



EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
THE EU FMD



FMD Progressive Control Pathway (PCP-FMD)

Gunel Ismayilova

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

7th Regional FMD West Eurasia Roadmap Meeting, 6-8 April, 2016



Outline of this presentation

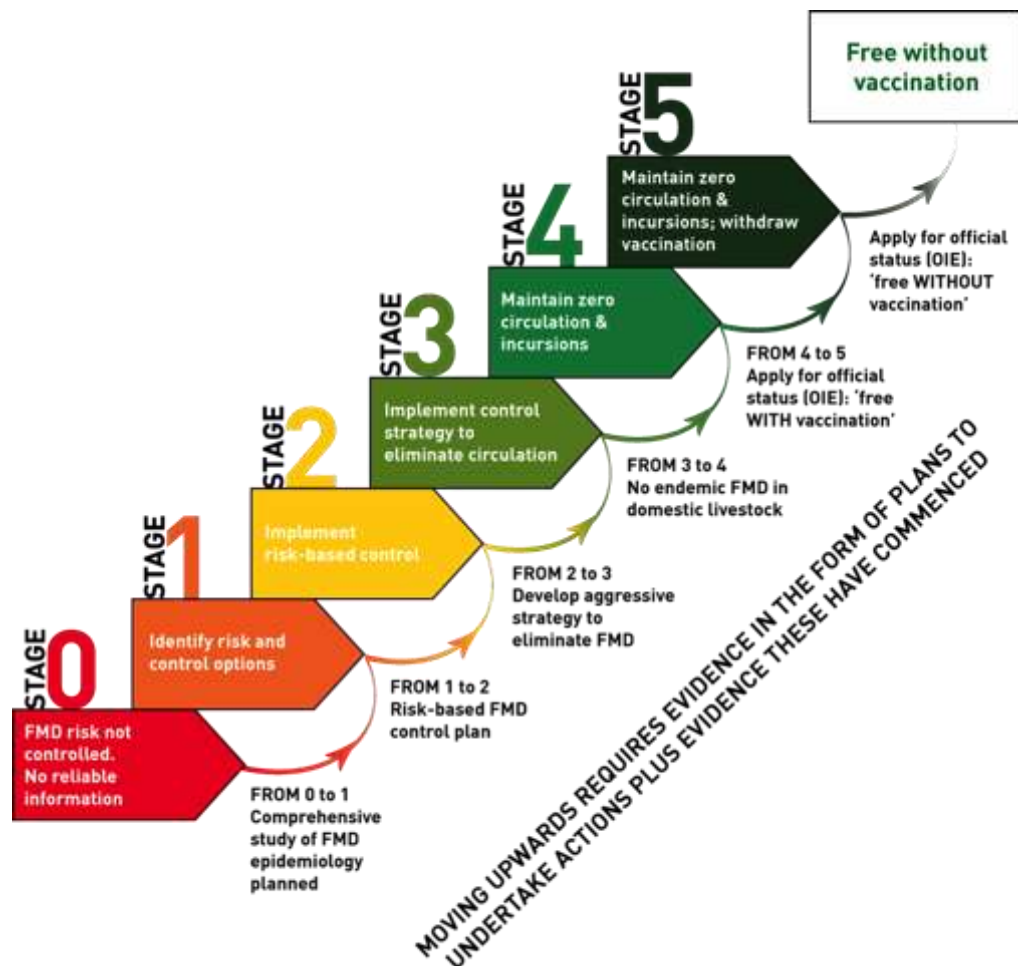
- 1) Key features of the PCP-FMD
- 2) PCP-FMD and the Global Strategy for FMD control
- 3) PCP-FMD stages 1-3
- 4) Changing objectives when progressing FMD control
- 5) Main requirements for entering PCP-FMD stages



1) Features of the PCP-FMD

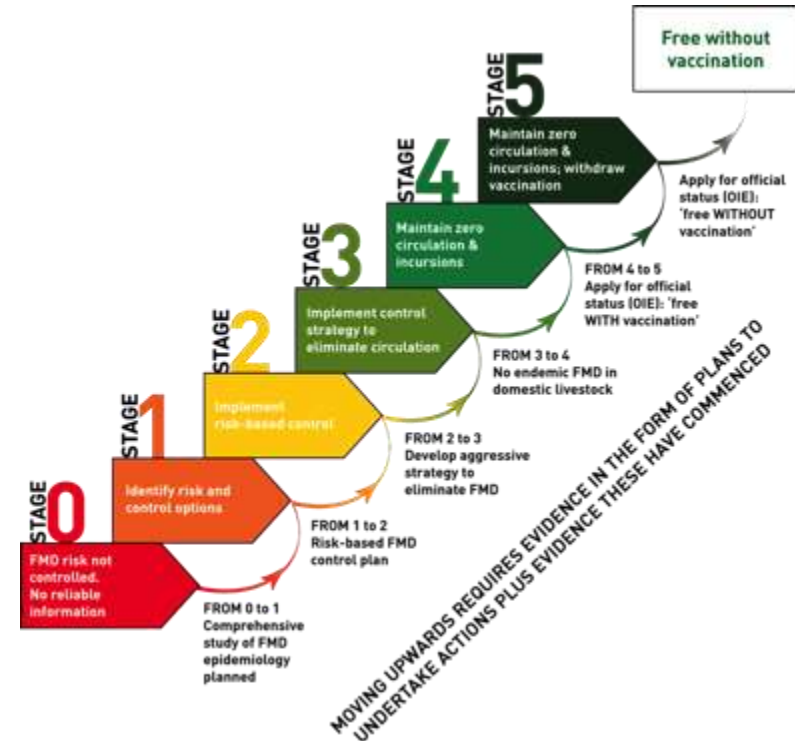


PCP-FMD is framework which assists countries in controlling Foot-and-Mouth Disease



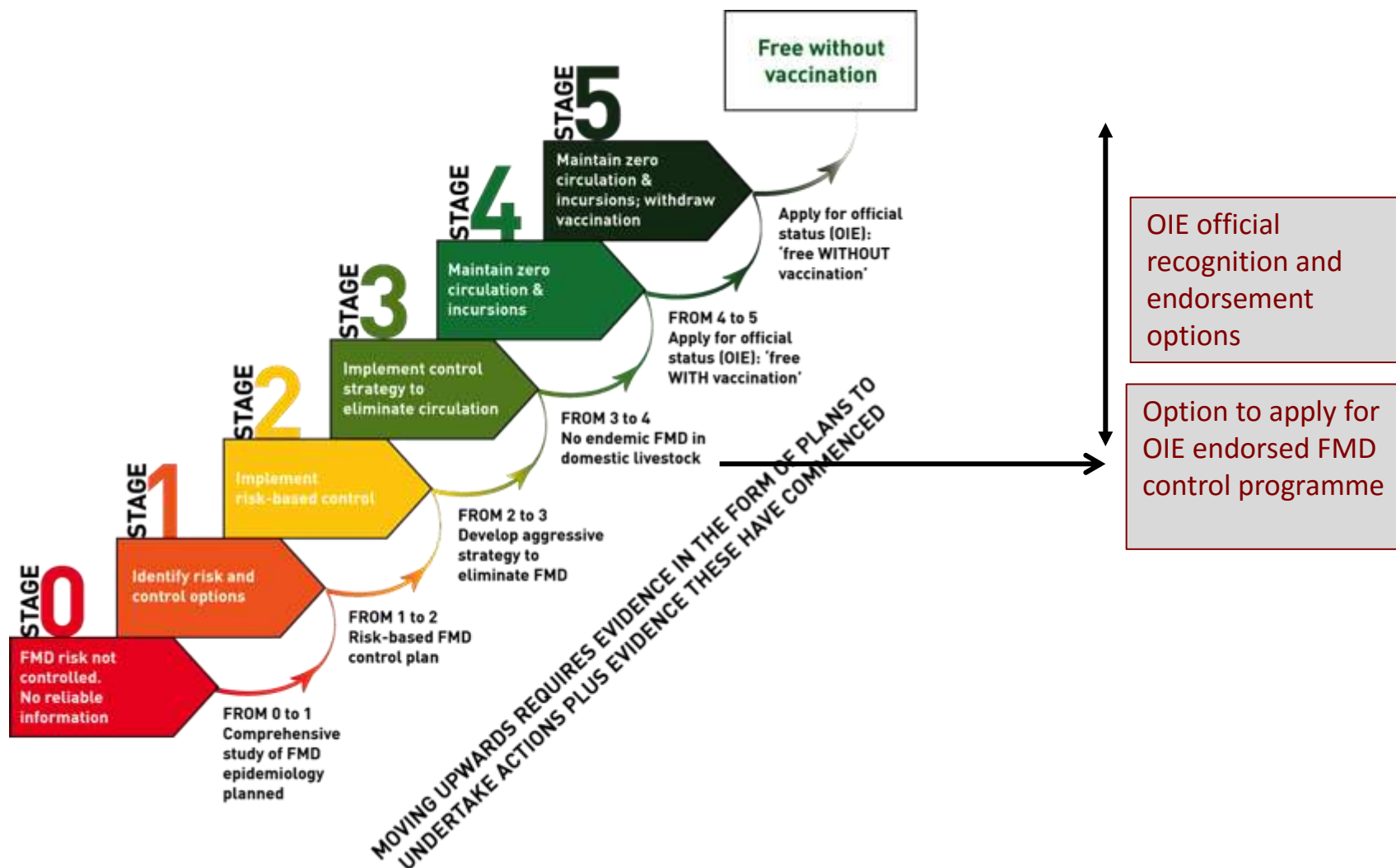
PCP-FMD

- The PCP-FMD has **6 Stages (Stage 0 – Stage 5)** in which clinical FMD and subsequently FMD virus circulation progressively come under control
- In each Stage, **specific outcomes need to be completed for a country to progress to the next stage**





Links between PCP-FMD and OIE health status



Each stage has an objective and indicator:

PCP stage	Stage objective(s)	Indicator outcome
0	FMD risk not controlled, no reliable information	<ul style="list-style-type: none">To move to Stage 1: Comprehensive plan to study FMD epidemiology
1	Identify risk and control options	<ul style="list-style-type: none">To move to Stage 2: Risk-based Strategic Plan developed
2	Implement Risk-based control	<ul style="list-style-type: none">To move to Stage 3: Aggressive strategy to eliminate FMD developed
3	Implement control strategy to eliminate virus circulation	<ul style="list-style-type: none">To move to Stage 4: No endemic FMD in domestic livestock
4	Maintain zero circulation and incursion	<ul style="list-style-type: none">To move to Stage 5: Apply for official status (OIE) "free with vaccination"
5	Maintain zero circulation and incursions, withdraw vaccination	<ul style="list-style-type: none">Apply for official status (OIE) "free without vaccination" and finish PCP



The key principles of PCP-FMD



The key principles of PCP-FMD



For countries with endemic FMD

The PCP-FMD is NOT for free countries that want to regain FMD freedom after there has been a disease incursion.

Previously FMD free countries that are seeking to quickly regain freedom following an incursion have to follow the OIE requirements for FMD-free status.

The key principles of PCP-FMD



FMD control is applied in achievable steps

- Disease control is a complex process requiring a considerable period of time and many resources to implement.
- The pathway begins with gaining an understanding of the disease's circulation in a country and its impacts.
- At the next step, this knowledge is used to plan the initial strategic control based on identified risks for FMD.
- Critically, the control plan is monitored and evaluated.

The key principles of PCP-FMD



Non prescriptive

The PCP is intended to be NON-prescriptive. The PCP does not tell a country exactly what it has to do. Instead, the pathway **focuses on results or outcomes**. As such, the PCP-FMD represents an approach, NOT a list of prescribed activities that must be followed.

The PCP-FMD is also non-prescriptive in terms of how far countries should progress along the pathway:

- A country does not have to progress the whole way “up” the pathway. Disease eradication may not be achievable.
- The approach can be applied at national level, but it can also be used only in a specific production sector or geographical region.

The key principles of PCP-FMD



Prioritize risks that are considered most important

PCP-FMD uses **risk analysis** principles to identify and prioritise risk “hotspots”

A risk “hotspot” might be a production sector, activity or geographical area where there is a high likelihood of spread of disease, or where disease leads to high impacts and losses.

Once these risk “hotspots” are identified, these are used to define the objectives, tactics and activities of a risk-based strategic plan.

Using risk analysis principles helps to **make best use of limited resources**, and direct FMD control measures where they will have most benefit.

The key principles of PCP-FMD



Make best use of limited resources

Countries which are endemic for FMD often have very limited resources. Time, personnel and funding are often in short supply, and there are many competing animal health concerns.

Using risk based principles, the PCP-FMD seeks to make best use of these limited resources, applying them where they can have the most impact.

The key principles of PCP-FMD



Evidence based

Every stage of the PCP-FMD involves **collecting and analysing evidence**. We need evidence to guide our decision making, and to continuously monitor our control measures, and adapt them as necessary to the situation on the ground.

The PCP requires countries to **progressively monitor the level of implementation of planned activities and evaluate the impact of these on occurrence of FMD**. This provides evidence that the approach is working as planned and gives room to adapt or change the activities if necessary.



The PCP-FMD requires at least \$50 million of investment just to get started. Countries without these resources should not even consider starting to control foot-and-mouth disease.



False: the PCP-FMD recognises that many countries with endemic FMD have limited resources. The PCP-FMD focuses on making best use of these limited resources to reduce the impacts of FMD as much as possible.



Countries which start on the PCP-FMD pathway should eradicate FMD from their entire country within 15 years.



False- countries can choose how far and how fast to progress along the pathway. It is not necessary for countries to aim for complete eradication, if this is not beneficial or viable. Some countries may apply the pathway to only one geographical region or production sector.



EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
the EUFMD



2) PCP-FMD and the Global Strategy for FMD Control



Three components of the strategy



Component 1: Improving global FMD control



1) Improving FMD Control

- **The PCP-FMD is the preferred approach for progressively controlling FMD in FMD-endemic countries**
- The PCP process involves a regional approach to FMD control

Component 1: Improving global FMD control



2) Strengthening veterinary services

- The OIE Performance of the Veterinary Services (PVS) pathway* is the major tool for component 2
- Of the 47 critical competencies** of the PVS, 33 are considered relevant for FMD control. For each of these, level 3 out of 5 is considered minimally required



Linking the PCP-FMD stages and the Critical Competences (CC) of the OIE PVS evaluation tool

Critical competencies	PCP stage			
	1	2	3	4
I.2.A. Professional competencies of veterinarians	3	3	3	3
I.2.B. Competencies of veterinary para-professionals	1	3	3	3
I.3. Continuing education	3	3	3	3
I.6.A. Internal coordination (chain of command)	1	2	3	3
I.6.B. External coordination	3	3*	3	3
I.11. Management of resources and operations	1	2	3	3
I.13 Risk analysis	3	3*	3*	3*
II.11 Emerging issues	1	2	3	3
III.1 Communications	4	4*	4*	4*
III.2 Consultation with stakeholders	3	3	3	3
III.3 Official representation	2	3	3	3
III.4 Accreditation / authorisation / delegation	1	2	3/4	3/4*
III.5.A. Veterinary Statutory Body authority	1	2	3/4	3/4*
III.5.B. Veterinary Statutory Body capacity	1	2	3	3*
III.6 Participation of producers and stakeholders in joint programs	2	3	3	3*
IV.1 Preparation of legislation and regulations	3	3*	3*	3*
IV.2 Implementation of legislation & stakeholder compliance	1	3	3	3
II.5.A. Passive epidemiological surveillance	1	3	3	3
II.5.B. Active epidemiological surveillance	3	3*	3	¾
II.6 Early detection and emergency response	1	1	3	3
II.7 Disease prevention, control and eradication	1	2	3	3
II.8 Ante and post mortem inspection	1	2	3	3
II.1 Veterinary laboratory diagnosis	2	2/3	2/3	2/3
II.2. Laboratory quality assurance	2	3	3	3
II.4 Quarantine and border security	1	2	3	¾
II.13.A. Animal identification and movement control	1	2	3	3
IV.6 Transparency	2	3	3	3
IV.7 Zoning	1	2	2	3
I.1.A. Veterinarians and other professionals	2	3	3	3
I.1.B. Veterinary para-professionals and other technical staff	2	3	3	3
I.7. Physical resources	2	2	3	3
I.8. Operational funding	1	2/3	4/5	4/5
I.9. Emergency funding	1	1	3	4/5





Component 3: Improving control of other major diseases

3) Improving the control of other major diseases

- identification of priority diseases that may be combined with FMD control (Anthrax, CBPP, Brucellosis, etc)





We've just seen that the objective of the Global Strategy is to improve FMD control in **endemic regions**.

Does this mean that **only** countries which are endemic for FMD will benefit from the implementations of the strategy?



Improving FMD control is of economic benefit to endemic countries. However, improved FMD control is also beneficial to regions of the world which are free of the disease.

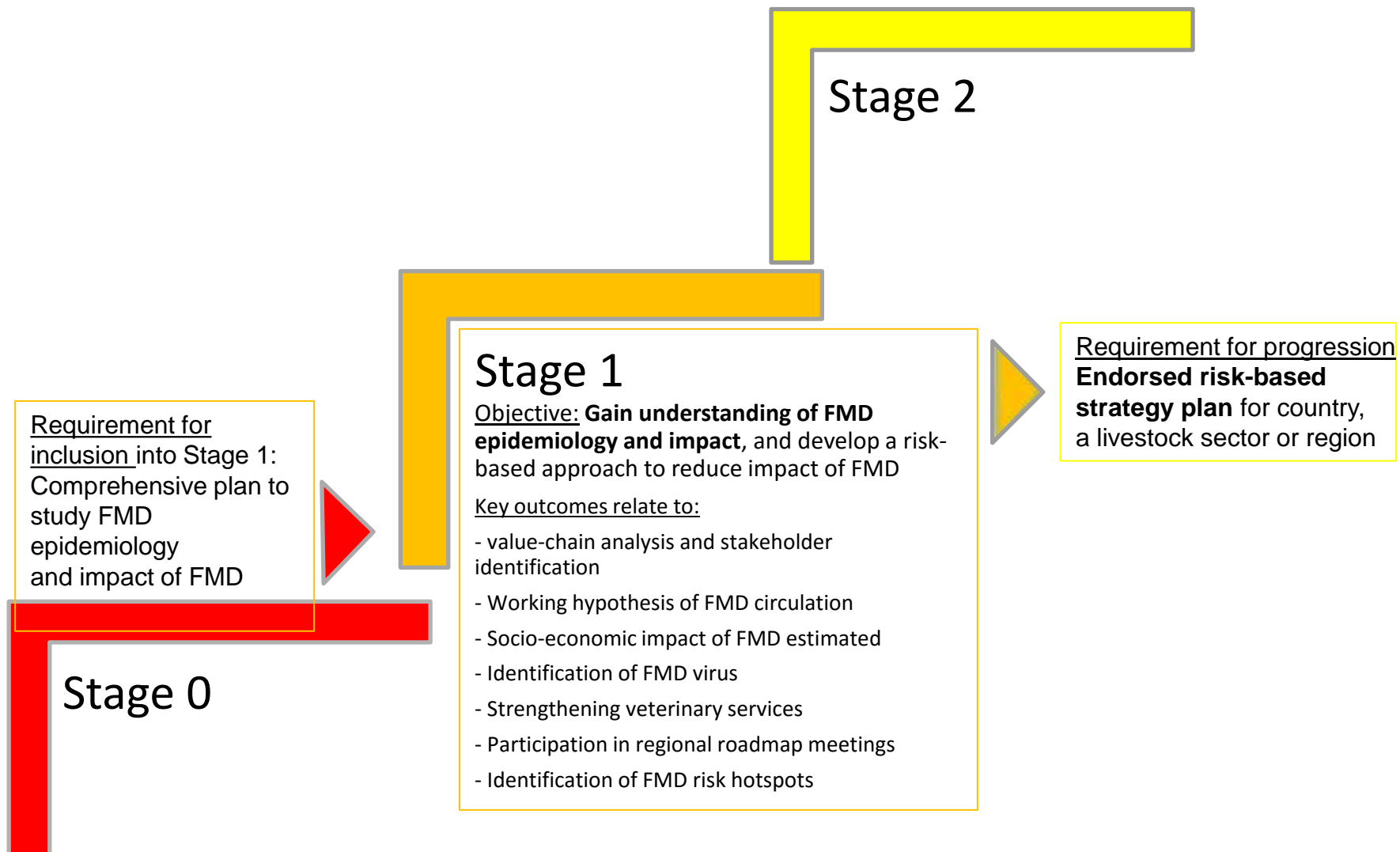
Improved global FMD control reduces the risk of disease incursions into free areas, and thereby protects the advanced disease control status of FMD free countries. **FMD control is therefore seen as a global public good: both endemic and free countries benefit.**



3) PCP Stages 1 to 3

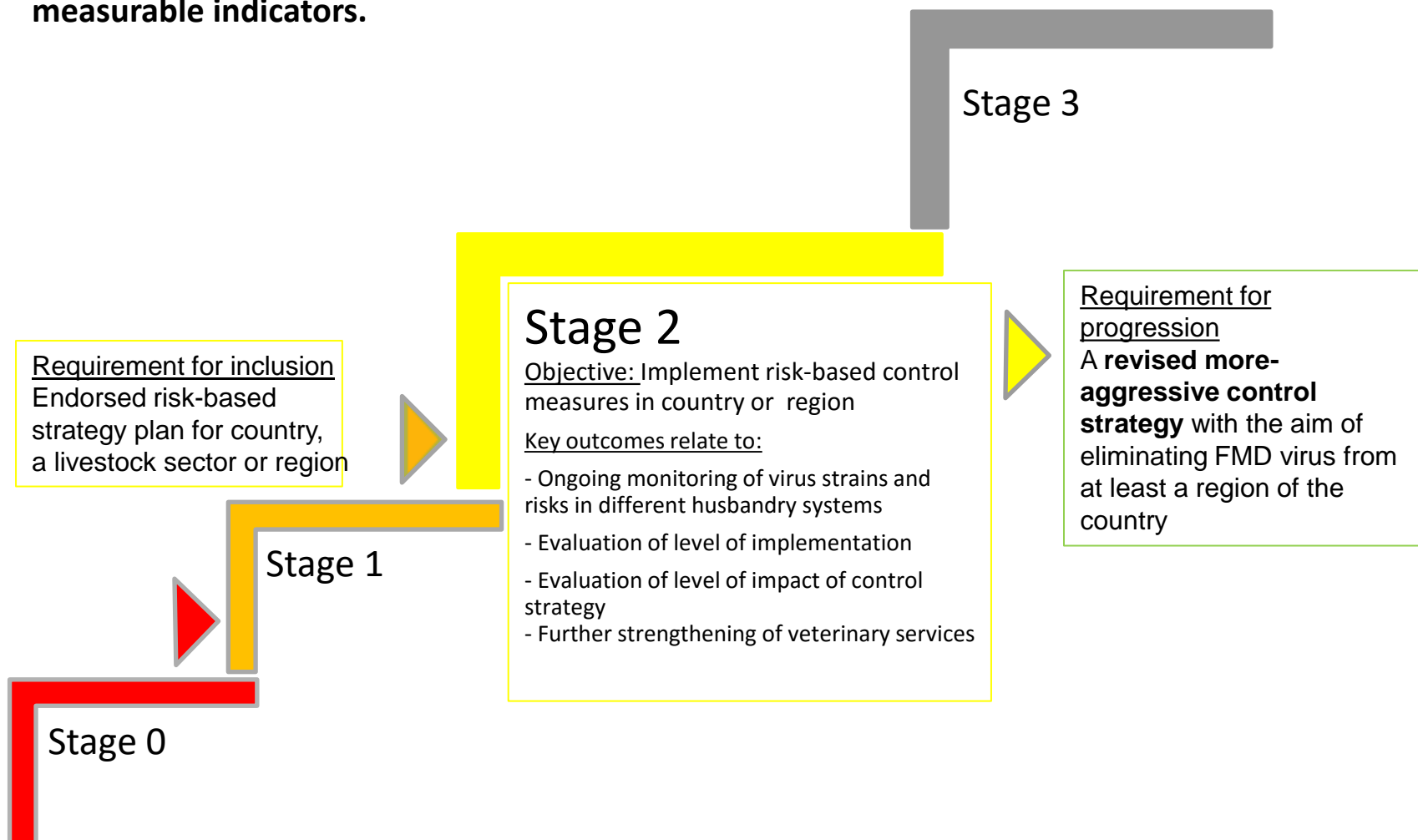


PCP Stage 1 is about understanding epidemiology and impact of FMD in a particular country. This knowledge is essential to develop a control strategy that is feasible to implement and will make the best use of the limited resources available to control FMD



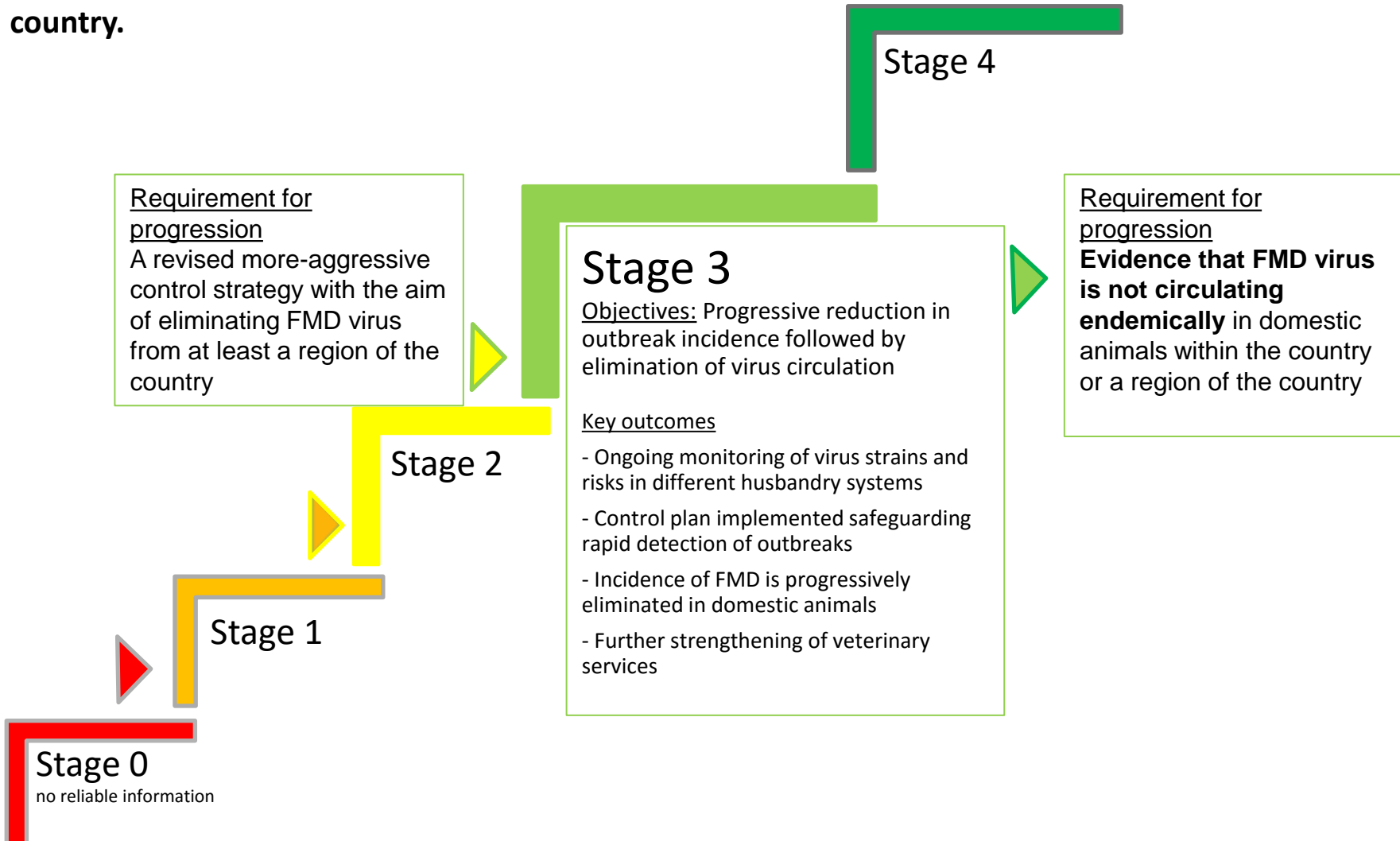


Countries in PCP Stage 2 should be implementing a risk-based FMD control strategy designed to decrease the impact of FMD in at least one livestock sector or zone. Both the level of implementation and impact of the control strategy should be routinely monitored through measurable indicators.





Countries in PCP Stage 3 are working towards the eradication of FMD virus. They should be able to provide evidence that the control measures are effectively and progressively reducing the FMD incidence. By the end of Stage 3, FMD virus circulation is eliminated in at least 1 zone of the country.





Question



What activities are typical for PCP-FMD Stage 1, Stage 2 or Stage 3?

	Stage 1	Stage 2	Stage 3
1. Collating FMD outbreak reporting from across the country	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cost-benefit analysis of FMD control measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Monitoring & evaluation of FMD control measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Question



What activities are typical for PCP-FMD Stage 1, Stage 2 or Stage 3?

	Stage 1	Stage 2	Stage 3
1. Collating FMD outbreak reporting from across the country	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Cost-benefit analysis of FMD control measures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Monitoring & evaluation of FMD control measures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Do it your own way

A country may decide to remain in stage 3 for some years, taking advantage of having limited virus circulation, thus little clinical FMD against limited resource use

PCP Stage 4

Implement aggressive national control plan (NCP) to eradicate virus circulation

Monitor: Implementation and impact of control measures

Evaluate: Update approach to control FMD (NCP) or develop strategy to apply for OIE status Free with vaccination

Implement aggressive national control plan (NCP) to eradicate virus circulation

PCP Stage 3

Monitor: Implementation and impact of control measures

Evaluate: Update approach to control FMD (RBSP) or develop national control plan (NCP)

Manage: Implement control measures

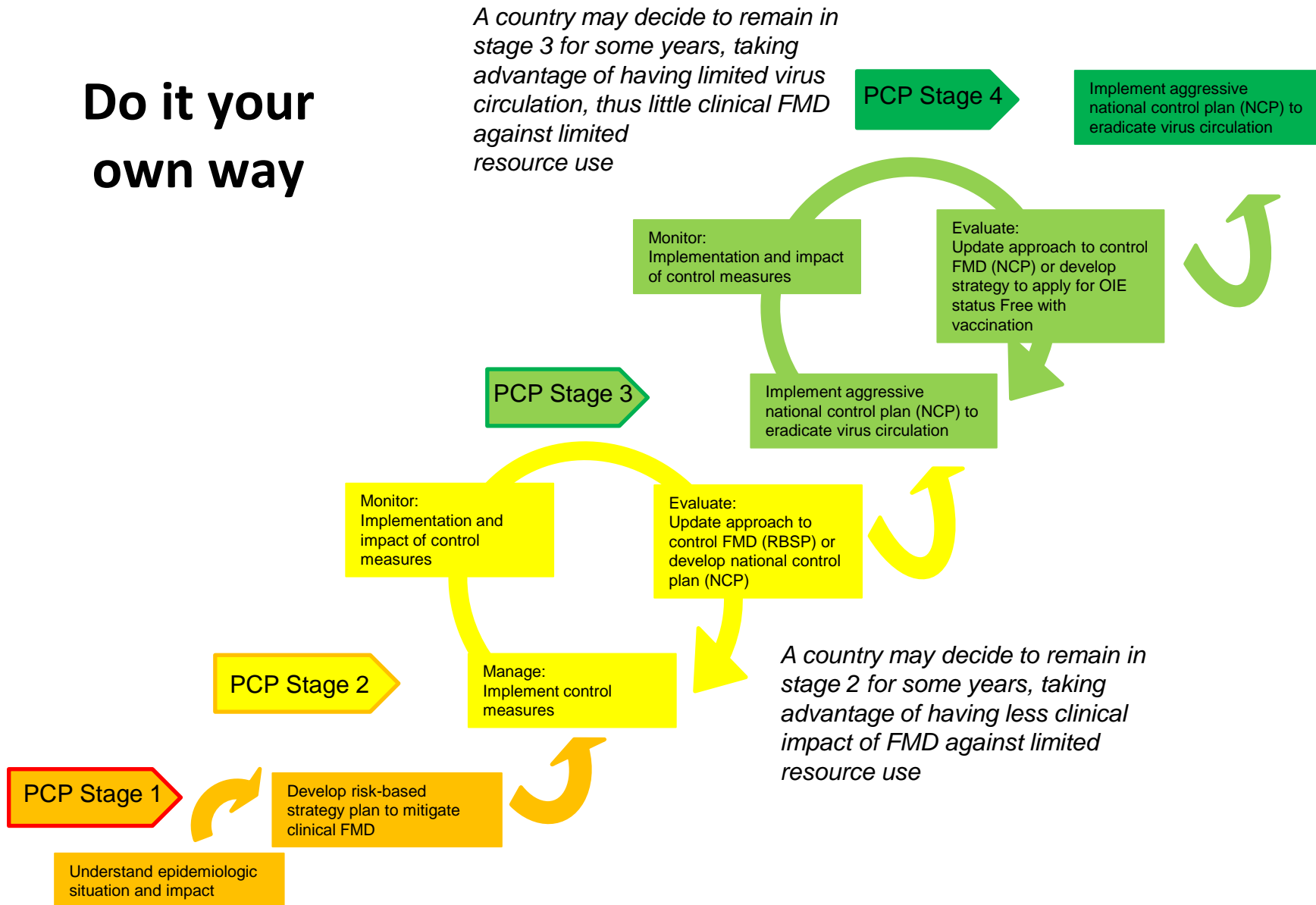
PCP Stage 2

Develop risk-based strategy plan to mitigate clinical FMD

A country may decide to remain in stage 2 for some years, taking advantage of having less clinical impact of FMD against limited resource use

PCP Stage 1

Understand epidemiologic situation and impact





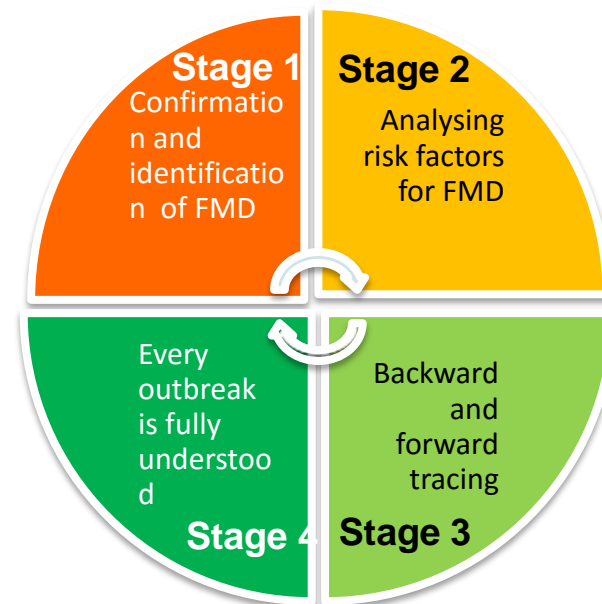
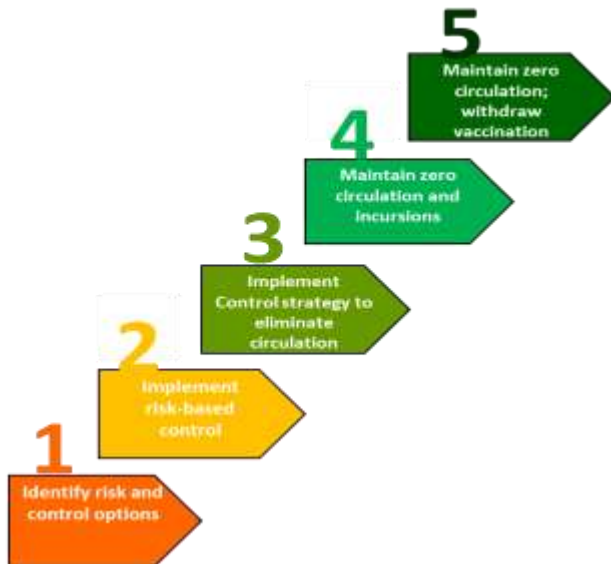
4) Changing objectives when progressing FMD control



Changing objectives when progressing FMD control

Outbreak investigation

The level of outbreak investigation will also require to become more elaborate. Where confirmation of suspect cases in PCP-FMD stage 1 was the focus, in additional stages, it becomes important to learn from each and every outbreak: risk factors, origin and routes of spread.





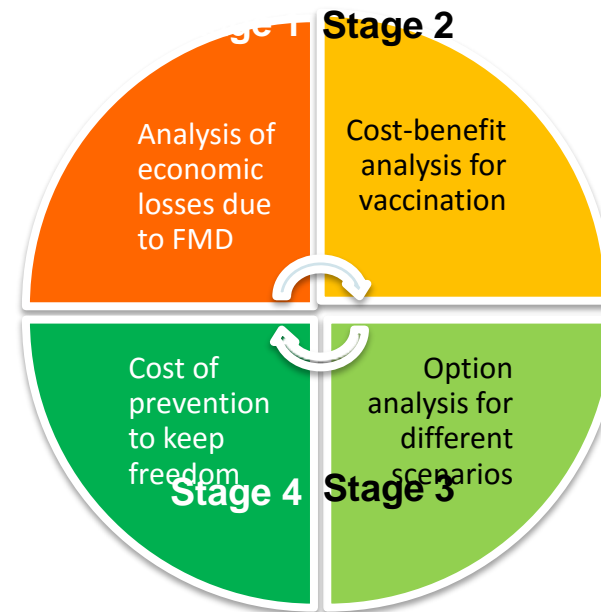
Changing objectives when progressing FMD control

Impact analysis

In the first stage of PCP-FMD, impact analysis focuses primarily on the direct impact of clinical FMD on livestock production and livelihoods.

Further up on the PCP-FMD framework, impact analysis becomes more a tool to analyse the cost-benefit of particular control measures, such as vaccination. But could equally be applied for a cost-benefit analysis on other control measures such as movement control, restriction of animal markets, etc

In stages 3, preparing for a free status, there will be a need for option appraisal on different scenarios to become FMD free





5) Requirements for recognition of PCP stages



Why do we need a PCP-FMD Roadmap?

FMD is a **transboundary animal disease**, that does not respect national borders.

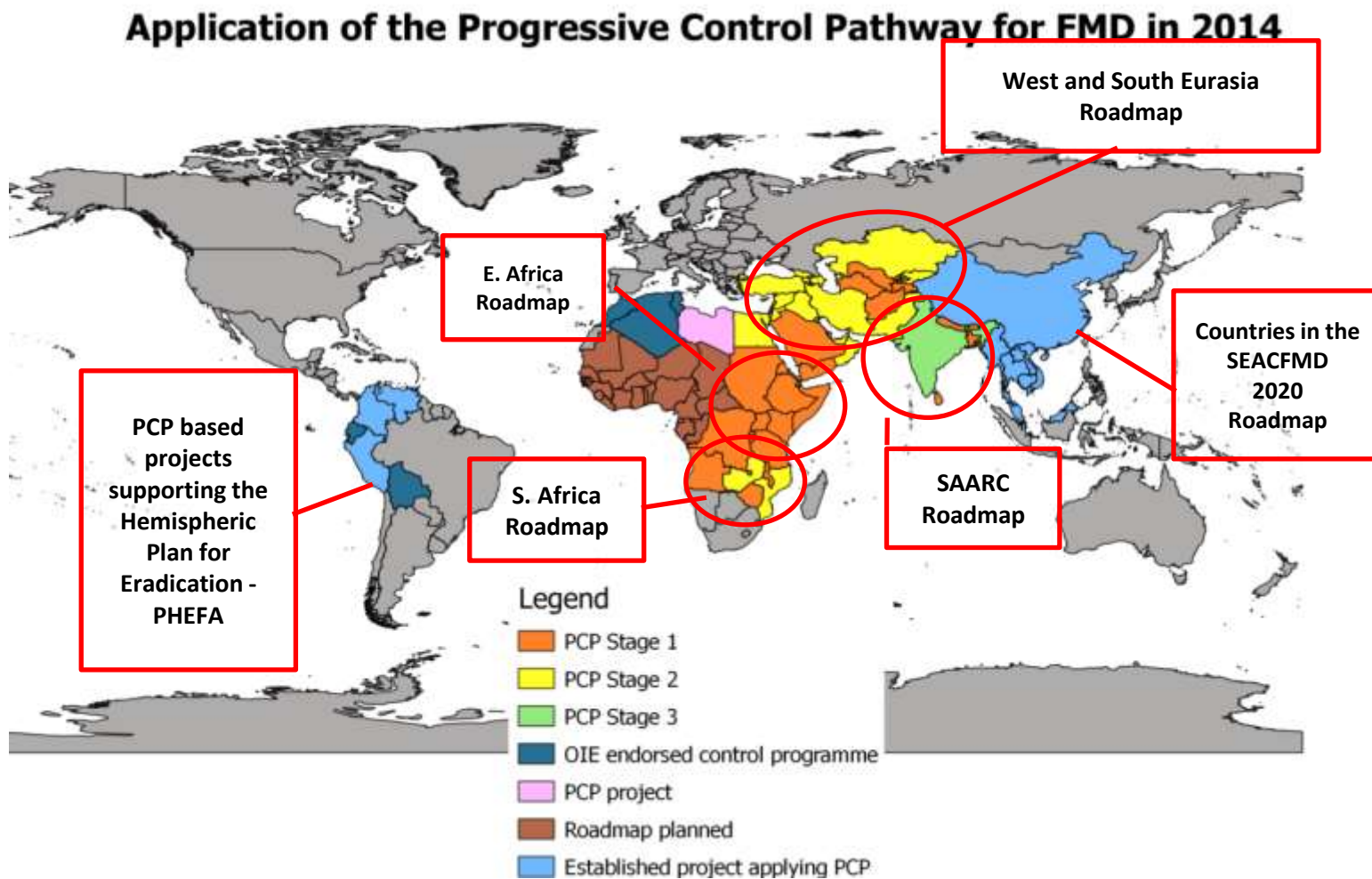
In order to control FMD effectively, we need to take a **regional approach**.

The Roadmap process **allows countries in the same region to come together to share their progress on FMD control**, and to assess and compare their activities and PCP stage with that of their neighbours.





Regional Roadmap meetings up to 2015





PCP-FMD assessment procedure

Assessment of a country's PCP-FMD status is done during a **regional roadmap meeting** by members of the region.

- Peer-review approach using the evidence provided by countries.
- Meetings take place every 1-2 years per region
- Meetings are supported by the OIE/FAO FMD-working group under the framework of GfTADs





PCP-FMD assessment procedure

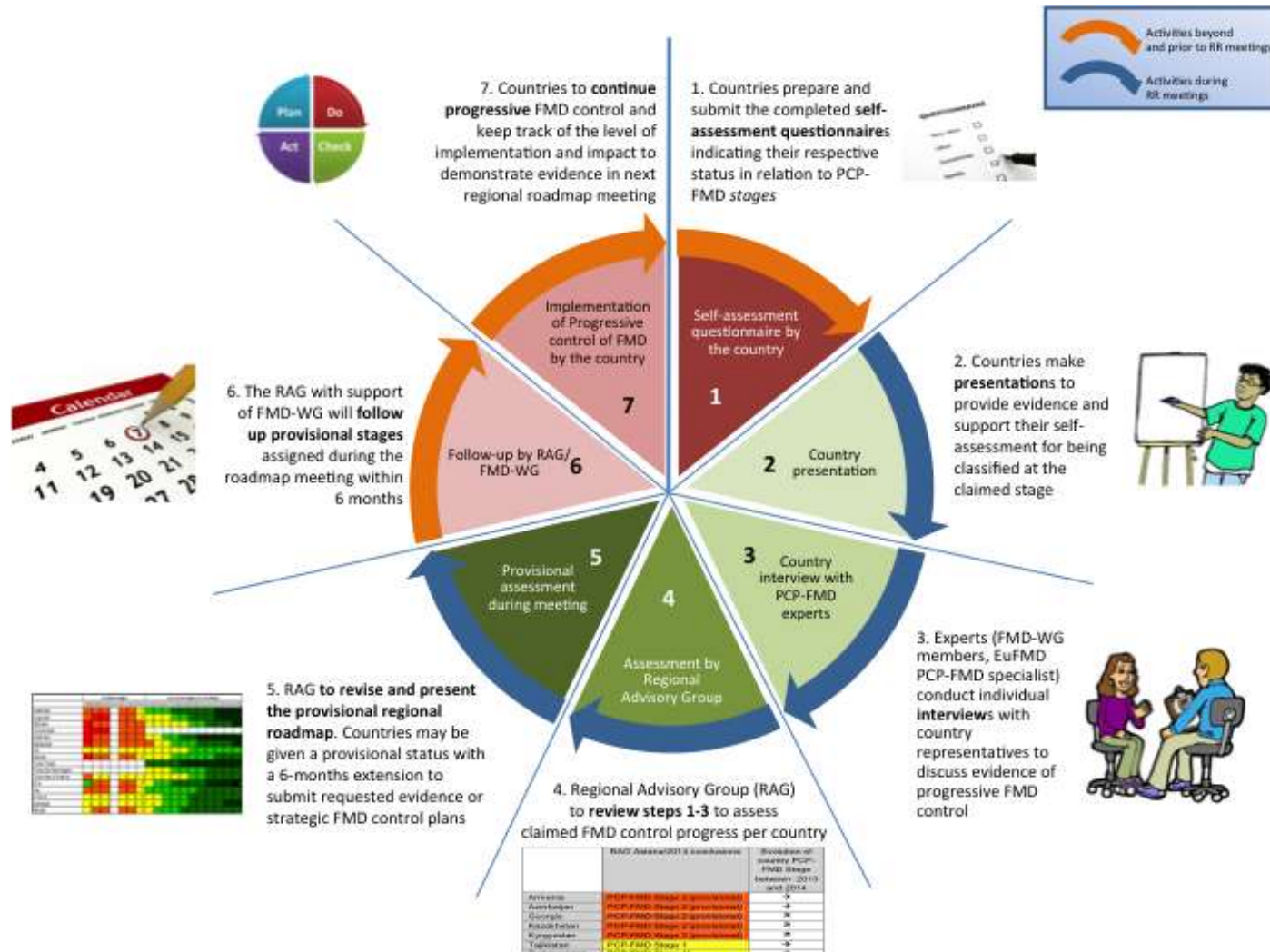
The review process is designed to be:

- Transparent
- Evidence-based
- Advisory (through networking)
- Consistent/Standard: regionally and globally
- Not too arduous



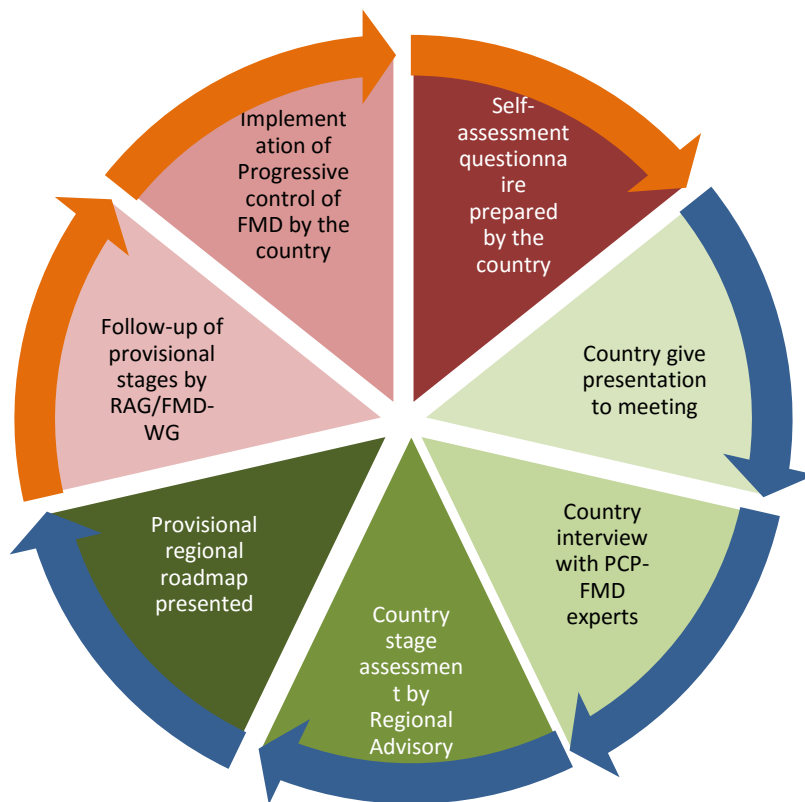


The 7 steps of PCP-FMD assessment





The 7 steps of PCP-FMD assessment



 Activities beyond and prior to RR meetings
 Activities during RR meetings



Self-
assessment
questionnaire
by the
country



1. Countries prepare and submit the completed **self-assessment questionnaires** indicating their respective status in relation to PCP-FMD *stages*



Self-
assessment
questionnaire
by the
country



For a country to know how they progress within a certain stage, a self-assessment questionnaire (“PCP Checklist”) is available. PCP-checklists are developed for PCP-FMD Stages 1 through 3 and accessible at

<http://www.fao.org/ag/againfo/commissions/eufmd/commissions/eufmd-home/progressive-control-pathway-pcp/en/>

The purpose of these PCP checklists is twofold:

- In-country: Identify the gaps and needs to complete a certain PCP-FMD stage
- In region: explain others to what extent the country has progressed in a certain stage



	Indicator	X
1	The main husbandry systems and animal movements are well characterised	
2	The distribution of FMD outbreaks in the country, and which serotypes/strains are circulating is known. This is constantly monitored and is up-to-date-information is available (within the last 12 months)	
3	The impact of FMD on different stakeholders is well understood	
4	The main mechanisms by which FMD circulates are well understood and can be ranked according to importance	
5	FMD is a notifiable disease in the country	
6	The country regularly informs the OIE and its neighbours about the FMD situation	
7	The country has a written risk-based strategic plan for FMD control	
8	Risk based control measures are <u>implemented</u> in at least one sector or zone	
9	There is evidence that <u>FMD impact is reduced</u> by the control measures	
10	The legal framework allows all surveillance and control activities to be carried out (eg right to enter premises, examine animals and collect samples)	
11	A control plan is written to <u>eliminate</u> FMD from country or zone	
12	<u>There is rapid detection of and response to all FMD outbreaks</u>	
13	There is evidence that the <u>incidence of clinical FMD progressively decreases</u>	
14	The legal framework allows to impose animal movement restrictions, compulsory culling and compensation of livestock in the event of an FMD outbreak	
15	There is a body of evidence that FMD is not circulating endemically	



	Indicator	
16	The country has a plan to fulfill all requirements and apply for OIE recognition of “FMD-free with vaccination”	
17	The risk of FMD entering the country is mitigated	
18	There is evidence that the FMD incidence is very low and limited to occasional incursions from outside	
19	A dossier submitted to the OIE for recognition of “FMD-free with vaccination” status	
20	There is evidence that there is zero-circulation of FMD virus and withdrawal of vaccination	
21	A dossier submitted to the OIE for recognition of “FMD-free without vaccination” status	



Did you tick...

No boxes at all?

- Your country is in PCP Stage 0

some of the orange boxes but not all?

- Your country is eligible for PCP Stage 1

all of the orange boxes and indicator 8?

- Your country is eligible for PCP Stage 2

all of the orange and yellow boxes and indicator 12

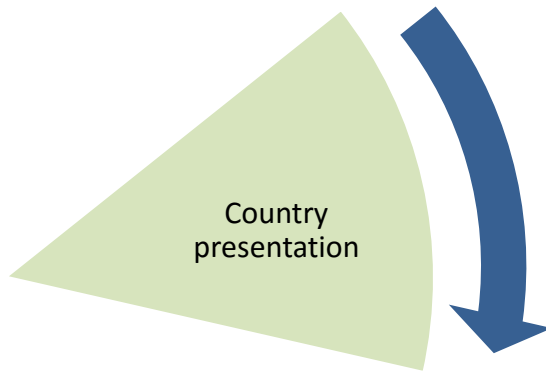
- Your country is eligible for PCP Stage 3

all of indicators 12-16?

- Your country is eligible for PCP Stage 4

indicators 19 and 20?

- Your country is eligible for PCP Stage 5



2. Countries make **presentations** to provide evidence and support their self-assessment for being classified at the claimed stage

A country is asked to provide information about:

- Info about virus serotypes and strains diagnosed in last 12-24 months
- Gaps and needs identified through the self-assessment questionnaire
- Description of the current FMD control strategy – including aim and rationale
- Description of surveillance results over last 12-24 months
- Assessment of current control strategy
- Plans for years to come – as to improve control strategy



Which of these slides should be included in a country's presentation?



Update on recent FMD situation

Post vaccination monitoring results

Surveillance strategy and results

PCP stage self assessment results

History of FMD control in country over past 20 years

Evaluation of current control measures

Future plans for improvements to control strategy

Detailed list of each sublocation vaccinated

Overview of vaccination strategy and other control measures



Which of these slides should be included in a country's presentation?



