:45-10:55	Discussion	All participants
10:55-11:00	Final remarks and closure	C. Poetzsch, T. Chaligava, EuFMD

SOI activities / SSIS

- SSIS carried out in TCC in 2018-2019
- Publication in March 2024 with NFP, EuFMD, IZSLER

Key outcomes:

- *This study led to the estimate that both the vaccines evaluated will not induce a protective and long-lasting population immunity, even after a second vaccination, stressing that consecutive administrations of both vaccines every three months are mandatory if one aspires to achieve protective herd immunity*
- Following this study, TCC Vet Authorities changed tender requirements and specifications for FMD vaccines



Article

Evaluation of Two Vaccines against Foot-and-Mouth Disease Used in Transcaucasian Countries by Small-Scale Immunogenicity Studies Conducted in Georgia, Azerbaijan and Armenia

Efrem Alessandro Foglia ^{1,*}, Tengiz Chaligava ^{2,3}, Tamilla Aliyeva ^{2,4}, Satenik Kharatyan ^{2,5}, Vito Tranquillo ^{1,6}, Carsten Pötsch ⁷, Cornelis van Maanen ⁷, Fabrizio Rosso ⁷, Santina Grazioli ^{1,7} and Emiliana Brocchi ^{1,7}

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³ National Food Agency (NFA) of the Ministry of Environmental Protection and Agriculture (MEPA), Tbilisi 0159, Georgia
⁴ Azerbaijan Food Safety Institute (AFSI) at the Azerbaijan Food Safety Agency (AFSA), Baku 1069, Azerbaijan
⁵ Scientific Center for Risk Assessment and Analysis in Food Safety Ansa—CJCS of Republic of Armenia, Yerevan 0071, Armenia
⁶ Correspondence: e.foglia@izsl.it
⁷ These authors contributed equally to this work.

Abstract: In countries endemic for foot-and-mouth disease (FMD), routine or emergency vaccinations are strategic tools to control the infection. According to the WOAH/FAO guidelines, a prior estimation of vaccine effectiveness is recommendable to optimize control programs. This study reports the results of a small-scale immunogenicity study performed in Transcaucasian Countries. Polyvalent vaccines, including FMDV serotypes O, A (two topotypes) and Asia1 from two different manufacturers, were evaluated in Georgia, Azerbaijan and Armenia. Naïve large and small ruminants were vaccinated once and a subgroup received a second booster dose. The titers of neutralizing antibodies in sera collected sequentially up to 180 DPV were determined through the Virus Neutralization Test versus homologous strains. This study led to the estimate that both the vaccines evaluated will not induce a protective and long-lasting population immunity, even after a second vaccination, stressing that consecutive administrations of both vaccines every three months are mandatory if one aspires to achieve protective herd immunity.

Keywords: foot-and-mouth disease; small-scale immunogenicity study; vaccination campaign; vaccine effectiveness assessment

1. Introduction


Foot-and-mouth disease (FMD) is a serious transboundary infectious disease of cloven-hooved animals, which leads to considerable socio-economic impacts [1,2]. The economic effect of the disease is related to various factors, including a reduction in livestock production, the limitation of affected countries in access to global markets and also costs related to the control of the disease and the gain or regain of FMD free status [1]. The estimation of the annual impact of FMD in 2013 in endemic countries was between USD 6.5 and 21 billion [1]. Currently, FMD circulates endemically in African and Asian continents, with occasional recurrence in South America [3]. The circulation of the disease in North Africa, in the Asian region of Türkiye (Anatolia) and in all the Middle East, together with sporadic incursions across the borders between the Russian Federation and the Republic of Kazakhstan, Mongolia or the People's Republic of China, makes the disease a continuous threat to countries with a highly developed livestock production industry, where FMD has

Check for updates

Citation: Foglia, E.A.; Chaligava, T.; Aliyeva, T.; Kharatyan, S.; Tranquillo, V.; Pötsch, C.; van Maanen, C.; Rosso, F.; Grazioli, S.; Brocchi, E. Evaluation of Two Vaccines against Foot-and-Mouth Disease Used in Transcaucasian Countries by Small-Scale Immunogenicity Studies Conducted in Georgia, Azerbaijan and Armenia. *Vaccines* **2024**, *12*, 205. <https://doi.org/10.3390/vaccines12030205>