Update on recent FMD situation

Post vaccination monitoring results

Surveillance strategy and results

PCP stage self assessment results

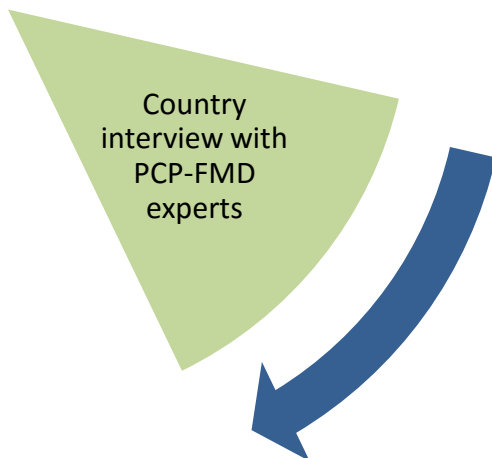
History of FMD control in country over past 20 years

Evaluation of current control measures

Future plans for improvements to control strategy

Detailed list of each sublocation vaccinated

Overview of vaccination strategy and other control measures

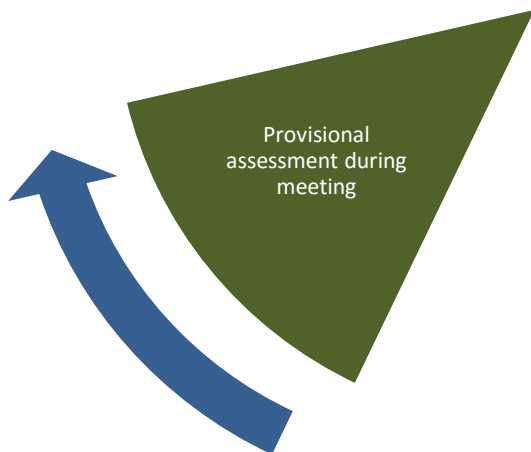


3. Experts (FMD-WG members, EuFMD PCP-FMD specialist) conduct individual **interviews** with country representatives to discuss evidence of progressive FMD control



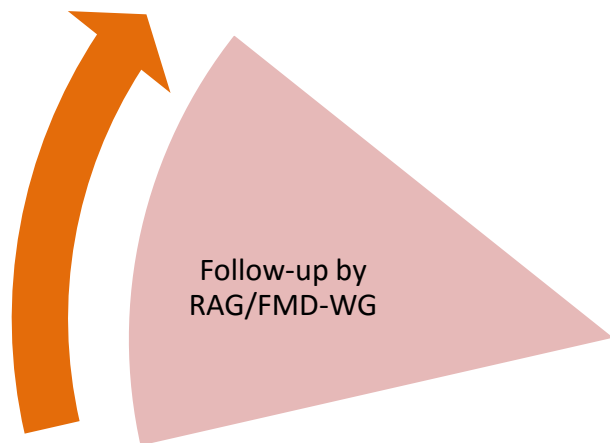
	RAG Astana/2014 conclusions	Evolution of country PCP-FMD Stage between 2013 and 2014
Armenia	PCP-FMD Stage 2 (provisional)	→
Azerbaijan	PCP-FMD Stage 2 (provisional)	→
Georgia	PCP-FMD Stage 2 (provisional)	↗
Kazakhstan	PCP-FMD Stage 2 (provisional)	↗
Kyrgyzstan	PCP-FMD Stage 2 (provisional)	↗
Tajikistan	PCP-FMD Stage 1	→
Turkmenistan	PCP-FMD Stage 1*	→

4. Regional Advisory Group (RAG) to **review steps 1-3** to assess claimed FMD control progress per country



	validated stages							provisional stages (not validated)										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Kazakhstan	1	1	1		1	1	2*	3	3	3	4	4	4	4	4	4	4	4
Kyrgyzstan	1	0	0		1	1	2*	2	2	2	3	3	4	4	4	4	4	4
Tajikistan	0	1	1		1	1	1	2	2	2	2	2	3	3	4	4	4	4
Turkmenistan	0	0	0		1	1	1											
Uzbekistan	0	1	1		1	1	1	2	2	3	3	4	4	4	4	4	4	4
Afghanistan	0	1	1		1	1	1	1	2	2	3	3	3	4	4	4	4	4
Iran	2	2	2		2	2	2	2	2	2	2	2	3	3	3	3	3	3
Pakistan	0	1	1		1	1	2*	2	2	2	3	3	3	3	3	4	4	4
Turkey Thrace								3	4	4	4	4	4	4	4	4	4	4
Turkey Marmara-Aegean								2	2	2	3	3	3	4	4	4	4	4
Turkey Rest of Anatolia	1	2	2		2	2	2	2	2	2	2	2	3	3	4	4	4	4
Syria	3	1	1		1	1	2*	2	3	3	4	4	4	4	4	4	4	4
Iraq	1	1	1		1	1	2*	3	3	3	3	3	4	4	4	4	4	4
Armenia	2	2	2		2	2	2*	2	2	3	3	3	4	4	4	4	4	4
Azerbaijan	2	2	2		2	2	2*	2	2	3	3	3	4	4	4	4	4	4
Georgia	2	1	1		1	1	2*	1	3	3	3	4	4	4	4	4	4	4

5. RAG to revise and present the provisional regional roadmap. Countries may be given a provisional status with a 6-months extension to submit requested evidence or strategic FMD control plans



6. The RAG with support of FMD-WG will follow up provisional stages assigned during the roadmap meeting within 6 months



Validated and provisional PCP-FMD stages

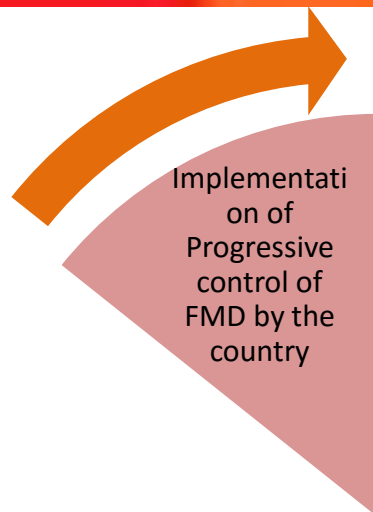
	validated stages								provisional stages (not validated)									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Afghanistan	0	1	1		1	1	1	1	1	1	2	2	2	2	3	3	3	4
Armenia	2	2	2		2	2	2*	2**	2	2	3	3	3	3	3	4	4	4
Azerbaijan	2	2	2		2	2	2*	2**	2	2	3	3	3	4	4	4	4	5
Georgia	2	1	1		1	1	2*	2	2	3	3	3	4	4	4	4	4	5
Iran	2	2	2		2	2	2	2	2	2	2	3	3	3	3	3	4	4
Kazakhstan	1	1	1		1	1	2*	***										
Kyrgyzstan	1	0	0		1	1	2*	2**	2	2	2	3	3	3	4	4	5	5
Pakistan	0	1	1		1	1	2*	2	2	2	2	3	3	3	3	3	4	4
Tajikistan	0	1	1		1	1	1	1	2	2	3	3	3	4	4	5	5	5
Turkey Thrace									4	4	4	5	5	5	5	5	5	5
Turkey Marmara-Aegean									2	3	3	4	4	4	4	4	5	5
Turkey (Anatolia)	1	2	2		2	2	2	2	2	2	2	2	2	3	3	4	4	4
Turkmenistan	0	0	0		1	1	1	1	2	2	3	3	3	4	4	5	5	5
Uzbekistan	0	1	1		1	1	1	1	2	2	3	3	3	4	4	5	5	5

PCP-FMD stages of WestEurasia countries as of May 2015

*indicates a provisional status given to the countries in 2014

** indicates provisional status (countries have till October 2015 to provide additional information including a Control Plan; if not, they will be downgraded to the previous stage)

***indicates that country have entered the OIE pathway for recognition of an FMD-free zone without vaccination



7. Countries to **continue progressive** FMD control and keep track of the level of implementation and impact to demonstrate evidence in next regional roadmap meeting



Additional Information

FMD Practical Management Series (EuFMD)

Webinars:

- **Introduction to the Risk Based Strategic plan**

In English-27 January 2016; in Russian -3 February 2016

- **PCP in West Eurasia**

In English-16 march 2016; **in Russian -26 April 2016**

- **Risk Based Strategic Plan-Georgia example**

In English- 04 may 2016 ; 18 may 2016 (provisional dates)

Recordings

West Eurasia Webinar series:

<https://eufmd.rvc.ac.uk/course/view.php?id=37>

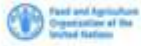


**Thank you very much
for your attention**





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Food and Agriculture
Organization of the
United Nations



World Organisation for
Animal Health



Update on the Implementation of the Global Strategy

Samia Metwally, DVM, PhD

Co-chair, FMD WG (FAO)

Animal Production and Health Division

Food and Agriculture Organization of the UN

Rome, Italy

Samia.metwally@FAO.org

Laure Weber-Vintzel (Co-chair, FMD WG (OIE))

Eran Raizman (FAO), Silvia Kreindel (FAO), Nadège Leboucq (OIE), Gregorio Torres (OIE)



Global Framework of Transboundary Animal Diseases (GF-TADs)

- FAO and OIE joint initiative launched 2004
- Meant to provide a platform for empowering countries and regional alliances to coordinate, determine priorities, develop strategies, synergies.
- Aims to achieve prevention, detection and control of TADs:
 - Foot-and-mouth disease ([GF-TADs FMD WG](#))
 - Peste des petits ruminants ([Secretariat](#))
 - Rinderpest ([Secretariat](#))
 - Highly pathogenic avian influenza
 - African swine fever
 - Rabies
 - Rift valley fever
- Global level and 5 regions



Contents

❖ **FAO-OIE Global FMD Control Strategy 2012**

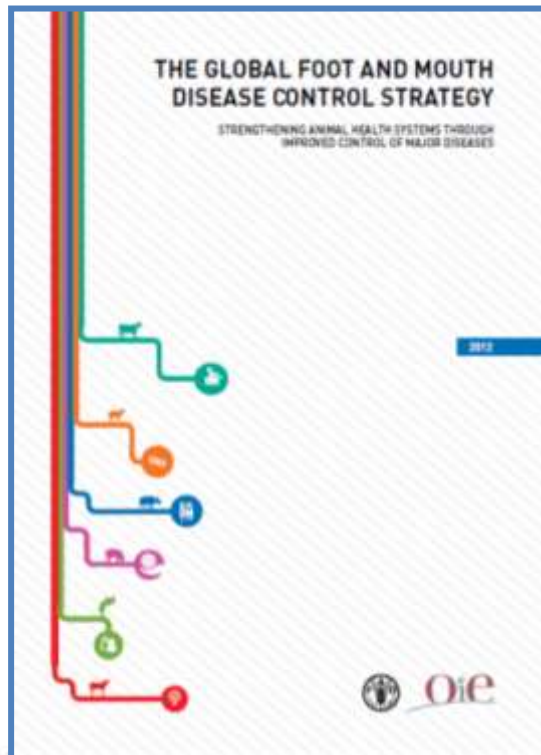
- What we have done so far!!
- What is the living global PCP-FMD map look alike!!
- What are the priorities of FAO-OIE FMD WG in 2016!!
- What are the major challenges!!
- What was achieved thus far!!

The Global FMD Control Strategy

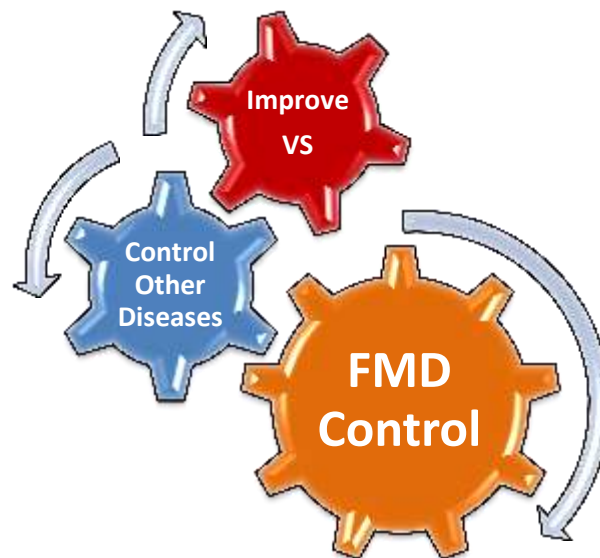
Developed in 2012: by the FAO- OIE FMD working group in consultation with the experts and regional representations

Number of Countries: 87

Duration: Fifteen years



Components



Costing US\$ Mil (5 years)	
National Program	68
Vaccination	694
Regional	47
Global	11
	820

Progressive Control Pathway for FMD

3

Implement
Control strategy to
eliminate circulation

Eliminate virus circulation

- Implement aggressive control policy
- Continue routine surveillance
- Early detection and rapid response
- Vaccination
- Eliminate FMD in zones or country
- OIE-endorsed national control plan

2

Implement
risk-based control

Reduce Impact

- Implement risk-based control strategy
- Stakeholder consultation & engagement
- Targeted vaccination
- Monitor and evaluate

1

Identify risk and
control options

Understanding

- FMD epidemiology
- Identify hotspots
- Map value and market chains
- Socioeconomic impacts
- Formulate control options



Food and Agriculture
Organization of the
United Nations



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

FMD Global Strategy

Global, National and Regional Approach

Global	National	Regional
FAO-OIE FMD WG Developed the GS and coordinate it's implementation	Use of PCP-FMD guidelines as tool for implementation	Regional control strategy
Global Network: <ul style="list-style-type: none"> • FAO/OIE FMD reference lab network • Epidemiology network 	Countries' investment and control plans (FAO, OIE and donor support)	Regional roadmap meetings for country assessment
	Performance of veterinary services (PVS)	Regional laboratory and epidemiology networks
	Training/workshop/webinar	

- **Regional laboratory and epidemiology networks**

- Eastern Africa: EARLN and EAREN
- West Africa: RESOLAB and RESEPI
- West Eurasia: WELNET and EPINET
- SAARC: epidemiology and lab networks
- ME and SADC: not established

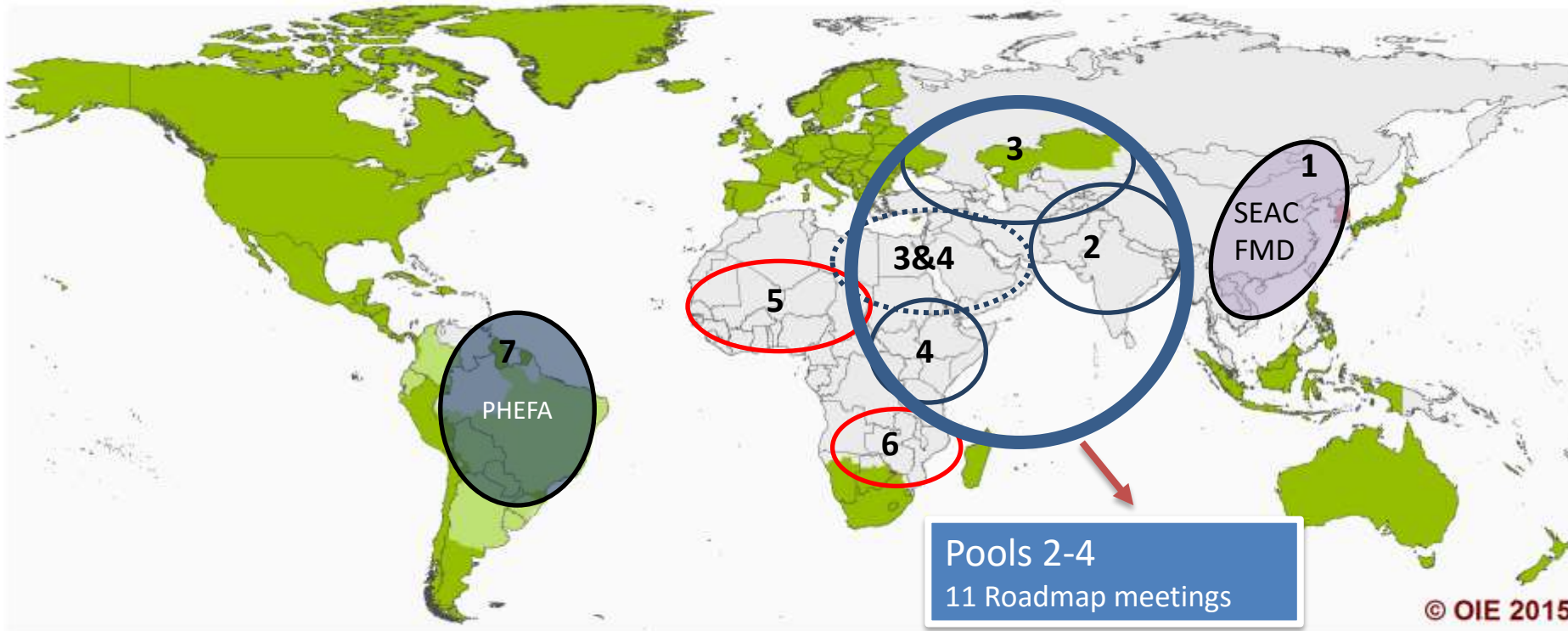


Food and Agriculture
Organization of the
United Nations



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

Regional Roadmap Meetings Convened Since 2012



Member Countries/zones recognised as free from FMD without vaccination
 Member Countries/zones recognised as free from FMD with vaccination

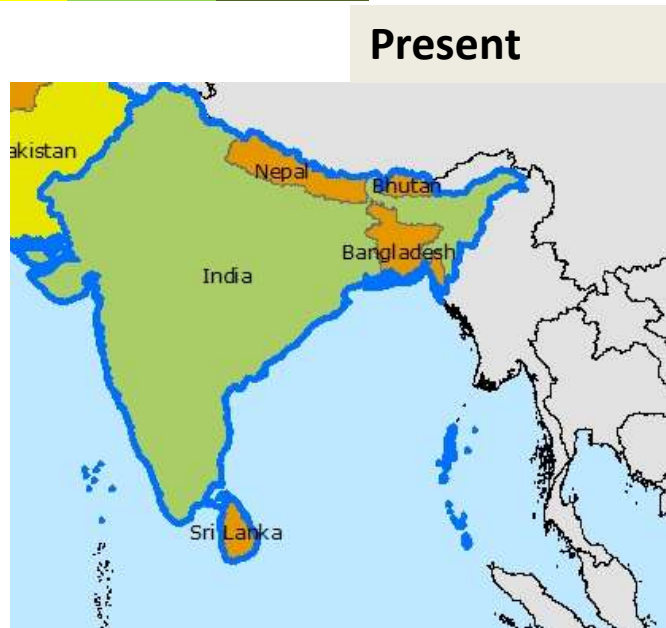
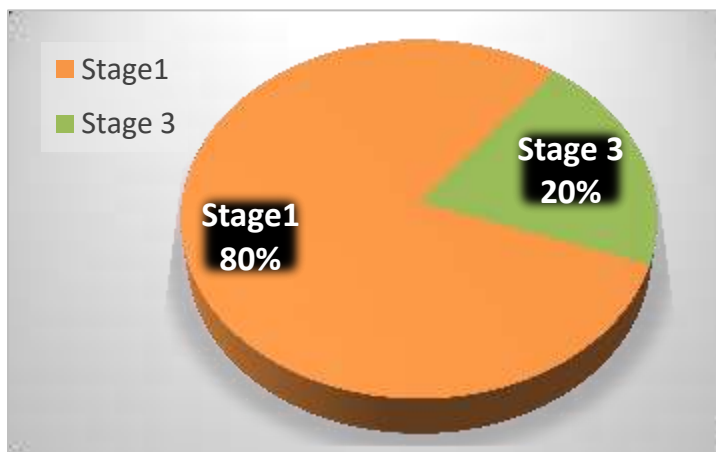
Suspension of the status free without vaccination
 Suspension of the status free with vaccination

Countries/zones without an OIE official status for FMD

2nd SAARC Roadmaps (Virus pool 2) 2012 to Present

First roadmap in 2011
5-7 countries

country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bangladesh	1	1	1	2	2	2	3	3	3	4
Bhutan	1	1	1	1	1	2	2	3	3	3
India	3	3	3	3	4	4	4	4	4	4
Nepal	1	1	1	1	1	2	2	2	2	3
Sri Lanka	1	1	1	2	2	2	3	3	4	4



6th West Eurasia Roadmap (virus pool 3)

2012 to 2015

First roadmap in 2008
14 countries

	validated stages								provisional stages (not validated)																
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025							
Afghanistan	0	1	1		1	1	1	1	1	1	2	2	2	2	3	3	3	3							
Armenia	2	2	2		2	2	2*	2**	2	2	3	3	3	3	3	3	3	3							
Azerbaijan	2	2	2		2	2	2*	2**	2	2	3	3	3	3	3	3	3	3							
Georgia	2	1	1		1	1	2*	2	2	3	3	3	3	4	4	4	4	4							
Iran	2	2	2		2	2	2	2	2	2	2	3	3	3	3	3	3	3							
Kazakhstan	1	1	1		1	1	2*	***																	
Kyrgyzstan	1	0	0		1	1	2*	2**	2	2	2	3	3	3	3	3	3	3							
Pakistan	0	1	1		1	1	2*	2	2	2	2	3	3	3	3	3	3	3							
Tajikistan	0	1	1		1	1	1	1	2	2	3	3	3	3	3	3	3	3							
Turkey Thrace									4	4	4	4	4	4	4	4	4	4							
Turkey Marmara-Aegean									2	3	3	3	3	3	3	3	3	3							
Turkey (Anatolia)	1	2	2		2	2	2	2	2	2	2	2	2	2	3	3	3	3							
Turkmenistan	0	0	0		1	1	1	1	2	2	3	3	3	3	3	3	3	3							
Uzbekistan	0	1	1		1	1	1	1	2	2	3	3	3	3	3	3	3	3							

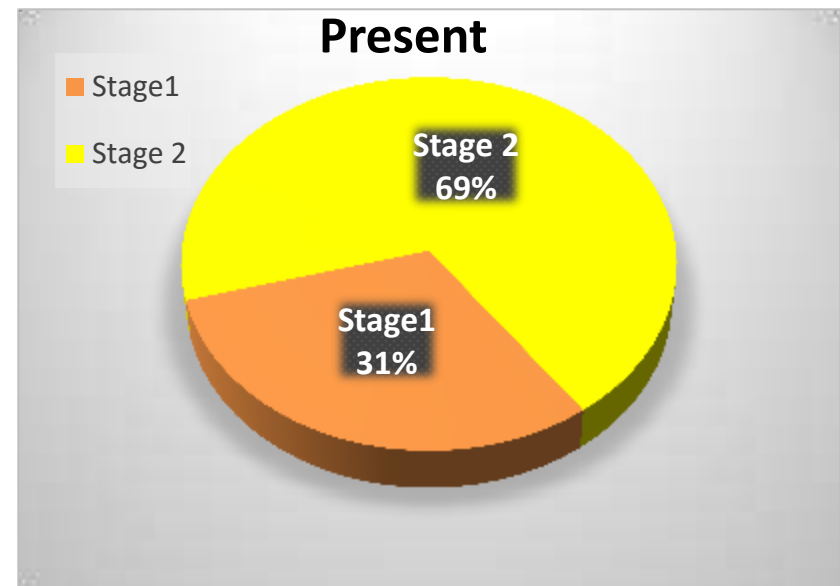
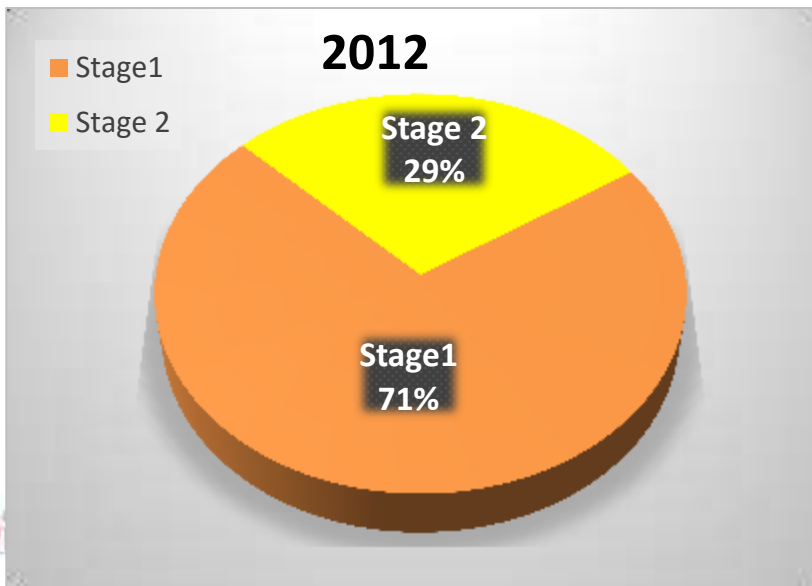


PCP-FMD stages of WestEurasia countries as of May 2015

*Indicates a provisional status given to the countries in 2014

** indicates provisional status (countries have till October 2015 to provide additional information including a Control Plan; if not, they will be downgraded to the previous stage)

***Indicates that country have entered the OIE pathway for recognition of an FMD-free zone without vaccination

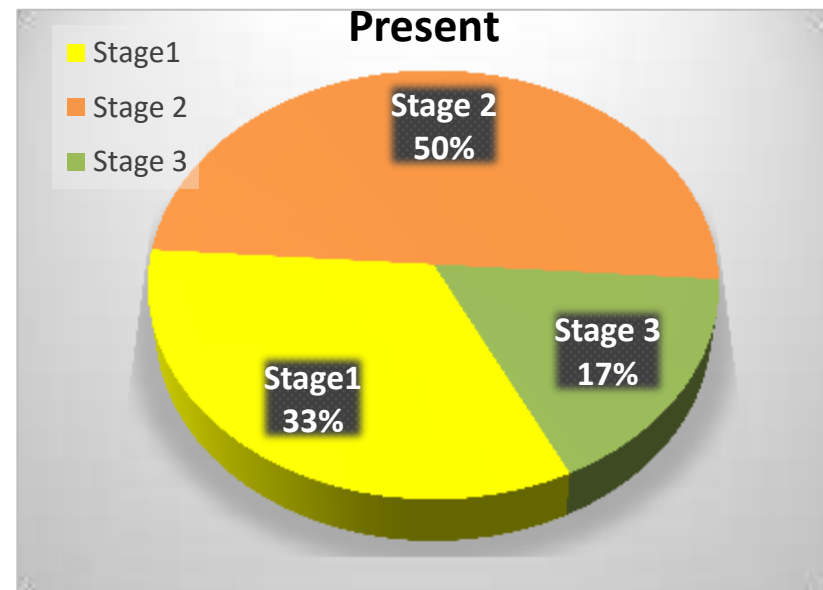
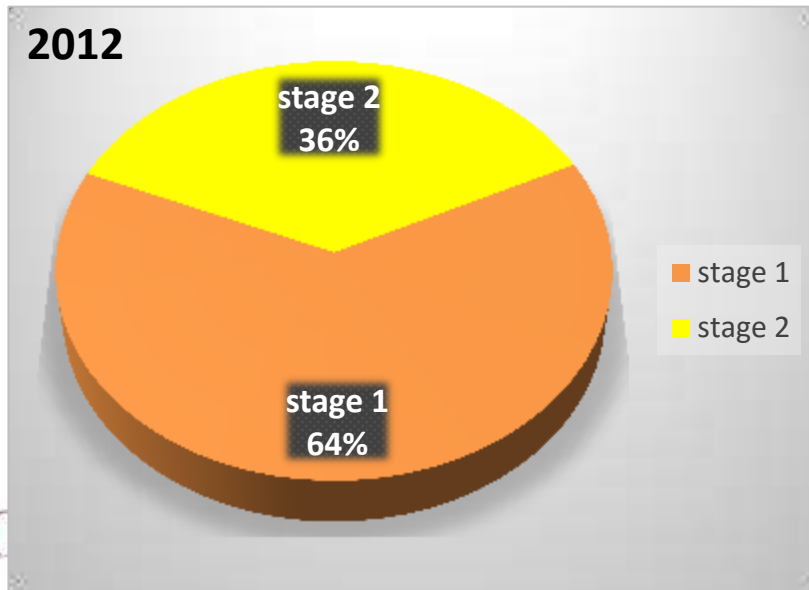


3rd Middle East Roadmap (virus pools 3-4)

2012-2015

First roadmap in 2012
12-14 countries

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bahrain	1	2	2	2*	3	3	3	4	4	4
Egypt	1	1	2*	2*	2	2	2	2	3	3
Iraq	2	2	2*	2*						
Jordan	1	1	2*	2*	2	3	3	3	4	4
Palestine			1	1						
Kuwait	2	2	3	3*	3	4	4	4	5	5
Lebanon	1	1	2*	2*						
Oman	2	2	2*	2*						
Qatar	2	2	3*	3	3	3	4	4	4	4
Saudi Arabia	1	1	2*	2*	2	3	3	3	4	4
Syria	2	2	2*	2*						
UAE	1	1	2	2	3	3	3	4	4	4
Yemen	1	1	1*	1*						



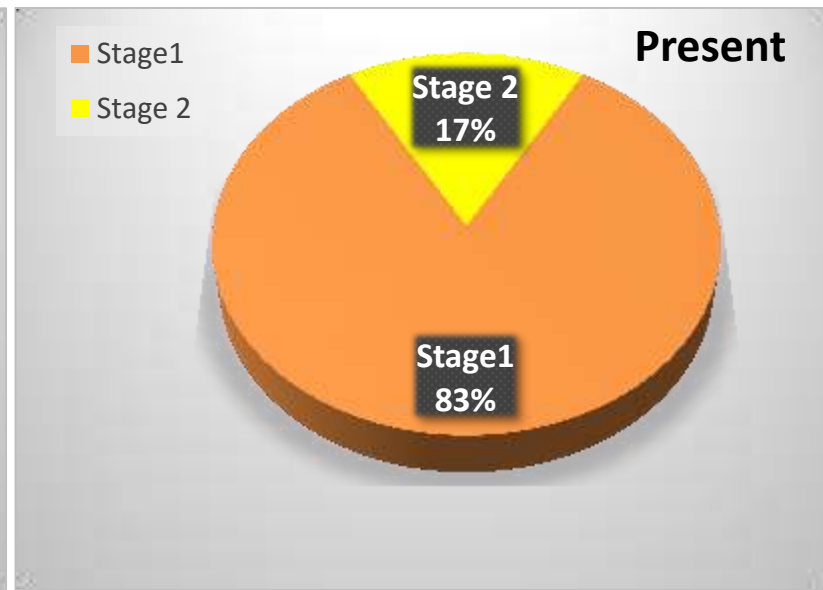
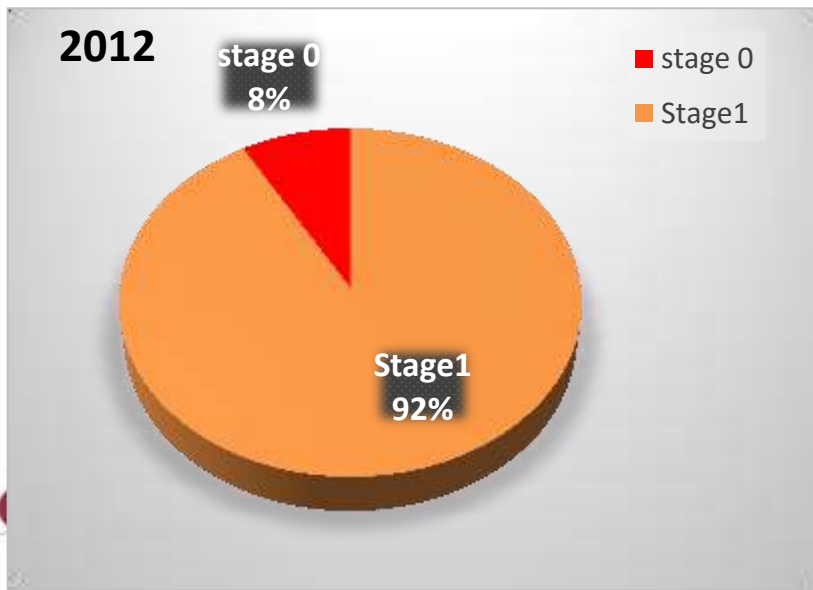
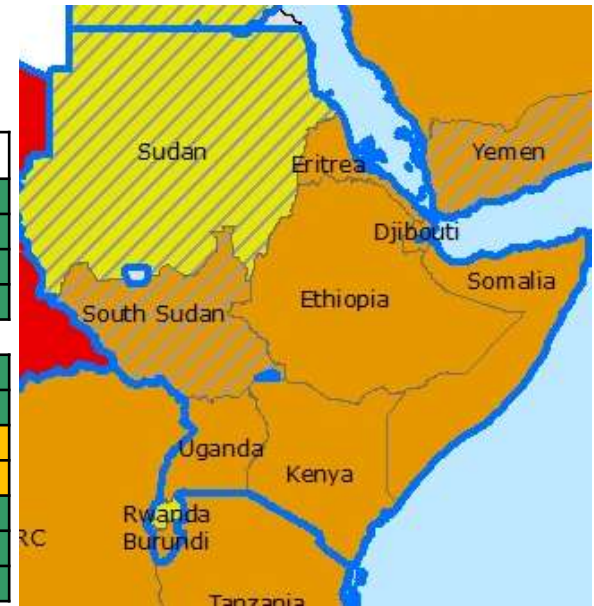
2nd East Africa Roadmap (virus pool 4)

2012 to 2015

First roadmap in 2012
12 countries

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Burundi	1	1	1	2	2	2	3	3	3	4	4
Djibouti	1	1	1	2	2	2	3	3	3	4	4
DRC	1	1	1	1	2	2	2	3	3	4	4
Eritrea	1	1	1	1	2	2	3	3	3	4	4
Ethiopia											
Kenya	1	2	2	2	2	2	3	3	3	4	4
Rwanda	2	2	3	3	3	4	4	4	4	4	4
Somalia	1	1	1	1	2	2	2	2	2	2	2
South Sudan	1*	1	1	1	1	1	1	1	1	2	2
Sudan	2*	2	2	2	3	3	3	3	3	4	4
Tanzania	1	1	2	2	2	2	3	3	3	4	4
Uganda	1	1	2	2	2	3	3	3	3	4	4

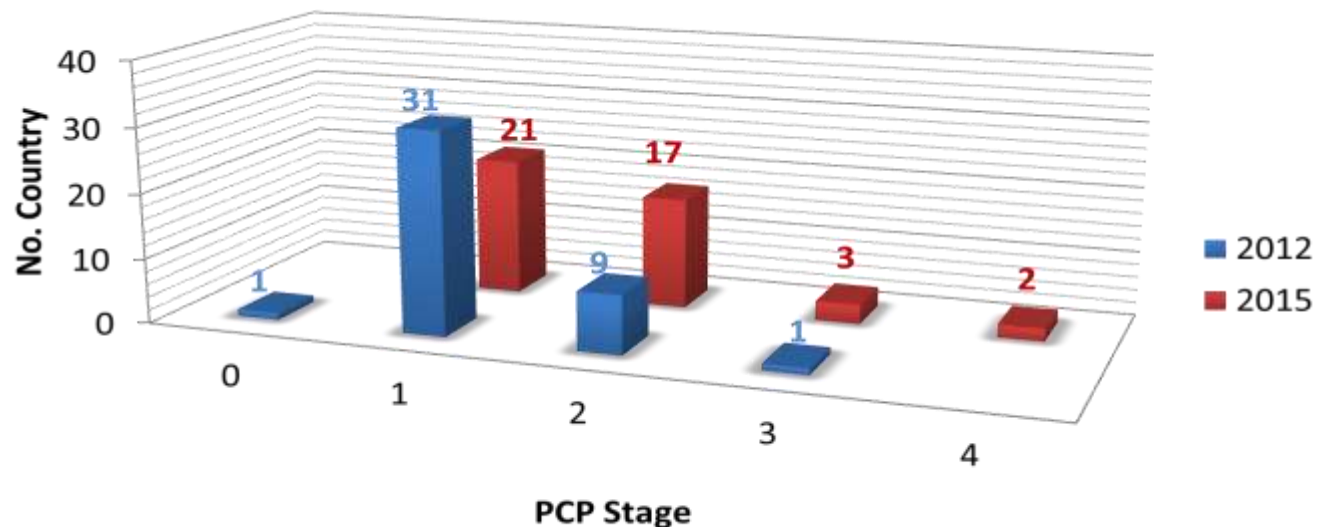
*Provisionally accepted



Virus Pools 5&6

- **West Africa (pool 5):**
 - First roadmap in 2009
 - Next roadmap is planned for June 2016
- **SADC (pool 6):**
 - First roadmap in 2011
 - Next roadmap proposed for end of 2016

Countries per PCP stage Virus Pools 2-4



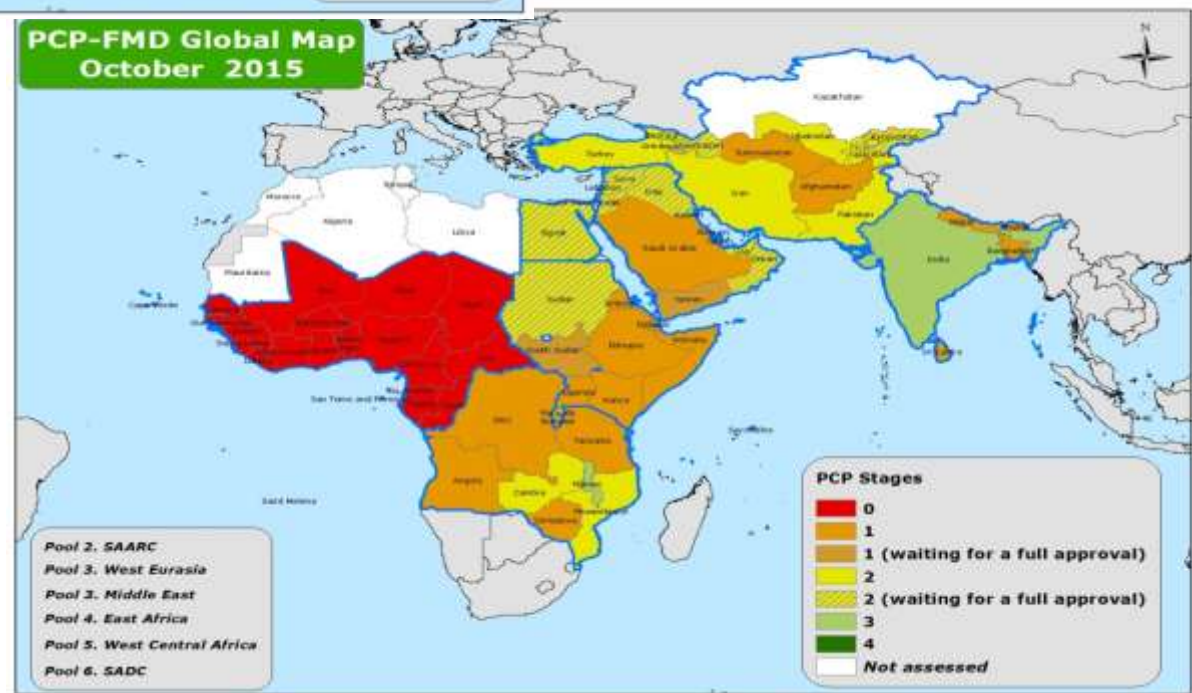
Between 2012 and 2015, countries advanced in PCP stages with clear shift to have more countries in PCP stages 1 and 2 in 2015 compared to 2012. A few countries progressively advanced to stages 3 and 4 by 2015

PCP-FMD Global Map 2012



Global PCP-FMD Map

PCP-FMD Global Map October 2015

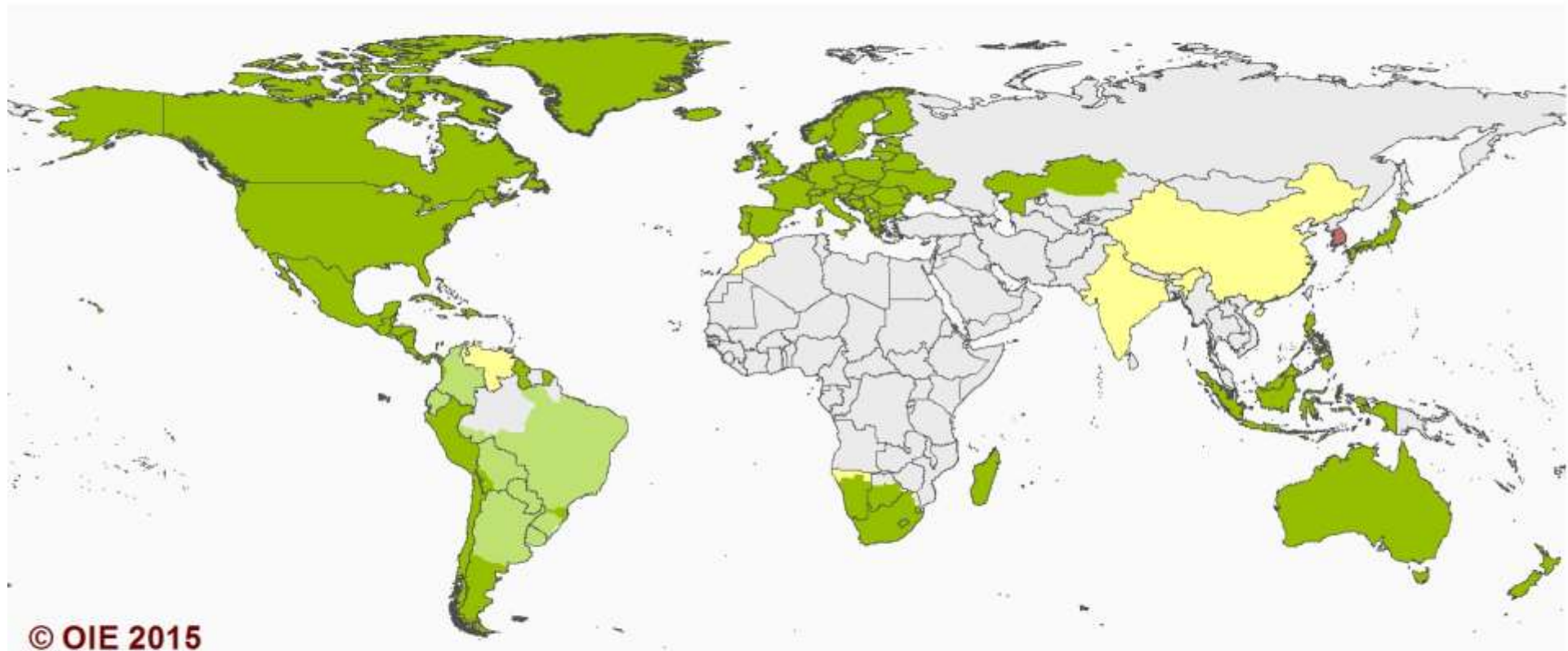





Food and Agriculture Organization of the United Nations





WORLD ORGANISATION FOR ANIMAL HEALTH
 Protecting animals, preserving our future

Endorsement of official control programme and recognition of FMD free status March 2016



-  FMD freedom without vaccination
-  FMD freedom with vaccination
-  Endorsed official programme for FMD

-  Suspension of the status
-  No recognised status

2016 Priorities

GF-TADs FMD Working Group

2016-2017

Train OIE and FAO field staff, RAG & global expert group on PCP

Identify training needs and conduct roadmap meetings

Prepare 5-year plan for the implementation of the global strategy (WG only)

Publish PVM and finalize the socioeconomic guidelines

Produce 2nd edition the PCP-FMD guidelines and its questionnaires

 Food and Agriculture
Organization of the

Continue to develop guiding material for FMD control plans

Global Expert Group

(in progress)

- **Function:** supports countries and follow up in the implementation of PCP and provides training
- **Global list of leading experts; in**
 - Laboratory diagnostics
 - Epidemiology
 - Vaccine and vaccination
 - Socio-economics and economics
 - Disease management and control
- Languages: English, French, Russian and Arabic
- Well trained on PCP-FMD

If interested, send CV to
FAO-FMD@fao.org & OIE-
FMD@oie.int



Guiding material for FMD Control Plans required

- Template for control plans - to support countries willing to progress to PCP Stages 1, 2 and 3 and to advance in their PCP stage.
- **Post-vaccination monitoring (PVM) guidelines to be published**
- Socio-economic guidelines, to guide countries to:
 - Estimate the impact of FMD;
 - Determine the cost-benefit for country and donor investments;
 - Obtain economic data to design better FMD control policies.
- Technical document to be included in the guidelines toolkit of the FAO/OIE FMD Global Strategy

Some (Major) Challenges Areas

- Diagnostics:
 - capabilities to carry out sustainable surveillance
 - Field investigations and collection and shipping of samples
 - Lab biosafety and biosecurity
 - Equipment and reliable flow of diagnostic supplies
- Vaccine:
 - Low vaccine coverage and resources to buy vaccine
 - Vaccination regimens for small ruminants
 - Effective vaccination programs – *risk based*
 - Good quality vaccine; appropriate payload

Some (Major) Challenges Areas, cont'd

- Reporting and early warning:
 - Lack of early warning system and real-time disease reporting
 - Poor capture and reporting at village level
- Regional action plans:
 - FMD control for hot-spots (*ecosystems for virus emergence; re-emergence*)
 - Concerted regional control plan (*i.e., PHEFA, SEACFMD; political will*)
 - Animal movement management / understanding value chains
- Endorsement of public-private partnership
- Routine surveillance and sero-monitoring
- Competing priorities



FMD GLOBAL STRATEGY Progress

- Global FMD control is **feasible** and can be a driver to improve animal health systems, trade, nutrition and economic growth
- **PCP-FMD** approach and reinforcement of veterinary systems are gradually **gaining acceptance**. Sixty countries are engaged and 42 countries are closely monitored with notable evidence of advancement
- **Political will** and engagement of international and regional organizations and development partners are crucial to the startup and sustainability of FMD control
- **Funding** is needed to support the global strategy, particularly those countries at lower PCP stages
- **Vaccination** issues need to be addressed by the government authority and research community
- **Roadmap** meetings are being attended by third parties (... potential investors?), especially in West Eurasia and East Africa.



Conclusions

- The mechanism for PCP-FMD stage acceptance is developed
- Global FMD control is feasible and can be a driver to improve the animal health system
- The uptake of FMD control is different; west Eurasian countries are more advanced than other regions
- PCP-FMD approach and reinforcement of vet services are gradually gaining acceptance. Sixty countries are engaged and 42 countries are closely monitored with evidence of advancement.
- Political will and engagement of international and regional organizations and development partners are crucial to the startup and sustainability of FMD control
- PCP principles could be adopted and used for control of other TADs as an optional possibility and after regional and national discussions
- Funding is needed to support the global strategy, particularly those countries at lower PCP stages
- Vaccination issues need to be addressed by the government authority and research community
- Virus pools 5 and 6



Acknowledgments

- FAO Decentralized offices and ECTAD teams
- OIE HQs and regional and sub regional offices
 - EuFMD secretariat
- Continental-Regional organizations: AU-IBAR, IGAD, EU
- Italian government for funding the FMD global secretariat, 2013-2015

Former Members of the FMD WG: Jemi Domenech, Giancarlo Ferrari, Julio Pinto, Peter Deleeuw



Thank you for your attention





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Food and Agriculture
Organization of the
United Nations



World Organisation for
Animal Health



Introduction to the RAG role and responsibilities

GF-TADs FMD Working Group:

Laure Weber-Vintzel (OIE), Samia Metwally (FAO),
Nadège Leboucq, Gregorio Torres (OIE),
Silvia Kreindel, Eran Raizman (FAO)

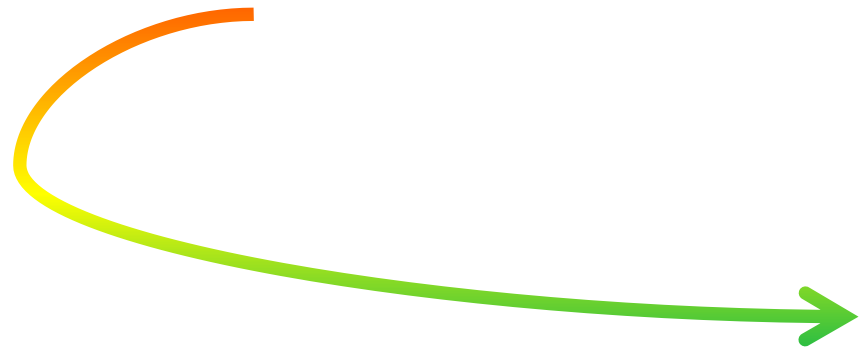


**GF-TADs FMD Regional Advisory Group (RAG)
for Progressive Control Pathway- FMD Roadmaps**

I. TERMS OF REFERENCE

1. To review the progressive control pathway (PCP)- FMD stage assessments of countries during the PCP-FMD regional roadmap meetings (Component 1)
2. To guide FMD training and capacity development activities in countries to support FMD regional /national strategies and their alignment with the principles of the FAO-OIE Global FMD Control Strategy(June 2012)

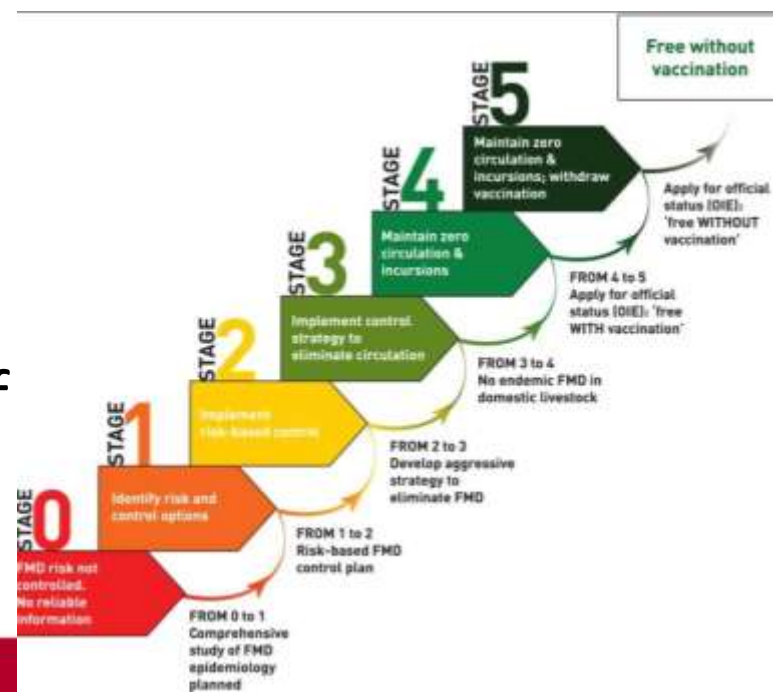
Navigation icons: back, forward, search, etc.