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SOI activities / SSIS

Objectives:

- Considering the epi situation in the region, **evaluate the immune response of used vaccines incl. SAT2 strains**
- **Estimate the level and duration of immunity in vaccinated animals**
- **Support countries in vaccine selection, and vaccination strategy**

SSIS in TCC countries

Country	Vaccine, selected for SSIS	Vaccine producer	Vaccine virus strain	Vaccine potency (PD ₅₀ per dose)	Species
Azerbaijan	"ARRIAH - FMD" sorbed vaccine	ARRIAH (Russia)	A G-VII 2015, A IRAN 2005, ASIA 1/SINDH-08, O PANASIA 2, SAT-2/ERITREA 98	≥ 6PD50	LR
	TURVAC-OIL	SAP Institute (Turkey)	A IRN 21(A IRN05), O TUR07(PANASIYA-2), ASIA-1 TUR15 (SINDH-08), SAT-2 IRQ 23 (TXIV)		
Georgia	AFTOVAX	Boehringer Ingelheim Animal Health	A Iran 05O1, AGVII 2015 Manisa, O 3039, Asia 1 Shamir, SAT2 Eri	6PD50	LR, SR
Armenia	-	Tender wasn't held yet finally	A Iran 05, A G VII, O PanAsia2, Asia-1 Sindh08, SAT2 Eri	6PD50	LR, SR

EuFMD Trainings in presence

- **Training on FMD diagnosis**, 15-26 May 2023, at IZSLER, for Iraq and Jordan;
- Regional training **on molecular techniques for FMD diagnosis**, 3-7 July 2023, residential training at ANSES;
- **FMD Investigation training course** in Turkish in 2023.

EuFMD Trainings online

Open access

Introduction of Foot-and-Mouth Disease

Introduction to the FMD Minimum Biorisk Management Standards

Introduction to Lumpy Skin Disease

Introduction to **sheep pox and goat pox**

Introduction to the Risk Assessment Plan

Introduction to the Risk-Based Strategic Plan

Introduction to Rift Valley Fever

Introduction to **Passive surveillance**

Non open access:

Vaccines, Vaccination and Post-Vaccination Monitoring 2023

Country	Nr enrolled participants (1 Jan 23 - 1 Feb 24)
Armenia	28 (5 completed)
Azerbaijan	49 (11 completed)
Georgia	21 (5 completed)
Iran	19 (7 completed)
Iraq	25 (9 completed)
Pakistan	45 (22 completed)
Turkiye	43 (22 completed)

EuFMD/Avia-GIS risk mapping

Objectives

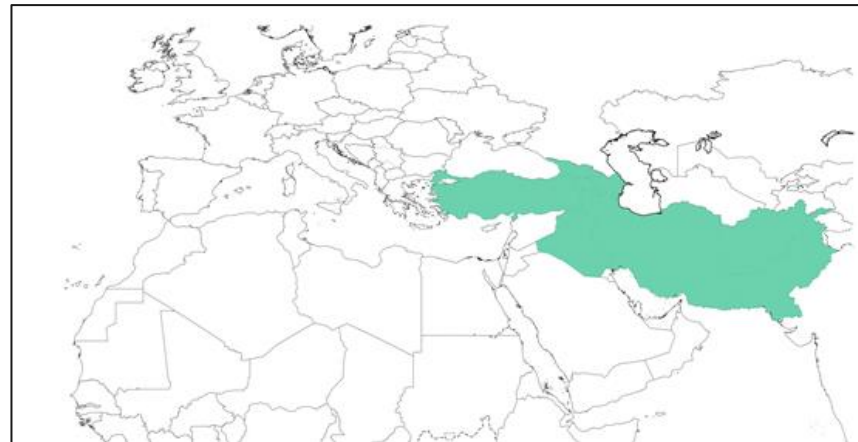
- ❑ Creation a community of practice in the formed by national experts
- ❑ Production of national and regional risk maps to support the monitoring, management, early response and reporting of FAST disease events

2 levels:

- ❑ Basic
- ❑ Intermediate

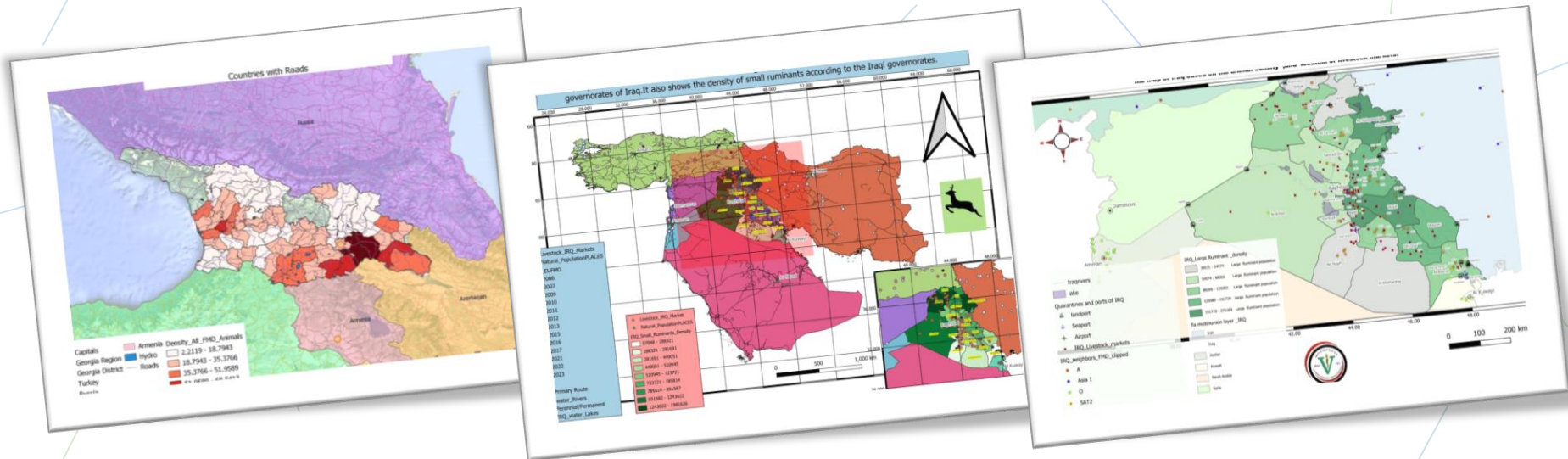
Language:

- English



- ❑ 11 participants involved from
- ❑ ARMENIA, AZERBAIJAN, GEORGIA, IRAN (I. R. of), IRAQ , PAKISTAN (I. R. of) , REPUBLIC OF TÜRKIYE

- Some of the maps created by the participants during the final course exercise



- All countries involved have staff trained in Intermediate GIS
- Follow up training is planned on 23 and 24 April 2024 for two participants per country to **enhance their capacities in risk analysis and risk mapping (considering animal mobility and other risk factors and strengthen and operationalize the risk mapping, GIS, and spatial modelling community of practice in countries**



SOI activities / Simulation exercises

Multi-country desktop and field simulation exercise on Control of FMD / June 2019
Türkiye – Georgia

Multi-country FMD Tabletop Simulation Exercise (Conductrr) / December 2021
Thrace + SOI countries (ie. Bulgaria, Greece, Turkey, IR Iran and Iraq)

Another transnational field SimEx for SEEN countries planed in the EuFMD programme by 2025

Relevant outcomes

- Possibility that 1-2 colleagues from Iraq visit Türkiye to improve their outbreak investigation and response skills. This was a gap identified in the EMC/EuFMD mission to Iraq.
- Overcoming difficulties for shipment of diagnostics (Ag ELISA kits, PCR reagents)
- Support of EC vaccine donations to Türkiye and Georgia;
- Laboratory trainings (IZSLER, ANSES);
- Contribution to SAT2 Risk assessment;
- Contribution to joint EMC/EuFMD Iraq mission.

- Plans for field SimEx in SEEN countries
- Plans for assessment of passive surveillance in the territories of SOI; a study to assess farmers' willingness to report [IZSLT]
- PSO support



Thank you !

linktr.ee/Eufmd

fao.eufmd.org eufmdlearning.works

#eufmd #movefast

FAO Four Betters



**PROTECT
RESPOND
CONTROL**

2023-2027 Strategy
**Get prepared
Move FAST**



**Funded by
the European Union**