TERMS OF REFERENCE - 1

- Roadmap meetings: review the PCP- FMD stage assessments and national control plans
- Implementation of national and regional FMD control plans
 - To support and assist
 - To promote ownership and enhance establishing enabling environment
- To advise on issues or factors preventing effective progress of the FMD roadmap





TERMS OF REFERENCE - 2

- To guide FMD training and capacity development activities
- To advocate at regional level, private sector and donors the importance to invest in FMD control and prevention
- To support countries, if requested, in the preparation of applications to OIE for endorsement of their FMD national control programme and for official freedom recognition





RAG Composition

- **VOTING MEMBERS**
 - Three CVOs from the region
 - Leader of the FMD regional epidemiology network
 - Leader of the FMD regional Laboratory network

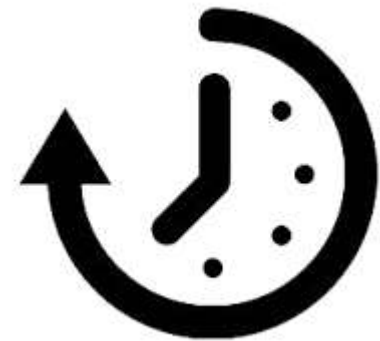
- **NON-VOTING MEMBERS**
 - Representatives from the GF-TADs FMD WG (FAO and OIE)
 - Two representatives from regional/subregional FAO and OIE offices
 - PCP and PVS experts, as appropriate
 - A representative from a regional organization, with preference given to a member of the GF-TADs RSC



GOVERNANCE AND MODUS OPERANDI - 1



- Confidentiality undertaking
- Conflict of interest <-> his/her own country
- Appointed for a period of three years
- Can be renewed
- Vacancy if no participation in two consec roadmap meetings without adequate jus

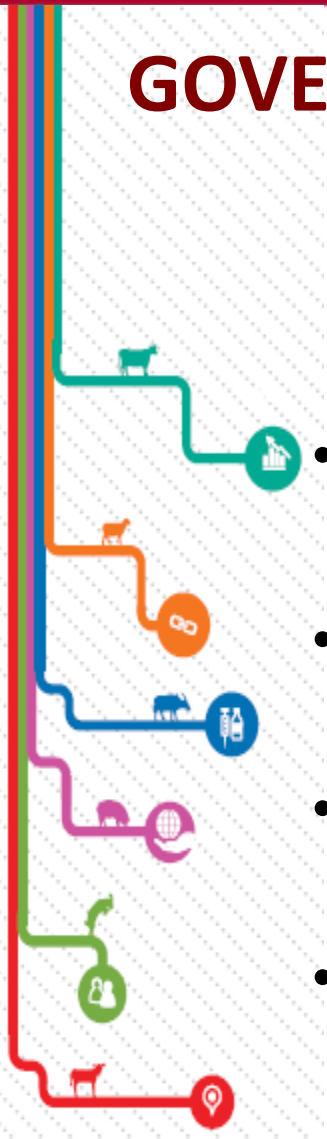


to be nominated by RAG voting members





GOVERNANCE AND MODUS OPERANDI - 2



- Close collaboration with the GF-TADs FMD WG
- Follow the guidelines/tools of the FAO-OIE Global FMD Control strategy
- Report to the GF-TADS RSC and to the GF-TADs FMD WG
- Support from OIE and FAO regional offices and the GF TADs FMD WG



GOVERNANCE AND MODUS OPERANDI - 3

- Short technical report of the outcomes of their meetings
- Presented by the chairperson during the roadmap meetings
- Decisions on the status of PCP stage-assessment during RAG meeting by consensus of the RAG voting members

Acceptance process

PCP questionnaire + country report



+ Control plan
(prior to the roadmap when progression for one stage to another)



Individual interviews
(country + non-voting members of the RAG)



RAG meeting



Agreement in plenary session



In brief

- A major role in the PCP-FMD assessment during and in-between the Regional Roadmap meetings
- An role to be increased in-between roadmap meetings to support the countries of the region to progress along FMD Control
- Advocacy role
- Duties: at least regular presence to the Regional Roadmap meetings



Thank you, спасибо





Всемирный надзор ящура и Региональные риски для Западной Евразии

Анна Люди (*Anna Ludi*)
anna.ludi@pirbright.ac.uk

Команда Всемирной Референтной Лаборатории по Ящуру: Дональд Кинг, Валери Миуе, Ник Новлс, Джинет Вилсден, Бриони Армсон, Пип Хамблин, Касиа Бачанек-Банковска, Лиси Хендри, Lissie, Джемма Водсворс, Бритта Вуд, Барша Тапа, Боб Статем, Абид Бин-Тариф, Эшли Грей, Клэр Браунинг, Бэт Джонс, Марк Хенсток, Алисон Морис, Дэвид Патон, Ник Лионс, Декстер Вайсмен, Джули Мариан, Сара Белгрейв

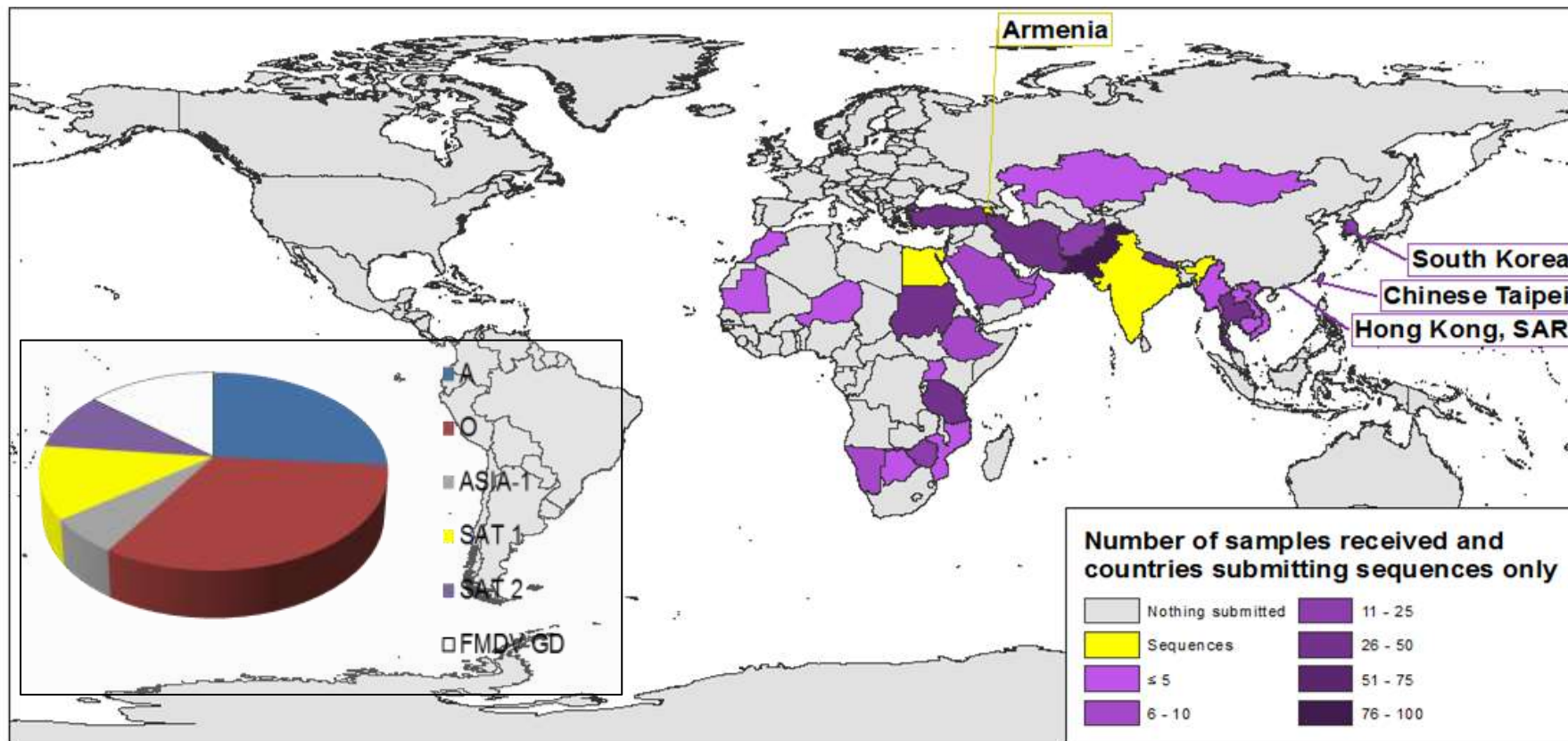


The Pirbright Institute receives strategic funding from BBSRC.

www.pirbright.ac.uk

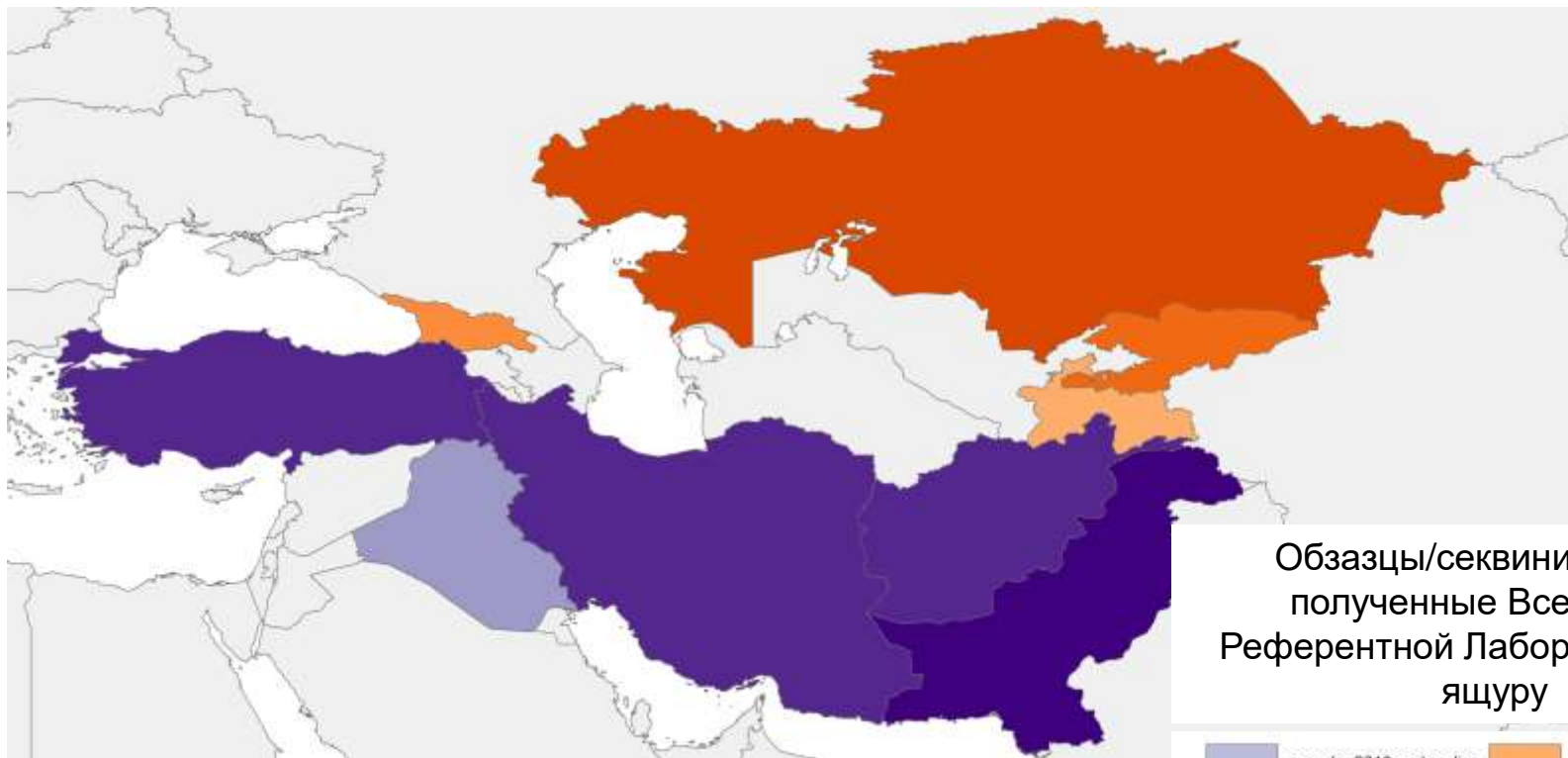
Количество обращений в Пирбрайт

Январь 2015 – Март 2016

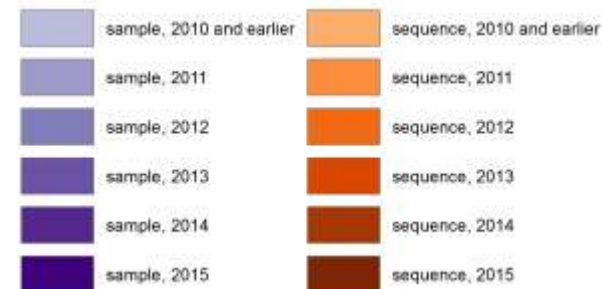


- Сверка результатов с Египтом, Индией и Египтом, Индией and БВИ (Боливийский Ветеринарный Институт)
- Отчеты этих результатов: www.wrlfmd.org

Наблюдения Всемирной Референтной Лаборатории по Ящуре в Западной Евразии Образцы/секвенирование (2014)

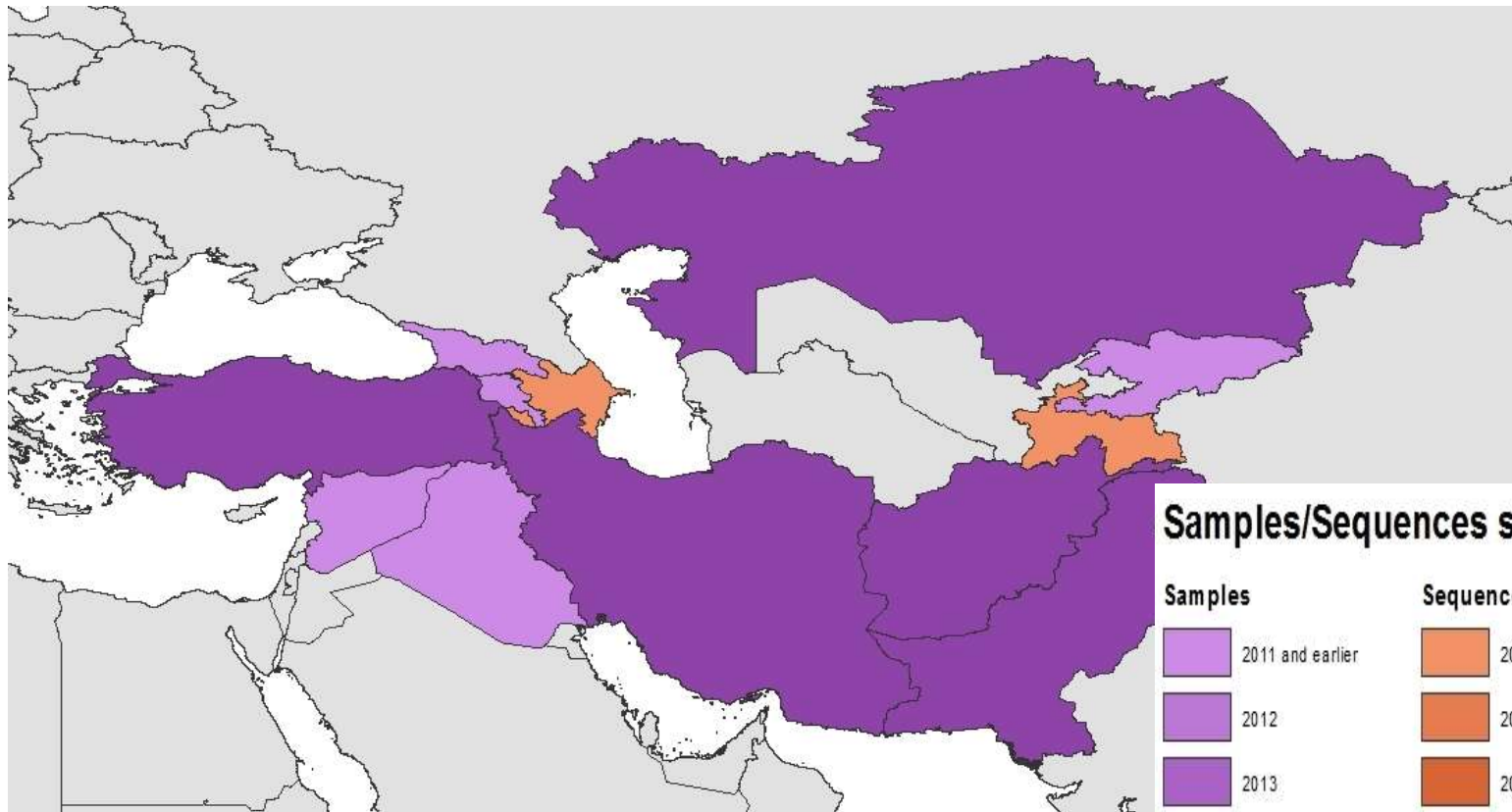
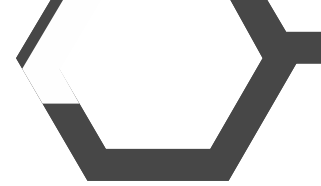


Образцы/секвенирование
полученные Всемирной
Референтной Лабораторией по
ящуре



Детальные отчеты: www.wrlfmd.org

Наблюдения Международной Референтной Лаборатории по Ящуру в Западной Евразии Образцы/секвенирование (2015)



Детальные отчеты: www.wrlfmd.org

Западная Евразия

Циркулирующие виды вируса ящера и региональные угрозы)

Активные вспышки

• Активные вспышки

• О/МЕ-СА/Пан Азия-2

• А/Азия/Иран-05

• Азия-1 (Синдх-08 линия)

• Спорадические вторжения (в Казахстане)

• О/МЕ-СА/Пан Азия (из пула 1)-и в странах Ближнего Востока

• А/АЗИЯ/Sea-97 (из пула 1)

• Новые возникающие риски из стран Ближнего Востока и северной Африки

• О/МЕ-СА/Индия 2001

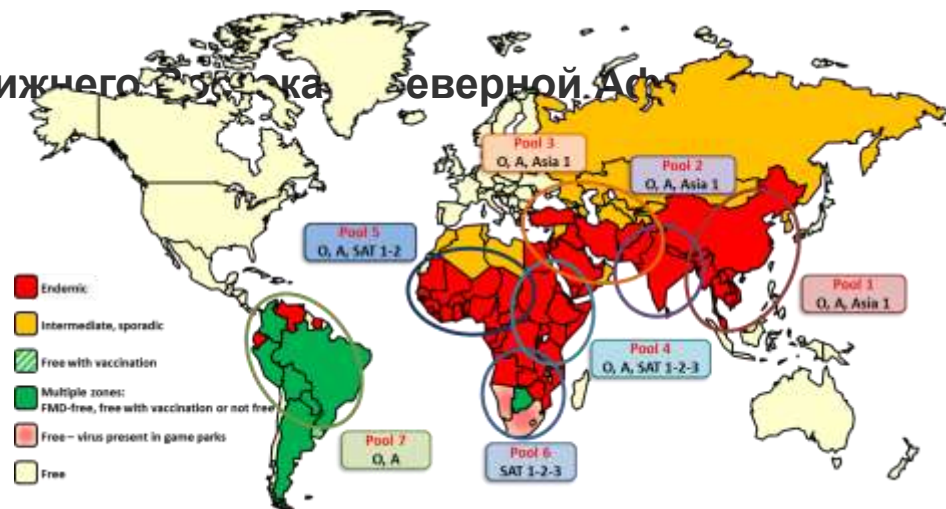
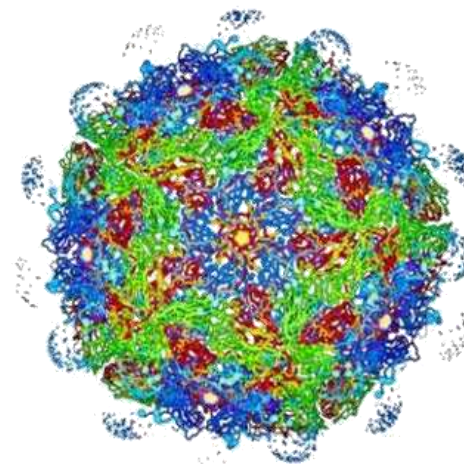
• САТ 2 (для стран на юге региона)

• Новые возникающие риски (??)

• О/МЕ-СА/Индия001 (пул2)

• САТ 2 (пул 4)

• **А/Азия /G-VII (пул2)**



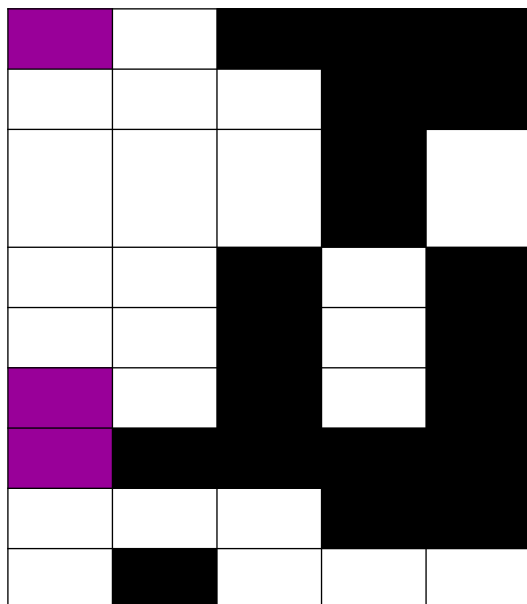
O/ME-SA/Пан Азия-2



2015 2014 2013 2012 2011

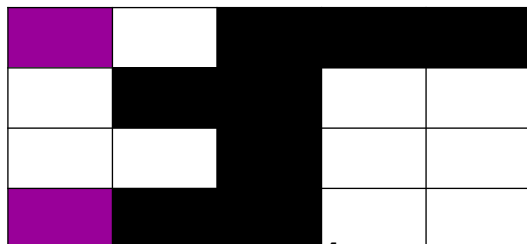
ANT-10

Иран
Израиль
Саудовская Аравия
Турция
ОАЭ
Афганистан
Пакистан
Либия
Бахрейн



FAR-09

Иран
Израиль
РАТ
Турция

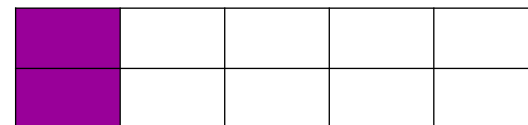


• Дополнительные Пак/Иран секвенирования были из генотипа без названия

2015 2014 2013 2012 2011

VAL-09

Иран
Пакистан



KAT-15

Непал

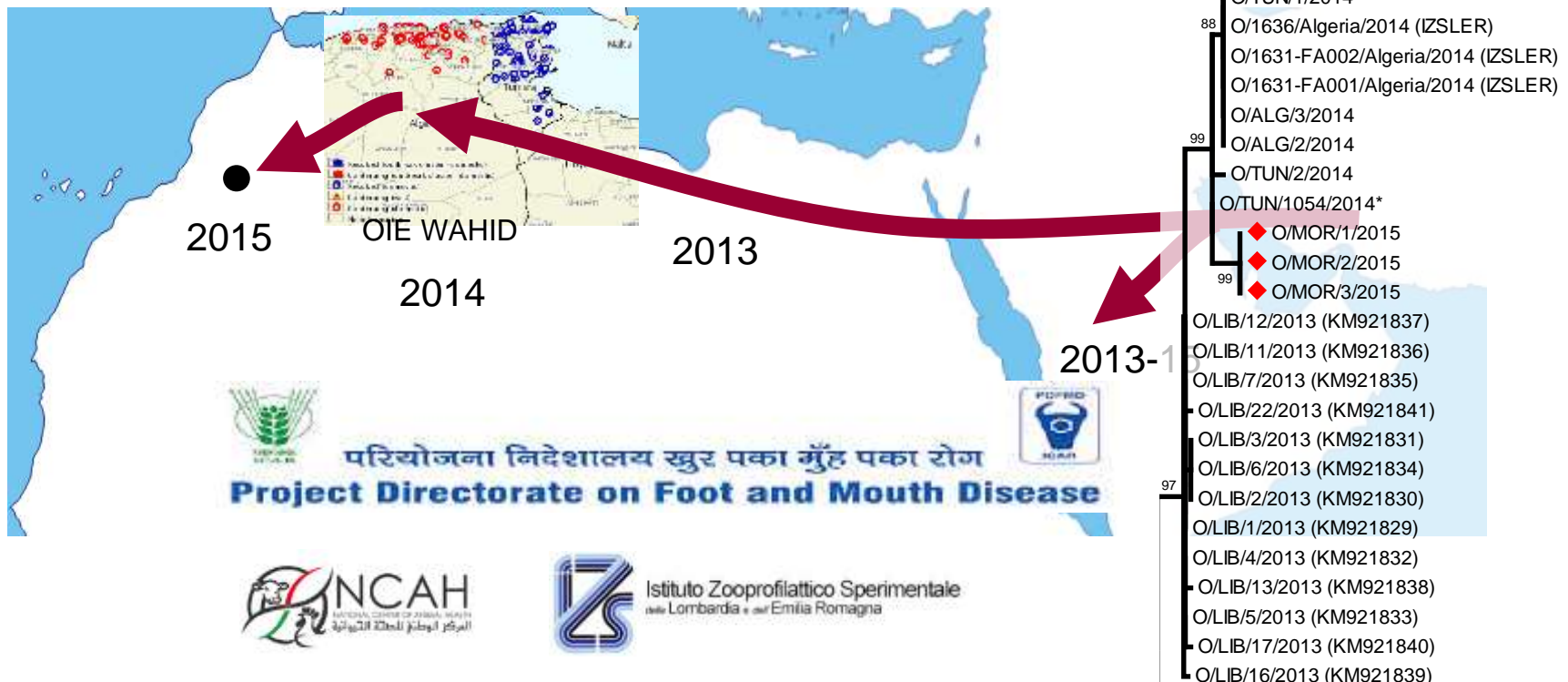


- **ПанАзия**
 - Израиль
 - Палестинская Территория

Новые суб-линии и линии были в 2015... Какое влияние в отношении контроля над болезнью

Недавние случаи серотипа О в Северной Африке

- O/ME-SA Индия 2001
- O/ME-SA/Индия2001 линия из Индийского суб-континента
- С 2013: Вспышки ящура в Саудовской Аравии, Бахрейне, Ливии, Тунисе, Алжирии и Марокко (ноябрь 2015)
- Каналы передачи из Индийского суб-континента неизвестны?
- Увеличивающаяся угроза Европе

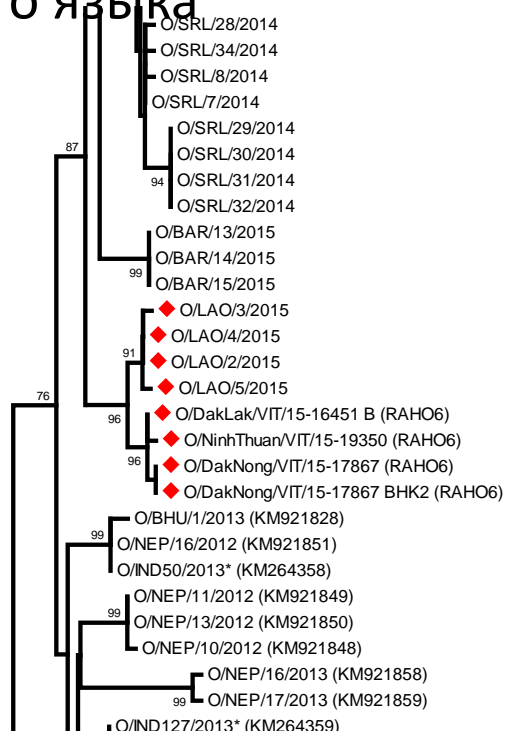


O/ME-SA/Ind-2001 in SEA

- O/ME-SA/Ind2001 клон из Индийского субконтинента
- **Распространение в Лаос и Вьетнам PDR**
- Образцы собранные в июне 2015
- Генетически далекие от вспышек в Странах Персидского залива, и северной Америки
- Связь с Индийским субконтинентом, возможно через мясо замороженного языка



RRLSEA: Pakchong



Ind-2001d



O/ME-SA/Индия2001

Новый полный анализ генома

- Полный анализ генома
 - 47 полных генома
 - 37 новых секвенирований

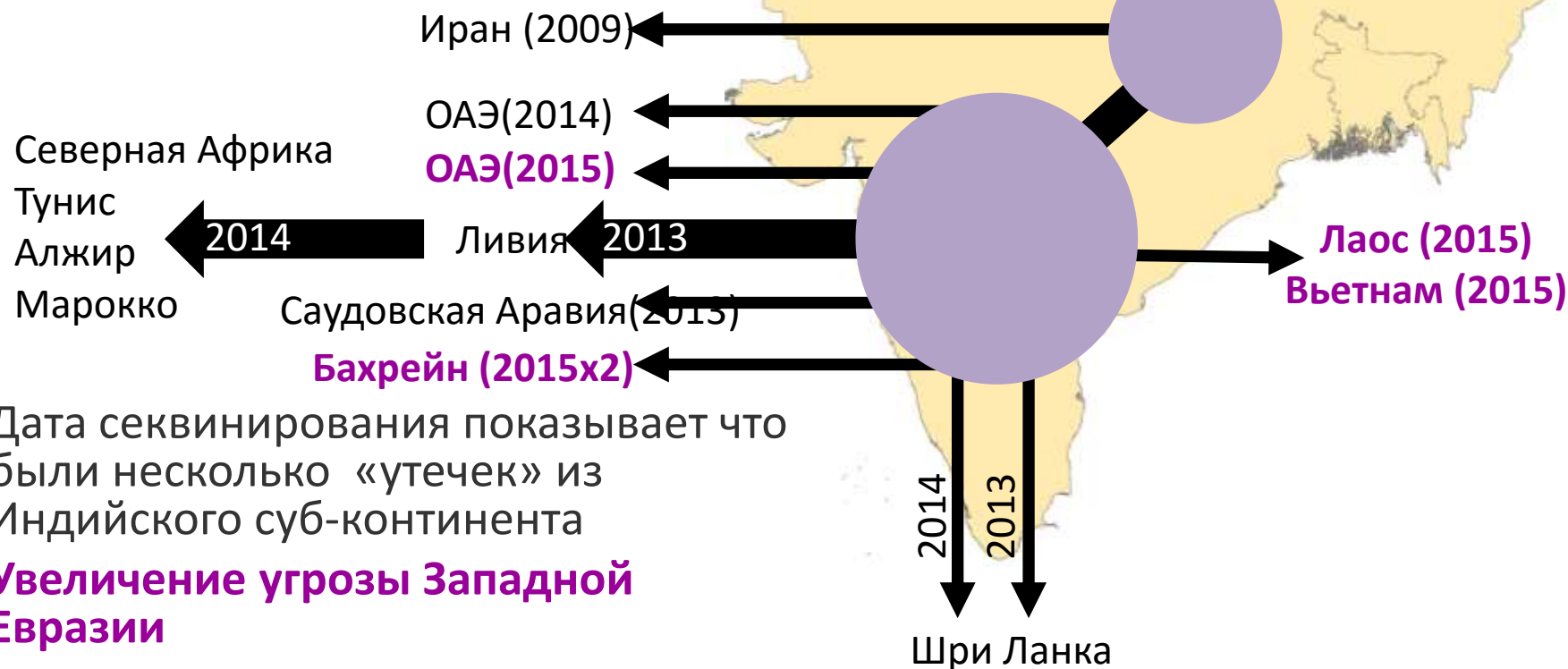
- Дата секвенирования показывает что были несколько «утечек» из Индийского суб-континента
- **Увеличение угрозы Западной Евразии**



परियोजना निदेशालय खुर पका मुँह पका रोग
Project Directorate on Foot and Mouth Disease



Istituto Zooprofilattico Sperimentale
della Lombardia e dell'Emilia Romagna



Соответствующие вакцины O/ME-SA/Инд-2001

26 field isolates:

	Штамы вакцин		
Field Isolate	O-3039	O Manisa	O/TUR/5/09
LIB 1/2013	Совпадают	Не совпадают	Совпадают
LIB 7/2013	Совпадают	Не совпадают	Совпадают
LIB 17/2013	Совпадают	Не совпадают	Совпадают
LIB 22/2013	Совпадают	Не совпадают	Совпадают
NEP 13/2012	Совпадают	граница	Совпадают
NEP 6/2012	граница	Не совпадают	Совпадают
NEP 21/2012	Не совпадают	Не совпадают	Совпадают
NEP 6/2013	Совпадают	Не совпадают	Совпадают
NEP 18/2013	Совпадают	Не совпадают	Совпадают
NEP 1/2014	Совпадают	Не совпадают	Совпадают
NEP 6/2014	Совпадают	Не совпадают	Совпадают
SAU 1/2013	Совпадают	Не совпадают	Совпадают
SAU 4/2013	Совпадают	Не совпадают	Совпадают
SAU 6/2013	Совпадают	Не совпадают	Совпадают
SAU 7/2013	Совпадают	Совпадают	Совпадают
SAU 1/2014	граница	Не совпадают	Совпадают
SRL 1/2013	Совпадают	Не совпадают	Совпадают
SRL 1/2014	Совпадают	граница	Совпадают
UAE 1/2014	Совпадают	граница	Совпадают
UAE 2/2014	Совпадают	граница	Совпадают
ALG 1/2014	граница	Не совпадают	Совпадают
TUN 1/2014	граница	Не совпадают	Совпадают
BAR 8/2015	Совпадают	Не совпадают	Совпадают
BAR 14/2015	Совпадают	Не совпадают	Совпадают
MOR/1/2015	Совпадают	Не совпадают	Совпадают
MOR/2/2015	Совпадают	Совпадают	Совпадают

Using VNT
r-value 0.3 cut-off

- Совпадают
- Не совпадают





Испытание эффективности вакцин

O/ME-SA/Инд2001

- Финансируется ЕК (ЕК-РЛ) вкладом
- Эксперименты проведенные ЦВИ -Лелистад
- Принятый протокол в соответствии с Европейской Фармакопеей
- Вакцинация О-Маниса(по крайней мере 6PD₅₀) с O/ALG/2014

Vaccine Dose	Number Protected vs Vaccinated	Serological Results (O Manisa Log ₁₀ VNT mean 21DPV)
Full	3/5	2.65
1/4	4/5	2.67
1/16	0/5	1.68
Unvaccinated*	0/2	0.9

- Estimated heterologous potency ~3 PD₅₀



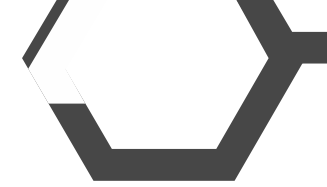
WAGENINGENUR
For quality of life



Istituto Zooprofilattico Sperimentale
della Lombardia e dell'Emilia Romagna



A/Азия/Иран-05



За последние 4 года: 9 суб-линий:

2015 2014 2013 2012 2011

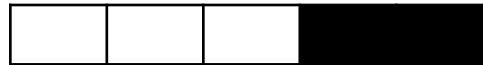
SIS-12

Пакистан и Иран



AFG-07

Афганистан, Пакистан и Турция



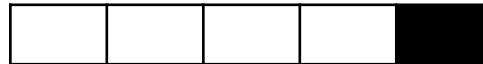
HER-10

Афганистан, Пакистан, Иран, Казахстан, Кыргызстан



QAZ-11

Иран



FAR-11

Афганистан, Пакистан, Иран



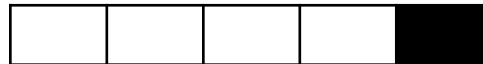
FAR-09

Пакистан и Иран



ESF-10

Иран



SIS-10

Иран, Ирак, Турция, Россия



BAR-08

Египет и ПАТ

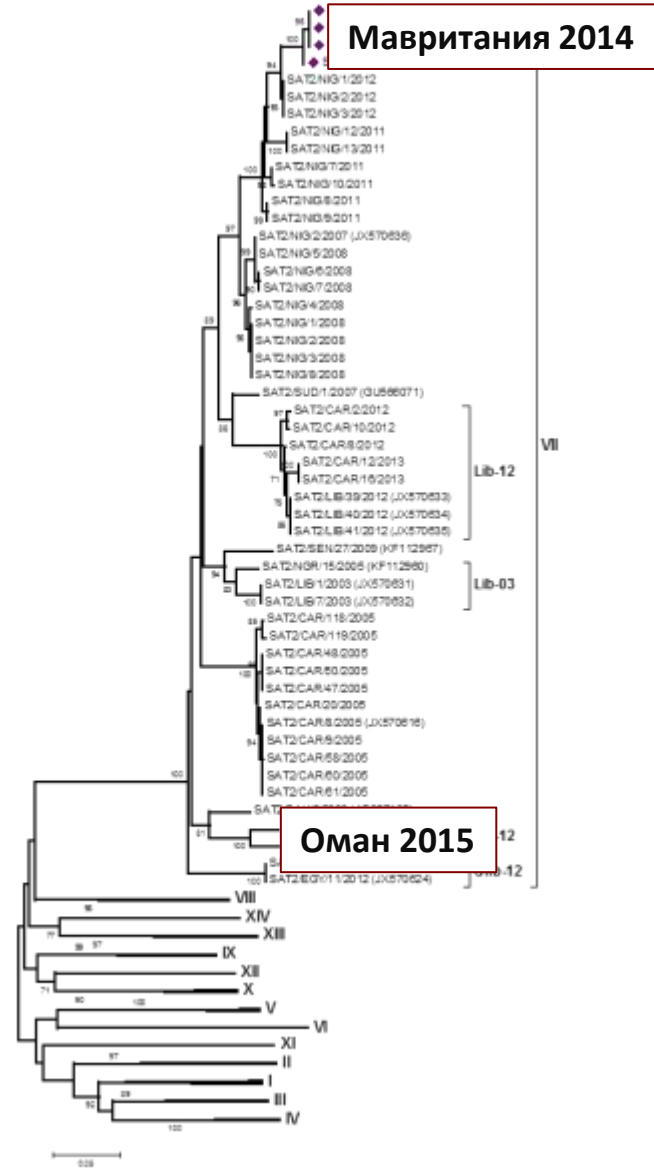


- Преобладающие линии:
 - SIS-10
 - FAR-09
 - FAR-11

Недавние вспышки по причине SAT 2

Мавритания и Оман

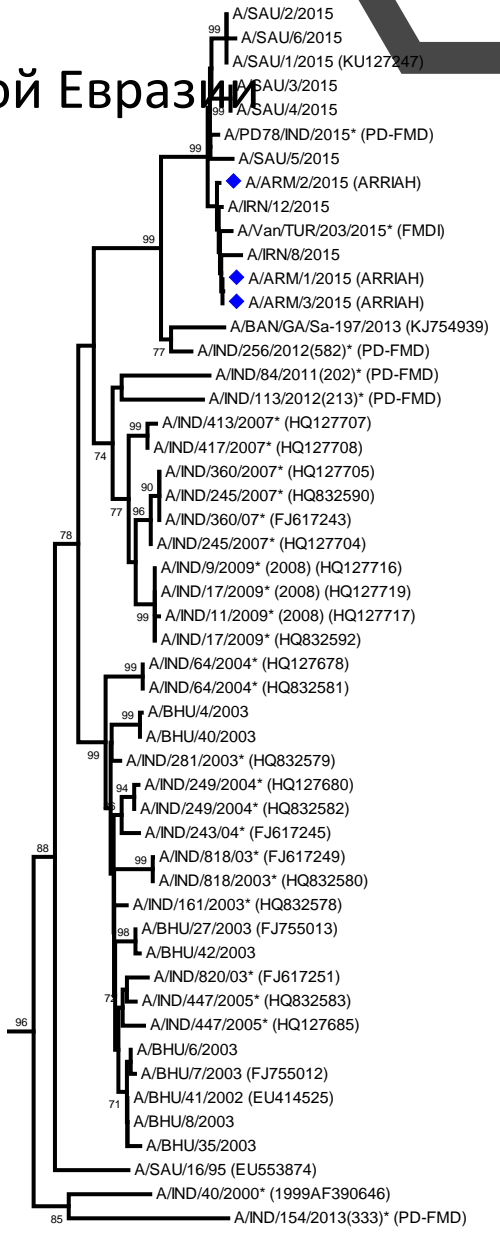
- Новые образцы SAT 2 из места вспышек
- VP1 секвенирование: две разных генетических групп внутри топотипа VII
- **Оман 2015**
 - КРС
 - Вспышки вируса генетически похожего на вирус ящура с предыдущих вспышек из Египта (Alx-12 суб-линии)
- Мавритания 2014
 - КРС
 - Генетически наиболее схожий к ящуру вирус из Нигерии



“Последний Вызов”!

Вспышка нового серологического типа А в Западной Евразии

- Отчет за Сентябрь 2015
- Саудовская Аравия, Турция, Иран, Армения
- Происхождение из Индийского суб-континента
- Еще один пример нового «неожиданного» вируса ящура движения между эндемическими пулов



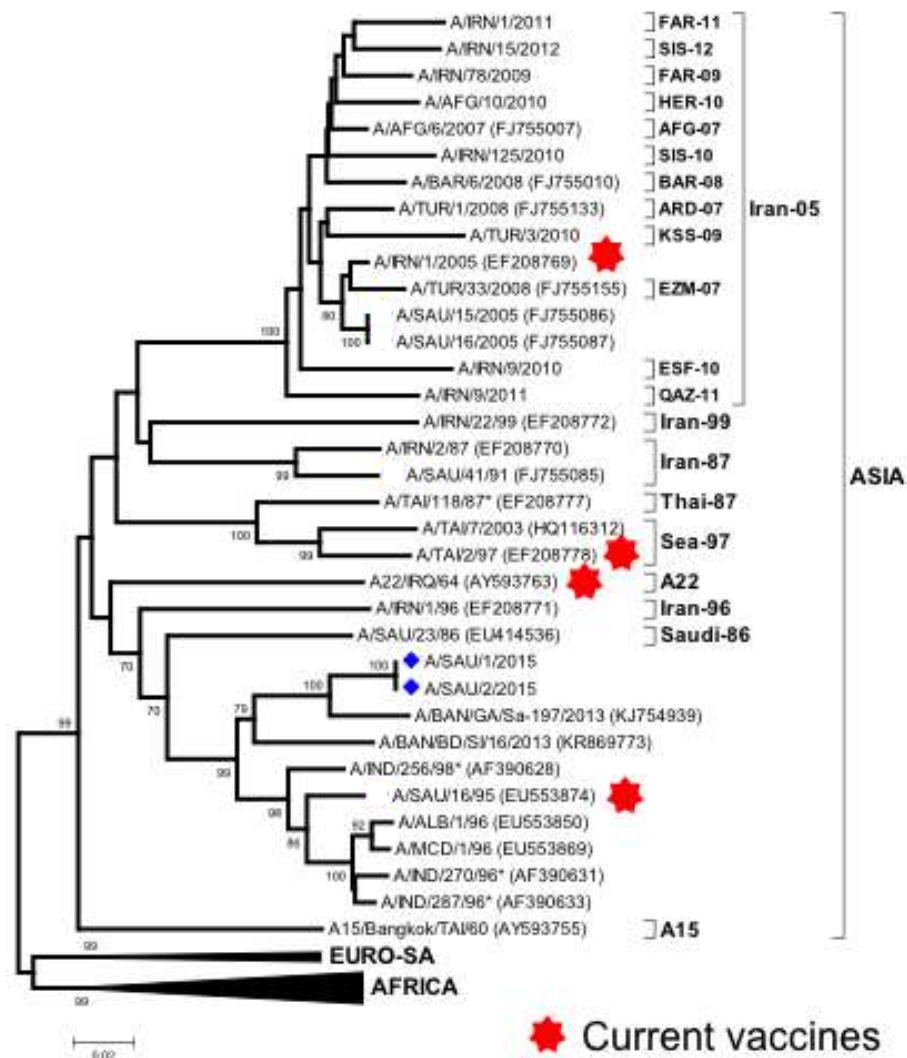
G-VII (G-18)

A/Азия/G-VII (G18)

Коммерческие вакцины не полностью эффективны при циркуляции вируса

Recent
r-values:

	A/SAU/1/2015	A/SAU/2/2015	A/IRN/8/2015	A/IRN/12/2015
A-Iran-05	0	0	0	0
A-Iran-87	0	0.04	nd	nd
A-Iran-96	0.04	0.06	nd	nd
A-Iran-99	0.01	0.01	nd	nd
A-Sau-95*	0.20	0.19	0.26	0.16
A-22	0.11	0.11	nd	nd
A-Tur-20-06	0.03	0.06	0.01	0.15
A-May-97	0.14	0.23	0.15	0.23
A-Tur-11	0.01	nd	0.10	0.04
A-Tur-14	0	nd	0	0
A-IND-40-2000*	0.26	nd	0.03	0.24



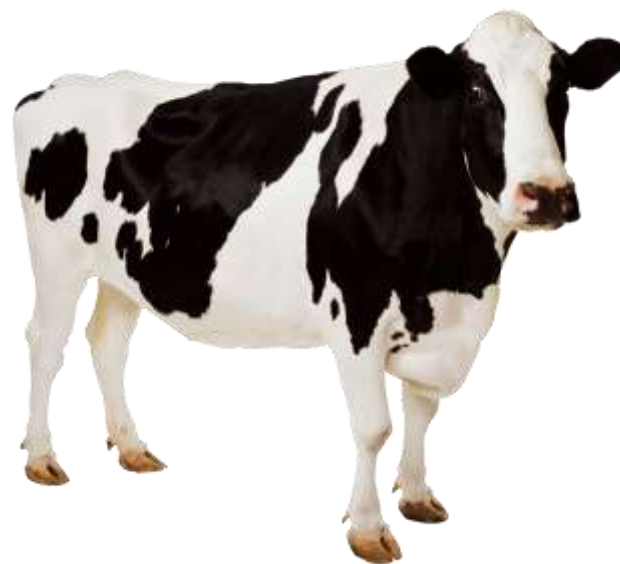
* Multiple BVS tested

★ Current vaccines

A/ASIA/G-VII (G18) – vaccine trial



- Моновалентные вакцины в наст. время недоступны из Мериала
- Шестивалентные вакцины
 - O-3039, O-Manisa, A-Iran-05, **A-Sau-95**, Asia-1, SAT 2
- PPG format
- Challenge at 21 dpv with A/IRN/2015
- Данные анализируются.
- Серологические и клинические данные анализируются в контексте детальной информации полученной из диких случаев из Саудовской Аравии



Новый инструмент при выборе вакцин?

Проект Рекомендации по вакцинам для Западной Евразийской
Дорожной Карты

Для серотипа А

A TUR/06 (или эквивалент из местно представленных) или **A Iran 05**
для A/ASIA/Iran-05

Для возникшего **A/ASIA/G-VII** линии, Турецкая вакцина **A/ASIA/G-VII-TUR15**

Примечание [1] Данные соответствия вакцины указывают на то, что некоторые циркулирующие полевые штаммы A/ASIA/Iran-05 имеют низкое соответствие с этими вакцинами.

[2] Многие установившиеся вакцины не обеспечивают защиту от A/ASIA/G-VII линии. Адаптированные вакцины, **A/ASIA/G-VII-TUR15**, для данной возникшей линии стали доступны у местных поставщиков (Турция), также ожидается от других производителей. Оценка вакцины находится на рассмотрении

[3] Для стран граничащих с Китаем рекомендуется добавление компонентов которые покрывают A/ASIA/SEA-97 в составе вакцины www.vaccine.ac.uk

Новый инструмент при выборе вакцин?

При выборе вакцин необходимо внимательно рассмотреть какие линии вируса ящура

- ❖ *Циркулируют в регионе: O/ME-SA/ПанАзия-2, A/Азия/Иран-05, A/Азия/G-VII, Азия-1/Синдх-08.*
- ❖ *Циркулируют в соседних районах, что может служить основанием для охвата прививками :*
O/ME-SA/Ind2001 (спорадически в странах Персидского залива), A/Азия/Sea-97 (через Восточную Азию), O/ME-SA/Паназия (через Восточную Азию и недавно в Израиле и Палестинской Автономной Территории) и ЮТ 2 (спорадически в странах Персидского залива).

Новый инструмент при выборе вакцин?

Разные клоны вируса ящура

Путь

Линии вируса	W. Eurasia	E. Asia	N. Africa
O/ME-SA/PanAsia-2	9		
A/ASIA/Iran-05			
Asia-1			
O/SEA/Mya-98			
O/ME-SA/PanAsia			
A/ASIA/Sea-97			
O/CATHAY			
O/ME-SA/Ind 2001			
SAT 2(IV and /VII)			
O/EA-3			
A/AFRICA			
O/EURO-SA			
A/EURO-SA			
C	1		

Пути и клоны вируса

Количество Антигенов

Самое высокое кол-во антигенов

	O-Manisa	O-3039	O-TUR	O-SKR	O-BFS	O-Campos	O-TAW/98	A22	A24	A-Iran-05	A-TUR/2006	A-Eritrea	A-May/97	A-Arg/2001	Asia1-Shamir	SAT2-ERI	SAT2-SAU	SAT2-ZIM	SAT1	C
O/ME-SA/PanAsia-2	9	9	9		8	9														
A/ASIA/Iran-05								7	8	9	5	4	4	2						
Asia-1															9					
O/SEA/Mya-98	9	9	7	9	9	9														
O/ME-SA/PanAsia	6																			
A/ASIA/Sea-97																				
O/CATHAY	6																			
O/ME-SA/Ind 2001	6																			
SAT 2(IV and /VII)																				
O/EA-3	5	6	7		2	1														
A/AFRICA								7	6	2	8	2	1	1						
O/EURO-SA	2	4	7		2	3														
A/EURO-SA								6	4	6	7	4	2	3						
C																				9

Эффективность вакцин против различных клонов вируса ящура

Вакцина
Приоритет



Клоновые пробелы



Координация Глобальной Сети

OIE/FAO
Foot-and-Mouth Disease
Reference Laboratories
Network



МЭБ/ Лабораторная сеть по Ящуру

- МЭБ и FAO Справочные центры (+ филиалы)
- Рабочие группы (перечень и **PVM**)
- Рекомендации по серотипу С
- **Всемирный надзор и меняющиеся подходы к изменению структуры в пути риска**
- **Гармонизированные и улучшенный лабораторный потенциал**



Брюссель , Бельгия – ноябрь2015

www.pirbright.ac.uk

Доклад сети

- www.wrlfmd.org
- Ваши предложения приветствуются



Признательность

- Поддержка Всемирной Референтной Лаборатории и исследовательских проектов
- Сотрудничество референтных лабораторий ящура
- Партнерство в рамках МЭБ/ФАО Лаборатории ящура



Department
for Environment
Food & Rural Affairs



Photos courtesy of HDR Architecture, Inc.; © 2104 James Brittain





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



7th Regional FMD West Eurasia Roadmap Meeting

The incursion of new strain of FMD virus on the territory of Armenia

Satenik Kharatyan

Head of laboratory on diagnosis of infectious diseases of farm animals and quality control of biological products

"Scientific Center for Risk Assessment and Analysis of food safety"

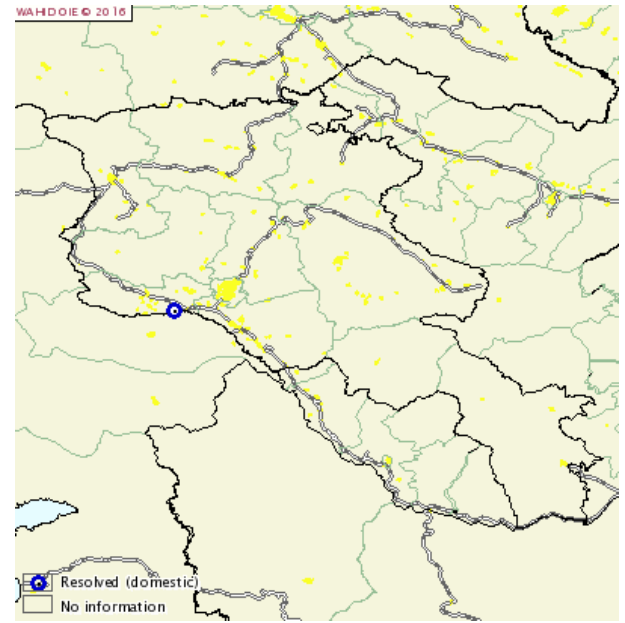
6-8 April, 2016

Bishkek, Kyrgyzstan



FMD outbreak for period 2015-2016

- Outbreak – Armavir Marz
 - Community – Arazap
 - Geographical coordinates:
 - 40° 02' – north latitude
 - 44 ° 08' – eastern longitude
- The territorial area of Arazap is 1561 ha



From the south it borders with Turkey, which shares the river Araks



Epidemiological information

- Epidemiological unit - farm
 - Clinically insane animals – 2 pigs → were destroyed
1 cattle →
 - Arazap's susceptible animals – 1219 cattle units
362 pigs
- | | |
|-------------------|----------------|
| Disease incidence | – 0,08% cattle |
| | 0,55 % pigs |
| Death rate | – 0 % cattle |
| | 0,55 % pigs |
| Mortality | – 0 % cattle |
| | 100% pigs |



FMD Outbreak

- First notice – 23.12.2015
- First laboratory confirmation – 25.12.2015
 - "Scientific Center for Risk Assessment and Analysis of food safety"
- For the final confirmation of the diagnosis material (11.01.2016) was sent to the Regional OIE reference laboratory for FMD "ARRIAH" Vladimir, Russian Federation
- 15.01.2016 It was obtained confirming the diagnosis research on FMD type A, belonging to a genetic line of A / G -VII



Carried out activities

- After confirming the diagnosis of FMD, according to Article 8.8.6 of the Terrestrial Animal Health Code of the OIE, was established quarantine.
- Carried out detailed epizootological analyses with designation of possible source and distance agent of skid - Turkey, wild fauna or или airborne spread
- Elaborated focus boundaries and determinated boundaries of problem area, as well as troublesome zone.



- In 22 communities of Marza troublesome zones, around problem area urgently carried out ring vaccination of FMD vaccine type A / Iran 2005 O / PanAsia-2, Asia-1/Georgia 2001. It had been vaccinated 8009 cattle units.
- FMD susceptible animals were registered
- The quarantine zone is continuously carried out supervisory activities
- Implemented sanitary measures (disinfection of premises and equipment)



- On the rest of the country, after the registration of the disease, supervisory activities were carried out by veterinary inspectorate
- In accordance with the information, the presence of FMD virus had not been established.
- In the quarantine area, for a period equal to a minimum of two incubation periods from the date of the last case, the detection of new cases of FMD had not been reported.



About the vaccine

- Take into account the fact that new type A serotype can not be effectively controlled FMD vaccine used and represents a direct threat to the new skid serotype type A to the territory of Armenia. The State Security Service of Food Products appealed to the leadership "ARRIAH" with the request about the possibility of inclusion in the new production of vaccine serotype of the pathogen type A genetic line A / G-VII, circulating in the region in recent years.



- In accordance with the established procedure of ARRIAH, in the third decade of March, 1 million 200 thousands doses of new FMD vaccine were imported to Armenia.
- The vaccine, with temperature control transportation, immediately was got to a place Marza and distributed. After receiving the vaccine it was started and carried out FMD prevention measures.



Conclusion

- Due to early response, early diagnostics and taken measures, FMD outbreak had been contained and eliminated.

Thank you for attention



***Draft Vaccine Recommendations for
the West Eurasia Roadmap***

ARRIAH, SAP Institute and TPI

Vaccine selection should carefully consider the following FMDV lineages:

Circulating in the region - O/ME-SA/PanAsia-2, A/ASIA/Iran-05, A/ASIA/G-VII, Asia-1/Sindh-08.

Circulating in the neighbourhood - O/ME-SA/Ind2001 (sporadically in the Gulf States), A/ASIA/Sea-97 (via East Asia), O/ME-SA/PanAsia (via East Asia and recently in Israel and the Palestinian Autonomous Terr.) and SAT 2 (sporadically in the Gulf States)

Serotype O

- ***O TUR/5/2009*** (or equivalents from local suppliers), ***O TUR/2007*** (or equivalent from local suppliers), or ***O 3039*** (in combination with ***O1 Manisa***) for O/ME-SA/PanAsia-2

Serotype O

[1] Vaccine matching data suggest that some circulating strains have poor match with O1 Manisa

[2] Where tested, these vaccines have also been recommended for use against the O/ME-SA/Ind2001 lineage from the Indian sub-continent that has caused recent outbreaks in the Middle East and North Africa

[3] For countries bordering China, it is advisable to consider addition vaccine components that cover O/ME-SA/ PanAsia and O/SEA/Mya-98 in the vaccine formulation

Serotype A

- ***A TUR/06 (or equivalent from local suppliers) or A Iran 05 for A/ASIA/Iran-05***
- ***for the emerging A/ASIA/G-VII lineage - Turkish vaccine A/ASIA/G-VII-TUR15***

Serotype A

[1] Vaccine matching data suggest that some circulating A/ASIA/Iran-05 field strains have poor match with these vaccines.

*[2] Many established vaccines are not expected to provide protection against the A/ASIA/G-VII lineage. Tailored vaccines, **A/ASIA/G-VII-TUR15**, for this emerging lineage have become recently available from a local supplier (Turkey), and are anticipated shortly from other manufacturers. Field vaccine evaluation of these products is pending.*

[3] For countries bordering China, it is advisable to consider addition vaccine components that cover A/ASIA/SEA-97 in the vaccine formulation

Asia 1

- ***Asia 1 (Sindh-08) or closely related strains or Asia 1 Shamir at high potency.***

Notes:

[1] Asia 1 Samir only has poor in-vitro antigenic match against the current circulating Sindh-08 lineage. However, in-vivo experiments indicate that poor antigenic match can be compensated by high potency formulations (>6PD50).



Tajikistan

National FMD Control Program

**Mulojon Amirbekov and
Orom Ziyoev**
State Veterinary Inspection Service



Gaps Identified in 2015 Roadmap

Gaps	Corrective actions taken	% achieved
Not in the legislation	Developed FMD National Control 2016-2025	50%
Lack of national strategy to combat FMD	Compiled Comprehensive Plan for the implementation of FMD NP	50%
At the appropriate level it has not been developed Programme Stage surveillance against FMD		



**Approved by Decree of
the Government of the Republic of Tajikistan**

“ _____ ” 2016

**NATIONAL PROGRAM
FMD of Animal control in the Republic of Tajikistan
in the years 2016-2025**

I. INTRODUCTION

1. Livestock contributes significantly to the socio-economic development and food security in Tajikistan, especially in rural households. The fight against foot and mouth disease can make a significant contribution to reducing livestock production losses, rural poverty, the improvement of the conditions of trade in animals and their products, ensuring the processing industry of the republic.



2. In 2015, foot and mouth disease has been registered in more than 80 countries, including in Central Asia and Tajikistan. It is assumed that, as a result of increasing levels of tourism and international trade, the disease will be more widespread.

3. From an economic point of view, foot and mouth disease is recognized as the most dangerous in the world. It infects all ruminant species of farm and wild animals is a major cause of the loss of a large amount of meat and milk in Central Asia, including Tajikistan.

4. The direct losses from foot and mouth disease in death of young animals, loss of milk, meat, productivity, draft animal power for freight transport and plowing the land, indirect losses - restrictions on trade in animals and their products.

5. The entry of the Republic of Tajikistan to the WTO requires the purchase and sale of animals and products safe from the point of view of biology, and foot and mouth disease can be a barrier in the republic's international trade in animals and their products.



6. Food and Agriculture Organization, in cooperation with the World Animal Health Organization, entitled "Global FMD Control Strategy for 2010-2020" of the document and taking into account the internal epizootic situation and opportunities in cooperation with the regional countries and international organizations, recommends that its members implementation in their countries. This strategy is not an independent activity, and provides for joint activities of countries against the disease.

7. "The National Programme for Control of animals of FMD in the Republic of Tajikistan" for 2016-2025 years (the program) is based on "Global Strategy for FMD Control for 2010-2020" and to support it.

II. ECONOMIC EVALUATION OF THE PROGRAMME

8. Research Institute for Biological Safety Problems of the Tajik Academy of Agricultural Academy, conducted in 2014, showed that one milk cow, which gives an average of 6.4 liters of milk per day, the patient FMD, only due to the decrease in milk yield, without weight loss, reduces income rural households to 551 somoni per month.



9. The number of milk cows lost 171 patients per month amounted to 15 900 liters, 48.5% production of healthy dairy cows per month. The price of one liter of milk on average was 2.5 somoni. It lost all the price from 171 dairy cows milk per month was 39,750 somoni ($2.5 \times 15\,900 = 39\,750$). Analyses showed that each patient FMD cash cow every day, on average loses milk in the amount of 7.8 somoni.

10. Number of animals republic susceptible to FMD, such as cattle, sheep, goats and yaks are about 6.5 mln. Heads, and are annually vaccinated only 1 to 1.2 million. Heads. The remaining population, including 1 million. Milking herd each year are at risk of foot and mouth disease. If we assume that only 50% of dairy cows (500 000 heads) ill FMD, livestock sector of the country, but due to the loss of milk, suffer damage worth 117mln. somoni per month ($500 \times 000 \text{ heads} \times 30 \text{ days} = 7.8 \text{ somoni } 117 \text{ million}$). Whereas, for the prevention of animals during the year by vaccination, given the price 2 doses of vaccine and veterinary services, you only need 3 million. Somoni ($500,000 \times 6 = 3\,000\,000$).

11. It should be noted that the FMD during one or two weeks, the disease not only reduces the milk production, but also the living animal weight 8-10 kg. In addition, the disease because the processed product deficiency causes significant economic losses and industry, processing of meat and milk.



III. GOAL AND OBJECTIVES OF THE PROGRAMME

12. The purpose of the Program is to increase the level and quality of epidemiological monitoring of animal foot and mouth disease in Tajikistan at the level of international requirements, decline in socio-economic damage, improve the international terms of trade of the Republic of animals and their products, and on this basis to improve living standards and the country's economy.

13. The main objectives of the program are:

- The organization of a special combined scientific and diagnostic Antiepidemiological working group responsible for the diagnosis, monitoring and control of FMD in the territory of Tajikistan;
- Improving logistical capacity of the State Veterinary Service supervision and Scientific-production enterprise "Biological products" TAAS for risk factors studies disease control, prevention and active fight against foot and mouth disease of animals (Annex 1, 2, 3, and 4).

14. A special joint working group composed of scientific and diagnostic and epidemiological subgroup.

15. The objectives of the research and diagnostic subgroups are:

- Carrying out studies to determine the types and strains of foot and mouth disease, circulating on the territory of Tajikistan and the level of immunity sensitive livestock diseases, by conducting an annual serological monitoring of the various categories of livestock and genetic diagnosis of the disease.



16. The objectives of the epidemiological sub-groups are:

- Studies to identify internal and external risks of introduction and spread of foot and mouth disease of animals in the various categories of livestock and trade networks animals and their products in Tajikistan through an annual epidemiological monitoring;
- Conducting epidemiological investigations of FMD outbreaks occurring;
- Definition of hot spots on foot and mouth disease in Tajikistan;
- Preparation and introduction of annual plans of serological monitoring and diagnosis of foot and mouth disease;
- Determining the strategy of vaccination of animals susceptible to the disease at the level of the republic;
- The preparation and implementation of effective measures for the relief of foot and mouth disease outbreaks occurring by introducing in disadvantaged areas of quarantine measures;
- Create a database of FMD data analysis of annual results of the Programme and the provision of service of the state veterinary supervision and the conclusion of the work plan for the next year;
- Preparation and submission to the Government of the Republic of Tajikistan of the final report on the level and quality of implementation of the program.



IV. ARRANGEMENTS

17. The Ministry of Agriculture of the Republic of Tajikistan:

- Within the existing working staff and funding of wages Services State veterinary supervision of the Ministry of Agriculture, Institute for Biological Safety Problems TSKHN, the National Centre for Veterinary Diagnosis, National antiepidemiological center, a platoon of the Special Police quarantine supervision of 20 people organize a working group;

- Jointly with the Tajik Academy of Agricultural Sciences

It provides the purchase and transportation of office, laboratory equipment and diagnostic kits for laboratory diagnosis of foot and mouth disease of animals at the Institute for Biological Safety Problems in accordance with Annexes 1 and 2;

- Together with the Ministry of Economic Development and Trade of the Republic of Tajikistan, Tajik Academy of Agricultural Sciences for the implementation of this program attracts foreign investment and the Representative of the Food and Agriculture Organization of the United Nations in Tajikistan;

- Together with the Ministry of Finance of the Republic of Tajikistan in accordance with Annexes 1, 2, 3 and 4 provide funding for programs in the budget amount each year provided for this purpose in the national budget, as well as by attracting extra-budgetary and donor funds in accordance with the application.



- In conjunction with the State veterinary supervision determines the strategy and implementation of the program annually to the Government of the Republic of Tajikistan about its implementation.

V. FINANCING PROGRAM

18. The implementation of the Program does not require the establishment of new jobs and the allocation of additional salary funds in implementing its organizations. Providing organizations implement programs annually consumable material is fully financed by the state budget in accordance with Annexes 1 and 3. The total amount of the annual state financing of the Program is determined in the amount of 12.398 million somoni.

19. To carry out under the Program of scientific works at the Institute for Biological Safety and the purchase of special equipment for the State Service of veterinary inspection, in addition to public financing funds from international organizations concerned will be involved, in accordance with Annexes 1, 2 and 4.

20. Institute for Biological Safety Problems for the purchase of special equipment is necessary to attract 201,720 somoni annually in the implementation of the Programme for the sacrificial material is necessary to involve external support in the amount of 65,000 somoni.

21. State Veterinary Supervision Service for the purchase of special equipment is necessary to involve external support in the amount of 230 000 somoni.



VI. INDICATORS OF SUCCESSFUL IMPLEMENTATION OF THE PROGRAMME

22. Indicators of successful implementation of the Programme are:

- Current repair and equipment of the Institute for Biological Safety Problems and the National Centre for Veterinary Diagnosis additional equipment, domestic travel agents, and annually consumable laboratory supplies;
- Provision of services of state veterinary supervision necessary amount of vaccine, by means of internal travel and fuel for official vehicles;
- The annual and final report on the results of laboratory studies and epidemiological monitoring of FMD;
- Reducing the number of cases and outbreaks of foot and mouth disease among farm animals.



Annex 1
to the National Program
monitoring and control of FMD
animals in the Republic of Tajikistan
in the 2016-2025 years,
Approved by the Government Decision
of the Republic of Tajikistan
from " ____ " _____ 2016



Estimated annual expenditure of consumables in 2016-2025, of Institute for Biological Safety Problems

No	Scroll	Unit of measurement	Amount	Price of 1 unit (TJS)	Total price (TJS)	Responsible organizations	A source funding
1	A diagnostic kit for the detection of virus genome of animals of FMD in the polymerase chain reaction	Set	1	25 000	25 000	State Committee on Investment and State Property Management and TAAS	External assistance
2	A diagnostic ELISA kit for the detection of foot and mouth disease virus antigens in animals ELISA	Set	1	20 000	20 000		External assistance
3	A diagnostic kit for the detection of antibodies to a virus of foot and mouth disease of animals in an enzyme immunoassay	Set	1	20 000	20 000		External assistance
4	Chemical substances	Kg	10	500	10 000		State budget
5	Test tubes for blood drawing	Pieces	10 000	10 000	10 000		State budget
6	Disinfectants	Kg	10	300	3 000		State budget
7	Stationery				1 000		State budget
8	Travel expenses	Day	100	100	10 000		State budget
9	Fuels and lubricants	Liter	1000	6,5	6 500		State budget
10	Additional expenses				10 000		State budget



No	Scroll	Unit of measurement	Amount	Unit of measurement	Amount	Responsible organizations	Funding sources
1	Thermostat feed CO2	Pieces	1	35 600	35 600	State Committee on Investment and State Property Management and TAAS	External assistance
2	Scales, Voyager company, CZ-11014	Pieces	1	15 000	15 000		External assistance
3	Freezer - 20 ° C	Pieces	1	9560	19 120		External assistance
4	PH - meter	Pieces	1	5 975	11 950		External assistance
5	Bi distillatory	Pieces	1	28 680	28 680		External assistance
6	Deionizers	Pieces	1	16 730	16 730		External assistance
7	Laminar box 3 levels	Pieces	1	20 000	20 000		External assistance
8	A computer	Pieces	2	4 780	28 680		External assistance
9	Microscope	Pieces	1	9 560	9 560		External assistance
10	Stabilizer	Pieces	2	956	2 000		External assistance
11	Air conditioning	Pieces	2	7 200	14 400		External assistance
	Total				201 720		



Estimated annual expenditure for the purchase of annual consumables in the years 2016-2025 to the State Service of veterinary supervision

No	Scroll	Unit of measurement	Amount	Unit of measurement	Amount	Responsible organizations	Funding sources
1	Trivalent vaccine against foot and mouth disease of animals	Dose	6 million	2	12 000 000	State Committee on Investment and State Property Management and TAAS	State budget
2	Disinfectants	Kg	1000	300	300 000		State budget
	Chemicals	Kg	100	200	20 000		State budget
3	Travel expenses	Day	150	100	15 000		State budget
4	Fuels and lubricants	Liter	2000	6,5	13 000		State budget
5	Stationery				5 000		State budget
6	Additional expenses				20 000		State budget
	Total for 1 year				12 373 000		



Estimated cost of procurement of equipment in the years 2016-2025 to the State Veterinary Inspection Service of Tajikistan

No	Scroll	Unit of measurement	Amount	Unit of measurement	Amount	Responsible organizations	Funding sources
1	Utility vehicle	Pieces	4	50 000	200 000	State Committee on Investment and State Property Management and TAAS	External assistance
2	Freezer - 20 ° C	Pieces	4	1000	4000		External assistance
3	A computer	Pieces	4	3000	12 000		External assistance
4	LG Air Conditioning	Pieces	4	3000	12 000		External assistance
5	Thermo-suitcase	Pieces	20	100	2000		External assistance
	Total				230 000		



**"Approved by the Government Resolution
of the Republic of Tajikistan"
No ___ from ___ _____ 2016"
Head of State Veterinary Inspection Service
of the Ministry of Agriculture of Tajikistan
_____ Sh. Vazirov
from " ___ " ___ _____ 201 y.**

**ACTION PLAN
on the implementation of the "National FMD Control Program
animals in the Republic of Tajikistan for 2016-2025 years "**

Dushanbe - 2016



This action plan is based on the strategic goals and objectives of the "National Program of FMD control animals in the Republic of Tajikistan for 2016-2025 years" in order to timely, high-quality implementation.



No	Description of measures	Period of execution	Responsible organizations
1	Organization of the notification (training) state veterinary officers of regions and districts of the republic aims and objectives of the "National Program of FMD control animals in RT for 2016-2025 years".	2016	SVIS, IBSP TAAS
2	The development phase of the National Plan to combat foot and mouth disease with / farm animals in accordance with international standards.	2016	SVIS, IBSP TAAS
3	Development and application of science-based FMD monitoring and control systems throughout the territory of the Republic of Tajikistan	2016-2025	SVIS, IBSP TAAS
4	Develop and implement a system of outbreaks of foot and mouth disease in the territory of the Republic of Tajikistan warning	2016	SVIS
5	Conducting scientific and practical research, risk analysis to identify hot spots of foot, high-risk areas of occurrence and spread of foot and mouth disease	Every year	SVIS, IBSP TAAS



6	Serological and virology monitoring of FMD farm animals	2016-2025	СГВН, ИПББ ТАСХН
7	Implementation of joint exercises (training) professionals SGVN structures, the Ministry of Agriculture, Ministry of Internal Affairs with a view to a rapid response in the event of outbreaks of foot and mouth disease.	2017, 2020. 2025	MA, SVIS, IBSP TAAS, MIA
8	Carrying out an emergency meeting of the anti-epizootic Commission of the Republic of Tajikistan for FMD farm animals and informing about the work done	Yearly	Ministry of Agriculture, SVIS, Ministries and related organs of Tajikistan
9	Provision of diagnostic tools and vaccines against FMD emergency.	Yearly	MA, SVIS, NCVD, IBSP TAAS, MIA
10	Development and supply of projects on various issues of FMD in international funds and organizations	2017-2018	MA, SVIS, IBSP TAAS, MIA



No	Description of measures	Period of execution	Responsible organizations
11	Participation in integrated research programs to study the circulation of the FMD virus in nature, improving the means and methods of diagnosis, prevention and specific measures to combat foot and mouth disease	2016-2025	SVIS, IBSP TAAS
12	Organization of educational work with farmers, livestock workers, local authorities and the public	Constantly	SVIS, Veterinary Services in regions, cities and districts
13	Creating the conditions for the organization of vaccine production at the Institute studying TAAS Biological Safety Problems	2016-2025	SVIS, IBSP TAAS
14	Carrying out research and scientific studies on the latest methods of diagnosis and typing of FMD virus	2016-2025	SVIS, NCVD, IBSP TAAS



15	Systematic information on the activities of FMD, and the implementation of the requirements of the National Program of the regions, cities and districts	Constantly	SVIS, REC, Veterinary Services of regions, cities and districts
16	Control and monitoring of the implementation of the National Programme on Prevention and control of FMD in the Republic of Tajikistan for the period 2016- 2025 biennium. in places	Constantly	SVIS, REC, Veterinary Services of regions
17	Discussion of this work of veterinary agencies of regions, cities and districts in the Emergency Antiepidemic Commission SGVN	1 time in the end of year	SVIS, REC, Veterinary Services of regions
18	Implementation of policies and strategies, scientific achievements, deficiencies, omissions of the National Programme in the course of daily work on the prevention and control of FMD	Constantly	SVIS, REC, Veterinary Services of regions



No	Description of measures	Period of execution	Responsible organizations
19	Serological monitoring and epidemiological investigation by the study of immunity tension for FMD	Constantly	SVIS and Veterinary Services, IBSP TAAS
20	Routine vaccination of animals against foot and mouth disease in all categories of households and population.	Constantly	Republican Epizootic Center, Veterinary Services of regions
21	Control of imported vaccine certificate of compliance and supervision of smuggling vaccine	Constantly	State Center for the Control Veterinary Preparations
22	Conducting workshops (training) with the participation of heads of agricultural departments of cities and districts, the state sanitary epidemiological surveillance centers on the theme "Prevention and Control of FMD with / farm animals"	1 time during the year	SVIS



23	The organization and carrying out of studies and training of veterinary professionals to improve their skills in scientific production centers of developed countries	2016-2025	SVIS
24	Organization and carrying out agitation - of news work with the population on the prevention of FMD through the media (the media) and by distributing booklets, brochures, manuals, posters and other necessary literatures	In quarters	SVIS and REC, Veterinary Services in regions

**Head of Anti-epizootic
Surveillance Department of SVIS**

Ismoil Andamov



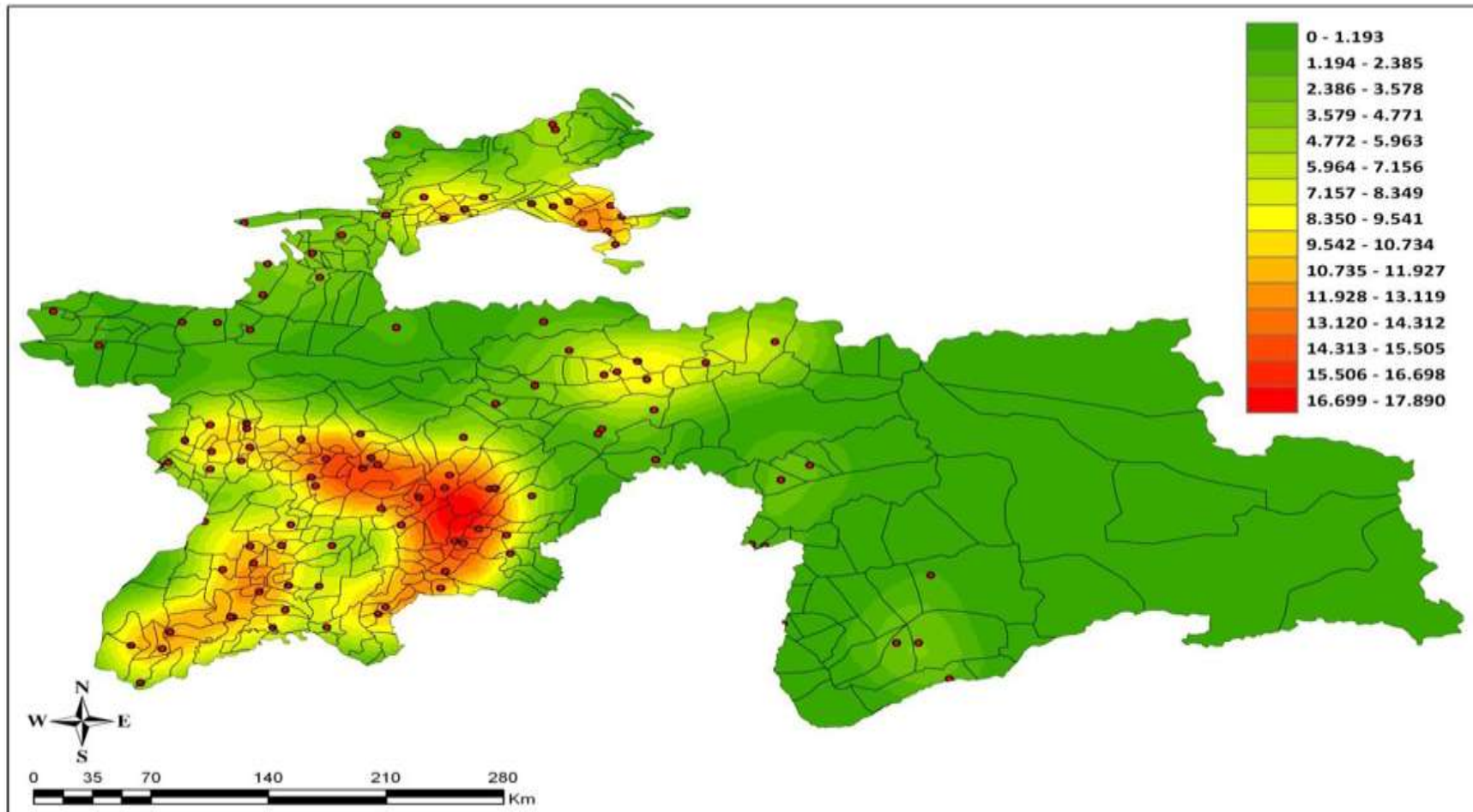
Вспышки ящура за период 2014-2016 гг.

- Используйте таблицу и карты для обозначения вспышек;
- Выявленный штамм;
- Количество материалов, представленных в Референтный центр для получения полной характеристики;
- Реакция на вспышки;
- В случае отсутствия вспышек, распространенность антител (неструктурированных белков) в стране/регионе?

1-2 слайда



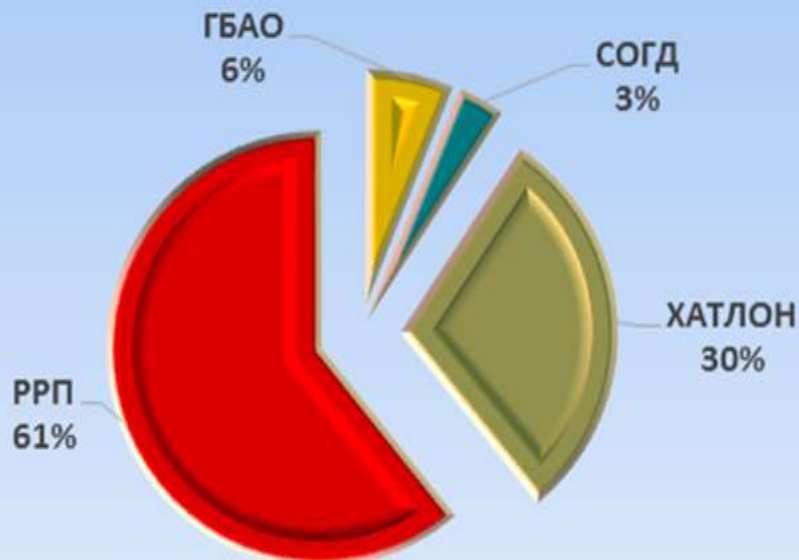
Extensive and intensive RESULTS 3ABC-ELISA - 2011





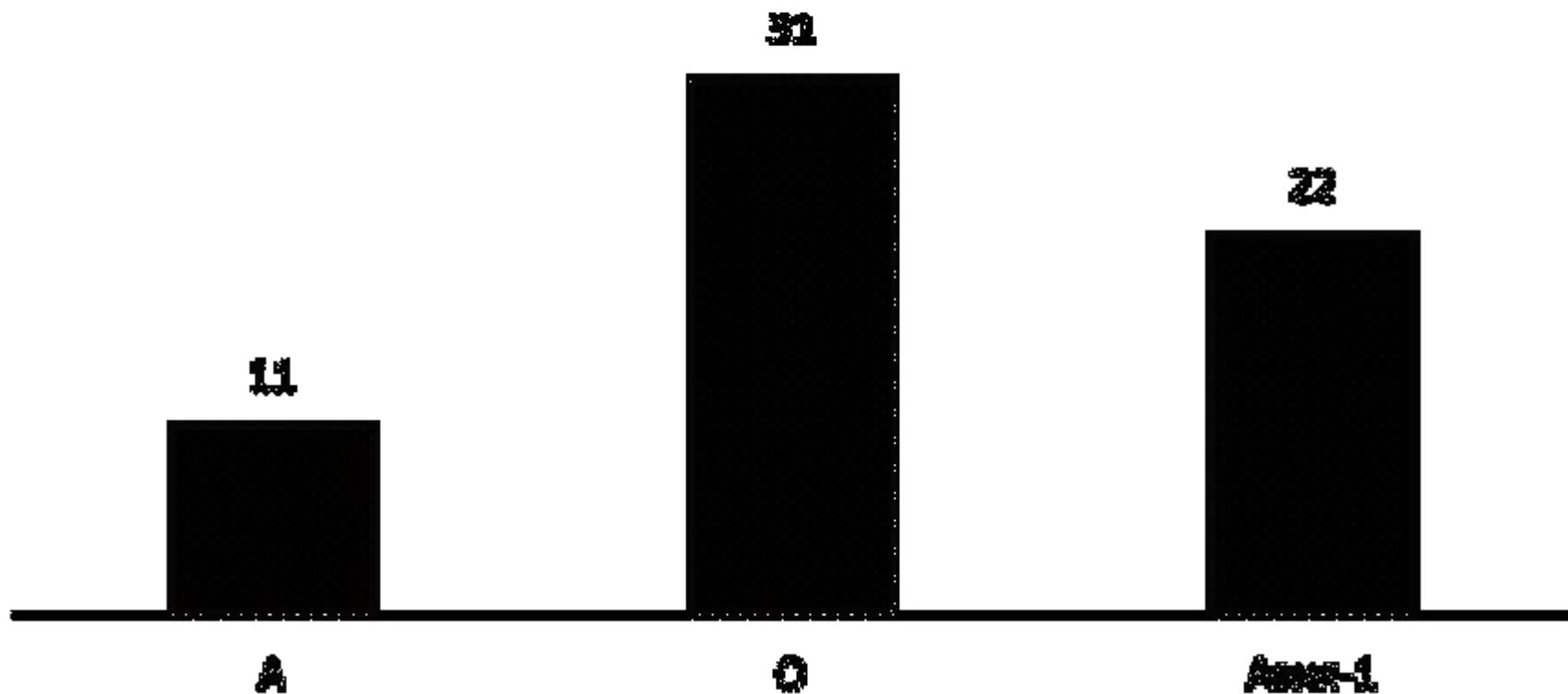
The share of regions of the country in the total amount of FMD outbreaks

Распределение вспышек ящура, зарегистрированных в
Республике Таджикистан за период с 2001 по 2012 гг.



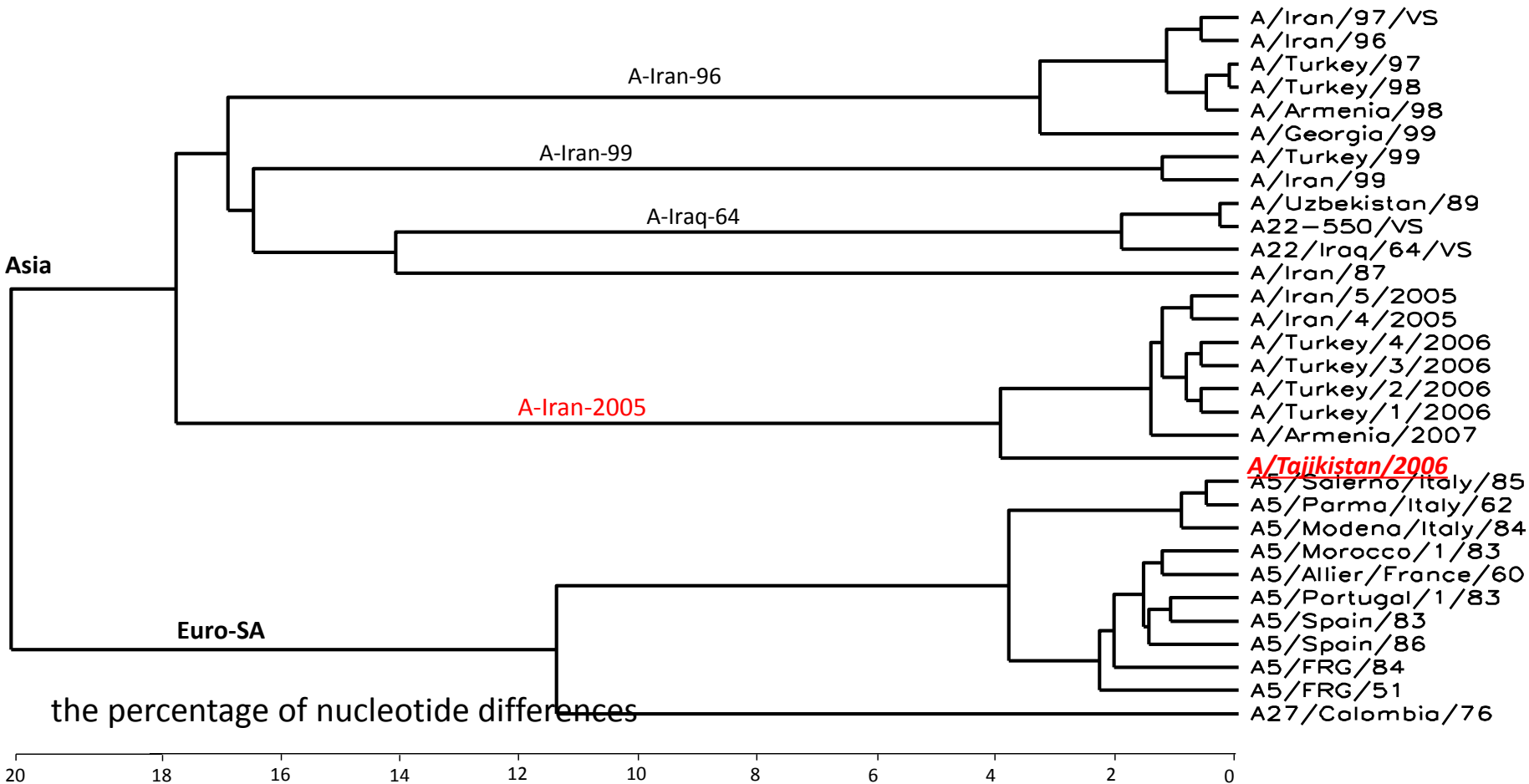


Частота изоляции типов вируса ящура в Таджикистане в 2001-2012гг



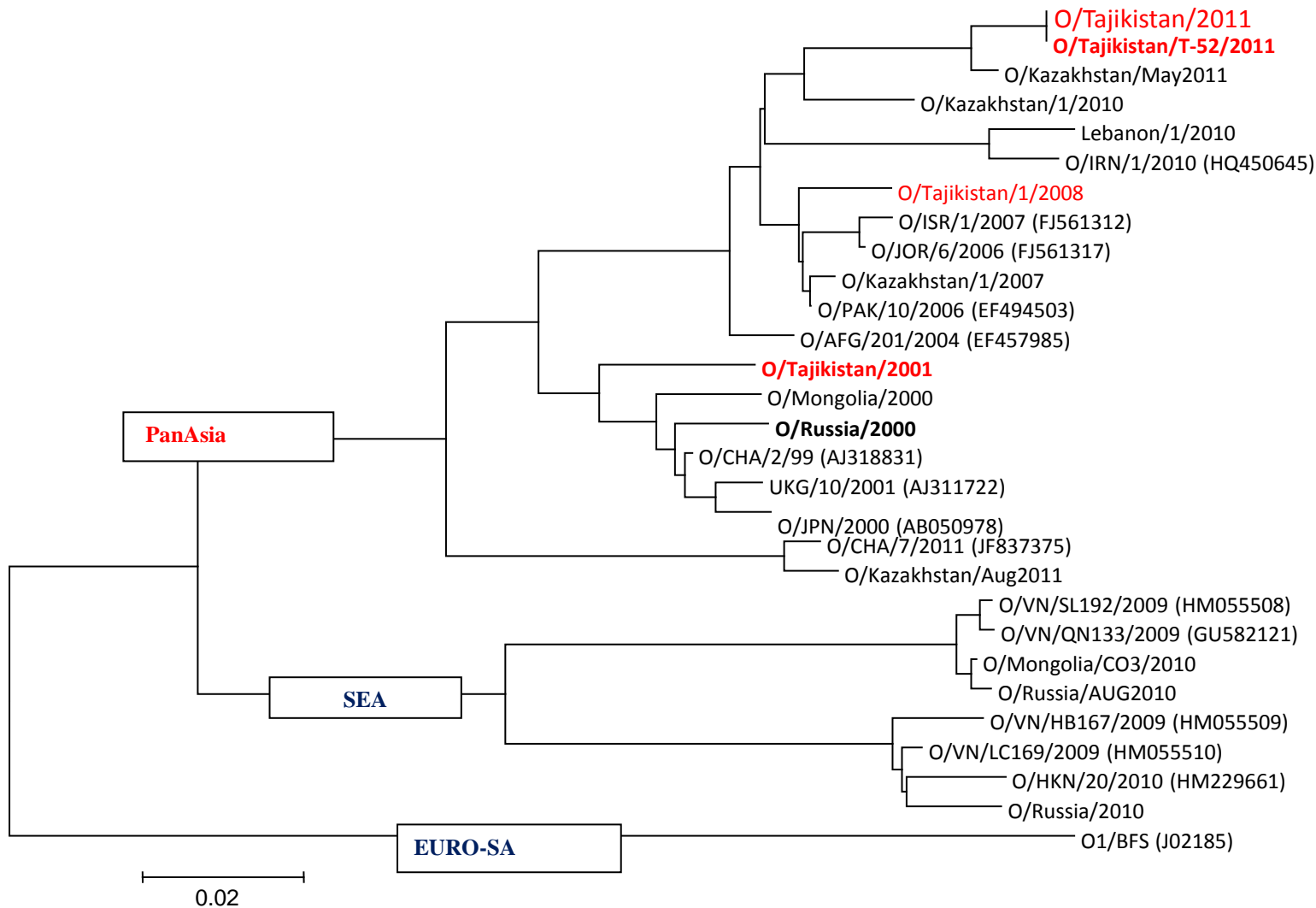


Phylogenetic analysis of the virus A / Tajikistan / 06



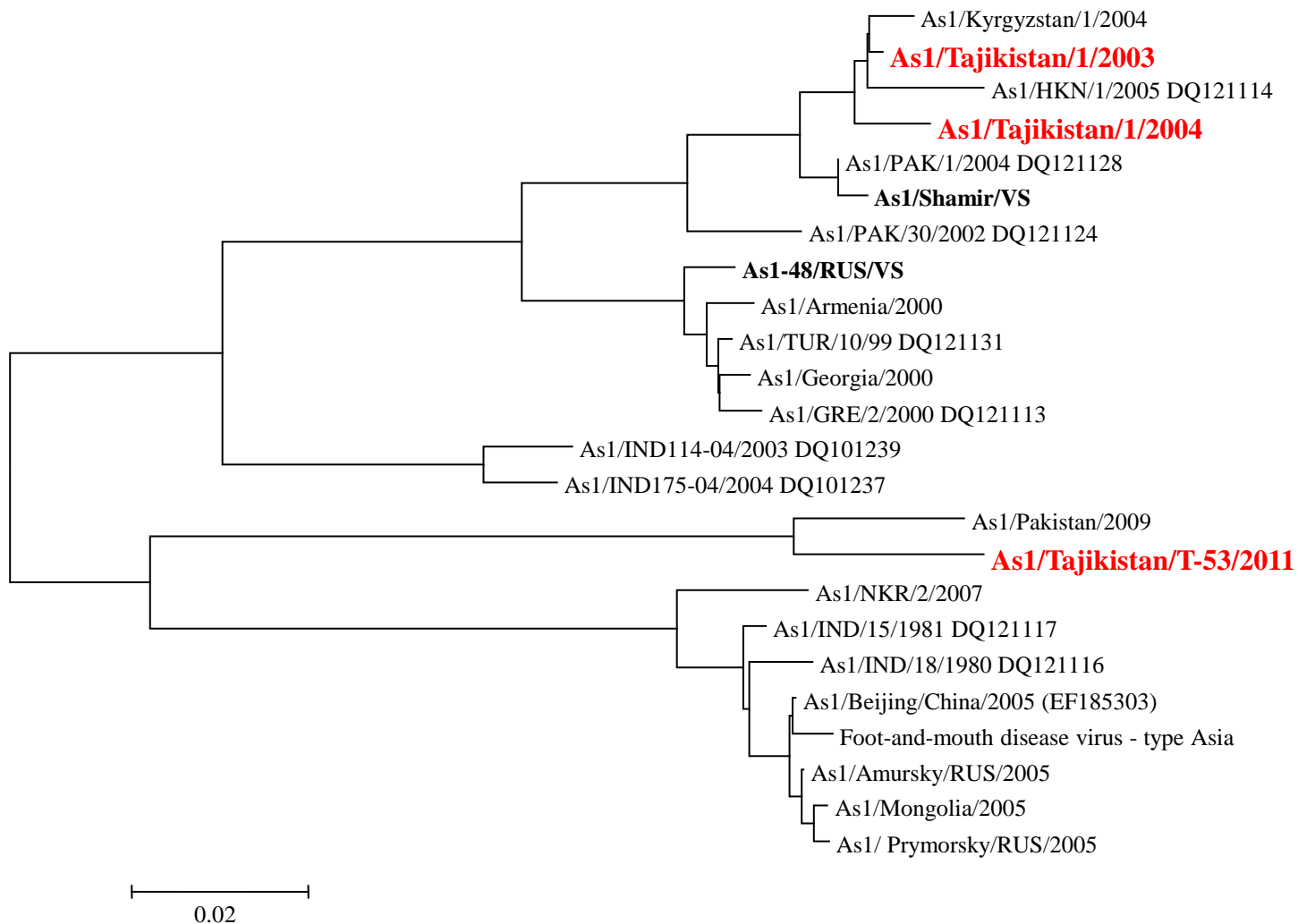


Phylogenetic analysis of the virus O / Tajikistan / 2011





Phylogenetic analysis of the virus-1 Asia / Tajikistan / 2011





COMPLIANCE antigens (R1) isolates of FMD virus production strain

Isolated	Antigenic line r1			
A / Tajikistan / 06	A22#550	A22/Iraq24/64	A/Turkey/06	A/Iran/97
	0,19	0,17	0,25	0,35
O / Tajikistan / 2011	Antigenic line r1			
	O1 Manisa	O/Primorskiy/2000		O-Pan Asia-2
	0,77	0,21		0,76
Asia 1 / Tajikistan / 2011	Antigenic line r1			
	Asia 1 / Shamir 3/89			
	0,22			



Thus,

- serological tests for FMD using the detection of antibodies to nonstructural proteins of the virus showed that the circulation of the virus is widespread in farms of all categories and epizootic occur with high intensity.

- isolates of FMD virus types A and O, selected in Tajikistan are closely related to the vaccine strains.

- Isolate Asia-1 / Tajikistan / 2011 is very different from the vaccine strains Asia-1 / Shamir3 / 89 and Asia-1№48.



Активное и пассивное наблюдение за период 2014-2016 гг.

- Карты, схемы, таблицы с пояснениями
- Включая лабораторные результаты

1-2 слайда



Socio-economic and economic impact of foot and mouth disease

Summary of socio-economic analysis and conclusions (if any)

Based on the study conducted by State Institute for Biological Safety Problems Research TAAS was determined that most of the Republic of circulating FMD virus type O

We examine the situation in the farms, where cattle breeding is grown locally compact cattle, to study the situation of livestock in highways, border areas and areas with a greater risk of the disease (cattle markets, the venue of exhibitions and auctions)

Through proper conduct of animal health measures to combat foot and mouth disease for the past 10 years in the Republic of relatively prosperous epizootic situation has been reached, foot and mouth disease has not provided any specific threats.



Компонент 1: План контроля по ящуру

1. *Описание планов вакцинации (если введен в действие):*
 - Биологический вид, охват вакцинацией, места действия, схемы, таблицы
 - Используемая вакцина
 2. Планы, связанные с наблюдением за ящуром
 - План наблюдения и целевые области
 - Анализ полученных данных и заключение
 3. Подробная информация о трансграничной деятельности
 4. Детализация других мероприятий по контролю (контроль передвижения, биобезопасность, информационная компания....)
- 3-4 слайда



According to a comprehensive plan for FMD control in all levels (regions, cities and districts) and epizootic units by the veterinary specialists supervises the occurrence of possible threats of outbreaks of FMD is carried out proper control of animal movements and migration.

The structure includes SVIS and SVIM in transport and the state border. The proportion of the state border in places of exit roads from neighboring countries, on the railway, the international airports of Dushanbe, Kulyab, Khujand are border veterinary positions that are close supervision of import and export of animals, animal products and goods being for veterinary control.

Total for the Republic operated 17 veterinary border posts. All veterinary border posts are equipped with computer technology and the sets are connected to the internet, all possible information from these enter the center without restrictions.



In 2010, Authority of Tajikistan approved the new draft law of RT № 674 of 29.12.2010, "On veterinary medicine" which coordinates the activities of veterinary services in view of the current economic opportunities and the actions planned by the Ministry of Agriculture and the country with the essential functions of the veterinary system of the Government. Specifically aimed at strengthening the conduct of anti-epizootic measures to improve the system of financing the provision of paid veterinary services as well as improving the quality of veterinary services.

Intensifying efforts to reduce the burden of foot and mouth disease in the document is given a lot of attention.



Vaccines used mainly in the republic:

1. The trivalent vaccine is of Indian origin type A, O, Asia 1 strain of Raksha.
2. The trivalent vaccine is of Indian origin type A, O, Asia 1 strain of FUTVAC Company "Brilliant Bio Pharma Limited"
3. Trivalent vaccine Russian production VIIZZH. Pokrov types A, O, Asia 1.
4. The bivalent vaccine Russian production VIIZZH. Pokrov types A, O.
5. Trivalent vaccine Russian production Biokombinat Shelkovskogo types A, O, Asia 1.
6. The bivalent vaccine Russian production Biokombinat Shelkovskogo types A, O.



Information about supply of vaccines and vaccination foot and mouth disease in the Republic of Tajikistan for 2014-2015

Regions	Total vaccinated	The vaccine is provided by the state budget, the dose	Amount, Somoni	The vaccine is due to pet owners	Amount, Somoni
Republic 2014	1232753	400000	1200000	832753	2498259,0
Khatlon	733507	159200	477600	574307	1722921,0
Sugd	215196	111600	334800	103596	310788,0
DRS	249002	99200	297600	149802	449406,0
GBAO	35068	30000	90000	5068	15204,0
2015					
Republic 2015	1703830	451900	1093598	1251930	3192421,5
Khatlon	968698	193400	462218	775298	1977010
Sugd	286914	106000	258760	180914	461331
DRS	405058	111000	267140	294058	749848
GBAO	43160	41500	104100	1660	4233,0



Компонент 2: Мероприятия по усилению ветеринарных служб

Кратко описать:

- 1. Улучшение управления программой контроля по ящуру*
- 2. Внедрение системы оценки/мониторинга*
- 3. Усиление лабораторных мощностей*
- 4. Другие меры по совершенствованию управления
Ветеринарной службой (например, региональная
координация)*

Пожалуйста, не стесняйтесь, делать конкретные ссылки на критические компетенции, относящихся к ящуру, как указано в ваших ПВС отчетах

1-2 слайда



As part of the National Strategy for improvement of the legal framework, which is the basis for its implementation, and the block of priority measures to be implemented in the 2016-2020 biennium.

- Complete vertical analysis of each of the departments of veterinary system in order to improve access veterinary services.
- Reviewed medical staff standards and medium veterinary personnel in veterinary care facilities and the definition of new functions
- A new and improvement of existing regulations and standards (currently developed and approved more than 10 normative legal documents regulating an activity acts)
- Enhanced network resources agencies SVIS (SVIM regions, local practitioners, veterinarian pharmacy, Veterinary station in borders etc.)
- Enhanced the further development of veterinary systems. care for all population groups and all categories of farms.
- Further implementation of the adopted and new national and sectoral programs (prevention and control of foot and mouth disease).
- Along with the OIE Strategy for Veterinary Medicine of 2010-2015. and in the framework of the Law "On Veterinary Medicine" is promoted and used by traditional veterinary care by proper treatment in accordance with international standards, guidelines and methodologies.



Develop a national strategy as a priority the surveillance FMD identifies the following methods:

- Definition of buffer zones and areas with a greater risk of the disease;
- Foot and mouth disease vaccination planning of farm animals in the buffer, the border areas and areas with a lot of risks;
- Research on the study of Epidemiology, diagnosis and control measures;
- Electoral serological diagnosis by studying pictures of FMD virus circulation and, if necessary, in the most vulnerable areas;
- Monitoring and epidemiological investigation of regions for the study of the epizootic situation of FMD for the purpose of early detection and prevention of foot and mouth disease.

Taking into consideration the fact that foot and mouth disease is a key element in the structure of the epizootic situation and epizootic welfare, organized by the working group consisting of experts and scientific SVIS workers REC, NCVD and the Government Offices of the Institute of Biological Safety TAAS and Research Institute of Veterinary TAAS which will examine the causes of the disease, risk factors and prevention and control of FMD.



Компонент 3: Взаимодействие по контролю других трансграничных заболеваний животных

1. Описание мероприятий, связанных с ящуром, которые способствуют контролю других основных трансграничных заболеваний животных (контроль движения, вакцинация, наблюдение, биологическая безопасность ферм, обучение и т.д.)
2. Описание того, как усиление Ветеринарных служб («сильные» ВС) способствуют контролю других основных заболеваний (технические навыки, управление, кампании по вакцинации и т.д.)
3. Описание того, как функциональные возможности лаборатории способствует контролю других заболеваний

1 слайд



Taken into account the importance and the need for measures to ensure the safety of animal origin foods, raw materials and dairy and meat foods, sausages.

To strengthen the control over the movement of livestock, purchase and sale of animals on cattle markets, with the activity of the enterprises for processing of live products.

Importantly, the National Strategy provides for the improvement of the epidemiological surveillance system for FMD, identifying cause - effect characteristics of the spread of other infections in addition to foot and mouth disease. It is important to identify the main factors determining the level of the nature and geographical spread of the disease

According to the OIE Strategy for Veterinary Epidemiological requirements of the stability and the Action Plan for the implementation of the Global Strategy for FMD control.



Organize the implementation of adopted legal instruments and mutual information support for the change of the epizootic situation for FMD in all regions of the country.

Implemented joint activities of ministries and departments in the involvement of the Global Strategy for FMD control for monitoring, prevention and prevention of importation of FMD in the republic.

Plans for the prevention of foot and mouth disease, the elimination of possible sources and the procedure for determining the status of zones and regions develop FMD taking into account the requirements and recommendations of the OIE.

Approval of each of the administrative units at the appropriate level of "Regulation (instructions) for the prevention and control of FMD", taking into account the specific recommendations of the FAO / OIE and national legislation on appropriate methods of dealing.



Текущие проекты и бюджет борьбы с ящуром (национальные или партнеры по развитию)

- Информация о национальных или международных проектах, которые прямо или косвенно связаны с борьбой с ящуром
- Любой план исследований?
- Любые другие действующие лица, поддерживающие план контроля ящура (международные организации, НПО, консультанты и т.д.)

1 слайд



Plan for implementation of the Strategy as well as the financial support of the working group organized SVIS.

The effort and the development of this plan are based on the following principles:

1. The cross-cutting and account of the interests of the prevention and control of FMD. The strategy covers a wide range of issues affecting the prevalence of foot and mouth disease, in particular, attention is given to the risk factors and preventive measures, many of which are in the jurisdiction of other agencies and departments. Work on the implementation of the Strategy is assigned to the following departments and agencies.

General Directorate of the Border MB RT and RT Ministry of Defence RT Ministry of Education and Science Statistics under the President of RT Agency Veterinary Research Institute TAAS, Research Institute for Biological Safety Problems TAAS, TAU, Agency for standardization, certification, metrology and trade inspection under the Government of Tajikistan.

State Sanitary Epidemiological Supervision Service under the Ministry of Health and Social Protection of the RT



Недостатки (пробелы) и запрос об оказании поддержки

- *Перечислите основные пробелы, которые необходимо устранить.*
- *Потребности в помощи для устранения этих пробелов*
- *Всего 1 слайд*



Disadvantages (spaces) and a request for support

1. Lack of funding anti-epizootic measures at the expense of the state budget.
2. seizure problems, destruction of infected animals and contamination, contaminated products and materials due to the failure to provide compensation.
3. Not equipped with modern laboratories at the central level and the periphery.
4. Lack of professional skills and expertise of veterinary specialists OIE requirements, the WTO, the Commission Codex Alimentarius need veterinary specialists internship abroad.
5. The shortage of vaccine for vaccination in the most vulnerable areas and buffer zones.
6. Lack of modern equipment and for the destruction of dead animals sick technology, their byproducts and seeding material (mobile crematorium).



Основная управляющая программа по ящуру, ожидаемый этап продвижения страны до 2025 года

С предыдущего слайда

Страна	2012	2013	2014	2015	2016	2022	2023	2024
↓								





Summary

Implementation of measures, requirements and the appropriate level of funding from the government (state budget) and donors on the proper level gives the opportunity to achieve sustainable prosperity for FMD.

The country achieved prosperous epizootic situation for FMD in the future the country can claim the status of countries liberated from the foot and mouth disease.

According to the introduction of strict veterinary sanitary control measures of FMD can not apply the routine vaccination of the population of susceptible animals at all levels of the country.



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Turkmenistan

7-th Regional FMD West Eurasia Roadmap Meeting

*Chief Specialist of Epizootic Department of Turkmenistan
Veterinary Service
Annamamet Mammaev*





Geography

The total area of the state is 491.2 thousand sq. km.

Most of the country (about 80%) of the Karakum desert. Turkmenistan borders with neighboring states in the north and north-east with Kazakhstan and Uzbekistan, in the south and south-east with Iran and Afghanistan, and to the west across the Caspian Sea to Azerbaijan and Russia.

The entire territory of Turkmenistan is divided into five administrative regions (velayats) in the West Balkan, Dashoguz in the north, in the east Lebap, in the south Ahal and Mary. Velayats are divided into 52 districts (etraps) and 12 cities.



**Ministry of Agriculture and Water
Resources of Turkmenistan**



Head of State Veterinary Service
He is the Chief Veterinary Inspector

Central Organization

Oblast State Vet. Services - 5

City Vet. Services - 7

Rayon Vet. Services - 52

Laboratories-2

**Veterinary Posts on
borders-18**
Land borders -15



Information on cases of FMD outbreak in Turkmenistan

Currently in Turkmenistan no cases of FMD disease have been reported. The last case of FMD was registered in **1999** in Karakalinsk etrap (currently renamed Etrap Mahtymkulinsky) of Balkan province and **type is O 194** cattle, in the private sector. Previous case of FMD was reported in **1994** in Lebap province in the farm Vatan Darganatinskogo etrap and kolkhoz - Atabaeva Kahkinskogo district of Akhal province among the cattle belonging to the private sector and **type A22** was identified.



At this time, the deformation of the serotypes of FMD and are not defined in Turkmenistan.

The working hypothesis of the distribution of foot and mouth disease and the risk of hot spots are in Balkan velayat and etrap Makhtumkuli, etrap of Akhal province Kaka .

Active surveillance is carried out by local veterinarians but with a lack of laboratory facilities, laboratory researches are not being conducted.



There is no effects of Foot and Mouth Disease in the socio - economic life of the country.



Carried out control measures

Local executive authorities to respond quickly to outbreaks and eliminate infectious diseases at the regional level were formed at Regional headquarters; In the event of an outbreak of FMD , according to the law " **on the veterinary - 2014 .** " the following measures will be implemented

- The region is set to Quarantine ;
- The ban on the import and export of animals and their products;
- Isolation of infected animals from susceptible animals ;
- Mechanical cleaning of the farm where the sick animals were kept , after disinfection with formaldehyde ;
- The vaccination program is held annually on the following criteria :
- Vaccination is required for border regions ;
- Vaccination is carried out once a year, cattle , small ruminants in threatened areas;
- Vaccination is carried out only by qualified personnel ;



Under control of the government constantly the activities of the Emergency Epizootic Commission is conducting state measures to prevent the occurrence and spread of infectious diseases . The Commission consists of the Chairman on behalf of the Deputy Prime Minister, members of the heads of the relevant Ministries (Ministry of Agriculture , Ministry of Emergency Situations , Ministry of Health , Ministry of Internal Affairs , Education, Science , information , finance , state committees , etc.) .



Animal population

year Type of animal	2010r	2011r	2012r	2013r	2014r	2015r	2016r
Cattle	2 120 000	2 133 900	2 216 500	2 237 600	2 180 200	2 289 200	2 317 400
Small ruminants	15 926 100	16 085 700	17 157 900	17 236 000	16 398 000	17 652 100	17 820 800
camels	119 500	120 900	124 000	124 300	121 200	125 600	126 000
birds	14 923 400	15 169 400	16 875 300	16 893 200	15 636 200	17 168 300	17 404 100
pigs	12 800	10 700	9 600	9 100	8 000	8 700	8 500



Vaccination

- Immunization of animals conducted with the vaccine of Russian manufacturer **type A, O, type Asia - 1**, intended for the immunization of cattle, small ruminants .
- (Manufacturer, the Federal State Department, ARRIAH , Vladimir, Russia)
- The number of imported vaccine to Turkmenistan each year is in the range of 300,000 to 700,000 doses
- Vaccination is carried out in a buffer zone along the border with neighboring countries





Information about the vaccination against FMD in Turkmenistan for 2014- 2015 .

№	Velayats	Cattle		Small ruminants	
		2014 год	-2015 год	2014 год	-2015 год
1	Balkan	18303	22426	20760	85999
2	Akhal	74797	92637	85261	114201
3	Mary	130012	100650	118077	229497
4	Lebap	43824	43168	51153	56584
5	Dashoguz	35604	63120	23219	74119
6	Ashgabad city	7095	6085		
	Total:	309635	328086	298470	560400



Needs

- Organize practical training of laboratory staff in modern methods of diagnostics of infectious diseases of animals.
- Acquire Laboratory equipment and ELISA and PCR reagents for five provincial veterinary laboratories.
 - Purchase sufficient amount of disinfection equipment and disinfectants .
 - Repair premises of the regional (oblast) and district laboratories .
- The functionality of the laboratory does not contribute to the control of FMD and other diseases





Thank you for attention!



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



FMD CONTROL IN KYRGYZSTAN

State Inspectorate for Veterinary and Phyto-Sanitary Security under the Government of the Kyrgyz Republic

Speaker: Murat Abdraev

Head of the Animal Health Control Department

Bishkek-2016



Gaps identified in roadmap 2015

Gaps	Activities to address gaps identified	Progress %
Lack of resources and low investments in capacity development	Personnel trained in ARRIAH, Vladimir	30%
Animal identification	Adoption of the Law on identification, approval of the regulations of GKR, development of the WAHIS system, start of its implementation	40%
There is no integrated continuing education program	Development of veterinary specialists qualification assessment system, training modules (VC, ARIS)	80%
Country territorial zoning	Law «On Veterinary», Adopted zoning regulations	70%



Gaps	Activities to address gaps identified	Progress %
Development of FMD control plan	Developed FMD control strategy plan	100%
Availability of vaccines	GKR allocated funding	100%
Border services have no adequate communication system	Veterinary border posts have access to Internet, with a database connected to Internet	75%
Minor recruitment of new personnel over the last ten years	Young specialists have been recruiting in veterinary service in recent years. 111 students study in the KNAU	41%



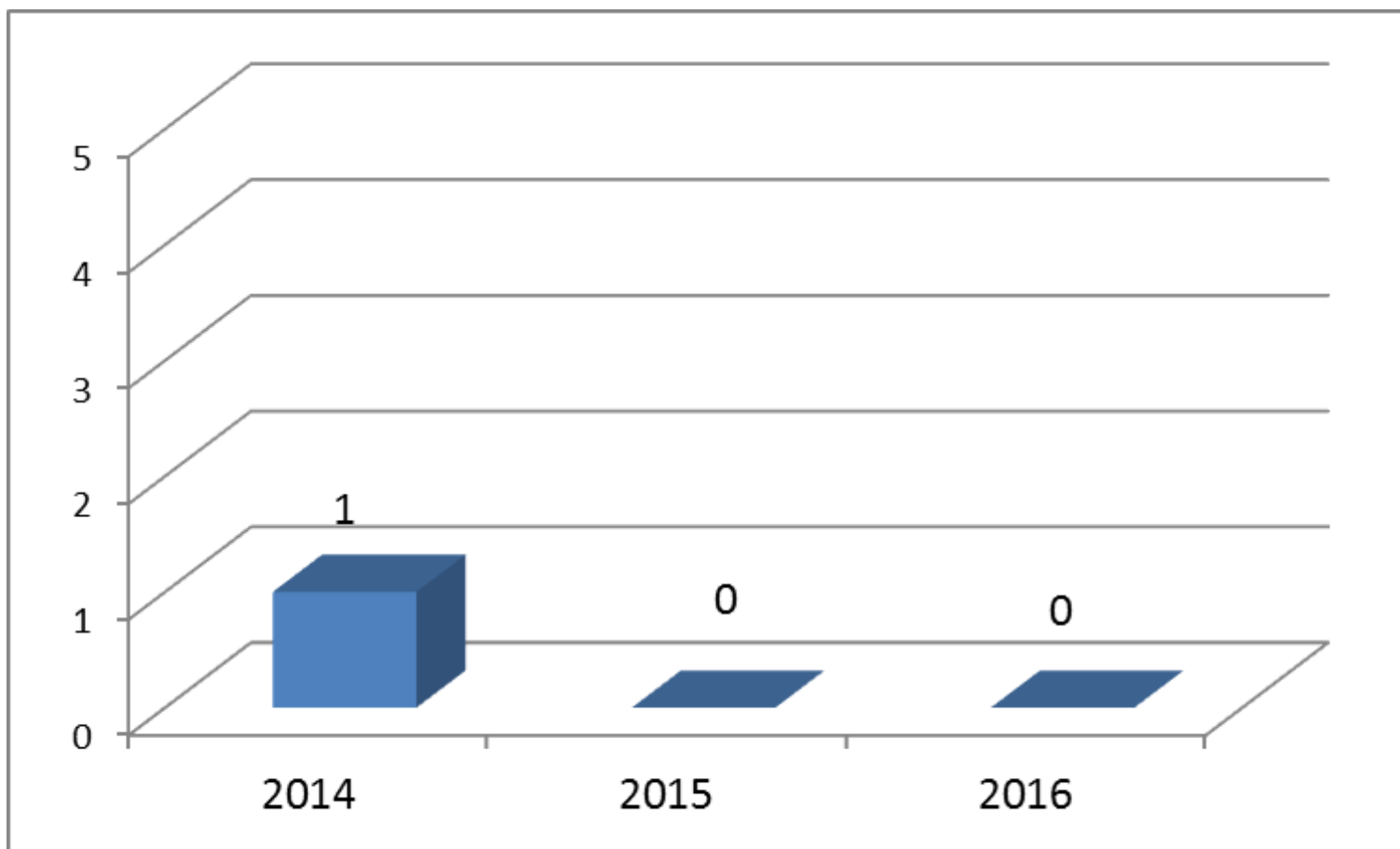
FMD outbreaks for the period 2014-2016

- Use the table and maps to indicate outbreaks;
- Identified strain;
- Quantity of materials submitted to the Reference Center to get the complete characteristics;
- Response to outbreaks;
- Prevalence of antibodies (unfolded proteins) in the country/region if there is no outbreak?

Slides 1-2



FMD cases from 2014 to 2016







- In 2014, 1 sample of pathological material from diseased cattle was sent to the Regional Reference FMD Laboratory in Vladimir, the OIE Center within the cooperation in animal disease diagnostic and control for East Europe, Central Asia and Caucasus.
- Serotype was not identified during survey due to the low quality of pathological material.
- Trivalent vaccine against FMD A/O/Aisa-1 manufactured by Russian Federation (Vladimir) is used.



Active and passive surveillance for the period 2014-2016

The results of analysis to identify NSP-antigen antibodies of FMD virus for 2014

Nº	Animal	Age	Number of samples	Positive results	Positive results %
	Cattle	above 6 months	771	-	-

The results of analysis to identify NSP-antigen antibodies of FMD virus for 2015

Nº	Animal	Age	Number of samples	Positive results	Positive results %
	Cattle	above 6 months	498	-	-
	Sheep&goats	above 6 months	185	-	-

Passive surveillance is regularly carried out in the field, VS conducts sampling.



FMD monitoring activities

- Determination of FMD antibodies prior to vaccination.
- Determination of FMD immunity (antibody) titres 3 months after vaccination.
- Determination of FMD immunity (antibody) titres 5-6 months after vaccination.
- In 2015, 3744 vaccinated cattle were examined to determine the immunity level. Bishkek RCVDE and Osh ZCVDE conducted the survey. The results showed that the immunity of vaccinated animals varied from 84 to 92%.



Social-economic or economic impacts of foot and mouth disease

- Economic losses in animal husbandry due to FMD reach several hundred million KGS.
- For example: according to official statistics, the minimum cost of treatment per animal is about US\$12 (KGS800) (antibiotics, disinfectants, antibacterial creams, etc., for sick animals), and direct treatment costs amount to several million KGS.
- It is difficult to estimate the additional loss of revenue due to the mortality, abortion and decrease in productivity of animals (milk yield, weight), because there is no accurate information about these losses.



Component: 1

FMD control plan

1. Description of vaccination plans:

- Cattle is vaccinated by trivalent vaccine of A, O, Asia-1 strains manufactured by Russia, twice a year (3.9 mln. doses)

Vaccine procurement plan for the next three years

years	cattle population	vaccination plan (minimum vaccination + offspring)	Yearly procurement plan (needed amount of 2 time cattle vaccination)
2015	1'458'377	2'041'728	4'083'456
2016	1'493'051	2'090'271	4'180'543
2017	1'546'996	2'165'794	4'331'589
Total		6'297'794	12'595'587

Surveys for NSP, definition of antibodies, immunity titles after vaccination



Schedule of FMD control activities in the next five years

	2015	2016	2017	2018	2019
Mass vaccination of cattle	X	X	X		
Vaccination of cattle based on risk				X	X
Serological surveillance for – antibodies - NSP FMD virus	X	X	X	X	X
Serological monitoring to determine the vaccination efficiency	X	X	X		
Clinical surveillance	X	X	X	X	X
Economic analysis of FMD	X				
Regionalization to control FMD		X			
Trainings	X	X	X	X	X
Public information/awareness campaigns	X	X	X		
Biosecurity, cleaning and disinfection	X	X	X	X	X
Studying the field strains of virus (on the ground)	X	X	X	X	X
Detailed investigation of outbreaks				X	X



BIOSAFETY

- Strict quarantine and animal movement restrictions should be introduced during disease outbreak in order to prevent further spread of the disease and to minimize environmental contamination.
- Development and application of the biosafety regulations to prevent spread of virus during sampling, laboratory survey, conducting epizootic monitoring, etc.



Component 2:

Activities to strengthen the veterinary services

- Adopted FMD control strategy for 2016-2020.
- Animal identification is introduced throughout the country.
- Virology departments are accredited according to ISO/IEC - 17025-2009
 - Accreditation certificate № KG 417/КЦА ИЛ.012 of 18.05.2015 to 18.05.2019
 - Accreditation area: Laboratory diagnostic of livestock for FMD
 - Identification of antigen in pathological material of animals
 - Identification of FMD antibodies in animal blood serum
 - Identification of non-structural proteins in animal blood serum



Republican Diagnostic Center for Veterinary Diagnosis and Expertise





Activities to strengthen the veterinary services

- There is a FMD Coordination Group (FMD CG)
- Strengthened control for veterinary medicine and vaccines
- Veterinary Code is being developed by the OIE experts (Regulatory legal acts are updated)
- Laboratory network is optimized
- Available NADIS, RADIS, DOGS system programs
- 21 veterinarians passed on-line training (webinar) of the European Commission for the Control of Foot and Mouth Disease (EuFMD) 9 of them received certificates (2015)



Component 3: Interaction to control other transboundary animal diseases

1. The Contract for consulting services for animal health and production between the APIU MoAM KR and the OIE was signed and implemented under the LMDP.
2. The Memorandum on joint control of transboundary and other diseases was signed with the Republic of Tajikistan in 2014.
3. The Memorandum on joint control of transboundary and other diseases in border areas was signed with the Republic of Kazakhstan in 2015.



Ongoing projects and budget for FMD control (national or development partners)

- FAO developed FMD stage control plan.
- Transboundary and other diseases (FMD, PPR, pasteurellosis, equine disease, echinococcosis, brucellosis) monitoring program is implemented under the LMDP-2.
- Laboratory staff has been trained to the standard IATA, sample transportation methods under the World Bank project.
- The World Bank Project assisted in procurement of thermo-containers for private veterinarians to maintain the cold chain



Gaps and request for support

- Technical support
- Creating a vaccine bank
- Investigation of Wild Fauna
- Training, internship



Necessary training and internships

- epidemiology;
- investigation of outbreaks;
- selection of samples for laboratory testing;
- disease control, quarantine, restriction of animal movements;
- biological safety, cleaning and disinfection, safe disposal;



The main FMD control program, the expected PPC of the country to 2025

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Kyrgyzstan	1	2	2	2	2	3	3	3	4	4	5	5	5	5



In brief

- Improving the regulatory legal framework for veterinary specialists
- There is a need for further training of veterinarians
- The Veterinary Service of the Kyrgyz Republic seeks to achieve FMD freedom status in the nearest 4-5 years



Thank you for your attention!





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



FMD Report – Syria

**7th Regional FMD West Eurasia Roadmap Meeting -
Bishkek, Kyrgyzstan– 6 to 8 April 2016**

Dr. Mazen Dib

Head of Central Lab

Directorate of Animal Health - Syria



Syria

Geographic Location	Middle east
Area	185180 km2
Population	24 million
Capital City	Damascus
Administrative-territorial units	14 Provinces



Syria





Livestock in the Country

Animal Population in Syria

Cattle: 1,1 million
Sheep: 18 million
Goat: 2 million
Buffalo : 7 thousands
Birds: 25,401,000
Fish: 12,770 ton
Hives: 63,0775
Exported Live animal : Awasi Sheep

Animal Products

Meat: 228,000 ton
Milk: 1,453,000 ton
Eggs: 3,265,899,000

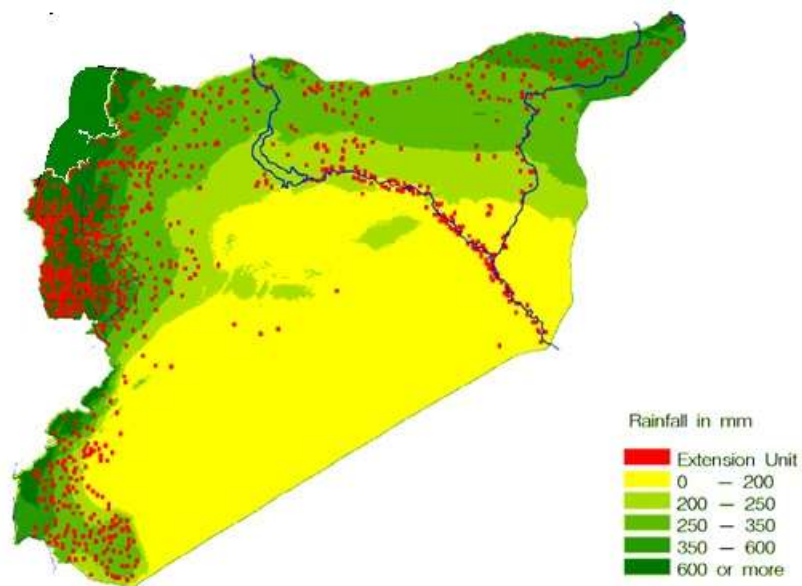


Veterinary Services

- Administration of **Animal Wealth** consist of three directorates:
(**D. A. H – D.V. D – D. A. P**)
- Directorate of Animal Health consist of **seven departments**
- Veterinarians are working in the **public sector** are estimated by 1500
- Veterinarians are working in the **private sector** are estimated by 3500
- **Vet. Assistants** are estimated by 6500
- The number of **Extension units** more than 1000
- The number of **veterinary centers** is 326



Extension Unites Distribution in Syria





Undertaken Procedures to Prevent the Entry of the FMD to Syria

- * Animal Wealth protection law **29/2006** determines the required legislations concerning animal wealth protection
- * A national **contingency plan** have been prepared to protect, prevent and control this disease.
- * A **FMD Control Strategy** for Syria have been prepared
- * In Syria there is a developed **lab** in the divided into three Departments, and there are **14** lab at provinces level.
- * Vet. **Quarantine** and disinfection strict procedures have been applied on border points
- * **Central** committees conduct visits to the provinces and Al Badia to acknowledge with the health status of animal wealth herds.
- * **Slaughter** houses control and immediate notification of any suspected cases within these slaughter houses.



FMD Control Plan

- * FMD is a **notifiable** disease by the law in all-susceptible animal species including wildlife.
- * Responsibilities of veterinary authority well **elaborated** in Animal Diseases law No. 29 of 2006 .
- * Continuous **surveillance** will be carried out irrespective of the disease status, with **public and private sector involvement**.
- * In case of an outbreak, **quarantine** will be imposed and properly managed, and the quarantine measures should be maintained until clinical and laboratory tests indicate that the causal agent has been eliminated.



Animal Movement and Control

- Livestock rearing in Syria depends mainly on **grazing** pastures within or close to the defined borders of towns and villages
- Most cattle are kept as a **small contained** dairy herds living in the villages and towns and their environs with little or restricted movement outside the village.
- The fat-tailed **Awassi** sheep is the only sheep breed in Syria (milk and mutton type) flocks move deep into the Syrian desert, where pasture growth
- Other Bedouin flocks are taken in winter to grazing lands in the southern parts of the Syrian
- The most important element to achieve the success in FMD strategy is the complete **control on the borders** throughout setting laws to **regulate** animal movement (exporting and importing processes - meat products - risk materials for FMD - unofficial livestock movements) and prevent the illegal entry
- Quarantine import protocols conform to OIE standards

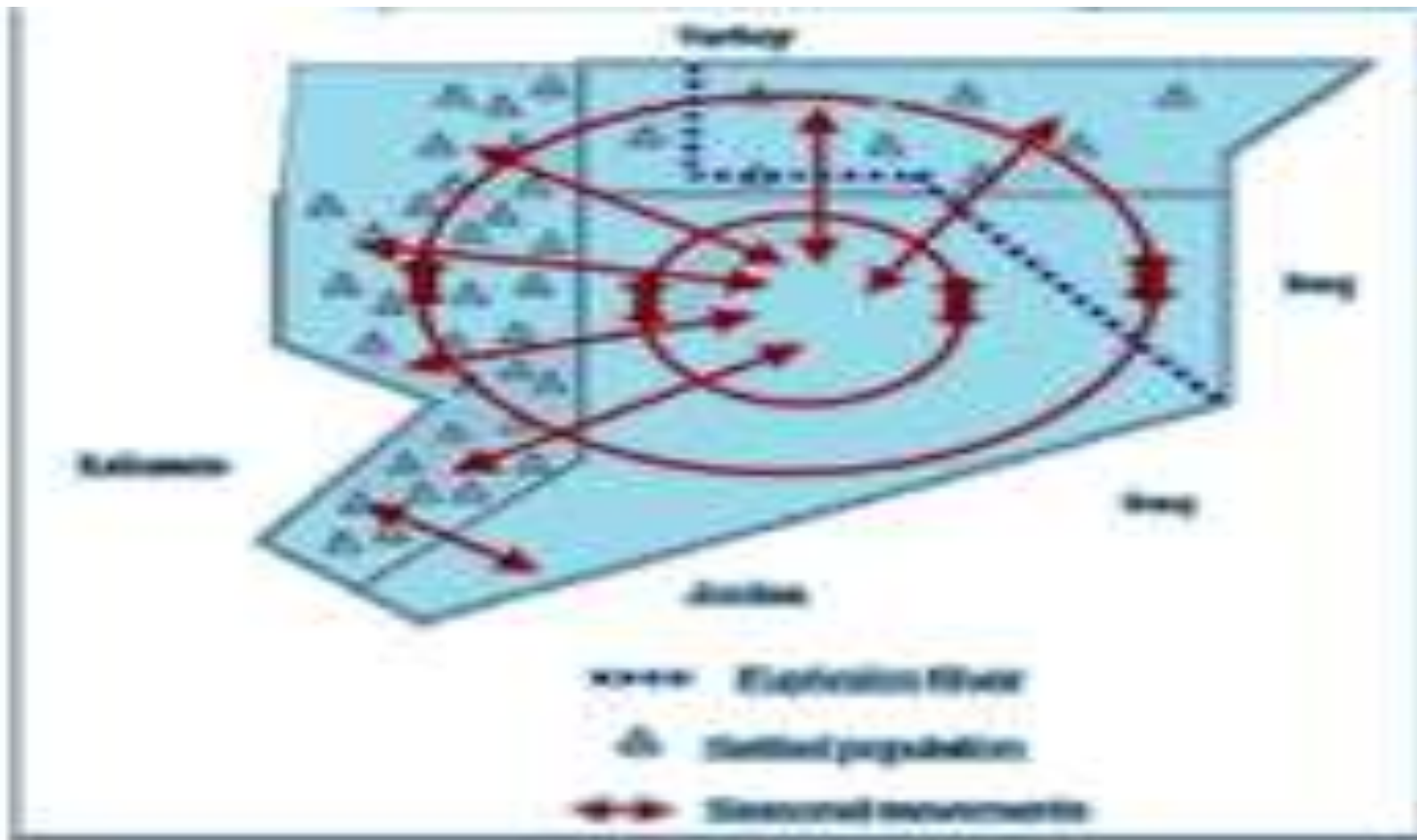


Shami Goat – Awasi Sheep





Sheep Movement





Syrian Vaccination Policy

- The inactive vaccine of FMD which is used in Syria contains the following strains: **(O pan Asia2-A Iran 05-Asia 1)**.
- The MAAR announces about this vaccine through an **external bid** according to strict terms including vaccine test and its evaluation in the **reference** labs, but in case of the impossibility of this step , the vaccine is locally tested through safety and antibodies levels testes post-vaccination and by the attendance of a foreign specialized expert as well as a specialized commission selected from DOAH and another scientific sides like Directorate of Veterinary Drugs and Veterinary Medicine Faculty and expert from vets syndicate, where animals are vaccinated with the mentioned vaccine and their blood samples are tested pre-vaccination and then these samples are tested after 21 days of vaccination, in order to implement Elisa test to detect the antibodies, and titration test to detect the **antibodies levels** and the results should be complied with the international standards.



- * FMD vaccination is **obligatory and free** of charge
- * Cattle vaccination is applied **twice** a year, and sheep is vaccinated **once** a year.
- * The vaccination strains is selected according to the following **considerations**: the health status in Syria and the neighboring countries, and OIE - FAO – WRL recommendations.
- * The vaccine is received and **distributed** chilled to all provinces.
- * The vaccination **covers** all Syrian areas.
- * Purchased doses in **2015** (7 million)
- * Central commissions **follow** -up the vaccine process at the field.
- * ***Civil society, private vets, and vets syndicate support and help in vaccination campaigns and samples collection in crisis areas.***



Epidemiology OF FMD

The routine functions of the **Epidemiological Unit** of the National Veterinary Services are:

- * The most valuable **source** of information from (OIE)
- * **Recognize** the disease quickly in different parts of the country
- * Knowing the current geographic **distribution** and incidence of FMD
- * Distribution fairly static or has there been a recent history of **spread** to new countries, regions or continents
- * Antigenic subtypes emerged that may **threaten** even countries that routinely vaccinate against the disease
- * FMD present in **neighboring** countries, where are the nearest outbreaks to shared borders



- * Vaccination campaigns **covers** all Syrian herds.
- * There will be restrictions on **introduction** of livestock and livestock products from known infected areas within and outside the country.
- * Areas of **livestock-wildlife** interaction will receive special consideration with regard to FMD control strategies.
- * **Research** and development on FMD control will be strengthened, particularly on vaccine development.
- * There provision **accreditation** of FMD free with vaccination
- * FMD control **strategies** will be implemented along regional and international obligations as stipulated under internal organizations.



Reports Database and Information

- * Existing **reporting** systems (Immediate notification, follow up reports weekly , monthly yarely reports)
- * Immediate **notifications** and follow-up reports submitted by Member Countries in response to exceptional disease events occurring in these countries as well as follow-up reports about these events,
- * Reports describing the OIE-listed disease situations in each country (**WAHID** system)
- * Annual reports providing further **background** information on animal health, on laboratory and vaccine facilities, etc.
- * Disease distribution **maps**
- * Detailed country disease **incidence**
- * Disease **timelines**



SP – NSP Surveys

- * Annual animal sera **surveillance** has been acted to detect the antibodies level post-vaccination with Ab Det ELISA Test.
- * SP – NSP Surveillances are applied on **cattle and sheep**
- * Epidemiological studies section sets up a **plan** to conduct the surveillance and the required instruction to collect samples.
- * Most Syrian provinces are **included** in the surveillances.
- * The diagnostic materials (Elisa Kits for SP Survey) are provided with the vaccine in the same **contract**.
- * The samples are collected after **21** days from the vaccination for SP Survey (PVM).
- * Annual Tested samples **about** (3000 sample LR – 2000 sample SR)
- * The **results** of this surveillance are analyzed, studied and compared with the previous results.
- * Results of titration tests to detect the antibodies levels should be **complied** with the international standards.



LABORATORY

-FMD diagnosis **lab** (DOAH) consists of three units as the following:

- Sera tests unit.
- Cell culture unit.
- PCR unit.

- The following **tests** are conducted within this lab:

- Ag Det ELISA Test.
- Ab Det ELISA Test.
- NSP Ab Det ELISA Test.
- Cell Culture.
- Real Time PCR.

- Syria participate annually in **Proficiency** Tests

- Control of **pathogens**: Movement of samples containing (or which might contain) FMDV to laboratories is regulated and controlled under the OIE recommendations (OIE Manual)



PCR Unite





Capacity Building and Training

- *Participating in the international and regional **conferences and workshops**.
- *Participating in **training courses** outside the country which are organized by the international and regional organizations.
- *Conducting training courses for the **veterinarians staff** working in the provinces
- *Conducting **field training days** in order to know how to deal with the suspicious cases in case of their occurrence.
- *Setting up scientific **publications** about the disease
- *Holding symposiums and **lectures** defining the disease and the significance of the vaccination.
- *Resorting to Mass **Media** (newspaper-radio-TV) in order to educate people about the disease or to notify of the vaccination campaigns.
- *Conducting groups **extension** meeting for farmers



Legal Frameworks

- * FMD is a **notifiable** disease according to the OIE standards .
- * There are a lot of **decrees, laws** and executive instructions control and arrange animal health act:
 - Animal Health Law – No,29 / 2006 was interpreted and updated by many decisions, and the law include all the measures for the control , prevention and eradication of notifiable disease : quarantine measures, animal movement , livestock markets , slaughter houses , stamping out , compensation and the relative responsibilities are established
 - Executive instructions for Animal Health Law 301 / 2006
 - Animal Movements Control – Decision No 318 / 2010
 - Quarantine Procedures and Health Certificates - Decision No 4539 / 2011
 - Meat importation Decision - No 1983 / 2007
 - Trading and industry of fodder Decision - No 1738 / 2009
 - Slaughterhouses accredit from importation countries Decision - No 169 / 2007



Trade

* Various measures are put in place to ensure that imported animals and products of animal origin do not present unacceptable risks to the health of other animals or to public health.

* Decisions (301/ 2006 - 6/ 2015) arranges all the instructions related to Foot-and-Mouth Disease



Socio- Economic impact of FMD

- * **Animal Wealth** is great importance in the Syrian economy and forms 18.6% of the national income.
- * Workers in animal **wealth** sector are estimated by 20% of the labor force in Syria.
- * **Workers** in **agriculture** sector are estimated by 8 millions.
- * The government provides most of the required support to animal health **breeders** and in particular fodder, vaccines and treatments.
- * Vet authorities undertaken all the required **procedures** to prevent the disease entry the country due to its importance and effect in economy.
- FMD Control strategy includes Expected **benefits** related to : livelihoods and food security - improvement financial conditions of private stakeholders - public sector – trade - regional and international communities - dairy industry and meat industry - Export



Ongoing projects and budget for FMD

This **funding** covers the following:

- Equipping the working staff
 - Training the working staff
 - The laboratory work
 - Control program
 - Contingency camps costs
 - Commenting on the epidemic
 - Purchasing tools and materials
 - Fuel and transportation costs
 - The required money to eradicate this disease
 - Other costs
- ***Central VS Account** about: 202,712,000 Syrian pounds
- ***FMD Vaccine**: 3 million Euro



Ongoing Projects

- (OSEO/SYR/401/ BEL and GSP/RAP/004/SW1), 2796 villages were targeted in seven provinces, the total number of the benefited breeders from the project were 57024 breeder and the total number of the livestock treated was estimated by 4251244 heads.

- The second project (OSRO/SYR/309/US), 267 village were targeted in four provinces, the total number of the benefited breeders from the project were 13000 breeder and the total number of the livestock treated was estimated by 627289 heads.

- The third project (OSRO/SYR/503/CHA) 11 provinces were targeted, the total number of the benefited breeders from the project were 88210 breeder and the total number of the livestock treated was estimated by 4344052 heads.

- **TCP/SYR/3501/Baby02 Project:**

- 1 – Epidemiology and Surveillances
- 2 – Veterinary Laboratories
- 3 – Vaccines Production



Impact of the Crisis

- Difficulty** in providing diagnostic materials, kits, lab equipments and spares.
- A lot of VL became **out** of service
- Shortfall in technical staff and especially the owners of **expertise**
- Difficulty the **participating** in external training courses, and stop some organizations on invitations to participate in these courses
 - Lack of participating in **workshops** and regional and international conferences
- Difficulty of **reaching** to animal breeders places in some villages
- Affect on epidemiology **surveillances** and early **warning** system



Request for Support

- Supporting the **VL** with the diagnostic materials ,lab equipments and spares for damaged equipments
- Inclusion the Syrian VL within the **twinning** project with the international reference labs due to the importance of exchanging experience, qualifying the vet staff in vet labs and ensuring the diagnostic materials and kits
- Participation in the international and regional **conferences** ,workshops and **training** courses
- Establishment of the geographical information system (**GIS**)
- Establishing and developing a national epidemiological surveillance **network** between the national center in Damascus and provinces.
- Enhancing the **capability** to conduct epidemiology studies and risk management, risk assessment, and risk analyzing.



FMD Control Strategy for Syria

- *Active **monitoring** for FMDV circulation and understanding the epidemiology of FMD
- * Complete control on the **borders** is the most important element to achieve the success in this
- *The constant communication and contact with **stockholders**, private sector, the local veterinary authorities, the veterinary services and agriculture concerned authorities.
- * Reduction in virus **circulation** and mitigation of disease risk to be achieved



- * **Optimization** of resources use for FMD control
- * Study the socio – economic **impact** and value chain
- * Moreover, the **education** of the stockholders, traders, breeders and workers (who are in contact with animals and observing their animals) is also of great importance to be acknowledge with FMD and its syndromes and the correct and prompt act to deal with , notify and request the help from the concerned authority throughout training the concerned persons and rise their awareness by mass media means which is as a permanent resource that throw the light on the disease and its importance .



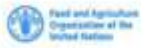
Country PCP-FMD expected stage progression until 2025

Syria	2012	2013	2014	2015	2016	2022	2023	2024
	2	2	1	1	2	4	4	4





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Food and Agriculture
Organization of the
United Nations



World Organisation for
Animal Health



Pakistan

M. Afzal¹ & K. Ahmad²

¹FMD Management Specialist & ²Principal Scientific Officer

¹FAO-Pakistan & ²National Veterinary Labs, Islamabad



Gaps Identified in 2015 Roadmap

Gaps	Corrective actions taken	% achieved
<p>1. Pakistan to decide whether to belong to West Eurasia or SAARC PCP Road Maps</p>	<p>Pakistan to be part of West Eurasia PCP Road Map as FMD viruses of Pakistan belong to Pool 3; to be observer in SAARC Road map</p>	<p>100</p>
<p>2. Lack of comprehensive animal health legal framework</p>	<p>Consultation process undertaken with provincial and federal governments livestock experts</p>	<p>25</p>
<p>3. Availability of cost effective good quality vaccine</p>	<p>Consultative meetings held with public and private sector , consultatants being sought under a USAID project (PEEP) for setting up vaccine manufacturing facility</p>	<p>10</p>



FMD outbreaks in 2014-2016 in Pakistan



FMD Virus Serotypes (January-December 2014)

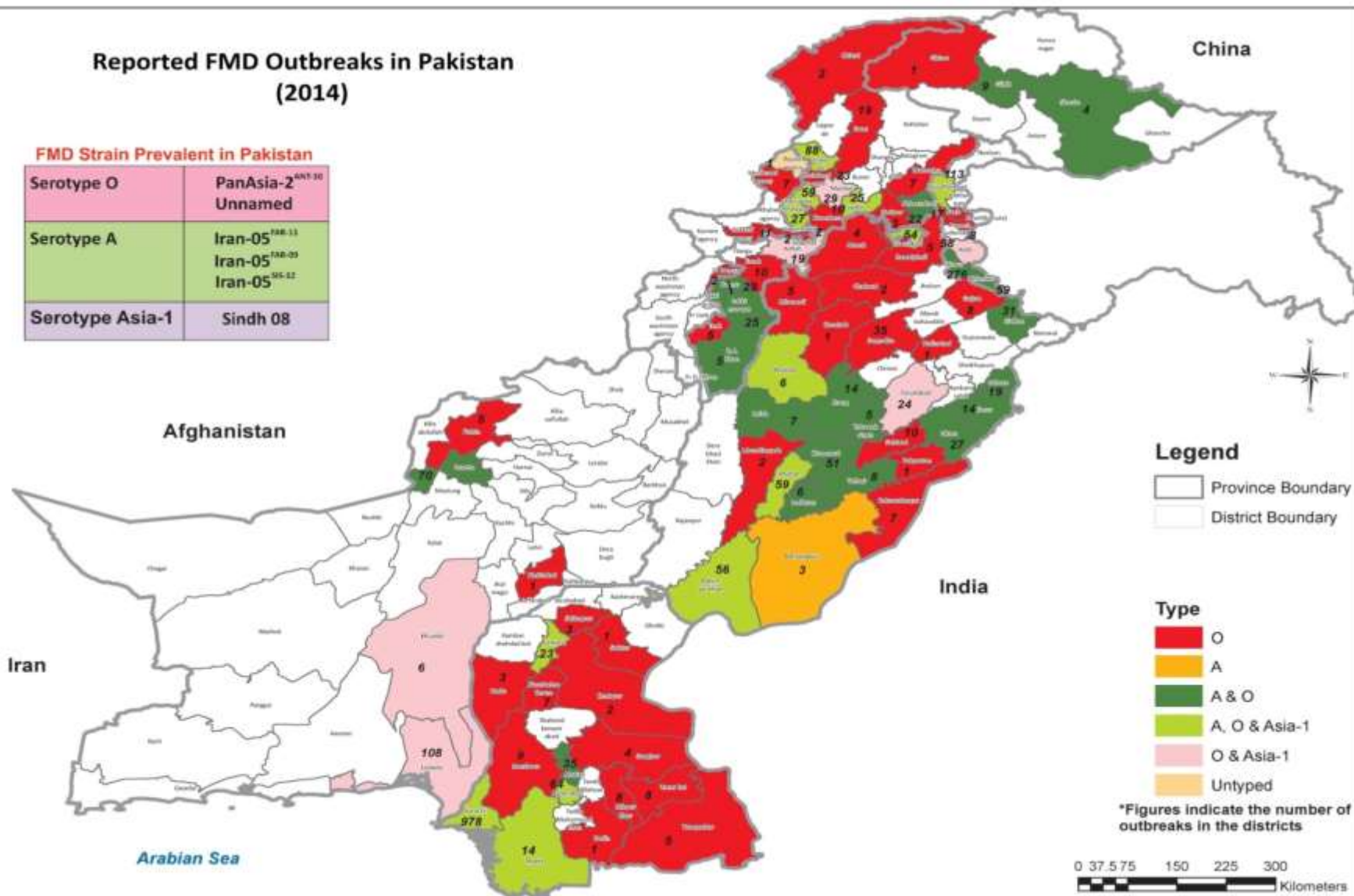
Province	Total FMD outbreaks	Outbreaks (#) due to serotype				ELISA Negative Outbreaks
		O	A	Asia-I	Mixed	
Punjab	417	291	37	19	2	68
Sindh	1168	679	92	115	111	171
Khyber Pakhtunkhwa	407	187	24	38	0	158
Balochistan	193	107	15	16	0	55
Gilgit-Baltistan	10	7	3	0	0	0
FATA	29	17	0	0	0	12
AJK	534	310	6	5	6	207
Islamabad	55	31	11	3	0	10
Total	2813	1629	188	196	119	681



Reported FMD Outbreaks in Pakistan (2014)

FMD Strain Prevalent in Pakistan

Serotype O	PanAsia-2 ^{ANT-10} Unnamed
Serotype A	Iran-05 ^{IR-11} Iran-05 ^{IR-05} Iran-05 ^{IR-12}
Serotype Asia-1	Sindh 08





FMD Virus Serotypes (January-December 2015)

Province	Total FMD outbreaks	Outbreaks (#) due to serotype				ELISA Negative Outbreaks
		O	A	Asia-I	Mixed	
Punjab	202	74	39	33	-	56
Sindh	651	211	215	21	140	58
Khyber Pakhtunkhwa	39	7	16	9	-	7
Balochistan	37	11	19	-	1	6
Gilgit-Baltistan	-	-	-	-	-	-
FATA	3	-	3	-	-	-
AJK	100	30	31	2	-	37
Islamabad	23	6	2	12	-	3
Total	1055	339	325	77	141	167

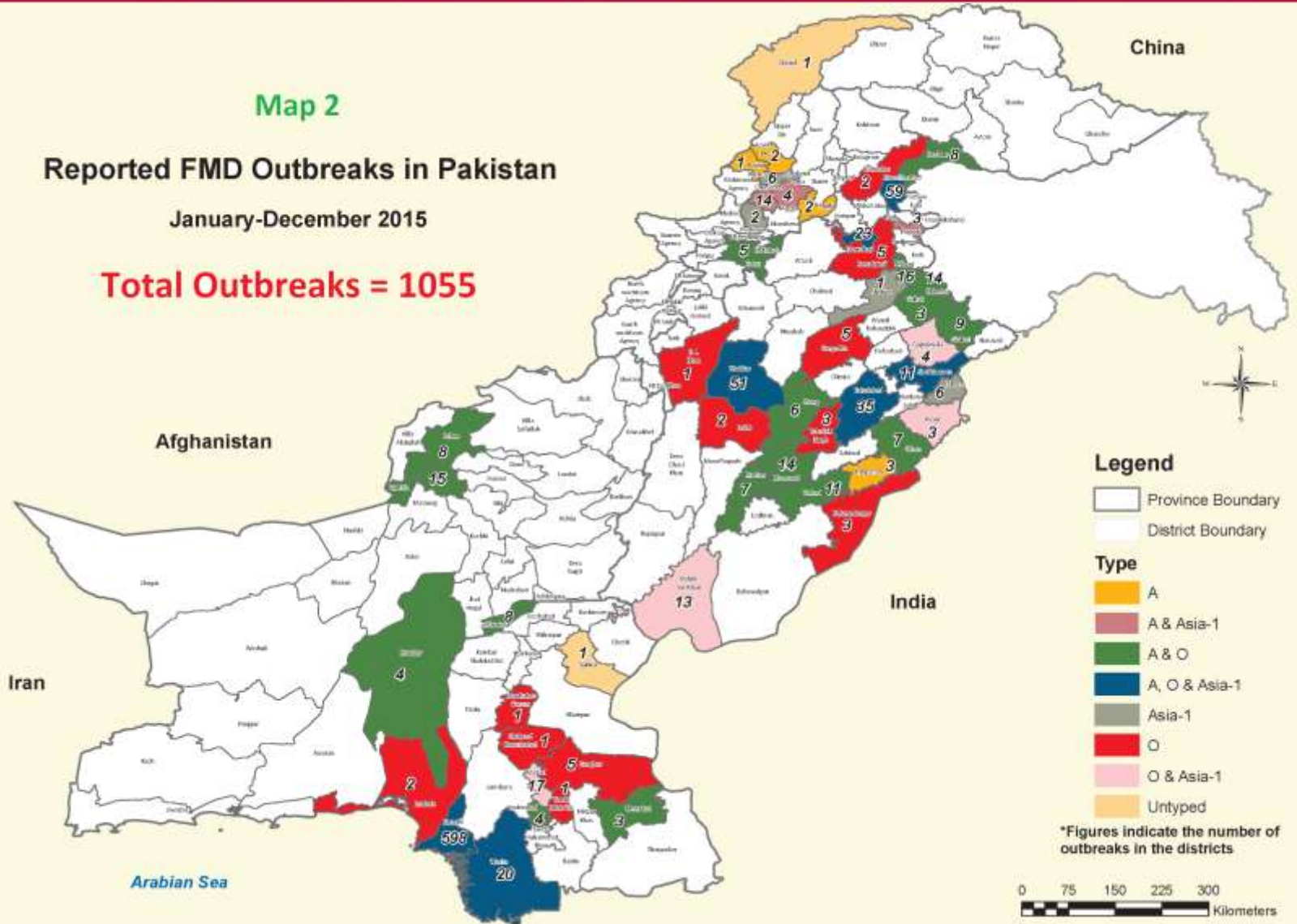


Map 2

Reported FMD Outbreaks in Pakistan

January-December 2015

Total Outbreaks = 1055





FMD Virus Serotypes (January-March 2016)

Province	Total FMD outbreaks	Outbreaks (#) due to serotype				ELISA Negative Outbreaks
		O	A	Asia-I	Mixed	
Punjab	160	51	32	40	8	29
Sindh	218	50	39	32	11	30
Khyber Pakhtunkhwa	12	6	-	3	-	3
Balochistan	3	-	-	2	-	1
Gilgit-Baltistan	6	3	1	-	-	2
FATA	-	-	-	-	-	-
AJK	18	7	2	2	-	7
Islamabad	26	2	6	16	-	2
Total	443	119	80	95	19	74



Recent FMD Virus Genotypes Prevalent in Pakistan

Year	Serotype O	Serotype A	Serotype Asia-1
2012	PanAsia-2 ^{ANT-10} Unnamed(3)	Iran-05 ^{SIS-12} Iran-05 ^{FAR-11}	Sindh-08
2013	PanAsia-2 ^{ANT-10} Unnamed(1)	Iran-05 ^{SIS-12} Iran-05 ^{FAR-11}	Sindh-08
2014	PanAsia-2 ^{ANT-10} Unnamed(1)	Iran-05 ^{FAR-11} Iran-05 ^{FAR-09}	Sindh-08
2015	PanAsia-2 ^{ANT-10} PanAsia-2 ^{PAK-98} PanAsia-2 ^{BAL09}	Iran-05 ^{FAR-11} Iran-05 ^{FAR-09}	Sindh-08



Seromonitoring for FMD virus circulation - Punjab

Dairy Production System in Punjab	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Lahore - Dairy Colony	317	247	78
Attock - Smallholder Rural Production	153	45	29
Jhang - Smallholder Rural Production	263	97	37
Rahim Yar Khan - Smallholder Rural Production	275	52	19



Seromonitoring for FMD virus circulation - Sindh

Dairy Production System in Sindh	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Landhi Cattle Colony	905	688	76.0
Nagori Dairy Society	1013	888	87.6
Thatta villages	157	32	20.4
Tando Allah Yar	198	49	24.7
Noshero Feroz	49	30	61.2



Seromonitoring for FMD virus circulation – Khyber Pakhtunkhwa

Dairy Production System in Khyber Pakhtunkhwa	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Peshawar	330	193	58.4
Abbotabad	88	15	17.0
Noshera	140	85	60.7
Dera Ismail Khan	151	41	27.1



Seromonitoring for FMD virus circulation - Balochistan

Dairy Production System in Balochistan	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Dairy Colony, Quetta	300	183	61.0
Pishin	192	82	42.7
Lasbella	162	89	54.9
Bolan	152	31	32.2



Seromonitoring for FMD virus circulation - AJK

Dairy Production System in AJK	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Mirpur- Dairy Farms	323	160	49.5
Mirpur-Smallholder Rural Production	309	73	23.6
Muzaffarabad- Smallholder Rural Production	254	9	3.5
Rawalakot- Smallholder Rural Production	270	23	8.5



Seromonitoring for FMD virus circulation - FATA

Dairy Production System in FATA	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Bajur Agency	144	19	13.9
Mohmand Agency	156	17	10.8
FR DI Khan	63	23	3.6



FMD Virus circulation in Desert Cattle Farming

Area	Tobas #	Blood samples #	NSP antibody positive #	% Positive
Greater Cholistan	5	110	65	59.1
Lesser Cholistan	7	263	167	63.5
Total	12	373	232	62.2

- Sero-monitoring showed wide spread FMD virus circulation in animals in desert areas also



Seromonitoring for FMD virus circulation – Yaks in Gilgit-Baltistan

Valeys in Gilgit-Baltistan	Samples Tested (#)	NSP Antibodies	
		Positive (#)	% Positive
Phandar Valley	136	66	48.5
Barsat	47	15	31.9
Tero	31	8	25.8
Pingle	25	4	16.0
Harkush	31	15	48.4
Hundrab	64	22	34.4
Phandar	29	7	24.1
Total	363	137	37.7



FMD Economic Impact study

- **Detailed economic analysis of current FMD status undertaken by Social Sciences Institute, NARC**
- **Farm level survey of 982 dairy farms including 779 rural smallholder and 203 peri-urban dairy colonies farms**
- **High occurrence (>85% sample farms) of FMD during last five years in peri-urban farms in Karachi and Quetta followed by Peshawar and Islamabad (67%), while lowest in Lahore (21%)**
- **Prevalence in rural areas ranged from 14% in AJK to 90% in Balochistan with an overall average of 40 percent**
- **Value of milk loss due to FMD Rs. 64590 per cow and 55605 per buffalo in peri-urban dairy production system**
- **In rural smallholder dairy production system, the value of milk loss at Rs. 20871 per cow and 25336 per buffalo.**
- **Other monetary losses include mortality in young stock, body weight loss, distress sale, disturbance in calving interval, abortion and permanent lameness**



Component 1: FMD control plan



Suitable FMD vaccine for Pakistan

Vaccine 2012

- Serotype O – PanAsia- 2
- Serotype A – Iran 05
- Serotype Asia-1 – Shamir
- Concentration of all strains in the vaccine > 6 PD₅₀

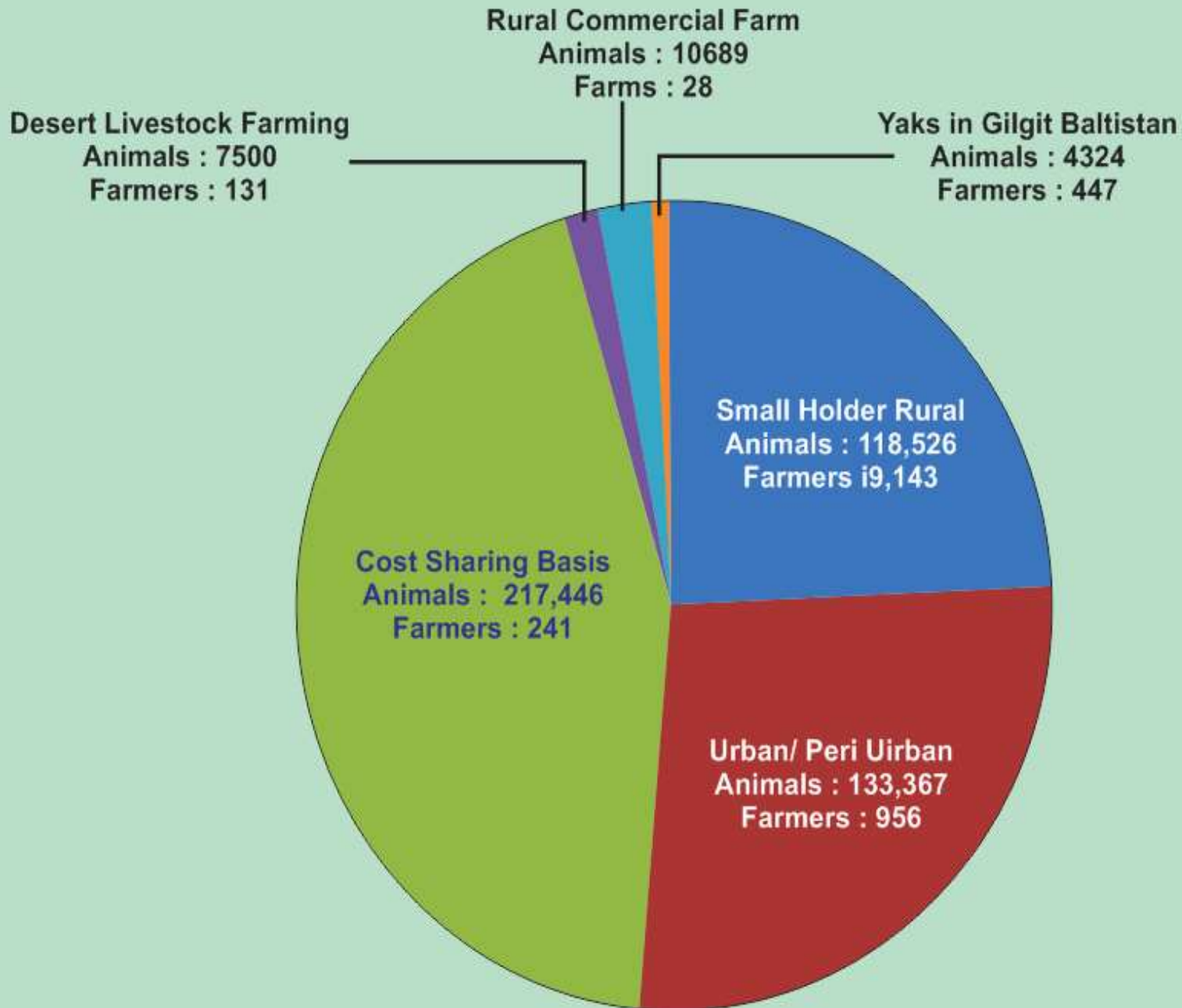
Vaccine 2013 – 2015

- Serotype O – PanAsia-2
- Serotype A – Turkey 06
- Serotype Asia-1 – Sind 08
- Concentration of all strains in the vaccine > 6 PD₅₀

Vaccine 2015-16

- Serotype O - PanAsia-2 (>6 PD₅₀)
- Serotype A – Kabardino-Balkaria-2013 (>10 PD₅₀)
- Serotype Asia-1 - Sind 08 (>6 PD₅₀)

Vaccination in Different Milk Production Systems of Pakistan





Impact of FMD Vaccination

- **Effect of vaccination in the face of the outbreak**
 - 80 – 90 % farmers reported early recovery of their animals
 - 85/88 farmers reported no new case after vaccination
- **Benefits of FMD vaccination**
 - Vaccination was effective in preventing the clinical disease in both rural smallholder and dairy colonies production system. Only one rural smallholder farmer (<0.4 %) and two dairy farmers (2.8%) reported clinical disease after vaccination. No case of FMD was reported after booster dose of the vaccine. 12.5 % farmers in unvaccinated villages and 30.2 % farms in dairy colonies reported disease
 - Farmers in dairy colonies (44 %) and rural smallholder dairy production (23 %) reported increased in profitability of the farm due to effective FMD vaccination.



Awareness raising of livestock farmers

Province / Area	Seminars #	Farmers trained #
Punjab	37	1070
Sindh	15	909
Khyber Pakhtunkhwa	37	2223
Baluchistan	10	262
FATA	10	318
Gilgit – Baltistan	7	195
Azad Jammu & Kashmir	26	845
Islamabad	2	72
Total	144	5894



Capacity building of field staff

Province / Region	Workshops (#)	Vets trained (#)	Para-vets trained (#)	Sample Collection Kits provided (#)
Punjab	40	947	207	814
Sindh	21	499	209	510
Khyber Pakhtunkhwa	10	242	53	166
Balochistan	5	188	27	163
Gigit-Baltistan	4	62	25	75
Azad Jammu & Kashmir	7	137	74	119
Fed Admin Tribal Areas	3	50	-	30
Islamabad	1	29	-	29
Total	91	2154	570	1906



Component 2:

Activities to strength the veterinary services



National Program – Risk based Control of Foot and Mouth Disease in Pakistan

- **Project Components**
 - Strengthening the liaison between federal and provincial levels to harmonize the procedures for FMD control and prevention
 - Strengthen the diagnostic laboratory capacity at federal and provincial levels
 - Strengthen the surveillance system for FMD and create a national FMD information node
 - Promote more extensive use of good quality vaccine against FMD
 - Improving the legal framework for FMD control
 - Promote a more intensive involvement of stakeholders' on FMD control and prevention
- **Budget** **Rs. 822.20 million**



Strengthening of labs capacity for FMD diagnosis

- **National Veterinary Labs, Islamabad (NVL) is the National Reference Lab for FMD**
- **9 labs fully functional for undertaking serotyping of FMD, one in each administrative unit, two in Sindh**
- **Molecular diagnostics (PCR – conventional and real time) and virus isolation working at NVL**
- **Nucleic acid sequencing work being standardized**
- **NVL regularly participating in proficiency testing program of WRL; A national proficiency testing program being operated by NVL**
- **An harmonized (central and provincial) Laboratory Information and Management System is operational at all FMD Labs**



Synergies to control other TADs

- 1. Pakistan has also started a project “Progressive control of PPR in Pakistan”. This project is funded by USDA and executed by FAO**
- 2. Disease surveillance model developed for the FMD control has been adopted for the PPR and is working well**
- 3. Capacity building of the field staff in the FMD control program has helped to launch PPR control program in Pakistan**
- 4. Application of biosecurity measures like movement control and zoosanitary measures adopted by the field staff for FMD control has also been used in PPR control**



Ongoing projects and budget for FMD control (national or development partners)

- Development of a Technical Framework for the Progressive control of Foot and Mouth Disease in Pakistan (A USDA funded project that concluded in Sept 2015)
- Enhancement of vaccine production capacity of FMD Research Centre, Lahore (Punjab Government Rs. 189 millions)
- Purchase of 5 million doses of FMD vaccine for use in animals of smallholders dairy farmers (Special grant of Chief Minister Punjab)
- Development of National Control Program for Foot and Mouth Disease in Pakistan (A FAO-TCP Project expiring in Oct 2016)
- FAO-Pakistan proposed a UTF Project “Risk based Control of Foot and Mouth Disease in Pakistan” to the Pakistan Government. No decision on funding yet



Gaps and Request for Support

- Legal framework for animal health for the provinces and federal government (Technical Assistance required)
- Financial and technical assistance for the National FMD Control Program
- Technical assistance in the establishment of a FMD vaccine production facility



Country PCP-FMD expected stage progression until 2025

From previous slide

Country	2012	2013	2014	2015	2016	2022	2023	2024
Pakistan	1	2	3	4	5	3	4	5





Acknowledgements

- Excellent support of all livestock departments particularly field veterinarians for the implementation of project activities
- PIADRC, NY for virus characterization
- FMD-WRL UK for sub-typing and vaccine matching
- Support of AHC Office and NVL
- All stakeholders particularly livestock farmers
- USDA and FAO for financial assistance



Thanks



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



FMD Disease situation in Iraq 2014-2016

Layth Mohammed Salih Abdulrasool

*Central Veterinary Laboratories and Researches Department
Veterinary Directorate*



GAPS IDENTIFIED IN 2015

- Bad Security Status, and loss of veterinary services in areas under terrorist control.
- Inefficient restriction of animals movement on borders.
- Delay in vaccine delivery due to administrative and financial difficulties.
- Low level of cooperation with the Kurdish region in northern of Iraq.
- Low level of cooperation with regional countries.
- Inefficient cooperation with the veterinary private sector.
- Shortage of awareness campaigns.
- Inadequate live stock estimation Numbers.
- Difficulties in shipping of isolates for confirmation and matching.
- No application to compensation legislation.
- Threat of novel viral genotypes from the Indian subcontinent.
- Delay in the evaluation of the PVS.



2014 work update

- Two vaccination campaigns were conducted during 2014,
- The 1st on covered bovine and buffalo that involved the vaccination of about 1736437 animal with high potency (>6pd50) trivalent vaccine .
- The 2nd vaccination campaign involved the vaccination of 1268131 animals (bovine and buffalo) and 4292653 animals (ovine and caprine).



Disease situation in 2014

Clinical disease submitted to the veterinary official sector

Adult Cattle	Calves	Adult buffalo	calves	Ovine	Lambs
265	344	15	5	763	71

Laboratory confirmed Cases

Total Samples	Positive Samples	Negative Samples
420	141	279

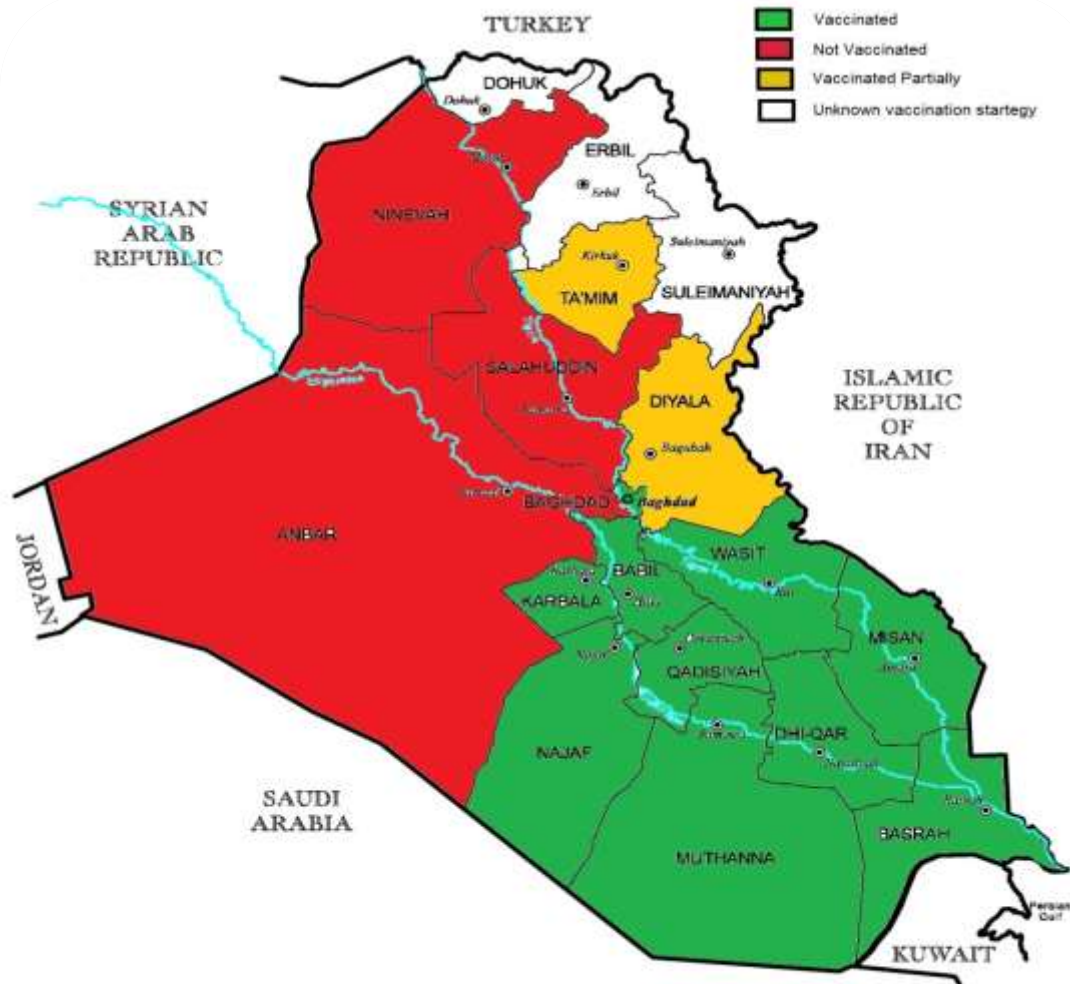


Challenges in 2014

- Bad security situation and the invasion of the terrorist on several main cities in the north, west and east of Iraq that lead to losing the ability to provide official veterinary services and as a result stopping of the vaccination campaigns and break of the roles for the regulation of animal movements as well as the biosafety measures that were applied in the case of appearing of new disease foci, and the large wave of immigration of peoples from the risk areas and the areas that witness military operations, that aid in establish uncommon route of disease transmission, all these factors leads to the increase the infected zone.



Vaccination Campaigns Coverage 2011-2014



Vaccination Campaign Coverage 2014



2015 work update

- One vaccination campaigns was conducted in January-March 2015.
- The vaccination Campaign targeted bovine and buffalo at first priority (covered about 73%) and to a second level ovine and caprine (covered 53%).



Disease situation in 2015

Clinical disease submitted to the veterinary official sector					
Adult Cattle	Calves	Adult buffalo	calves	Ovine	Lambs
289	262	43	2	110	0

Laboratory confirmed Cases		
Total Samples	Positive Samples	Negative Samples
99	48	51



Challenges in 2015

- During September 2015 a new genotype that is novel to the region started to circulate, the genotype VII recorded firstly in the KSA, less than a month later a very related strain was isolated from van province/ turkey a border city with Iran.
- This genotype was found to be closely related with an isolates from the Indian continental in 2000 and 2004 which is novel to this region.
- The spread of the disease in the Turkish land closer to the Iraqi borders lead Iraq to announced an alarm for several reasons:
 - 1- Novel strain in the region that we expect not be covered by our national vaccine, later, WRL report of vaccine matching prove our expectations.
 - 2- Delayed in the vaccination campaign so that the immune status of the Iraqi herd was started to drop.



2016 work update

- A vaccination campaign is planned in Mid April 2016, that will target bovine and buffalo as priority.
- More areas that was restored and secured from the terrorist will be involved in this campaign.



Disease situation in 2016

**Clinical disease submitted to the veterinary official sector
(January and February)**

700

Laboratory confirmed Cases (January-March)

Total Samples	Positive Samples	Negative Samples
260	110	150



Vaccination Campaign Planned for 2016



Geographical Distribution of FMD outbreaks 2014-2015

Province	2014	2015
Baghdad	120	110
Babil	65	139
Wasit	514	69
Dyala	53	39
Diwanya	7	2
Karbala'a	2	52
Najaf	12	89
Al-Muthana	0	0
Missan	106	20
Thi-Qar	8	33
Kirkuk	16	2
Basrah	41	55
Ninevah	442*	N/A
Salah Alden	67*	N/A
Anbar	N/A	N/A

N/A= Not Available
* = till June 2014



FMD Control plan : Goals and outcomes of controlling project

- Control and Eradication of Foot & mouth Disease;
- Establishment of minimum competencies to the delivery of national veterinary services.
- Improve prophylactics measures against exotic infectious diseases.



Disease control strategy plan FMD

Control strategy in Iraq

- ❑ The Control strategy of FMD disease in Iraq must be applied on two stages as Iraq consider to be endemic with the disease

The first stage

- ❑ It include the following activities:
- ❑ Compulsory routine vaccination campaign to all large and small ruminants, twice yearly in whole country.
- ❑ Restriction of live animal movement, and animal products.
- ❑ increase awareness and communication about the importance of this stage and start to prepare the field veterinarian in both the public and private sectors for the next stage that will required more attention and efforts to keep , maintain and forward go on in the control of the disease.



The second stage

- ❑ Starts after the success control of clinical disease in one or more sector or zone in the country with the continuous using of mass vaccination strategy.
- ❑ This stage required in addition to the activities in the first stage the following action:
 - Initiate a good, very active and quick communication network and preparing a hot lines for any suspected cases.
 - Preparing and training the veterinary authority at the free zones as well as the veterinary private sectors on contingency plans to contained any emergency case suspected with the disease.
 - legislation of compensation laws or regulation in order for the stamping out of the affected animals in the free zone as a strategy for controlling any new disease foci.



criteria of identification of hot spot

- Clinical Disease with typical clinical signs.
- Confirmation of suspected foci or new outbreaks by Laboratory investigation.
- Sero monitoring to check for the animals that exposed to the clinical disease.
- Evaluation of the vaccination campaigns to check for the performance of the vaccinators, performance and immune response of the vaccinated animals and looking for the gaps that prevent the proper action of the high quality vaccines used.
- Routes for animal movement.



Vaccine Specification

- A trivalent vaccine composed of the following strains:
- A/ Turk/2006/20
- O/Turk/05/2009 Panasia2
- Asia1/Pak/8/2008-sindh-08 (Previously Shamir)
- Those strains are formulated in an adjuvant, double oil emulsion vaccine with potency $\geq 6\text{PD}50$.

FMD NSP Percentage Ratio in cattle 2010-2015

Province	2010	2012	2013	2014	2015	Province	2010	2012	2013	2014	2015
Nineveh	55.1	41	19.7	NA	NA	Wasit	25	20	8.7	9.6	16.9
Salah Alden	42.5	32	16.6	NA	NA	Karbala'a	20	31	0	42.3	32
Kirkuk	50.8	10.6	22.9	51	26	Najaf	50	55	37.5	61.1	22.9
Dyala	56.3	50	46.4	17.6	8	Diwanya	42.8	44	39.5	23.6	20
Anbar	26.9	16	13.3	NA	NA	Muthana	30	25	20	3.4	26
Baghdad	31.6	28	22.2	24.7	21.7	Missan	37.1	29	32.7	10	25
Babil	41.4	13	16.6	22.6	36.7	Thiqar	32.5	11.5	22.2	19.7	36
Basrah	20	29	44.4	23.1	46	Total	37.4	29	24	25.7	25.3



Vaccination coverage 2011-2014

Year	Species	Total	Vaccinated	Location
Oct.- Nov.2011	Cattle & Buffalo	2,837,650	1,935,510 (68.2%)	15 Provinces (96.77%)
Dec.2011- Jan.2012	Sheep &Goats	9,197,220	7,062,003 (76.78%)	15 Provinces (94.16%)
April-June 2012	Cattle & Buffalo	2,837,650	1,798,074 (63.36%)	15 Provinces (89.9%)
Jan.2013	Cattle & Buffalo	2,837,650	1,842,385 (64.9%)	15 Provinces (92.1%)
Jan.2013	Sheep & Goats	9,197,220	7,105,941 (77.2%)	15 Provinces (94.7%)
May-July 2013	Sheep & Goats	9,197,220	6,962,684 (75.7%)	15 Provinces (92.8%)
May-July 2013	Cattle & Buffalo	2,837,650	1,710,533 (60.27%)	15 Provinces (85.5%)



Additional Activities for 2016

- Develop and update the current National control strategy into a risk based control strategy.
- Updating the surveillance system.
- Preparing samples to be sent to WRL/Pirbright.
- Studies will conduct in coordination with the vaccination campaign for more in field study of the effectiveness of the vaccine.



IRAQ PCP-FMD expected stage progression until 2025

IRAQ	2012	2013	2014	2015	2016	2017	2018
	2*	2*	2*	2*	2*	2	2
	2019	2020	2021	2022	2023	2024	2025
	2	3	3	3	3	4	4



THANK YOU FOR YOUR ATTENTION

QUESTIONS?



EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
the Eufmd



Regional Training Needs

Gunel Ismayilova

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

7th Regional FMD West Eurasia Roadmap Meeting, 6-8 April, 2016



Outline of this presentation

- 1) EuFMD training needs assessment process
- 2) Training needs assessment results
- 3) Current and future EuFMD training opportunities
- 4) Discussion



EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
the EuFMD



1) EuFMD training needs assessment process



Component 2.4

Pillar II training development and co-ordination

- Develop and evaluate training courses and resources which are of **common use** to multiple EuFMD neighbourhood countries
- Neighbourhood countries may be grouped (language, PCP stage, challenges to FMD control)
- E-learning tools allow to **economically** train geographically distant colleagues





Needs based training

EuFMD training is carried out with a clear objective: **improved FMD control capacity**

What training is most important in achieving this objective?





Training needs assessment

- Who needs to be trained?
- What knowledge and skills do they need to learn?
- How do they learn best (language, technology)




What training already exists on this topic?

- Within EuFMD or elsewhere
- Avoid duplication (limited resources)
- Adapt and reuse



Training needs assessment


- Sent to 23 countries (N Africa, M East, W Eurasia)
- Details of PCP stage, main challenges FMD control, date and main finding last PVS analysis
- Focal point's assessment of core competency levels:
 - All personnel involved in FMD control
 - Key tasks carried out by each personnel group
- Current training available or carried out
- Languages spoken, access to technology
- NOT a formal assessment of control capacity
- **16 responses received to date**



Training Needs Assessment

This assessment is intended to help EuFMD to understand which training approach will be most beneficial in improving your country's FMD control capacity.

Note this is not a formal assessment of your country's preparedness level. This document is intended to be a starting point for discussion between EuFMD and the country representatives


Please complete all sections where you see the green pen symbol in the margin: 

1) Focal point contact details


Please nominate a representative who can act as EuFMD focal point for training activities.

The focal point should:

- Have a good knowledge of FMD control programmes and training activities within his/her country;
- Be in a position within the government veterinary service which allows to communicate to decision makers about training opportunities and organise training activities
- Be in a position within the government veterinary service where he/she is able to effectively nominate appropriate candidates for training, or to be able to communicate to decision makers to nominate appropriate candidates for training

Country:	Jordan
Focal point name:	 <u>Dr. M. Al-Jarrah</u> Hawashda
Focal point job title:	Head of Animal health Division
E-mail address:	Majed_rq@yahoo.com
Contact telephone:	00962799038554

Are there other specialists that could be contact points for FMD-related activities?



2) FMD control situation

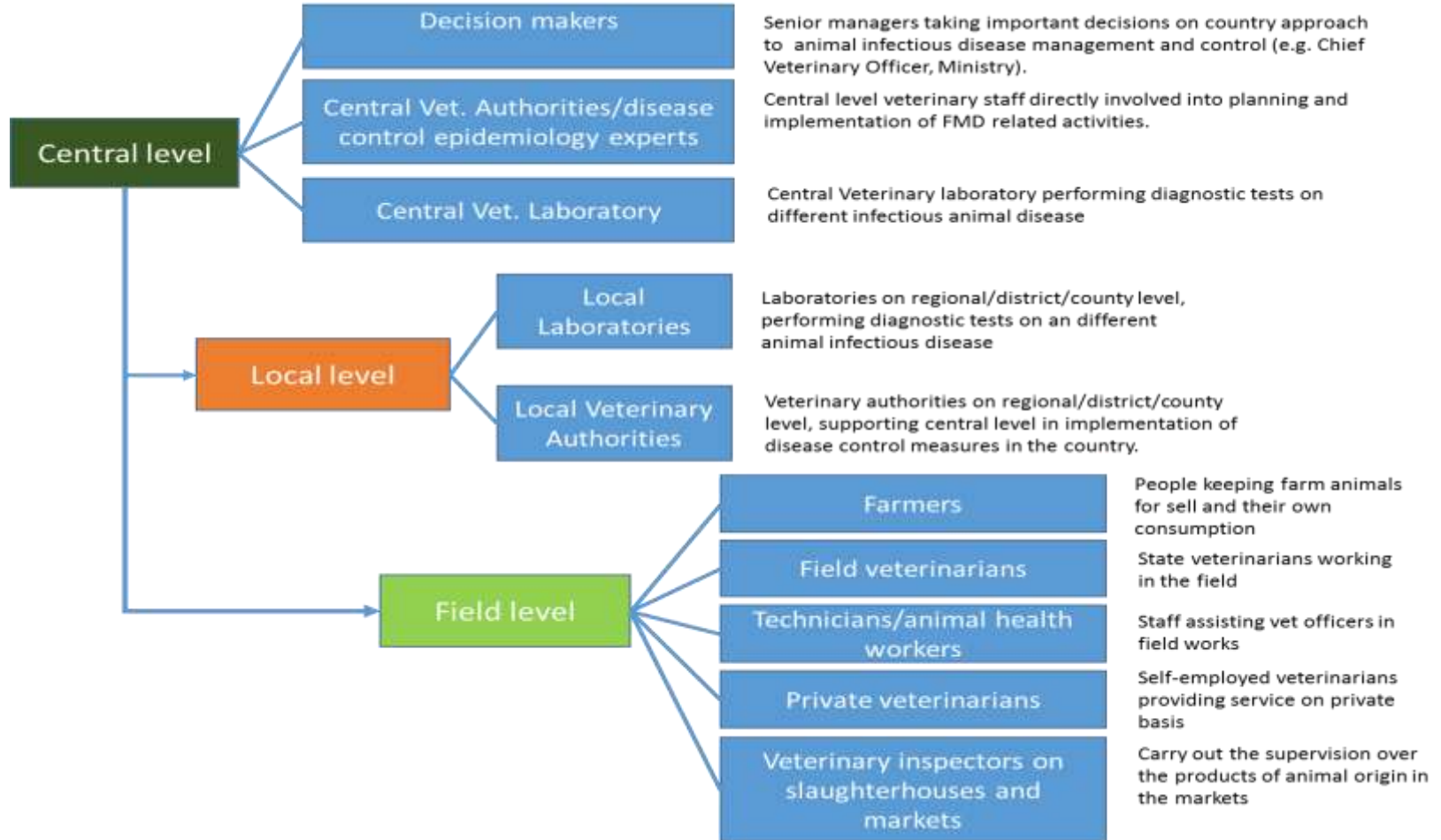
This section is intended to give us a basic understanding of the current FMD control status of your country.

What do you consider to be the major challenges in FMD control in your country?

Please indicate 5 priority major challenges in FMD:

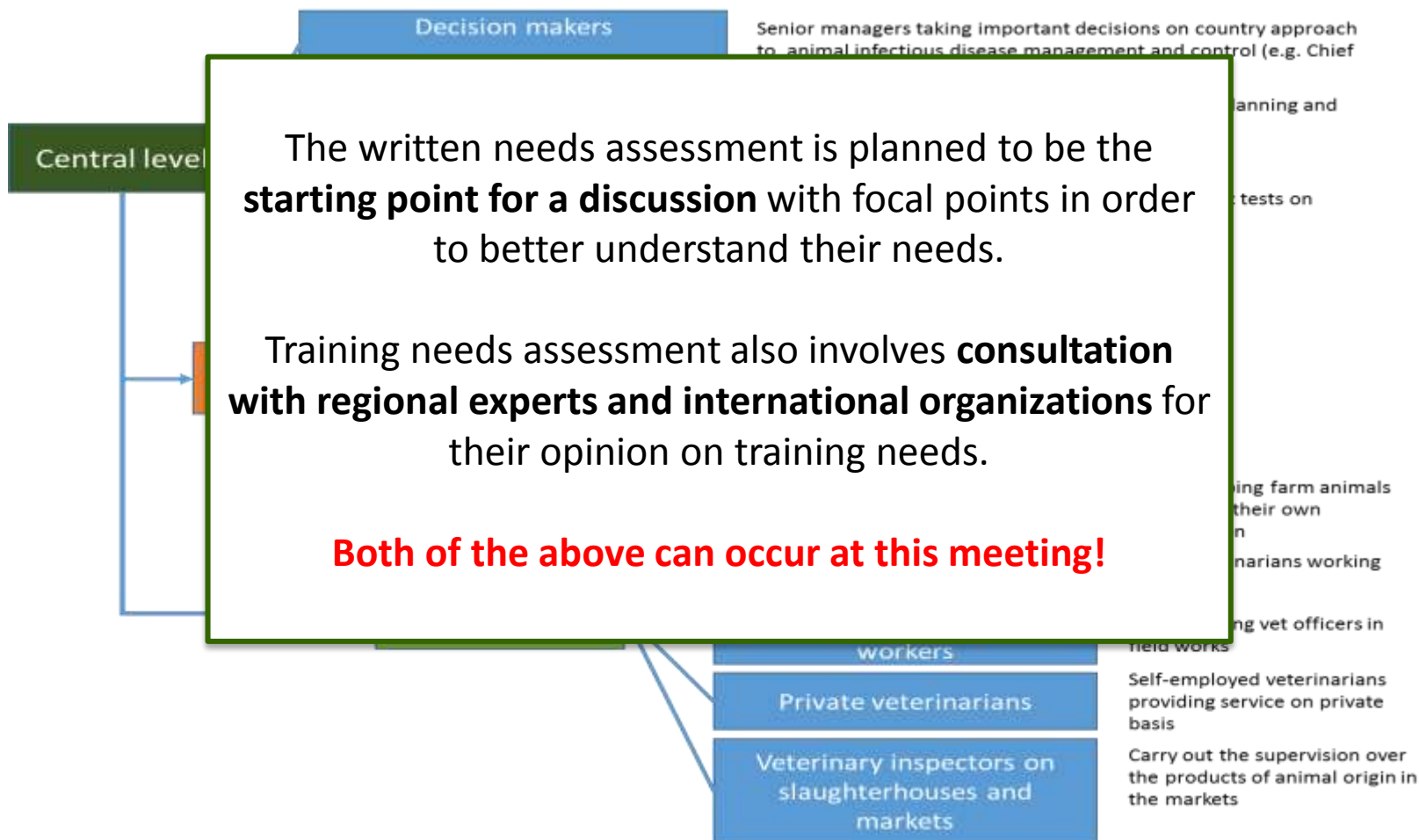


Who needs to be trained?





Who needs to be trained?





EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
the Eufmd



2) Training needs assessment results



What do you consider to be the major challenges in FMD control in your country?

Common responses from W Eurasia countries included:

- Uncontrolled animal movements (nomadic lifestyle, lack of control of markets, illegal trade)
- Epizootic situation in neighbouring countries
- Lack of animal identification
- Lack of finances (diagnostic kits, vaccines)
- Poor education of farmers/biosecurity of farms
- Lack of education of veterinarians



Please prioritise 5 most important infectious animal diseases for your country

For 5/7 countries responding from W Eurasia, FMD is the highest priority infectious disease

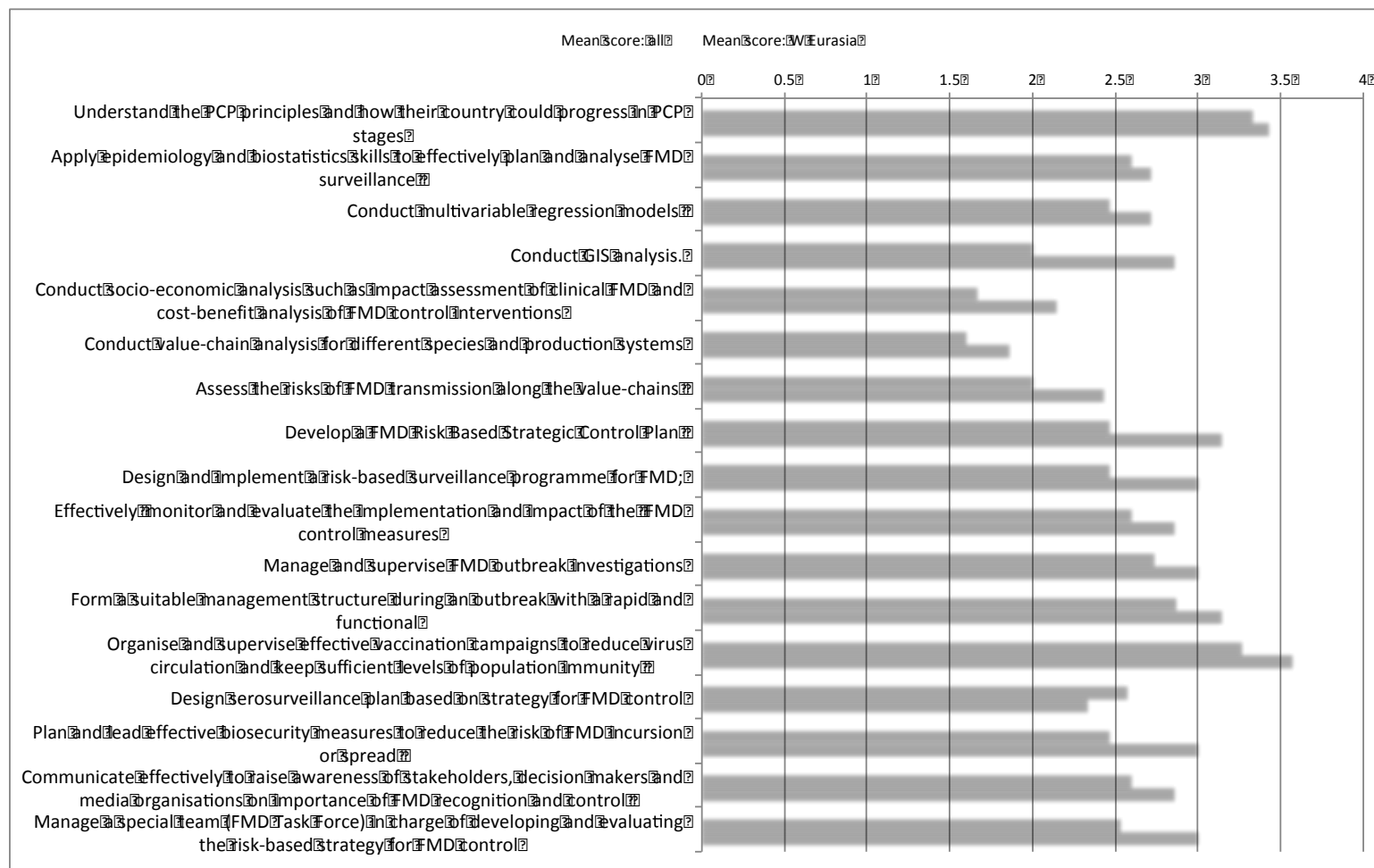
For the remaining 2/7 W Eurasia countries, FMD is not included in the top 5 priority infectious diseases

(other infectious diseases of concern include rabies, anthrax, brucellosis, clostridial diseases)



Example: Central veterinary authorities

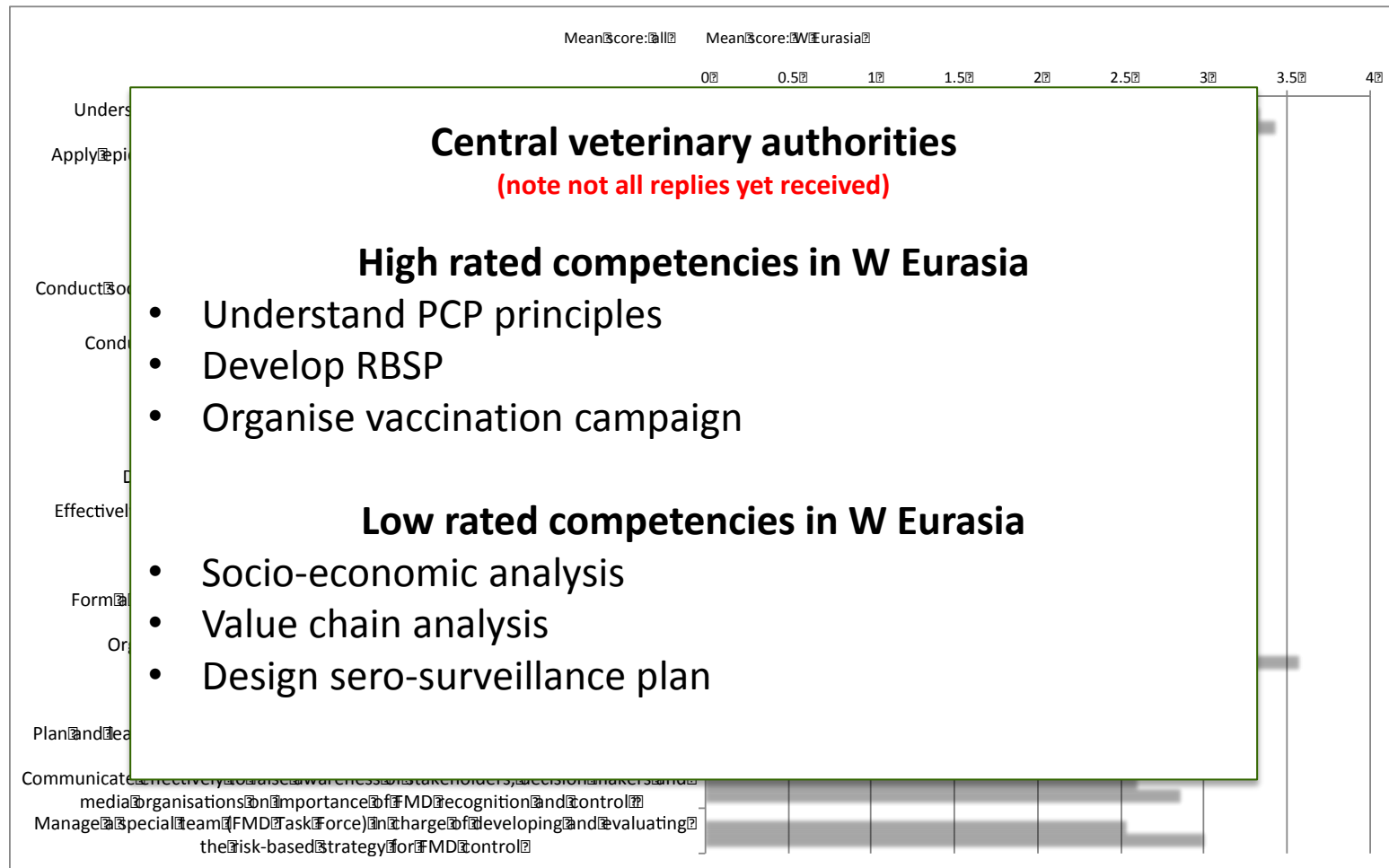
Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)





Example: Central veterinary authorities

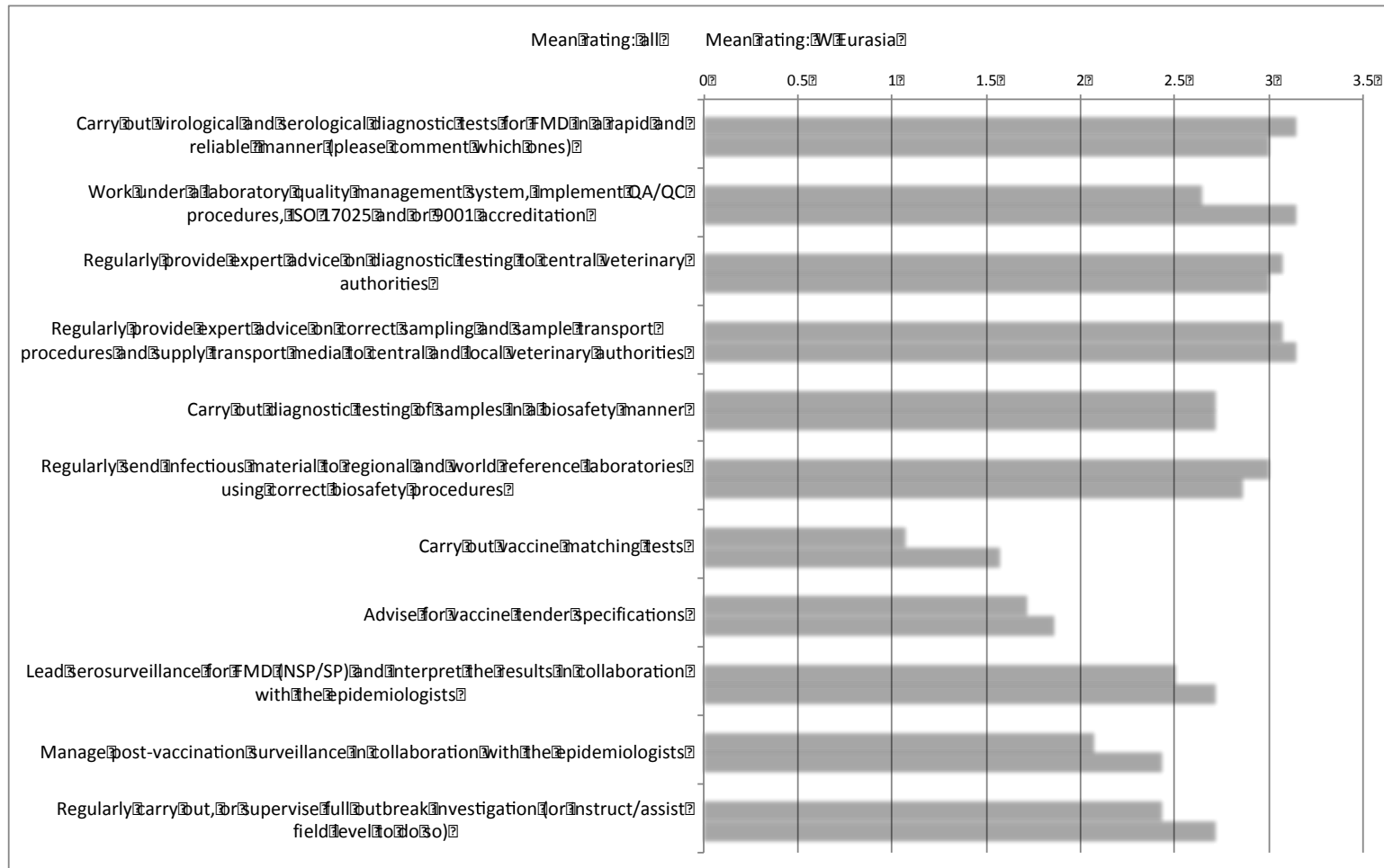
Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)





Example: Central veterinary laboratory

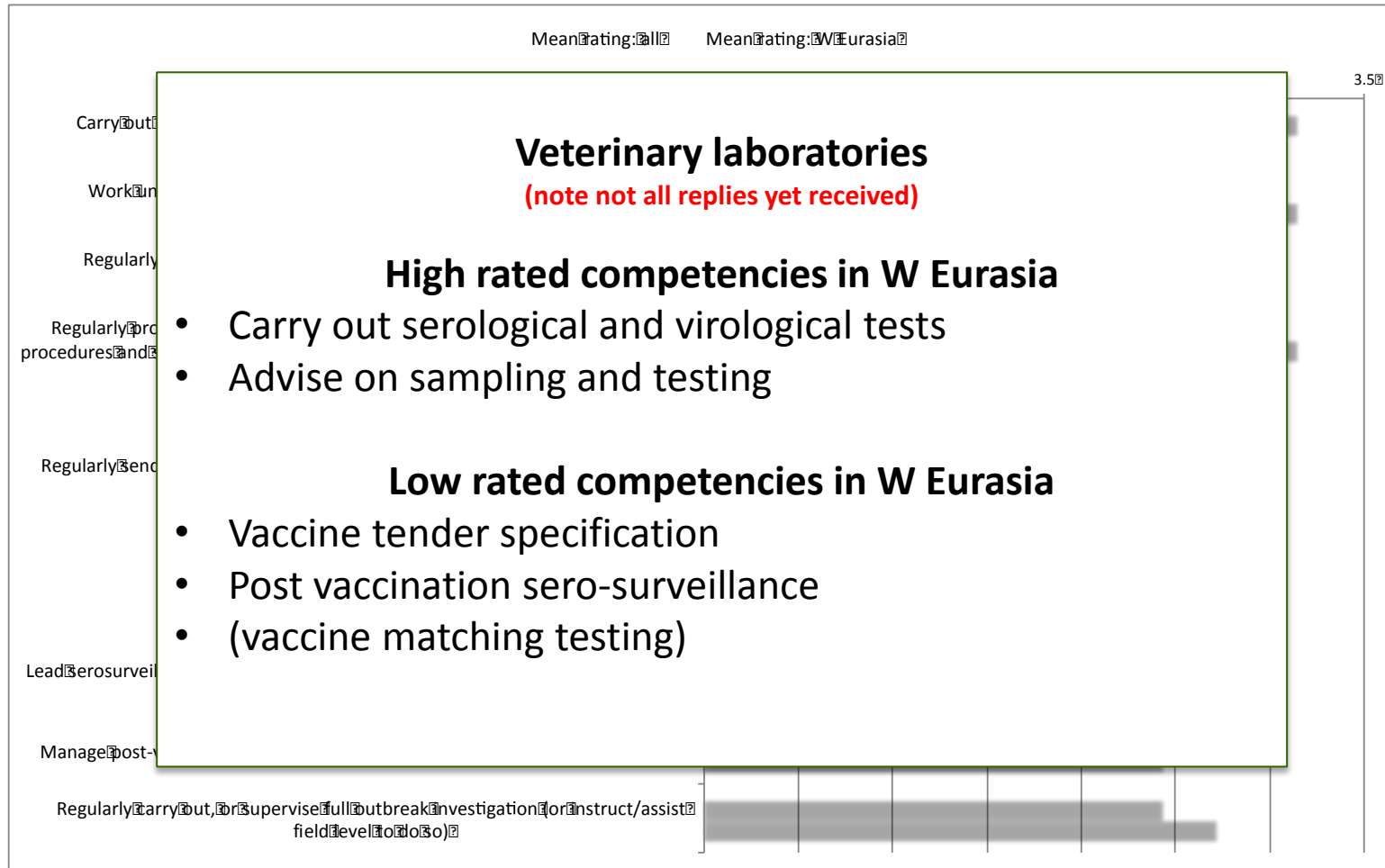
Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)





Example: Central veterinary laboratory

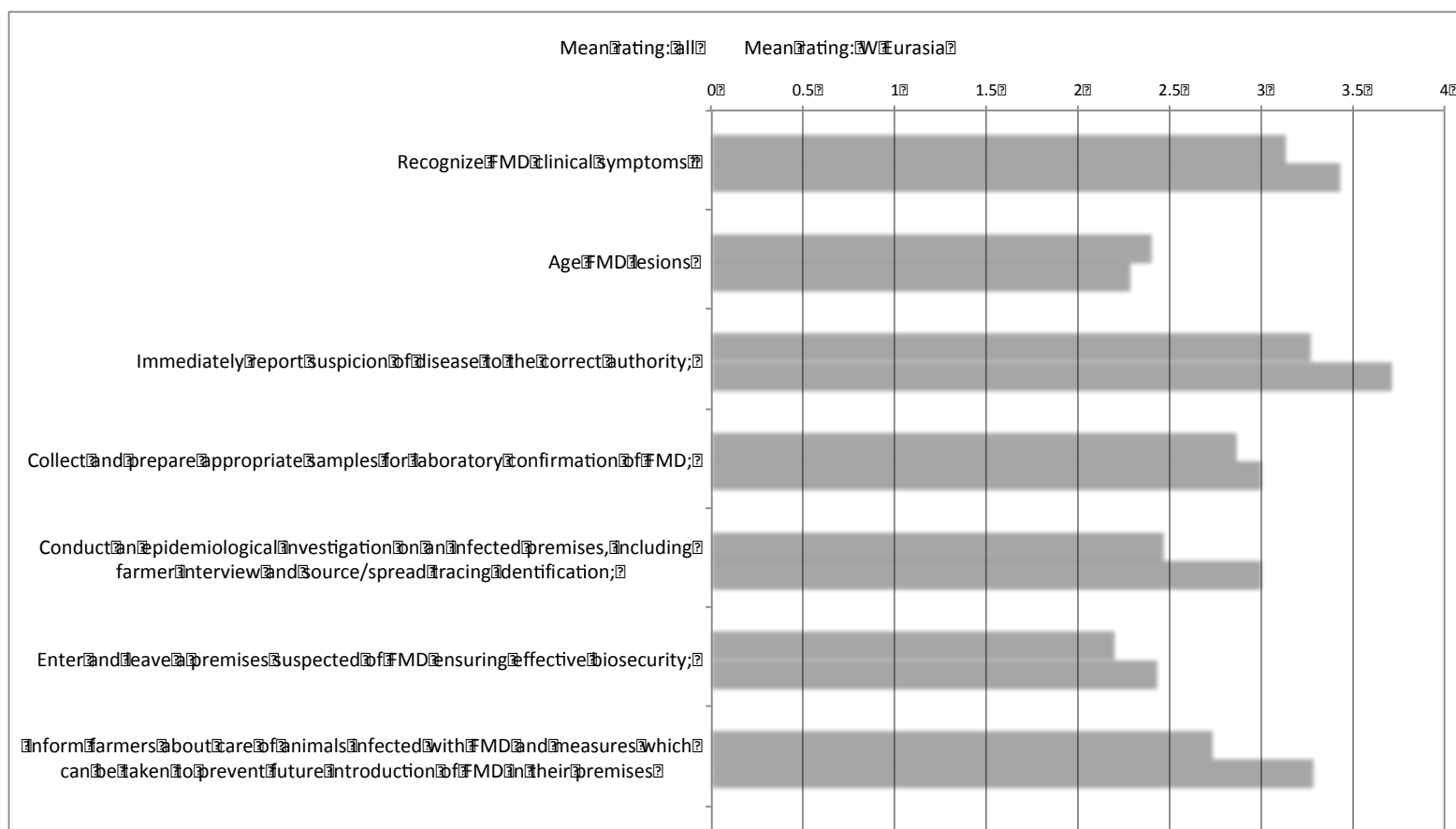
Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)





Example: Field veterinarians

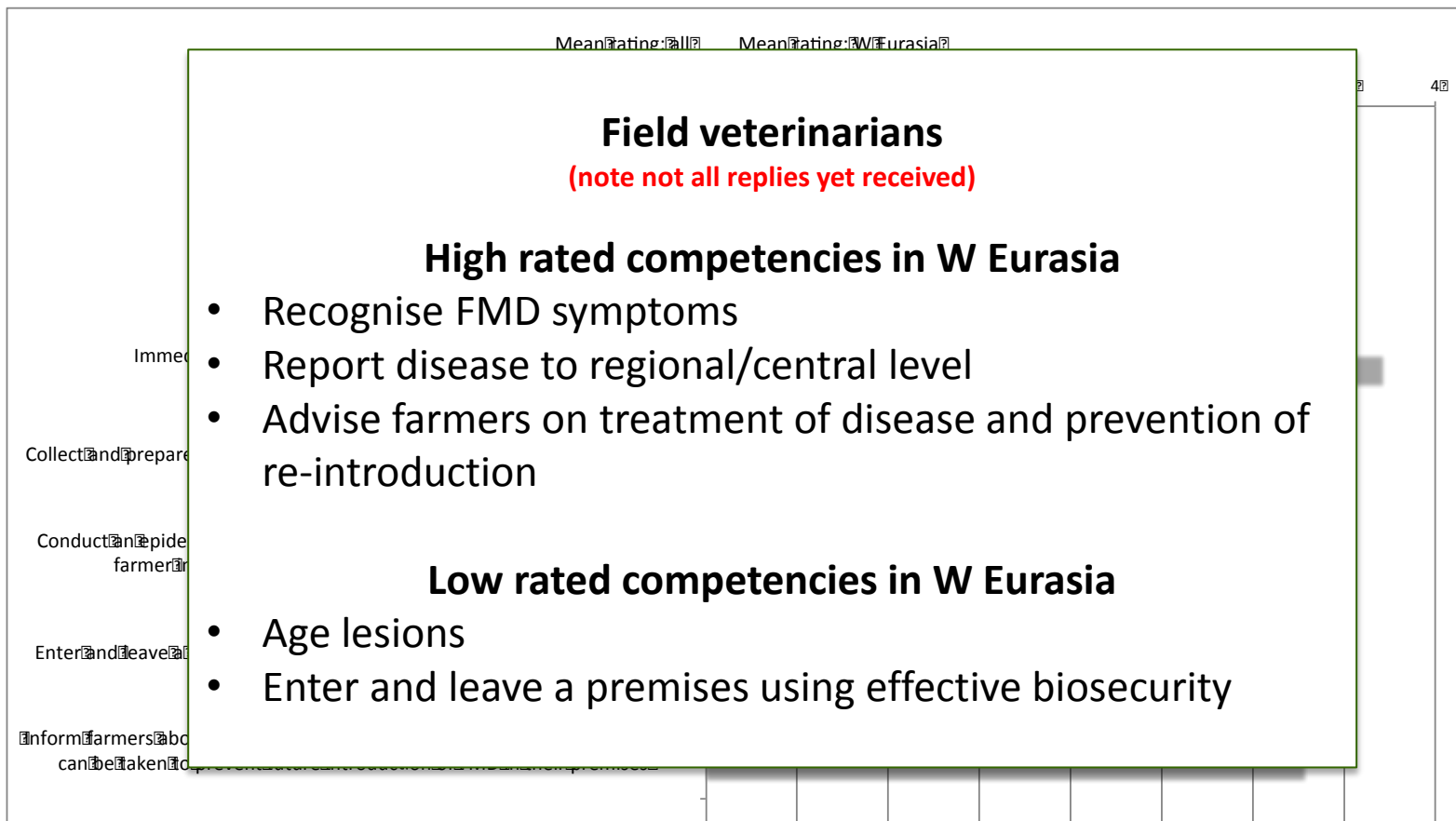
Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)





Example: Field veterinarians

Please estimate competences of different groups of stakeholders from 0 to 4 (where 0= no capacity, 4=high advanced competence)

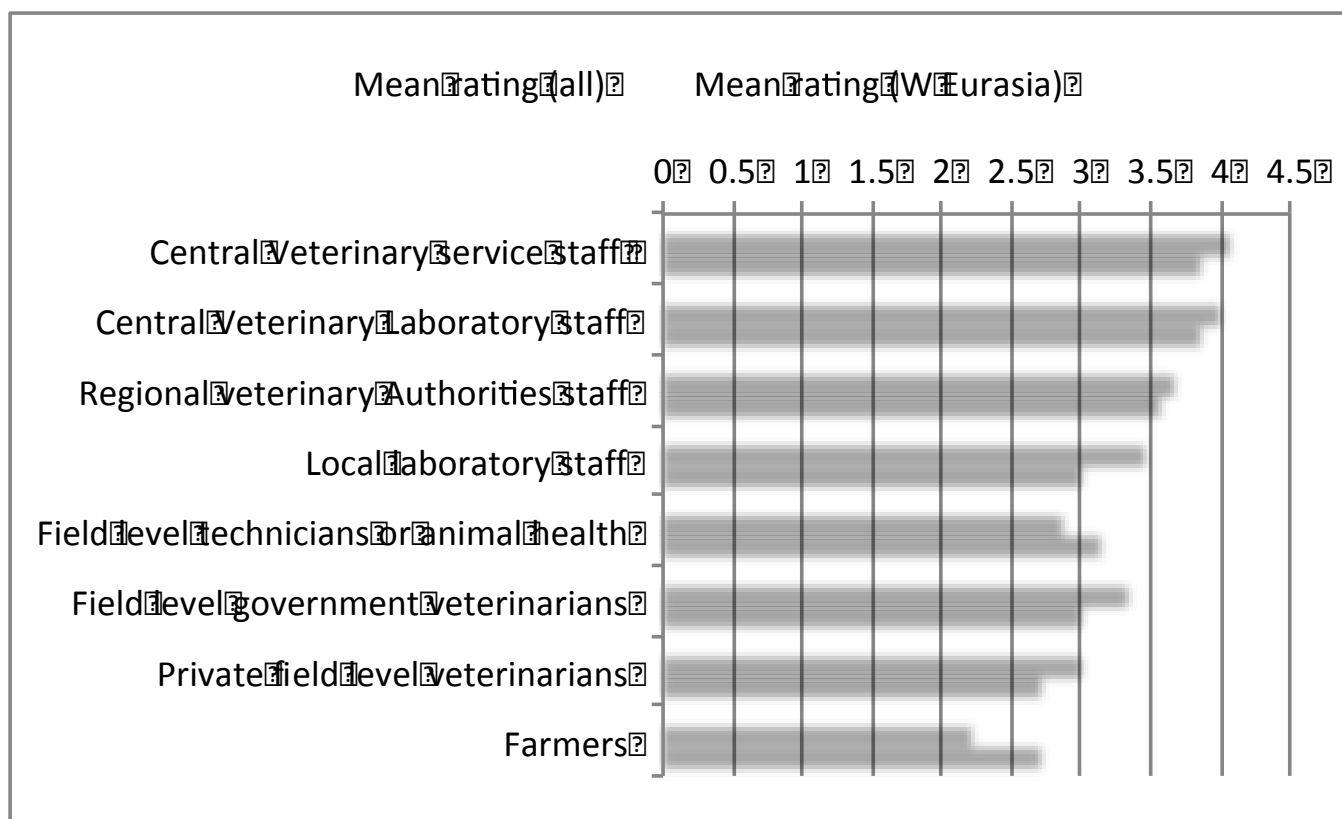




Internet access

Regular access to internet on computer or tablet device

5) Very good to 1) Very poor





EUFMD

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE



eofmd
e-Learning



III
3 PILLARS OF
the EufMD



3) Current and future training opportunities



Existing EuFMD training courses

Face to face training

- Workshops and expert support to countries working on PCP
- Real Time Training (field diagnosis, laboratory diagnosis, outbreak investigation, FMD epidemiology, biosecurity)



E-learning

- FMD Emergency Preparation Course (field diagnosis, laboratory diagnosis, outbreak investigation, FMD epidemiology, biosecurity)

Adapted for neighbourhood countries- including information on vaccination as a control measure

Available in Russian, plan to develop in Turkish



EuFMD webinars

- **West Eurasia webinar series** in support of Welnet/Epinet
- **Practical FMD Management series** (Russian/English)

Risk-Based Strategic Plan (RBSP)

Chapter 1: Situation Analysis
• setting the scene for Stage 1 PCP

1. Situation analysis	FMD in the country	<ul style="list-style-type: none"> Clinical FMD Serotypes and strains FMD infection
2. Benefits of FMD Control	Impact of FMD on livestock and livelihoods	<ul style="list-style-type: none"> Value chain, stakeholders and impact Prioritizing importance of FMD control in comparison with other animal diseases
3. Goals, objectives, tactics and activities	Identified risk hotspots	<ul style="list-style-type: none"> Working hypothesis Risk hotspots
4. Monitoring and evaluation	Organization of FMD control and the veterinary services	<ul style="list-style-type: none"> Roles and responsibilities DIE-PVS assessment
5. Operational plan	Approach to FMD control in the data	<ul style="list-style-type: none"> Activities, results, Lessons learned, constraints
6. Technical assistance	Gap analysis	<ul style="list-style-type: none"> Implementation of control Information or knowledge

Each stage has an objective and indicator:

PCP stage	Stage objective(s)	Indicator outcome
0	FMD risk not controlled, no reliable information	To move to stage 1: Comprehensive plan to study FMD epidemiology
1	Identify risk and control options	To move to stage 2: Risk-based Strategic Plan developed
2	Implement risk-based control	To move to stage 3: Aggressive strategy to eliminate FMD developed
3	Implement control strategy to eliminate viral circulation	To move to stage 4: No evidence FMD in domestic livestock
4	Maintain zero circulation and incursions	To move to stage 5: Apply for official status (OS) "free with vaccination"
5	Maintain zero circulation and incursions, withdraw vaccination	Apply for official status (OS) "free without vaccination" and reach PCP

Заносы ящура в страны, соседствующие с Европой:
Из более, чем одного "гео-политического региона"
В основном из пула вируса 3 и 4. Более недавно из пула 2 за последние 8 лет (2007-15)

Из Западной Африки (Тип 3) и Восточной Африки (Тип 4), и из Южной Азии (Тип 2 и Северную Африку/Персидский залив)

2014-15

Type G, Type A, Type Asia1, Type SAT2



Upcoming opportunities: Open access e-learning resources introducing the PCP

Self-directed e-learning resources accessible to anybody who wants to know more about the PCP

Module A: What is foot and mouth disease, and why is FMD control challenging?

Module B: What is the role of the PCP-FMD in the FAO/OIE Global Foot and Mouth Disease Control Strategy?

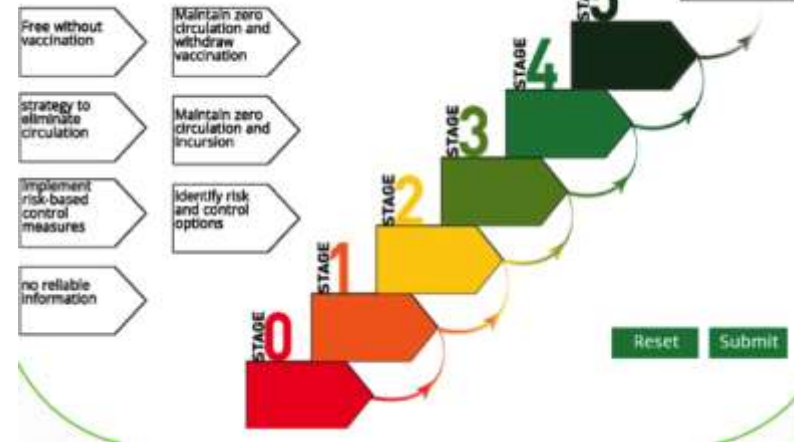
Module C: What is risk based FMD control?

Module D: What activities are involved in the PCP-FMD?

Module E: How is a country assigned a PCP-FMD stage?

Module F: What is my role in FMD control?

Drag the text to the correct stage



Click on each number find out more:





Upcoming opportunities: Open access e-learning resources introducing the PCP

Self-directed e-learning for anybody who wants to learn more about FMD control

Module A: What are the key FMD control challenges?

Module B: What are the key FAO/OIE Global Strategy?

Module C: What are the key PCP-FMD control challenges?

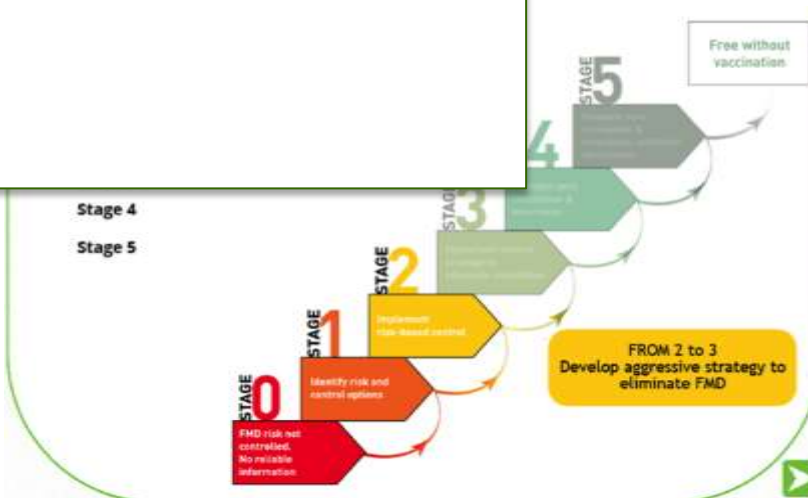
Module D: What activities are involved in the PCP-FMD?

Module E: How is a country assigned a PCP-FMD stage?

Module F: What is my role in FMD control?

And future training courses and resources to be developed according to the needs identified by the recent assessment.....

Drag the text to the correct stage





4) Discussion points

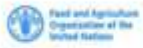


- **What are the major gaps/needs in relation to the skills and knowledge required for improved FMD control in this region?**
- **What existing resources or partnerships can be leveraged to support training in this region?**
- **What training modalities are best for training in this region?**



GF-TADs

GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Questionnaire results

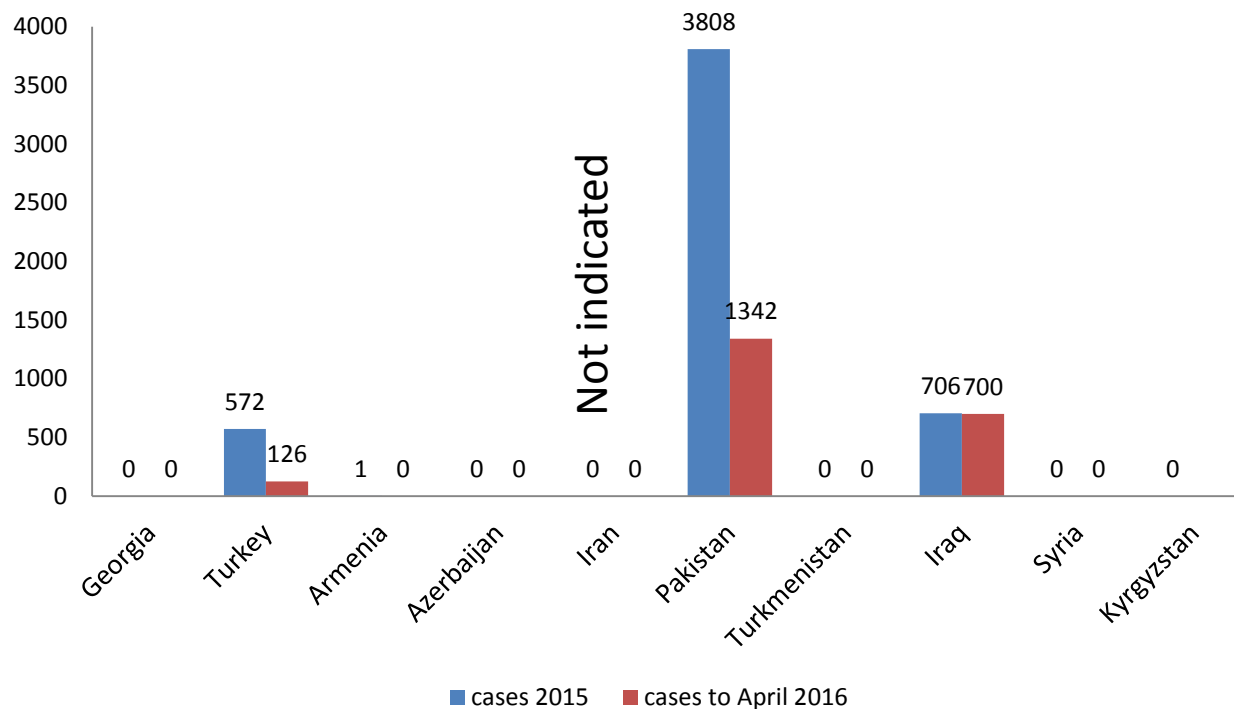
Gunel Ismayilova

EuFMD



Vaccination questionnaire: Context

- Responses from 10 countries (incl Syria and Iraq)
- Serotypes A, O, Asia-1 reported





- Vaccination compulsory:
 - 7/10 countries for cattle and 5/10 SR
- Vaccination campaigns:
 - 8/10 countries for LR,
 - 2 countries 3x/yr (Iran, Turkey for Marmara and Aegean)
 - 6 countries 2x/yr
 - 1 country -not clear (Turkmenistan)
 - 8/10 countries for SR,
 - 5 countries once/yr; 2 countries 2x/yr, 1-not clear
- Emergency vaccination (outbreak response)
 - 6/9 countries for LR and SR, 1 only for LR



Vaccination Practicalities

- **Who vaccinates?**

Private vet only	2
State vet only	3
Private and state vets	5

- **Who pays?**

Owner all	1
State all	6
Cost sharing	3

**Only Pakistan- additionally
International donors**



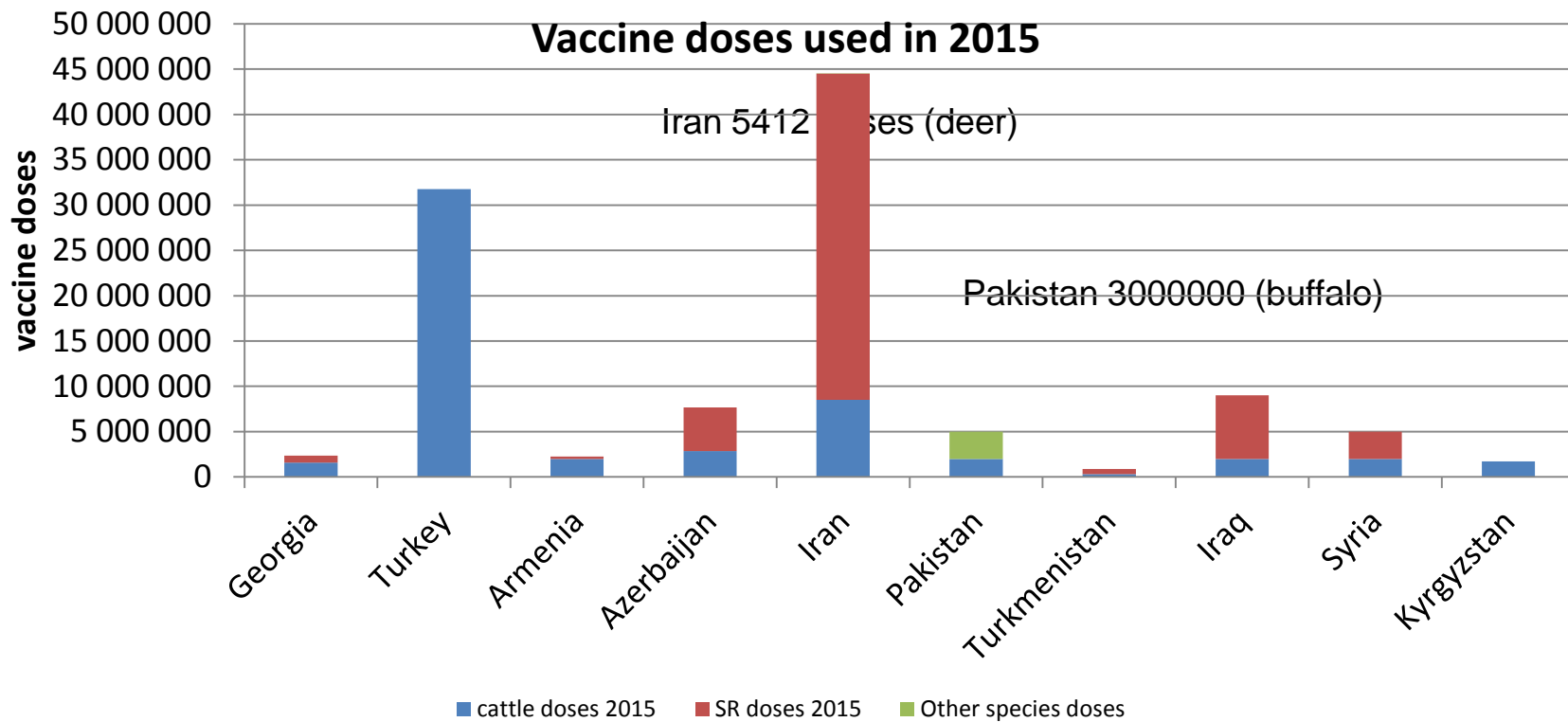
2015 Vaccination schedule

- 3/10 countries say they consider neighbours schedule when they schedule vaccination

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Georgia												
Turkey												
Armenia												
Azerbaijan												
Iraq												
Syria												
? Kyrgyzstan												
? Turkmenistan												

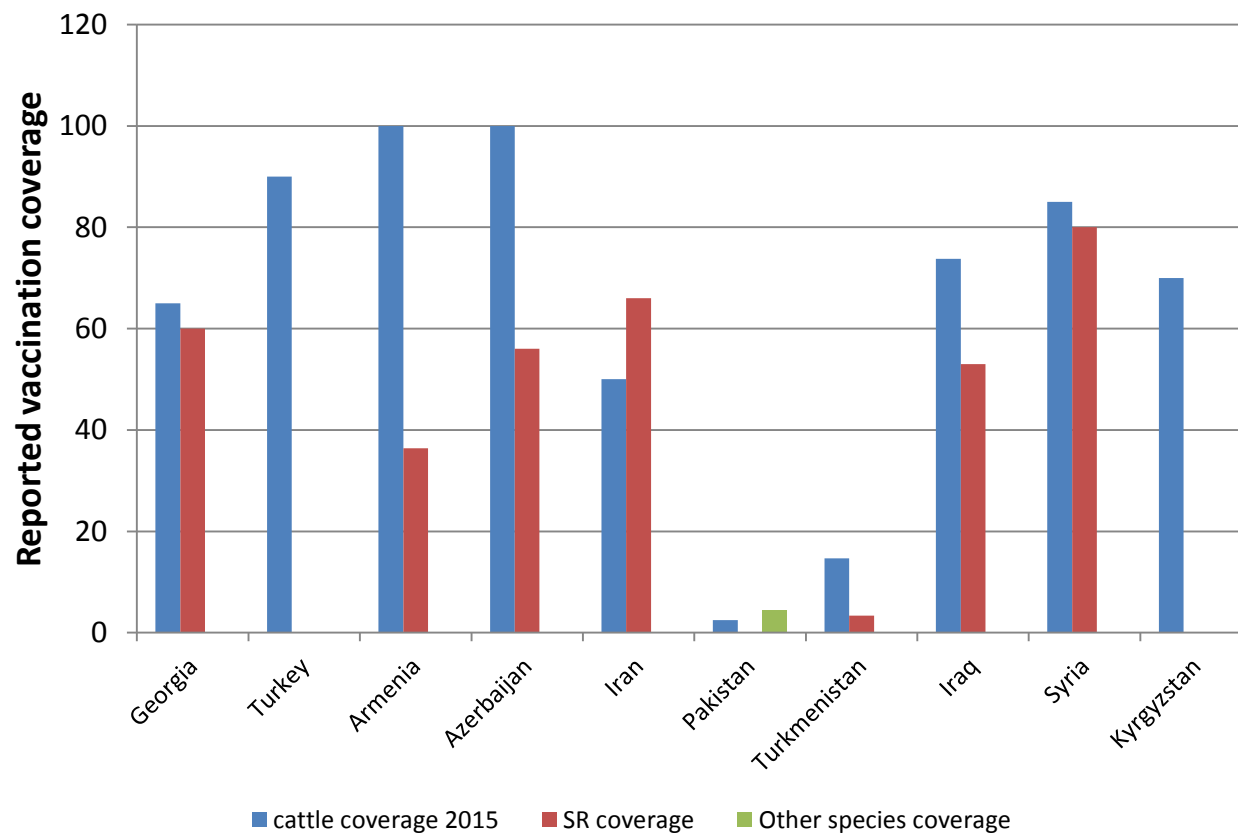


Vaccine doses in 2015





Reported Vaccination coverage: 2015





Monitoring Vaccination

- 8/10 countries report that they monitor vaccination program effectiveness
- Methods reported for monitoring vaccination were:
 - serological surveys (7 countries),
 - Field Vaccine effectiveness studies (1)
 - outbreak investigation (1 country),
- 4/10 countries report having vaccine matching results from circulating field strains
- 2 countries report outbreaks in vaccinated animals



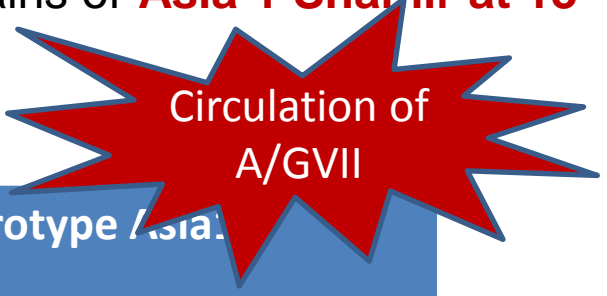
Vaccines Used

- 8 different suppliers
 - Merial, other companies in Russia (ARRIAH, Pokrov Shelkovo), Turkey, Iran, Pakistan
- Potency
 - 10/10 countries use \geq 6PD50 vaccine only or as well as:
 - Unknown potency (1 country)



Almaty Meeting : The most appropriate vaccines recommended for use in 2015 are:

- For type O: **PanAsia2 (O Tur 5/2009)**, or **O1 Manisa in combination with O 3039**. Vaccine matching data suggest that some circulating strains have poor match with O1 Manisa;
- For type A: **A Tur06 or A Iran 05 (sublineage SIS10)**. For countries bordering China, it is advisable to add A SEA-97 in their vaccine;
- For type Asia 1; **Asia 1 (Sindh-08)** or closely related strains or **Asia 1 Shamir at 13 PD50 or greater**.



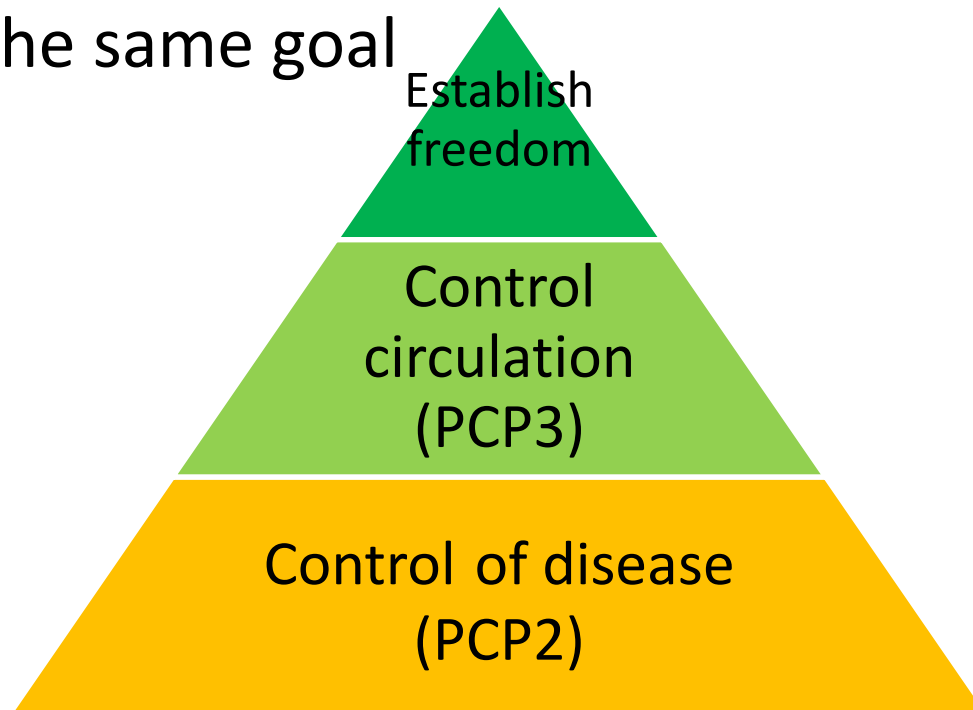
Serotypes reported used:

Serotype O	Serotype A	Serotype Asia
O PanAsia2	A Iran05	Sindh08
O Tur2015	A TUR 2006	Shamir
	Kabardino-Balkaria-2013	Georgia2001
	A /GVII	



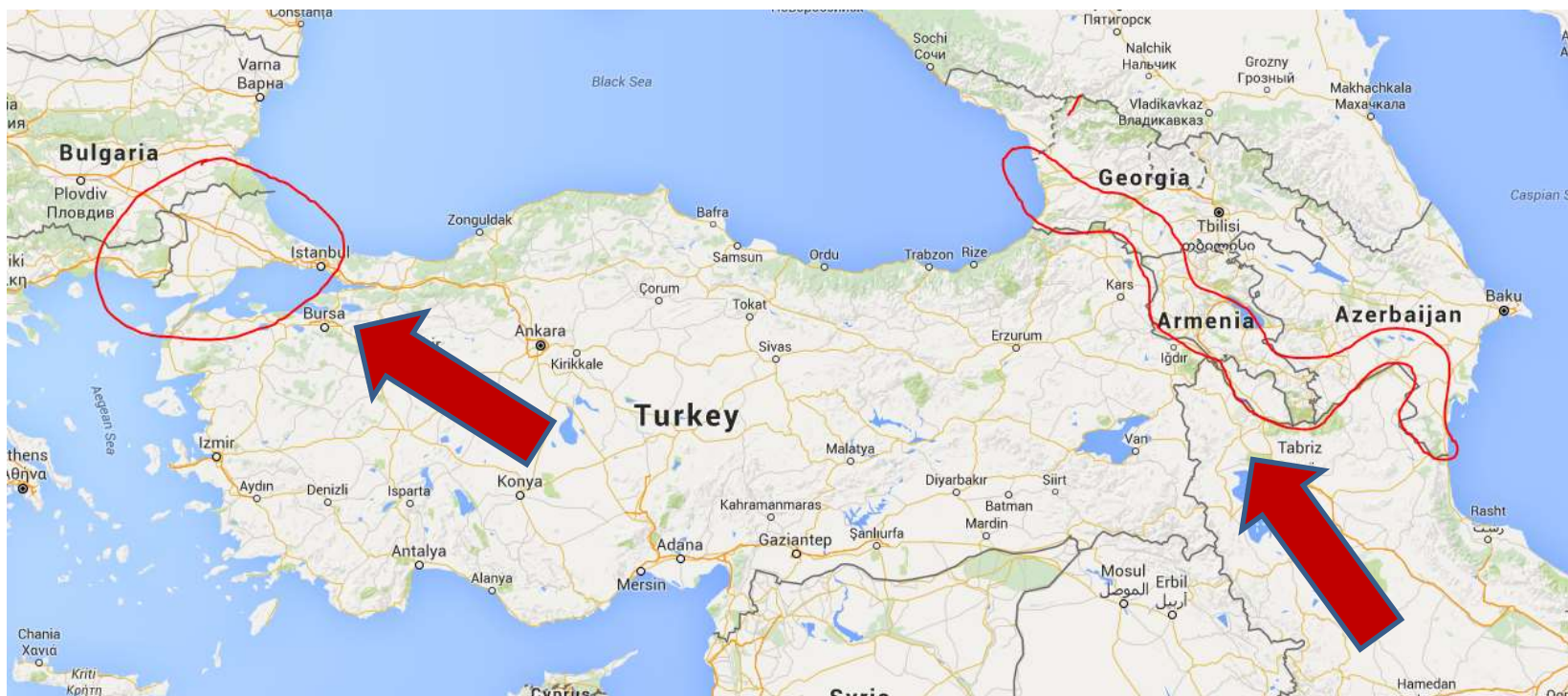
Harmonised strategies

- Require a *common vision*: what are the GOALS to achieve
- Do NOT mean countries do the same actions
- But do require that national actions work towards achieving the same goal





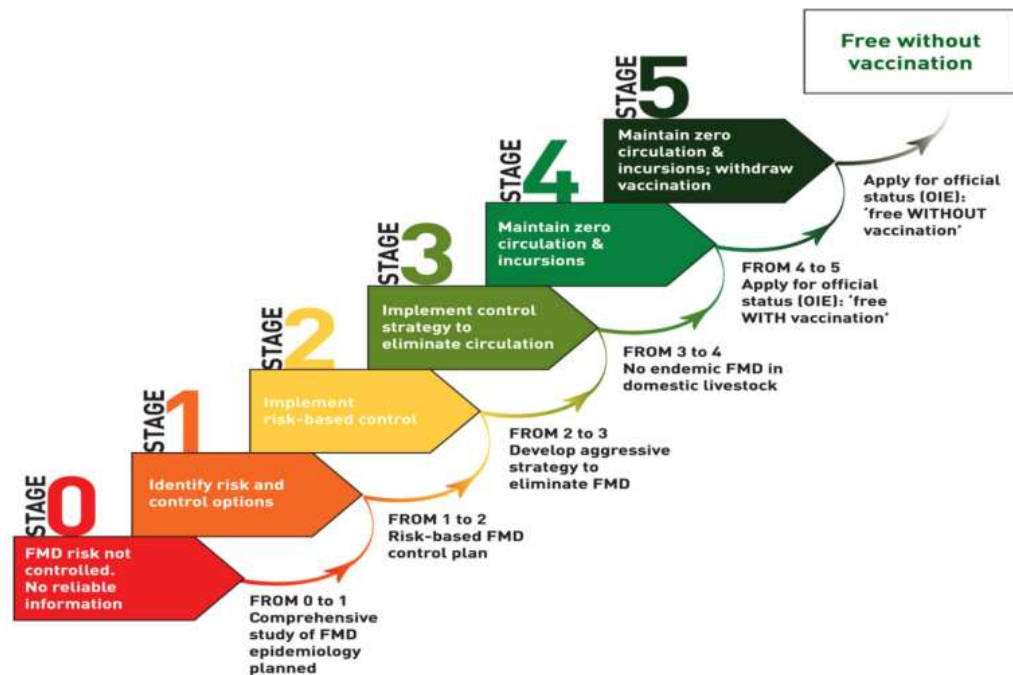
The EuFMD strategy also included special vaccination actions at the borders – Thrace (1962-) and TransCaucasus (1999-2012) funded by member states and EU





What is the objective of the vaccination?

- The strategy used will depend upon the objective of the campaign – reducing impact (PCP stage 2), or virus circulation (stage 3/4)





Control of disease vs Control over Circulation

1. PCP Stage 2: outcome expected - reduced FMDV impact
 - Focus is on reduced consequence if animal infected
 - National strategies can describe different targets for the subpopulations (risk classifications)
2. PCP Stage 3: outcome expected – control over virus circulation
 - Additional Focus is to achieve reduced probability of transmission



Tactical Options -1

	Objective	Success requires:	Weakness
Buffer Zone vaccination	Separate two populations of different FMD status	<ul style="list-style-type: none"> Control over entry and exit to zone. Targetting of high risk livestock 	Insufficient control over borders – livestock pass across zone
Pre-movement vaccination	Reduce risk of non-immune animals spreading infection when moved.	<ul style="list-style-type: none"> Regulation of movement across internal borders. Passport/ID systems to prove immunised. 	<ul style="list-style-type: none"> Epidemic strains not matched by vaccine. Effective immunity needs a booster vaccination
International pre-movement vaccination	Reduce risk of animals entering the country with infection	Co-operation with neighbouring countries (formal) or traders (informal)	<ul style="list-style-type: none"> Risks of inadequate immunisation schedules. Problems with ID of vaccinates



Risk-based vaccination - Principles

- Risk-based or “targeted” vaccination
- Certain animals may be at a higher risk of disease (management, age, breed, location)
- In some animals the disease may be more severe with a greater economic impact (dairy cows, young animals)
- Focussing on these animals may be a much more *efficient* and *cost-effective* way of using limited resources

Risk is defined by

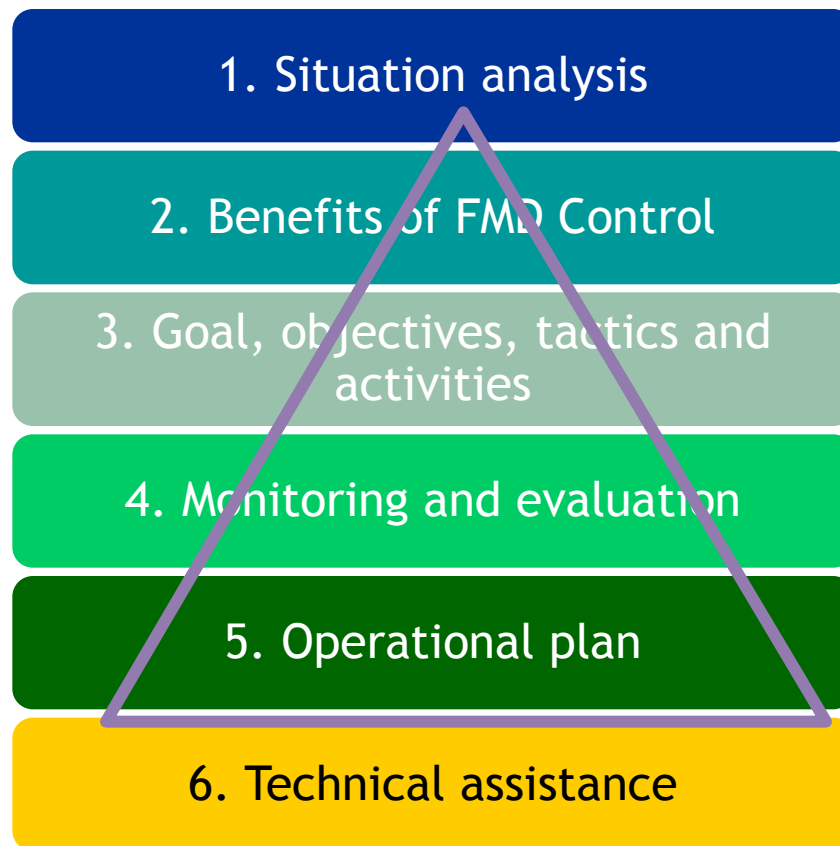
Probability

x

Consequence



Chapter 5 of the Risk Based Strategic Plan





Group work

Cross border coordination

Task 1 (Group 1): Indicate priority bordering country to reduce the risk

Country	Bordering country 1	Bordering Country 2
Turkey		
Armenia		
Azerbaijan		
Georgia		
Iran		
Pakistan		
Syria		
Iraq		
Afganistan?		



Task 1(Group 2): Indicate priority bordering country to reduce the risk

Country	Bordering country 1	Bordering country 2
Kazakhstan		
Kyrgyzstan		
Tajikistan		
Turkmenistan		
Uzbekistan		



Task 2

Question	
1. Transmission route	
2. Animal species	
3. Actions to be implemented by bordering countries	
4. Vaccination strategy advised to neighbour	
5. Information from the neighbour to create confidence in control	



Please discuss in your group:

1. Objectives of the vaccination strategy.

- Prevent disease or prevent virus circulation?
- Risk-based vaccination before movement?
- Other?

Indicate what is critical to success for risk reduction (e.g. timing in the year...)



2. Interest in agreement with bordering country (high, medium, low)

3. What form of agreement between veterinary services

- Bilateral agreement ?
- Multilateral?
- MoU?
- Plagues made at Roadmap meeting?



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Criteria for Selection and Responsibilities of Regional Leading Laboratory

Samia Metwally, DVM, PhD (FAO)

Gregorio Torres, DVM, MVM (OIE)



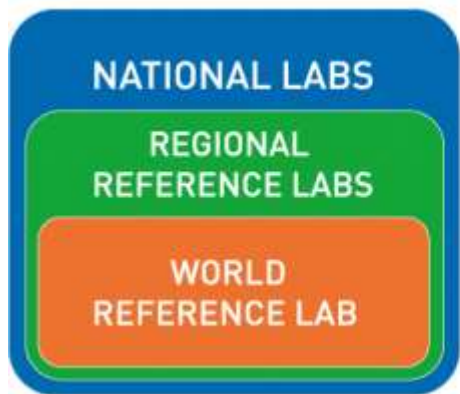
Lab Network- One Tool of the Global Strategy

1. Develop, maintain and strengthen an integrated international, regional and national network of laboratories that can respond quickly to needs for rapid and accurate testing, and timely notification
 - I. Gain more intelligence on FMD virus strains circulating in regions
 - II. Improve vaccine selection – supporting both endemic and free countries and essential to progressive control
 - III. Enhance diagnostic capability for other priority diseases in the region

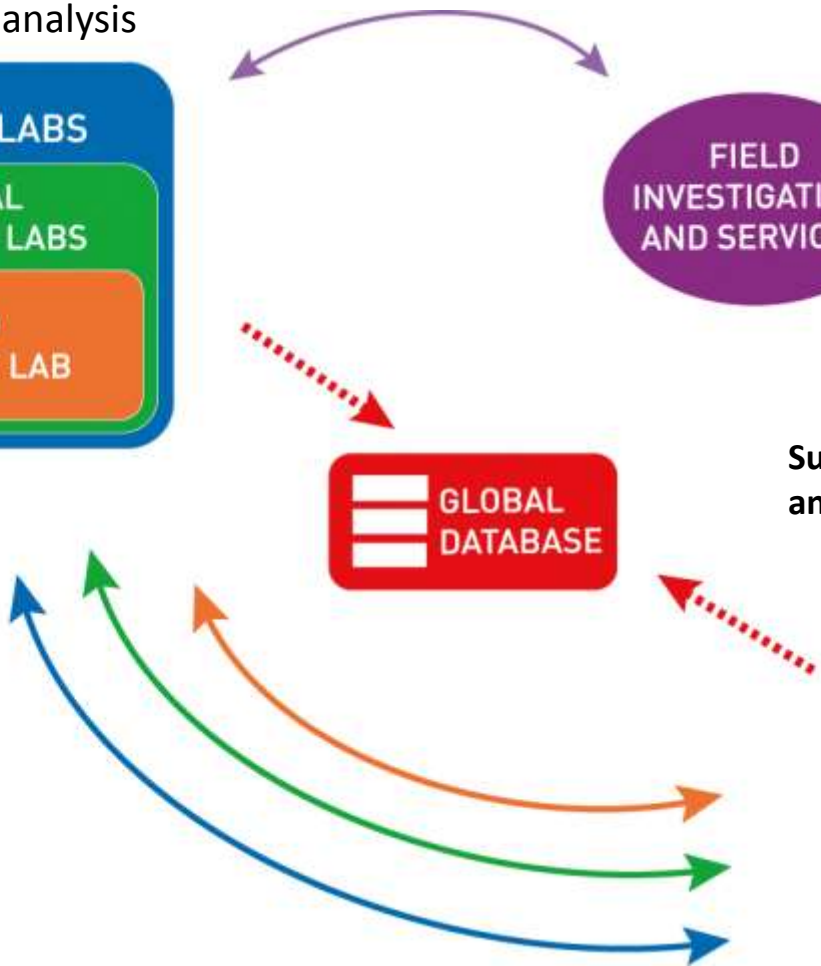


FMD Lab and Epidemiology Networks

Diagnostic analysis



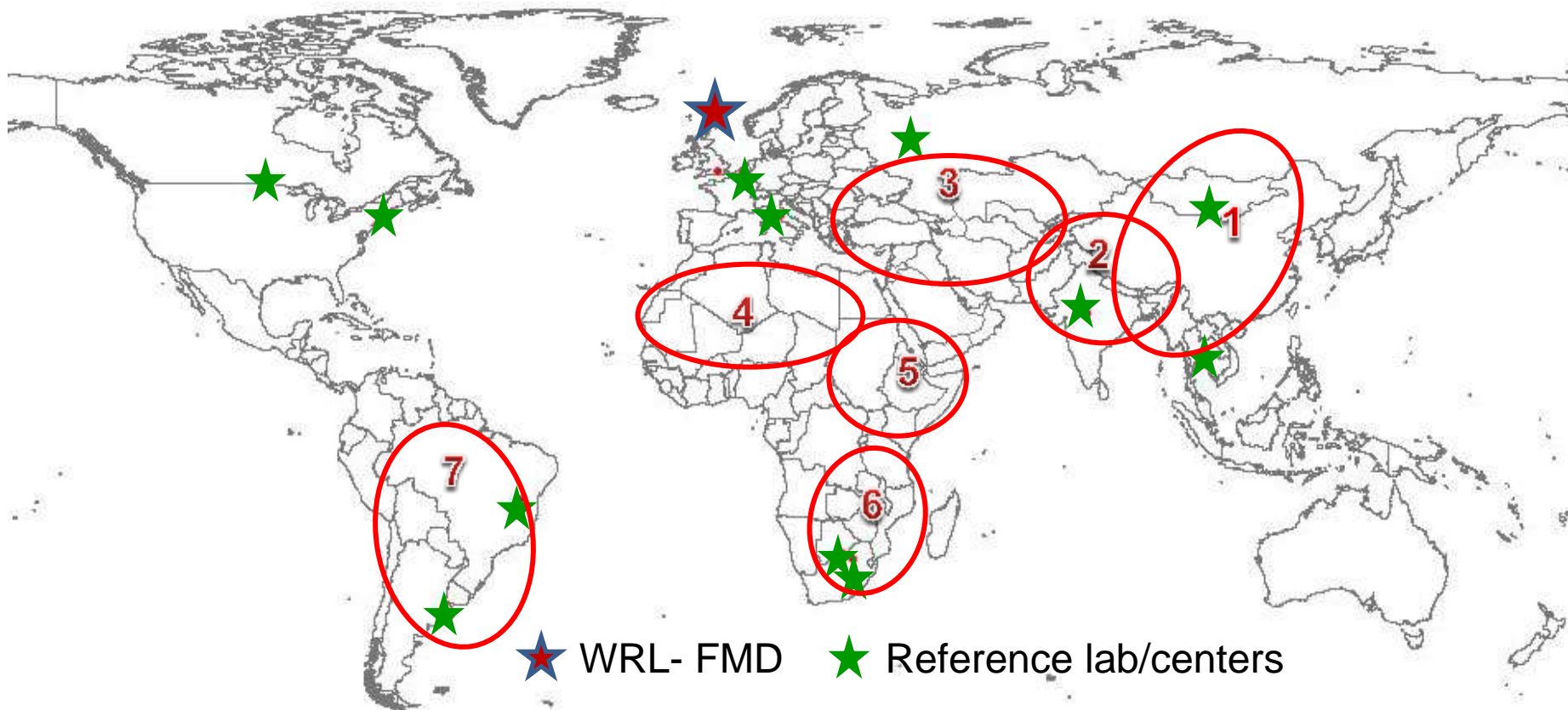
Surveillance, monitoring,
and disease tracking





OIE-FAO FMD Ref Lab Network

FMD Seven Regional Virus Pools

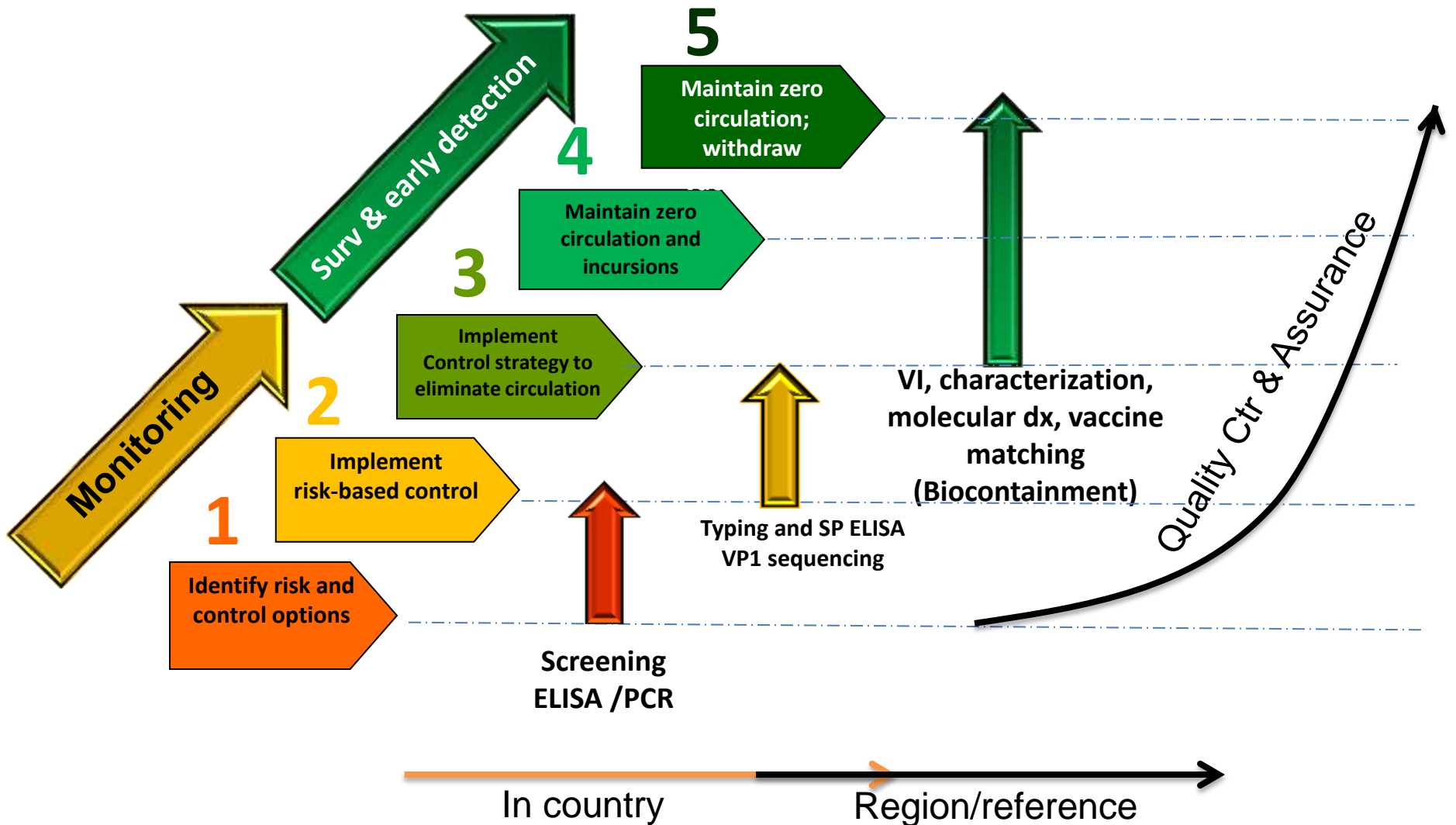




Current Status of FMD Reference Lab Network

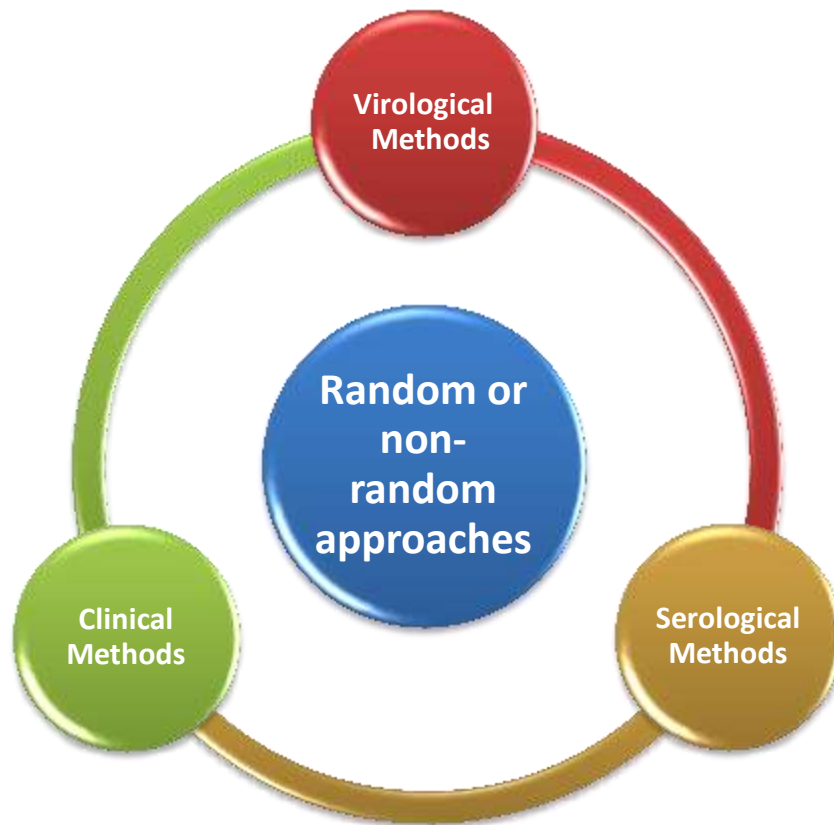
- OIE/FAO FMD reference lab network
 - One world and twelve reference labs/centers
 - Annual meeting, training and work plans
 - Provide diagnostic services
 - Share disease status information in respective regions
 - Create a comprehensive FMD report on an annual basis

Diagnostics Requirements for PCP Stages





Surveillance Approaches





Regional Leading Laboratory Selection Criteria

1. Creditability and **acceptance** by countries of the region
2. Commitment from the **government to support** and sustain lab functions as described in the terms of reference
3. Lab capacity and capability to **perform diagnostics** for FMD/PPR/other TADs
4. Capability to **handle exotic viruses** from other countries in the region
5. Certification to **ship and receive international** diagnostic samples
6. Participated or willingness to take part in **OIE twinning program**
7. Keen interest to be designated as a **FAO/OIE reference center**
8. **Established link with FMD reference laboratory**
9. Maintain good performance on **proficiency testing** carried by reference center



Regional Leading Laboratory Terms of Reference

1. Produces **diagnostic reagents**, SOPs and protocols
2. Provides **training** to national laboratories using train the trainers approach
3. Coordinates **proficiency testing** for the region (limited to screening tests)
4. Receives and processes samples for **diagnostics** from countries of the region
5. Ships samples to FAO/OIE reference centers for **full characterization**
6. Ensures and assist in regional **procurement** of essential diagnostic **reagents** for emergency release
7. Participates in **regional laboratory network** activities (potential leader)
8. Links with the regional **epidemiology network**



Regional Leading Laboratory Procedures for Nomination

- Acceptance by countries of the region
 - Meeting the selection criteria
- Government official commitment to support terms of reference/responsibilities



Proposed Process for Selection of RLL

- Self-nominated laboratory (ies) will be voted on by countries during the roadmap meeting;
- FMD-questionnaire to be filled out to address their capacity and capabilities;
- Possible involvement of the OIE-FAO reference laboratories to analyze the results of the questionnaire against the above criteria and terms of reference
- Recommendation by the reference centre will be submitted by the FMD working group to the regional advisory group for advice;
- The regional advisory group to announce the final selection to the countries in the region for final acceptance.
- The regional advisory group to propose for final acceptance by the countries in the region



Items to be addressed by breakout groups

Session 5

1. Does the region need leading laboratory?
2. List major activities should be taken on by the regional laboratory
3. Suggest a probable method to select the RLL for the region
4. Enumerate top three priorities should be on Lab network work plan for 2016-17
5. Enumerate top three priorities should be on Epi network work plan for 2016-17

Thank you for your attention





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



The Republic of Armenia

Speaker: Gevorkyan Arman Kimovich

“Republican veterinary-sanitary and phytosanitary center for laboratory services” under the Food Safety Services of the Ministry of Agriculture of the Republic Armenia



Identified gaps in 2015 Roadmap

Gaps	Activities to address gaps identified	Progress %
Incomplete risk-based FMD control plan	The plan adopted by the parties and approved by the stakeholders has been sent to the EuFMD and OIE	100
There is no identification	Appropriate budget application was submitted. The negotiation with donors is in progress.	50
There is no electronic information system	EIDSS and LIMS are under testing and introduction followed introducing throughout the country	70
Lack of the required number of diagnostics	Definite amount of diagnostics have been purchased for the budget funds	30



FMD outbreaks for the period 2014-2016

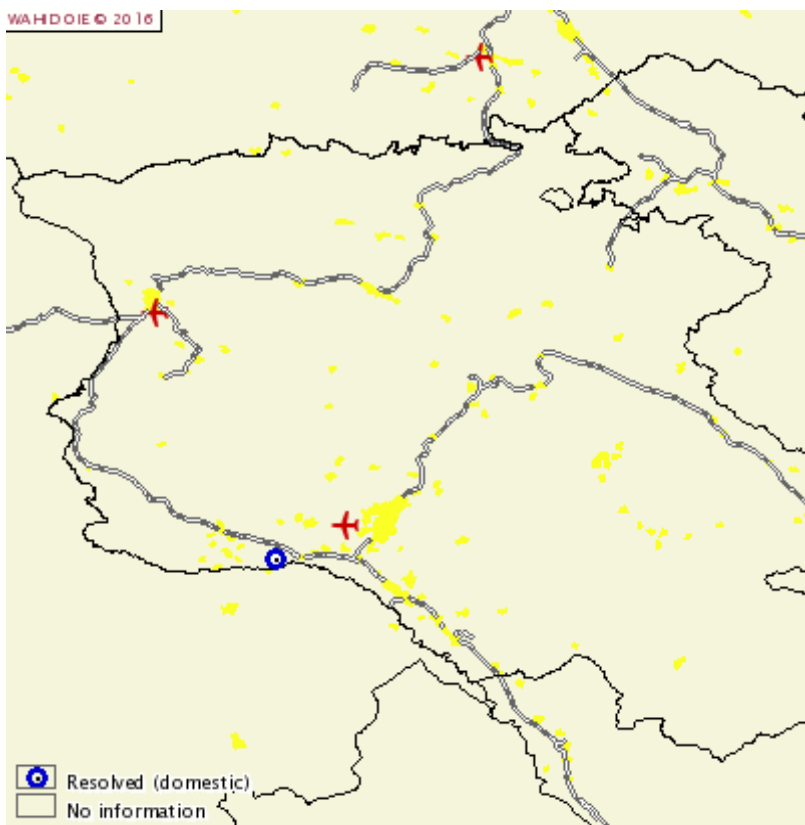
- 1 FMD case in the period 2014-2016 (1 cattle + 2 swine)
- The preliminary diagnosis was done in the laboratory of RA, 2 samples (1 cattle and 1 swine) of pathological materials were sent to “ARRIAH”;
- Identified FMD diagnosis: type A, genetic line A/G-VII
- Armavir marz, Arazap community, geographical coordinates: 40°02` - north latitude and 44°08` - east longitude, territory - 1561 ha



FMD outbreaks for the period 2014-2016

- Response to outbreak:

quarantine,
recording the susceptible
animals,
restriction of animal and
food transportation,
ring vaccination,
disinfection





Active and passive surveillance for the period 2014-2016

- Vaccination (about 2.273.000 doses per year), flexible policy of vaccine to be used, availability of risk-based national plan, compliance with the regulations of disinfection and quarantine for import-export, availability of veterinary reporting, introduction of electronic system regarding inspector and laboratory, systematic risk assessment, collaboration with the national self-government bodies, farmers, media and NGO, quick opening of a new building of the veterinary laboratory, sero-monitoring actions:



Active and passive surveillance for the period 2014-2016

Animal	Number of samples	Positive	%, non-specific protein
Cattle	791 (296+495)	14 (8+6)	1,8

Animal	Number of samples	A %, specific protein	O %, specific protein	Asia 1 %, specific protein
Cattle	915	94,74	97,04	98,01

Scheduled after vaccination in 2016.



Socio-economic or economic impacts

- It is mainly confined to the financial losses caused by the restrictive measures resulting in quarantine activities:
 - ✓ Sanitary slaughtering (3 units)
 - ✓ Export embargo for animal products from quarantine zone
 - ✓ Embargo for purchase and sale of animals



Component 1: FMD control plan

- ***Description of vaccination plans:***

About 2.273.000 doses of vaccine against FMD should be procured for 2016, 1.200.000 doses are being used

Vaccine efficiency $\geq 6PD_{50}$, strains A Iran 05, A/G-VII

O PanAsia2, Asia1 Sidnh 08,

It is scheduled to vaccinate 100 % susceptible cattle and small ruminants (in the risk zone)

- ❖ Cattle vaccination (in spring and autumn), coverage - 100 % population
- ❖ Re-vaccination of calves - 3 times every 3 months (up to 18 months)
- ❖ Small ruminants once a year – in the risk areas (near the borders, cattle markets, migration routes, in 2016 as well as Arazap and neighboring communities of Armavir)



Component 1: FMD control plan

- ***FMD surveillance***

It is also composed of active and passive components

After full completion of vaccination it is scheduled to fulfill full-scale activities on serological monitoring (identification both specific and non-specific proteins), approximately 10-15 % SP, 3-5% NSP

Starting of full-scale cattle identification activities

Completion of work on the country's membership in the EuFMD

Strengthening of laboratory capacity



Component 1: FMD control plan

- ***Trans-boundary activity***

Mass vaccination of susceptible livestock population in the border areas

Renovation of border checkpoints

Cooperation with the authorized bodies of neighboring countries

Raising awareness of stakeholders



Component 2: Activities to strengthen the veterinary services

- Some changes in the risk-based national FMD control program are expected
- Serological monitoring activities are planned to carry to the systematic level
- Introduction of electronic data exchange systems both in the inspectorate and laboratory are in progress
- A new laboratory building is in process of construction and the central and local laboratories are to be equipped



Component 3: Interaction to control other transboundary animal diseases

1. Transboundary vaccination of a variety of diseases (anthrax, pasteurellosis, blackleg as well as nodular dermatitis and PPR)
2. Improving the material and technical equipment of inspectors and field veterinarians
3. Strengthening laboratory capacity, renovation of equipment, disease diagnostics through several methods (serology, classic microbiology, ELISA, PCR)



Ongoing projects and budget for FMD control (national or development partners)

- The Armenia Government allocated US\$ 1.180.000 in total for FMD control, and submitted application to increase this amount
- FMD control plan supported by public structures, each within its competence
- *At present the country has no donors regarding this point*
- *The business entities and NGOs are interested in proper execution of the plan, however they don't provide financial support*



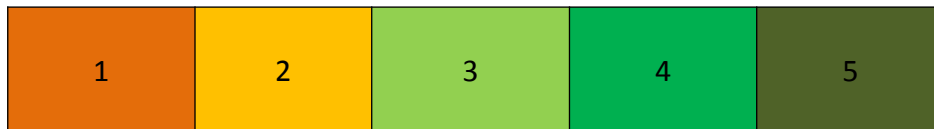
Gaps and request for support

- Lack of financial resources
- Lack of completely introduced electronic systems
- Unavailability of allocation procedures of expenditure items under force majeure circumstances
- Need to strengthen the regional cooperation
- Lack of post-graduate training and field veterinarians licensing procedures
- No practical trainings for business entities and NGO (including for biosafety and biosecurity)



The main FMD control program, the expected PPC of the country to 2025

Country	2012	2013	2014	2015	2016	2018	2022	2024-2025
Republic of Armenia	Yellow	Yellow	Yellow	Yellow	Yellow	Light Green	Bright Green	Dark Green



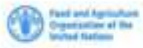


In brief

1. Accelerate of work on country's integration to the EuFMD
2. Closer regional cooperation
3. Final electronic system installation
4. Final formation of strengthened laboratory capacity
5. Continuous advanced training courses for inspectors, field veterinarians and laboratory staff at different levels



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Georgia

Lasha Avaliani

*Head of Veterinary Department,
National Food Agency*



Main achievements

- In summer of 2013 Georgia became EUFMD member country
- RBSP has been elaborated and started to implement
- Georgia reached FMD PCP stage 2 in 2015
- Legislation regarding FMD has been recently updated in harmony with COUNCIL DIRECTIVE 2003/85/EC





FMD outbreaks in 2014-2016

- Last outbreak in 2002 (Samtskhe-Javakheti Region)
- No FMD clinical cases in previous years
- Active surveillance countrywide
- NSP and SP Seromonitoring





Active and Passive Surveillance in 2014-2016

- **NSP-Ab** - Estimation of level of FMDV circulation in different high risk hotspot areas and in the rest of the country (as background)
- **SP-Ab** - Assess the effectiveness of the vaccination campaign and estimate sero-conversion in vaccinated LR and SR populations.

#	Risk hotspots	Large Ruminants		Small Ruminants	
		Expected Prevalence	Sample sizes at 4% error	Expected Prevalence	Sample sizes at 4% error
1	S.Javakheti, K.Kartli, Kakheti Regions (high risk area)	10%	217	10%	217
2	Villages with live animal markets (in high risk areas)	15%	307	15%	307
3	Villages with live animal markets (outside high risk areas)	10%	217	10%	217
4	Villages through which lead seasonal migration routes	10%	217	15%	307
5	Uncontrolled territories with animal movements	10%	217	10%	217
6	Border villages in with Turkey, Armenia, Azerbaijan	5%	115	20%	385
7	Other areas (background)	5%	115	10%	217
	Total sample sizes		1405		1867





Active and Passive Surveillance in 2014-2016

- Guidelines for field veterinarians and laboratory staff with all necessary paper forms has been elaborated
- Field and Laboratory information was entered in Electronic Integrated Disease Surveillance System (EIDSS)



Serosurvey design

Guideline for serosurvey on animal diseases (SNP- and SP-Ab surveys)

Objectives
To determine the burden of FMD seroprevalence in livestock and wild animals in the country.

General considerations for the serosurvey

1. The survey design and sampling strategy were agreed during an expert WHO/FAO consultation in July 2013 in Bishkek.
2. The survey design (7718 and 12439 per village) is based on the 2013 estimate.
3. The village survey is based on the selection of all village villages with appropriate animal husbandry systems.

1. Objectives

1. Determine the prevalence of FMD seroprevalence in different large and small ruminant species and in the herd of the selected villages.
2. Identify antibodies to FMD virus in different FMD serotypes and in the herd of the selected villages.

2. Methodology

- 2.1. The survey will be conducted in 100 villages across the country. The selection of 100 villages will be based on the following criteria:
 - 2.1.1. The geographical distribution of the villages will be representative of the country.
 - 2.1.2. The geographical distribution of the villages will be representative of the country.
 - 2.1.3. The geographical distribution of the villages will be representative of the country.
- 2.2. The survey will be conducted in 100 villages across the country. The selection of 100 villages will be based on the following criteria:
 - 2.2.1. The geographical distribution of the villages will be representative of the country.
 - 2.2.2. The geographical distribution of the villages will be representative of the country.
 - 2.2.3. The geographical distribution of the villages will be representative of the country.

Serosurvey Guideline

FMD sero-surveillance forms
New structural proteins (NSP)

Surveillance/Reporting site: _____

Field officer: _____

Date and location (District name): _____

The _____ **District** _____

#	Animal species	Sexing	Age of animal	SNP	SP	Sample number (if applicable)
1	Cattle	♂	10	+	+	
2	Sheep	♀	5	-	-	
3	Goat	♂	3	+	+	
4	Wild boar	♂	15	+	+	
5	Wild boar	♀	10	+	+	
6	Wild boar	♂	8	+	+	
7	Wild boar	♀	12	+	+	
8	Wild boar	♂	10	+	+	
9	Wild boar	♀	15	+	+	
10	Wild boar	♂	12	+	+	

Signature: _____

Date: _____

Paper forms



Active and Passive Surveillance in 2014-2016

TransCaucasus Technical Workshop on National Foot-and-Mouth disease (FMD) Sero-surveys Design and Analysis

(Component 2.1 West Eurasia: Turkey, Georgia and neighbors)
Georgia, Tbilisi – 24-27 of November 2015

Participants:

Azerbaijan:

Armenia:

Georgia:

EuFMD: Carsten Potzsch, Gunel Ismayilova

General Topics:

National Serosurvey campaigns 2016

Clinical surveillance campaigns 2016





Component 1: FMD control plan

FMD vaccination

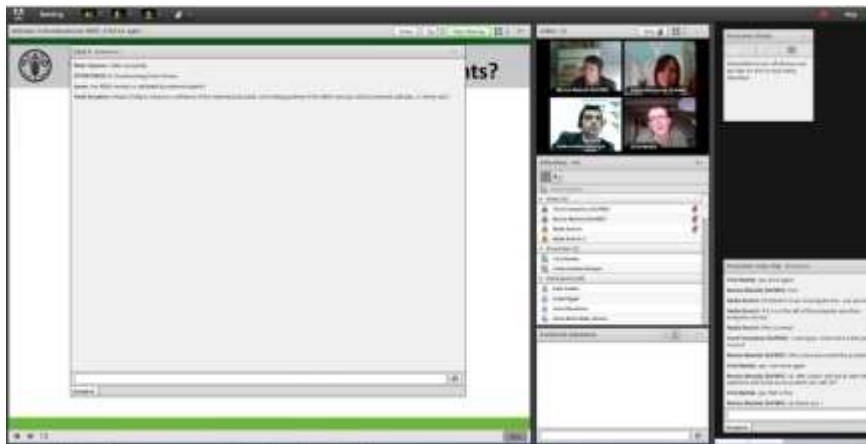
- Vaccination is implemented with 3 valent (A, O, Asia1) 6PD50 vaccine with full compliance of EUFMD recommendation
- Vaccination is aiming whole population of LR&SR twice per year



Component 1: FMD control plan

Plans related to FMD surveillance

- RBSP elaborated (GEO & ENG)
- Approved by NFA leadership
- Implementation started in 2015
- Same structure used for rabies strategy
- Webinar for Georgian RBSP in May 2016





Component 1: FMD control plan

Cross-border activities

- Cross regional communication for disease control has been established
- Georgia, Azerbaijan, Kazakhstan, Ukraine
- Regional meetings and calls is supported by DTRA (USA)



Component 1: FMD control plan

Movement controls, biosecurity, awareness campaigns

- Biosafety points along the animal migration roads (3 finished out of 8)
 - Disease monitoring
 - Animal ear-tagging
 - Spraying/dipping
 - Delivery of booklets





Component 2: Activities to strengthen the veterinary services

Head of the Agency

Deputy Head (CVO)

Veterinary
Department

Regional offices

District
representatives

Freelancers

X 12

X 65

35 Central state veterinarian



160 State veterinarian

650 Freelancer



Component 2: Activities to strength the veterinary services

Electronic systems used for animal health surveillance and quality control of veterinary service



EIDSS



Intranet



Component 3: Synergies to control other TADs

FMD

Rabies

Anthrax

Brucellosis

Tuberculosis

Avian Influenza

Sheep and Goat Pox

Lumpy Skin Disease

African Swine Fever

Paste des Petits Ruminants

Crimean-Congo Haemorrhagic Fever

Active Surveillance Projects

State Budget for epizootics – 11,600,000 Gel (4,500,000 euro)



Ongoing projects and budget for FMD control

FMD

- State budget is constantly allocated for FMD activities
 - 35-40 % of total budget
- Electronic Integrated Disease Surveillance System
- Animal Identification and Registration



LR ID



Since 2012

SR ID



Since 2015



Ongoing projects and budget for FMD control

- Establishment of PCP stage 3 in defined zone in Georgia
 - Major goal: Aims to detect any cases of the disease in the “low risk zone”, or to provide documentary evidence of the absence of clinical cases of the disease in the zone at the given stage.
 - Strategic objective: Enter PCP Stage 3 for 2018 for this zone
 - full implementation of the RBSP - serosurvey & clinical surveillance



www.google.com





Gaps and request for support

- Lack of financial and human resources
- New diseases outbreaks in region (LSD, SGP, PPR)
- Outbreak of PPR in Georgia - took all human/time resources
- FMD new strain introduction in region
 - Stopped procurement of FMD vaccines
 - Postponed vaccination scheme of 2016
 - Increased risks FMD introduction
- **Lack of finances on NSP/SP diagnostics**
 - Especially for defined “low risk” zone

Acknowledgments

OIE

FAO

EU-FMD team

...

Andriy Rozstalnyy

Carsten Potzsch

Gunel Ismaylova



PCP-FMD expected stage progression until 2025

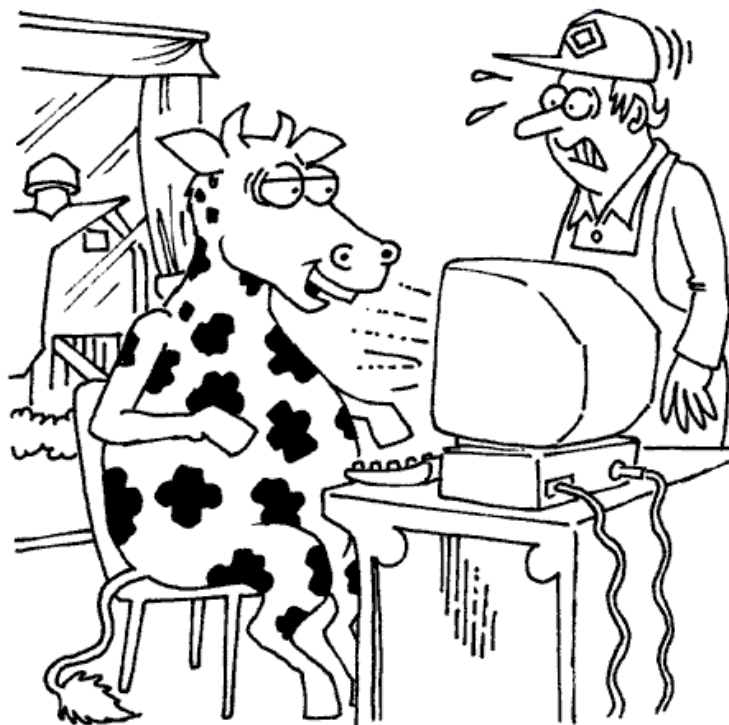
Georgia	2014	2015	2018*	2020	2024
---------	------	------	-------	------	------



* For 2018 PCP Stage 3 is aimed to be achieved for “Low Risk Zone”



Thank you for your attention



Hey, you are late on RBSP tactic 2.1.4. Moo...



GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



TURKEY

FMD DISEASE SITUATION & National RBSP

A.Naci Bulut

Leader of WELNET FMD

Şap Institute, Ankara, Turkey

On behalf of Dr.Nihat Pakdil

CVO, Deputy Secretary of the Ministry

Turkish Ministry of the Food, Agriculture and Livestock (MoFAL)



Gaps Identified in 2015 Roadmap

Gaps	Corrective actions taken	% achieved
<p>Cost&Benefit Analysis (C&BA)</p>	<p>C&BA as a component of National RBSP has been prepared. Submitted to disease decision maker for final evaluation</p>	<p>100%</p>
<p>Bosster Vaccination</p>	<p>Bosster vaccination in Marmara and Aegean Regions has been implemented In addition those regions, it has been introduced in some other regions</p>	<p>85%</p>
<p>Early detection system for detection of upcoming risk-incursion from neighboring countries</p>	<p>Although there has been some initiative, it needs establishment a dynamic, routine system in the West Eurasia</p>	<p>?</p>



FMD outbreaks in 2015-2016 (1)

CIRCULATING STRAINS

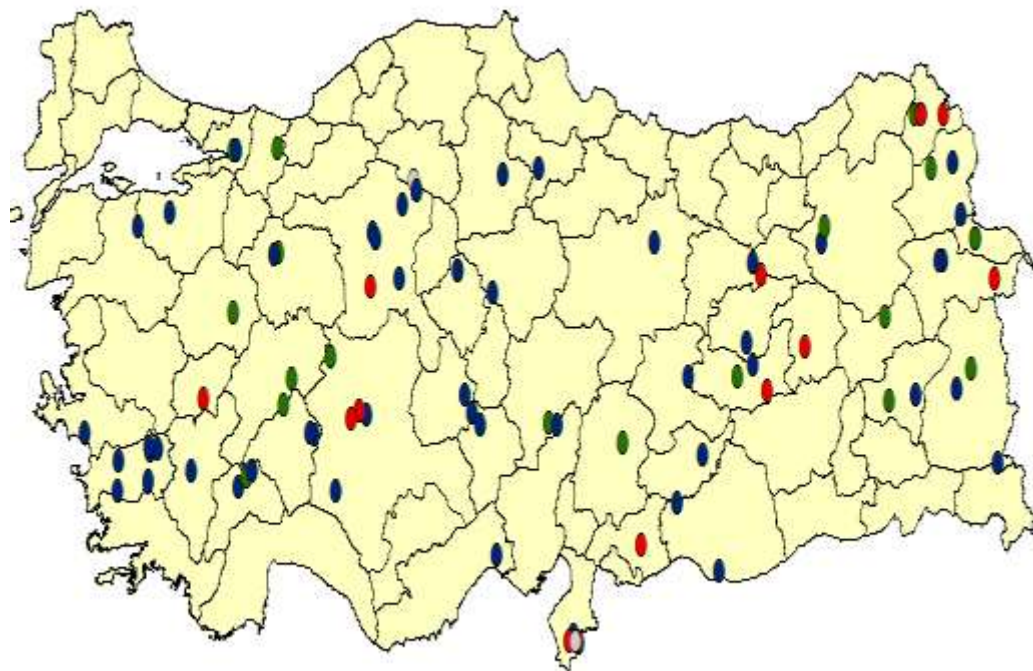
- FMD is endemic in Anatolia region in Turkey
- Current Circulating virus strains:
 - Serotype O (O PanAsiaII),
 - A (Asia/GVII)* and
 - Asia-1 (Asia1/SINDH08)
- Thrace region has been free of FMD with vaccination since May 2010.



FMD Situation Before New Serotype A, A(ASIAGVII) Incursion (2015, till October)

Before the new incursion;

- Occasional (sporadic) outbreaks were recorded in this period of 2015.
- In total: 62
- 12 Serotype O, 30 A, 13 Asia1 and 7 PCR (+).
- With low incidence (<0.3) and ignorable mortality rate.



Chronology of New Incursion

29 Sep15	Clinical Detection of FMD; <u>Indexcase</u> Buzhane, Ipekyolu-Van
2 Oct15	Lab Diagnosis, serotype A
9 Oct15	Molecular Analysis Result: A new incursion
9 Oct15	Shifted emergency response
9 Oct15	Initiated adaptation of a new vaccine strain
24 Oct15	Finalized 1st step of the adaptation proces Initiated QA and vaccine matching testing
10Nov15 24 Nov15	Finalized 1st step vacc. Matching test First monovalent vacc. Delivering for emergency vaccination
15 Dec15	Proponed spring campaign vaccination



21,2% distinct from Turkey2015 (AIRN2005)



Initiated active clinical surveillance program
Leading by expert central level
Animal markets were closed in area which
detected high risk
Movement was banned from/to high risk area
and monitoring shifted emergency level
Increase awareness activities covering all
stakeholders



**r value was indicated A (AsiaGVII)
vaccine strain was matched very
well
QA tests also finalized for 1st
batch vacc.**



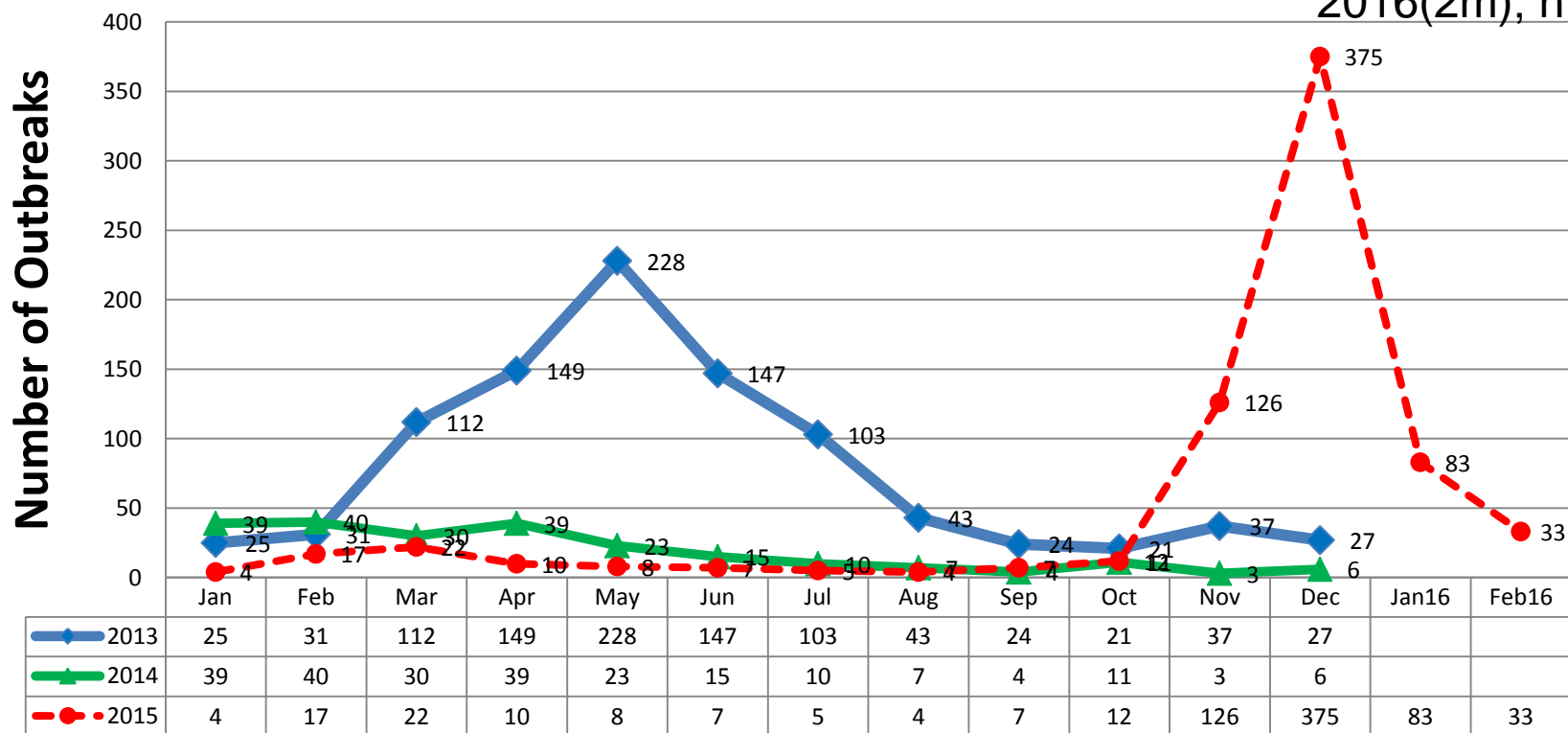
Tetra valency vaccine (O
Panasiatl/, A (AsiaGVII, A Iran05/A
Tur14 and Asia1/SINDH08) was
used for campaign



Number of FMD outbreaks occurred by years (2016 –till Feb)

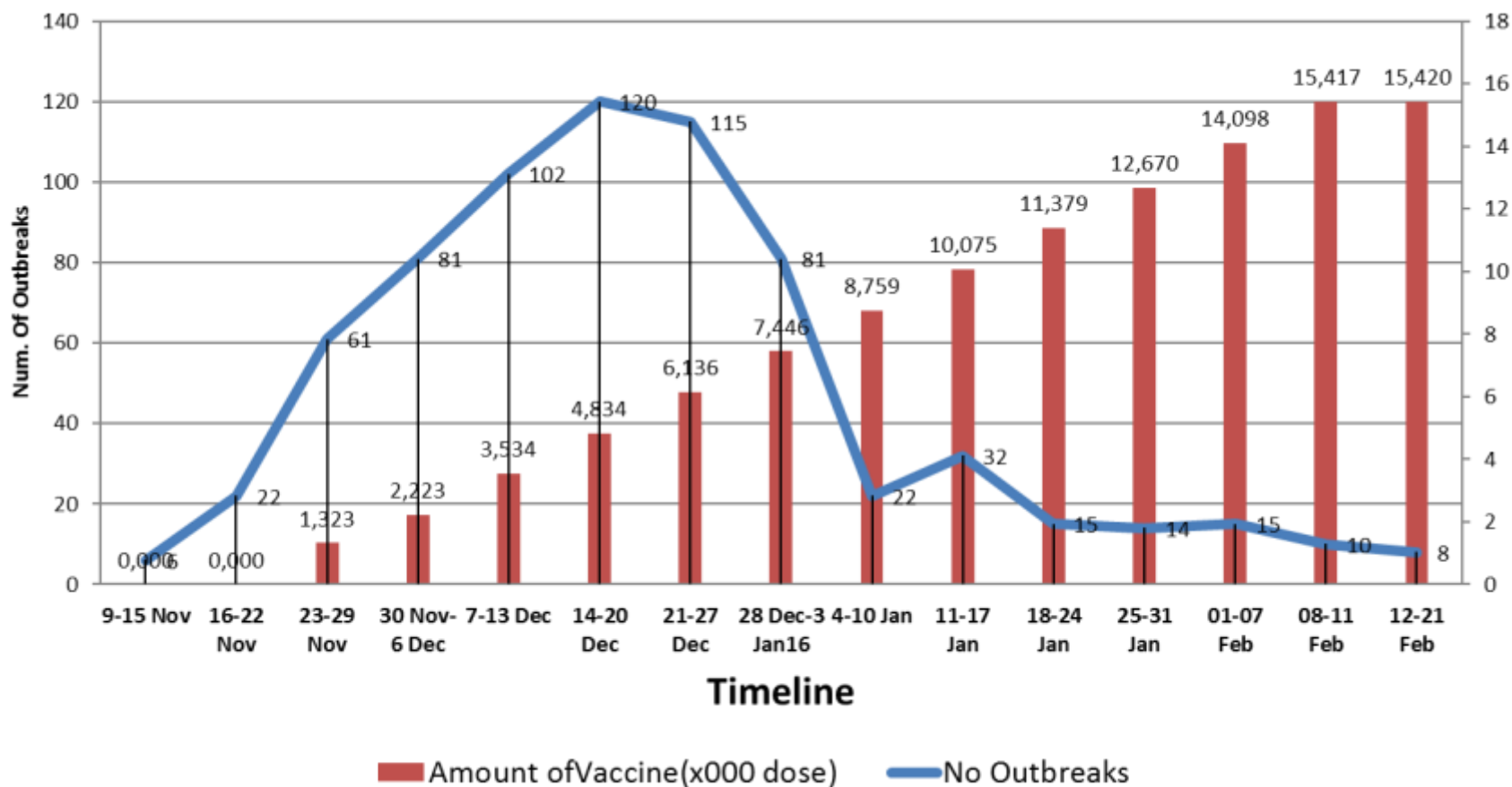
FMD OUTBREAKS BY YEARS

2013; n 835
2014; n 197
2015; n (62/513)575
2016(2m); n 116



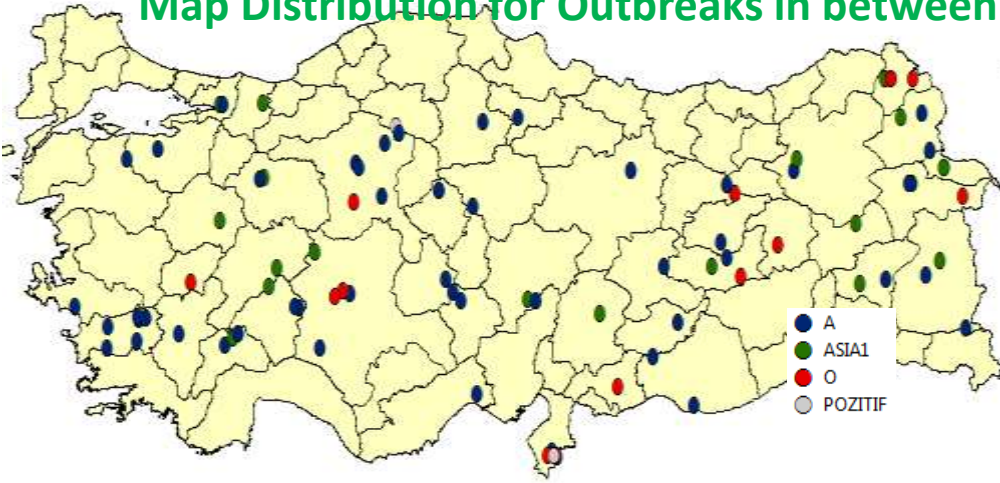


Supplied Vaccine vs No of Outbreak during new outbreak wave



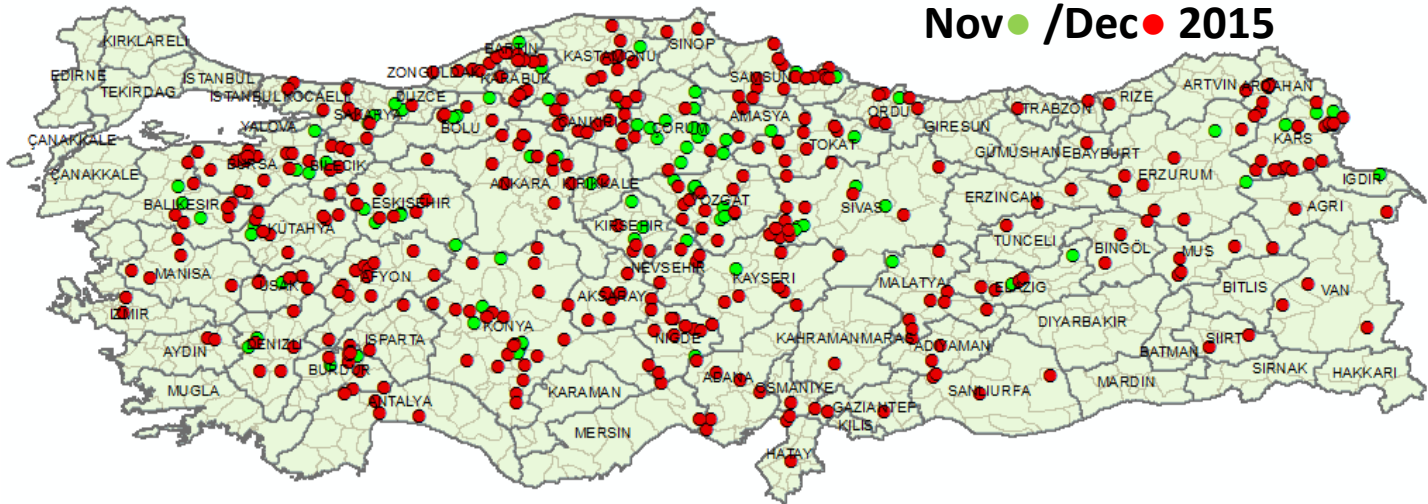


Map Distribution for Outbreaks in between January-October 2015



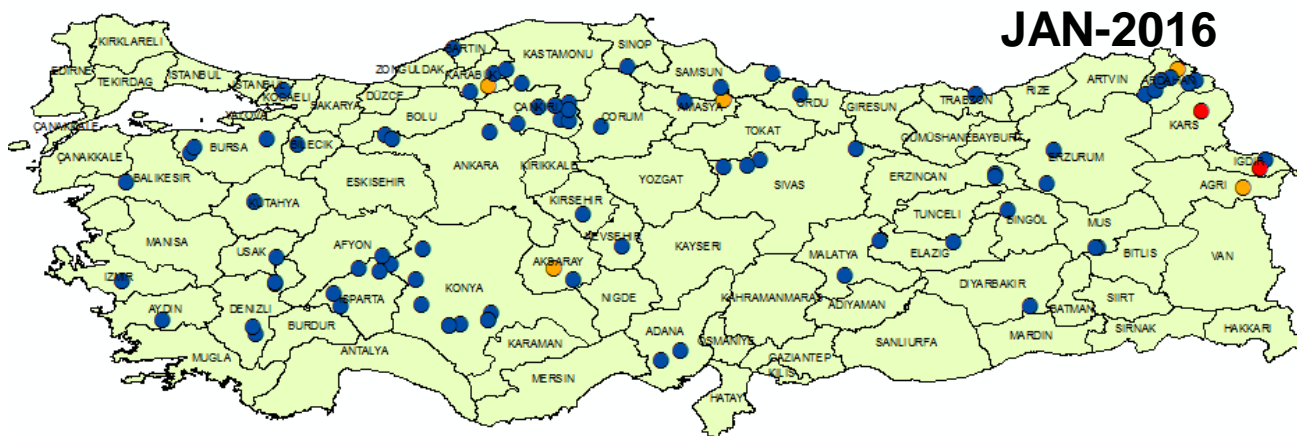
Map Distribution for Outbreaks due to A/ AsiaG VII

Nov ● / Dec ● 2015

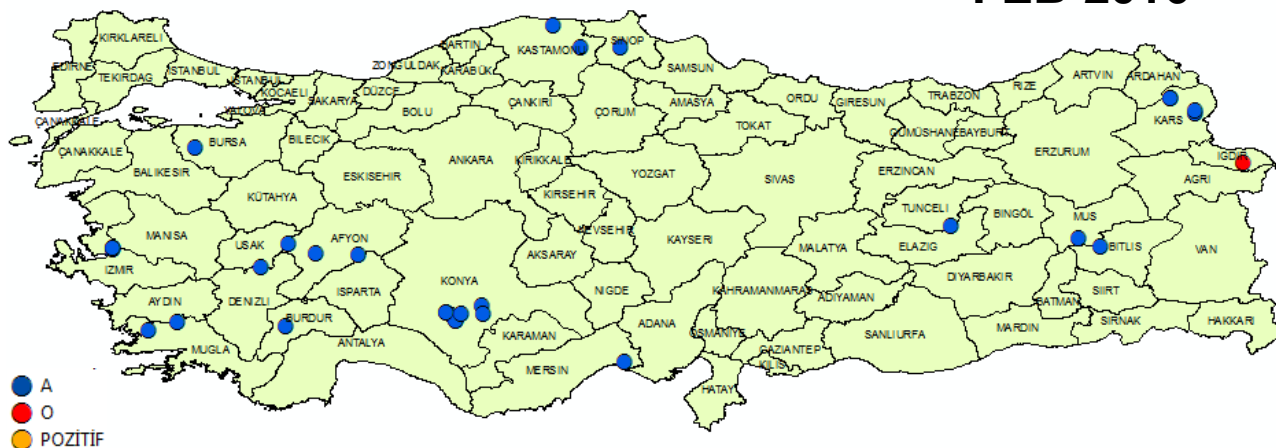




Map Distribution of FMD Outbreaks Occurred in 2016



Total:83
Serotype
O:2
Serotype
A:76
PCR(+) :
5



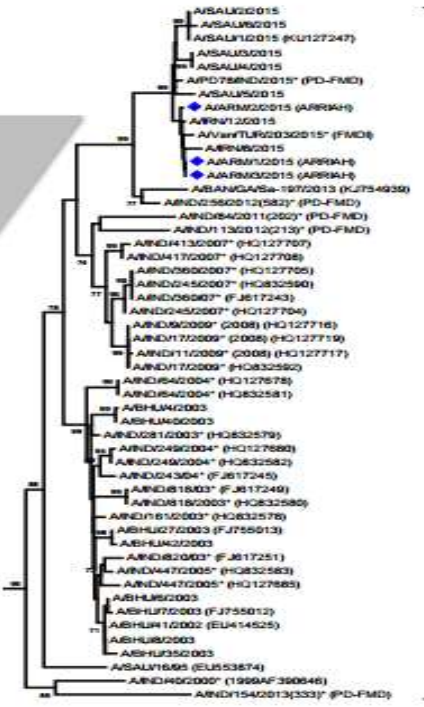
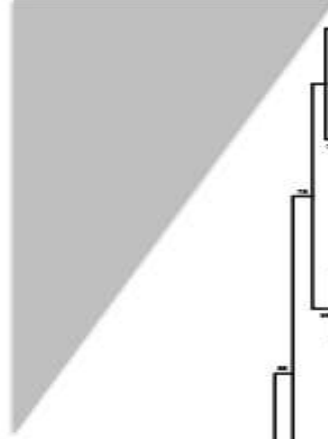
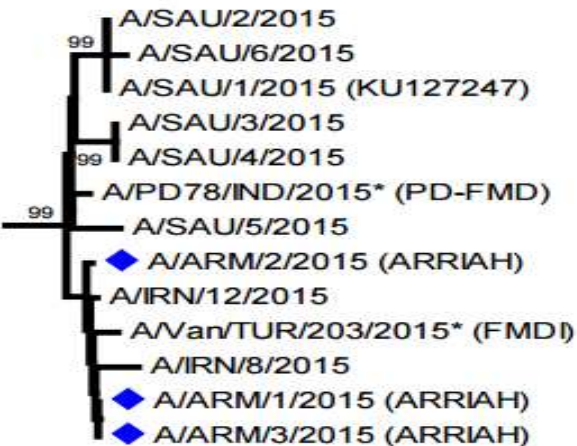
Total:33
Serotype
O:1
Serotype
A:32



FMD Situation In the regions WE and SEA

Sequence analysis

Single episode and introduction?



By Dr. King,
from EuFMD
Webinar

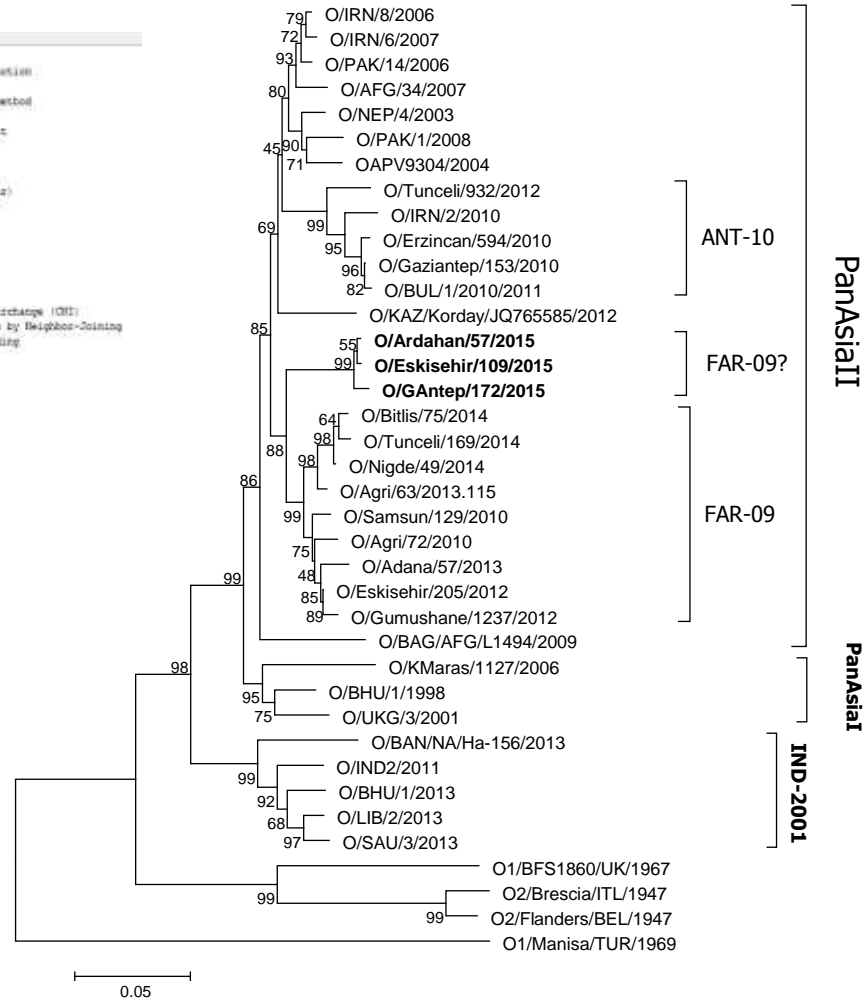




Representative phylogenetic trees: O

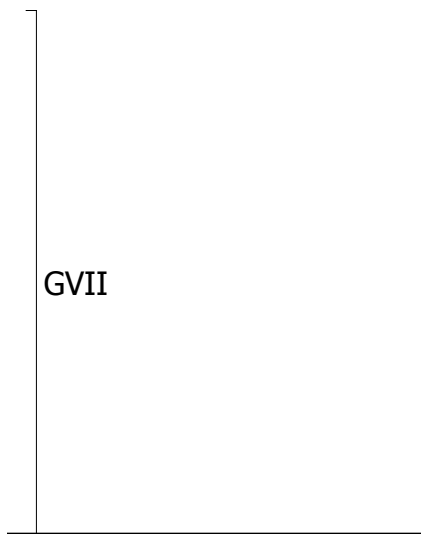
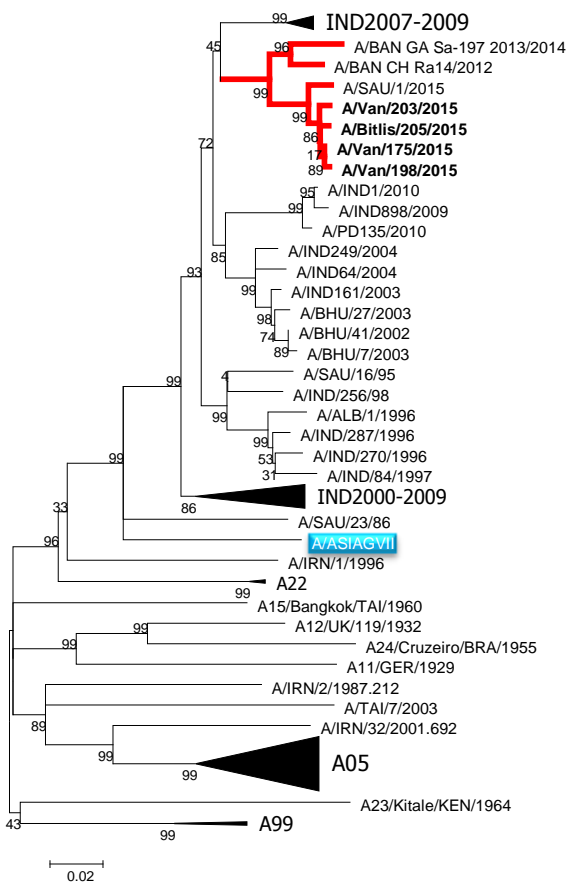
Analysis Options

Analysis ----- Phylogeny Reconstruction
Scope ----- All Selected Taxa
Statistical Method ----- Maximum Evolution method
Phylogeny Test
Test of Phylogeny ----- Interior-branch test
No. of Bootstrap Replications ----- 1000
Substitution Model
Substitutions Type ----- Nucleotide
Model/Method ----- LogDet (Tamara+Nei)
Substitutions to Include ----- All
Rates and Patterns
Rates among Sites ----- Uniform rates
Pattern among Lineages ----- Same (Homogeneous)
Data Subset to Use
Data Missing Data Treatment ----- Exclude deletion
Tree Inference Options
NF Neighboric Method ----- Close-Neighbor-Interchange (CNI)
Initial Tree for NF ----- Create initial tree by Neighbor-Joining
Codons Included ----- 1st+2nd+3rd+Stop-Coding



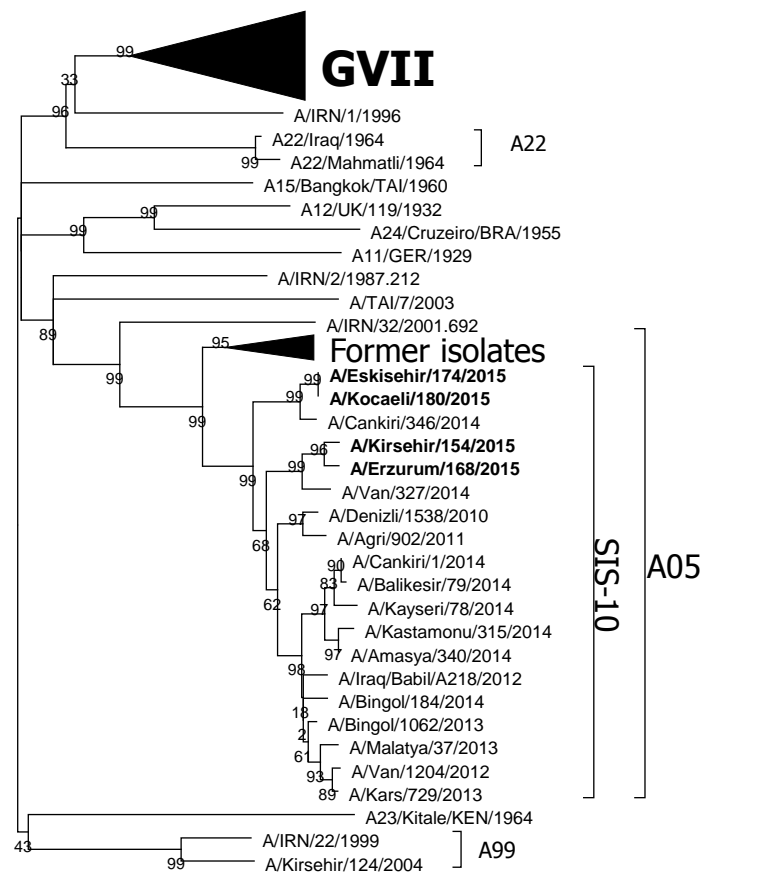


Representative phylogenetic trees: A (ASIAGVII)



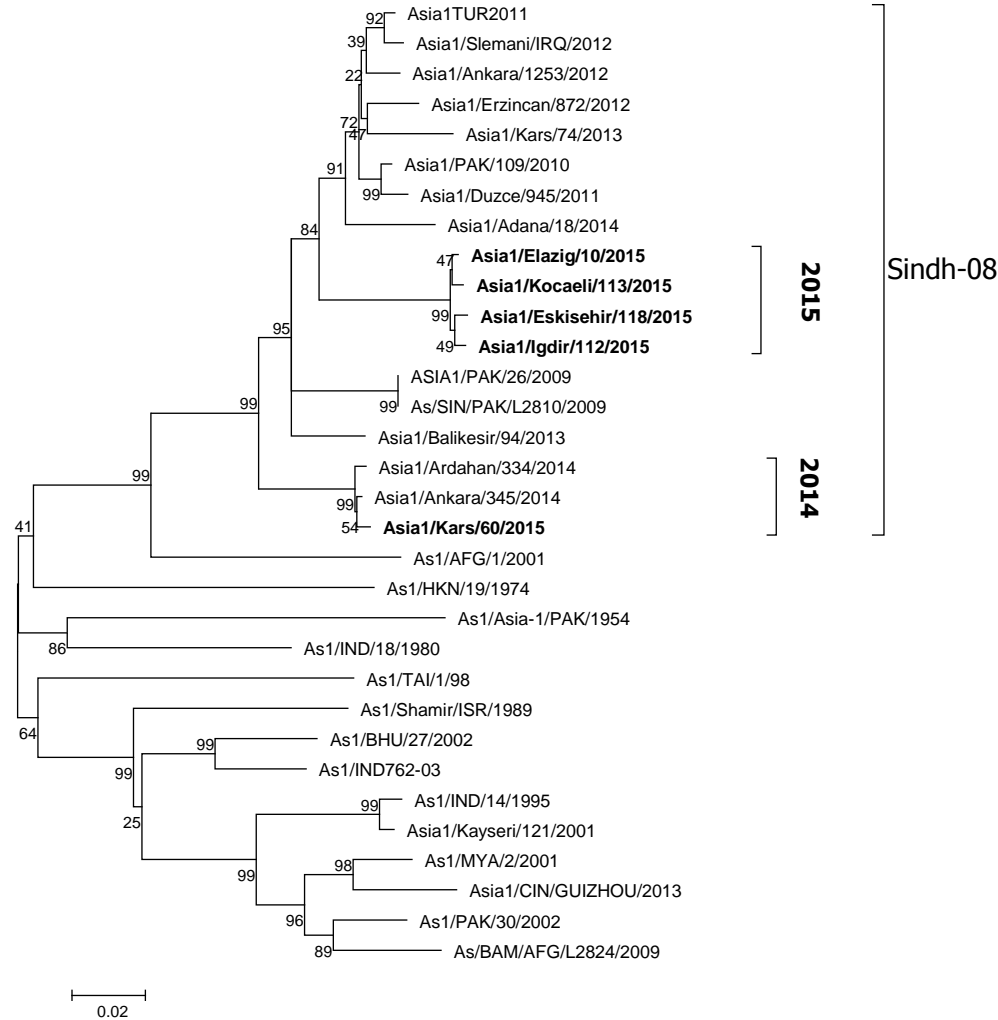
Strains	Distance
Saudi2015	1,3%
Bangaldesh2013	4,7%
Albania96	10,5%
Saudi95	10,8%
NEP-84	14,0%
AIRN96	17,3%
A22/Mahmatli/1964.98	
1	17,3%
AIRN87	19,0%
Turkey2015 (AIRN2005)	21,2%
AIRN99	21,4%
AIRN2005 (index)	22,2%

Representative phylogenetic trees: A (A05 SIS-10)







Representative phylogenetic trees: Asia1



Analysis Options	
Analysis	Phylogeny Reconstruction
Range	All Selected Taxa
Statistical Method	Maximum Likelihood method
Phylogeny Test	
Test of Phylogeny	Bootstrap-branch test
No. of Bootstrap Replications	1000
Substitution Model	
Substitutions Type	Nucleotide
Model/Method	LogDet (Felsenstein)
Substitutions to Include	All
Rates and Patterns	
Rates among Sites	Uniform rates
Pattern among Lineages	None (Homogeneous)
Data Subset to Use	
Gaps/Missing Data Treatment	Pairwise deletion
Tree Inference Options	
ME Heuristic Method	Close-Neighbor-Interchange (CNI)
Initial Tree for ME	Obtain initial tree by Neighbor-Joining
Codons Included	1st+2nd+3rd+Non-Coding



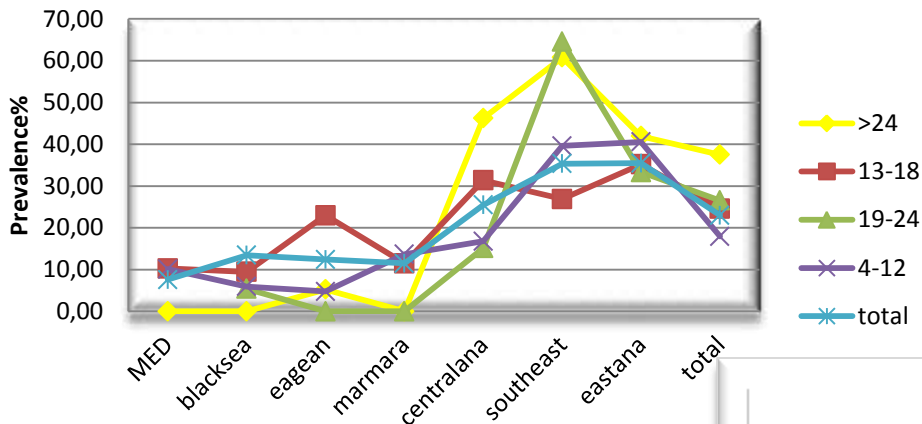
Sero-surveillance in 2014-2015

- Two separate national level sero-surveillance were conducted in each year with aimed:
 - Estimation NSP Prevalence for LR and SR (in Anatolia)
 - Evaluation vaccination performance and immunity level (including Thrace region)
- Significant declining on 2015 NSP prevalence was detected, when compared with previous year:
 - LR: 17.04% (2014)  13.07% (2015)
 - SR: 24.00% (2014)  13.14% (2015)



Serosurveillance_2014/2015

2014 NSP Surveillance_Cattle by region&Clusteredage



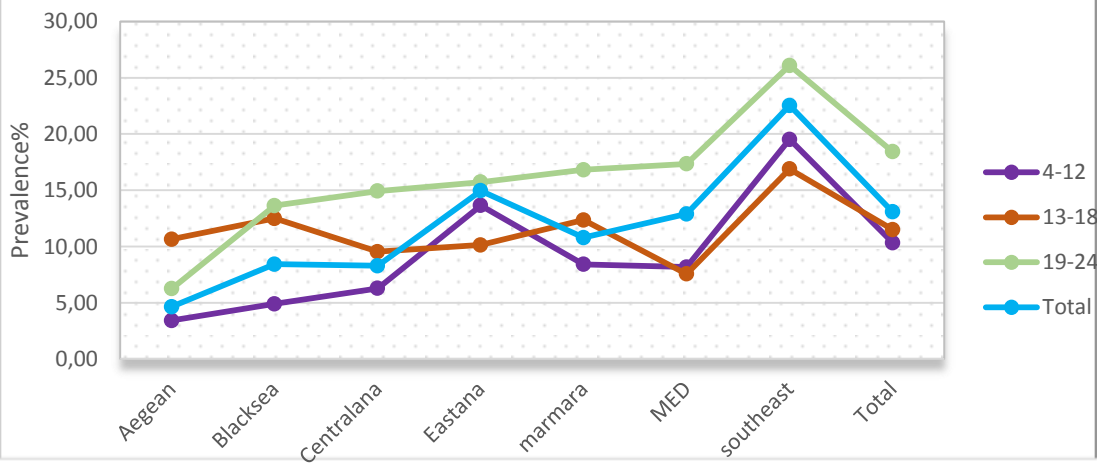
2015:

- Differences by region is not significant except southeast, prevalence by age is constant within the same region
- older group has higher prev.
- There is no overlap ratio on prevalence between each region.

2014:

- Differences by region is significant, prevalence by age is constant within the same region
- older group has higher prev.
- Detected overlap ratio for east and southeastern

2015 NSP Surveillance_Cattle by region&AgeClustered





LATEST FMD SITUATION AND CONTROL POLICY

- Although the new outbreak wave, due to A (Asia/GVII), was spread pandemic in the beginning, there has been recorded declining number of outbreaks at the moment as a result of strict control measures.
- Spring 2016 vaccination campaign has been proponed to December 2015 (December2015-15th March).
- The Campaign has been mainly included LR vaccination. However, SR has been also included in some area in which it has been identified high risk.
- More than 15.5 million tetra-valence (included one batch monovalent) vaccine with 6 PD50 potency has been delivered for campaign vaccination targeting with at least 90% coverage.
- Till now, 96% vaccination coverage was achieved .



LATEST FMD SITUATION AND CONTROL POLICY

- Booster vaccination has been also implemented for primo-vaccinator cattle in Marmara (included Thrace region) and Aegean regions.
- Vaccination campaign in Marmara and Aegean will be implemented 3 times in 2016 (To be planned additional vaccination campaign on May)
- Emergency vaccination response to outbreak has been implemented regularly including SR.
- Clinical surveillance and outbreak case studies have been continued.
- Movement and animal market control measures has been strictly monitored (to better monitoring of the movement, conventional air-tag has been replaced with electronic version). Map of animal movement is produced monthly through the TURVET data.
- Markets and movements have been banned in the area in which it was identified high risk.
- Poster and leaflet have been prepared and delivered for enhance awareness
- Vaccine strains used:
 - **O PanAsia11/OTur2014;** **A/ASIA/G-VII-ATUR2015&A/ASIA/Iran05-ATUR2014** and **Asia1(SINDH08)**



CONTROL POLICY CONDUCTED IN THRACE REGION

- All control measures compliance with Terrestrial Manual of OIE in order to keep confidence of disease free status with vaccination.
- Thrace Risk Based Surveillance Program (Thrace RBSP) support by EuFMD has been conducted successfully.
- In addition to Thrace RBSP, clinical surveillance has been conducted three times by central epidemiology teams since detected new A virus incursion so that it can be keep confidence of the freedom



Activities to strength the veterinary services

- FMD national RBSP has been implemented
 - Vaccination has been planned based on outputs of risk assessment
 - All control measures are routinely evaluated and monitored by monthly steering & taskforce meeting
 - Crisis centre has been recently established for emergency situation
 - Budget allocated to FMD control has been increased by national budget
- An epidemiology and monitoring unit had been established in 2014 with three different level: Central (GDFC); Research Institutes (FMD Institute and 8 regional reference institutes) and provincial level.
- To enhancement technical capacity of the units, an epidemiology training course has been conducted by technical support of EuFMD.
- 5 simulation exercises for FMD were conducted in the different regions



Synergies to control other TADs

- A surveillance component for S&GP, PPR and LSD has been integrated into Thrace Risk Based Surveillance Program for FMD .
- Following preparation of FMD RBSP, strategy plans has been prepared for other infectious diseases by GDFC (listA) through EC project. Control plans with risk assessment concept will be initiated for TADs.
- There has been declining of number of outbreak for TADs, such as LSD, PPR, S&GP by enhancement of technical capacity of the vet. service and better achievement of control measures as a reflect of gaining experiences of FMD control strategy.



Ongoing projects and budget for FMD control

- Research on R&D for vaccine production at Şap Institute
- Vaccine and vaccination monitoring
 - Planned for conducting vaccine effectiveness study
- Air-taging Project: replacement conventional air-tag to electronic version
- Technical assistance to Pakistani FMD Project
 - Vaccine QC methods
 - Vaccine plants
 - Vaccine monitoring process and test methods for monitoring
- EC Project on preparation RBSP for all infectious disease
- Thrace RBSP: Ongoing surveillance program for keep confidence of free status and early detection support by EuFMD



Gaps and request for support

1. To detect upcoming risk:

-Establishment Early detection system

-Mechanism for information sharing

-Routine & realtime virus serotyping, genotyping
and vaccine matching

-Routine market survey

2. To eliminate risk on incursion:

-cross-border survey and coordination

-strong political commitment & action

3. Training on surveillance and serosurveillance in order
to build up capacity of the region.



Turkey PCP-FMD expected stage progression until 2025

Country	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
TURKEY-Thrace		4	4	4	5	5	5	5	5	5	5
TURKEY-Marmara/Aegean	2	2	3	3	4	4	4	4	4	5	5
TURKEY-Marmara/Aegean	2	2	2	2	2	2	3	3	4	4	4





Summary

- FMD was sporadically spread by implementing effective control measures since experienced new incursion.
- However, new incursion of A/ASIA/G-VII was changed the disease situation as pandemic.
- Although the disease spread rapidly beginning of the first two months, due to emergency response (early new vaccine strain adaptation and other control measures), a sharply declining of number of outbreaks has been achieved again.
- This new incursion happened in the region is another example (like 2010 type O and 2011 Asia1) that establishment of early detection is crucial for the region.
- It is clear that there is a gap on vaccine sufficiency for A/ASIA/G-VII. Turkey has already achieved producing this vaccine and ready for some contribution for the region.
- In the other hand, vaccine is only one tool for the control. To eradicate the disease need a strong political commitment and regional coordination as well as implementation other control measures.



Thank you very much for your attention!

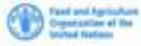
Acknowledges

- Fuat Ozyörük
- Unal Parlak
- Dr.King, The Pirbright Institute
- The Şap Institute
- General Directorate for Food and Control (GDFC)





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



IRAN COUNTRY REPORTS

PRESENTED BY

Darab Aabdollahi

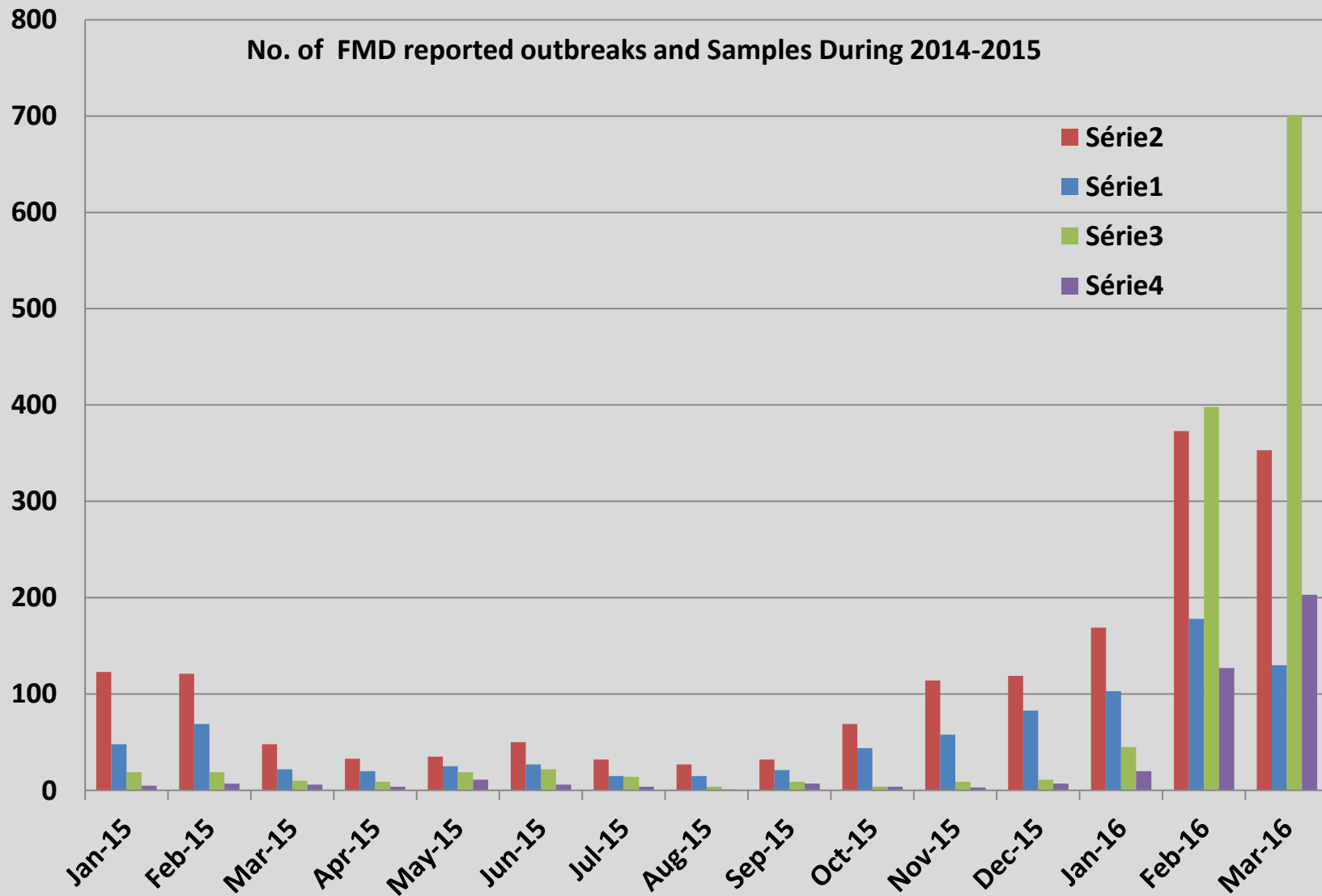
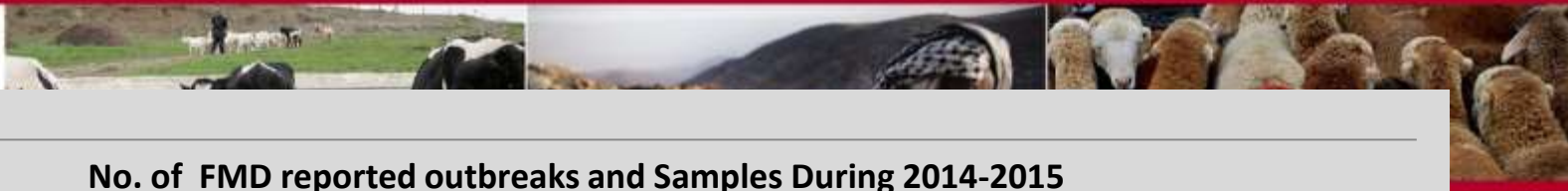
Title, Deputy Director of Bureau of
Animal Health and Disease Management
Organization : Iran Veterinary Organization
(IVO)



Gaps Identified in 2015 Roadmap

Please use results of the 2015 questionnaire (optional)

Gaps	Corrective actions taken	% achieved
Local Vaccine Cloudy PD50	Perform potency test in target animals	100%
Amount of required vaccine	New implant fmd vaccine producer facility	75%
Illegal Animal movements	Strict controls on animals movement and transportation especially in the eastern border	65 %
Farmers awareness	Preparation and distribution of health notifications Send disease-specific events via SMS to dairy farmers	50-60 %





in 2015 : more than 1200 epithelial samples collated and send to Labs:

- 80 % to CVL or 5 provincial Snls
- 20 % to Razi institute
 - 27 samples send to WRL
 - 25 positive samples were fully characterized by WRL
 - In 16 samples (A & O) vaccine matching performs in CVL
 - For 2 A samples vaccine matching performs in WRL



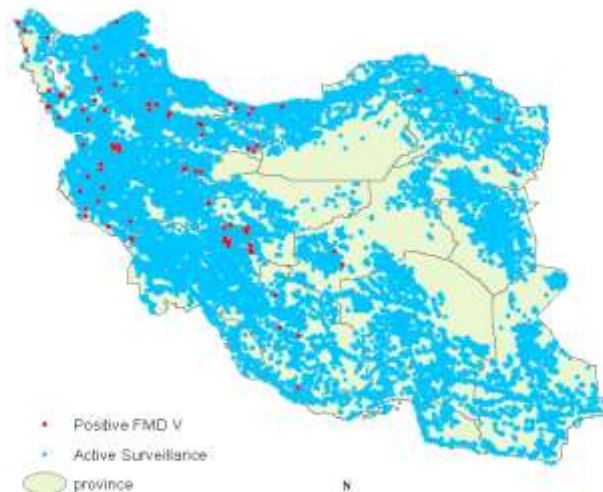
Active and Passive Surveillance in 2014-2016

Number of Active Surveillance during 2014
 with Positive FMD V
 in IRAN



69076 Epi Units checked
 76 were positive

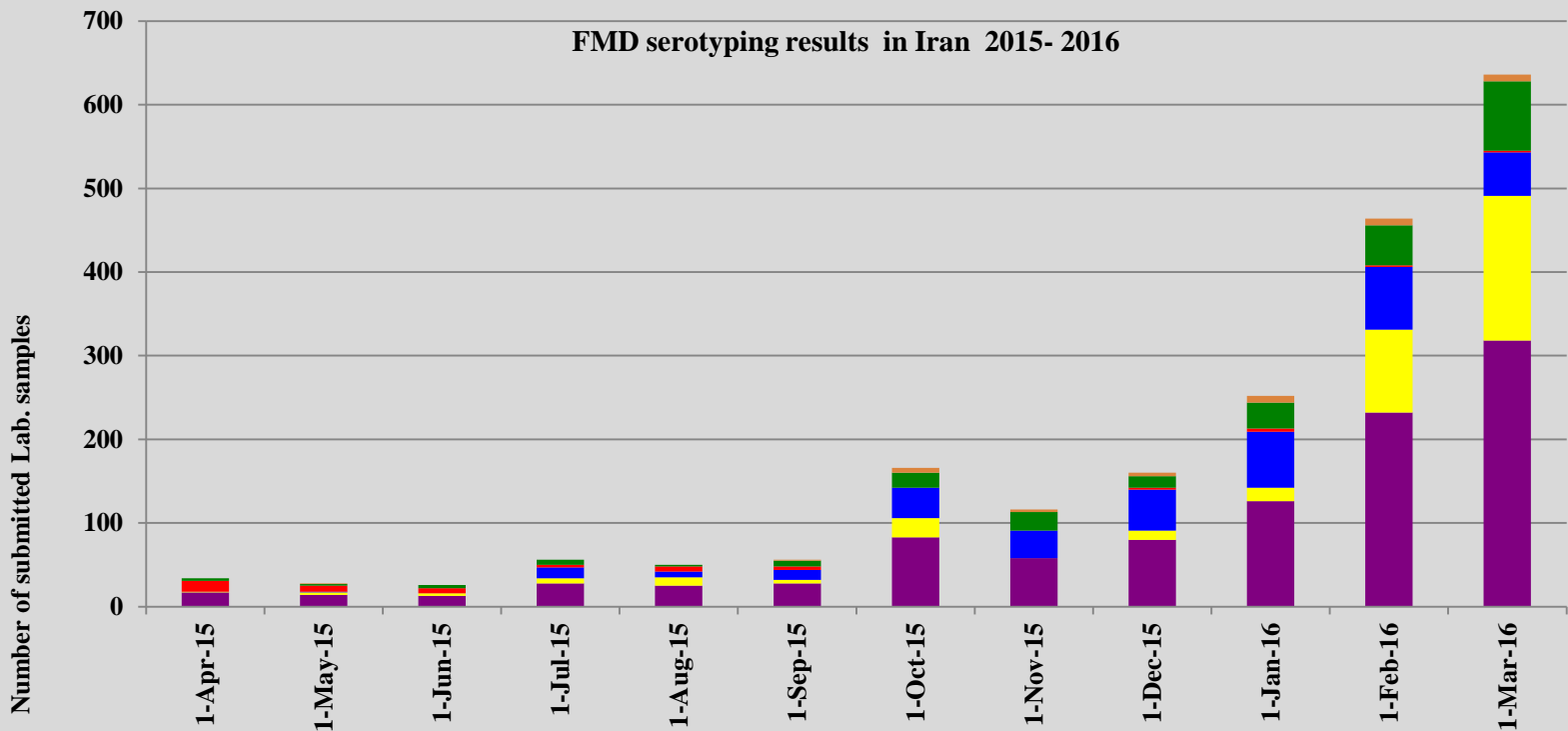
Number of Active Surveillance during 2015
 with Positive FMD V
 in IRAN



63573 Epi Units checked
 97 were positive



Active and Passive Surveillance in 2014-2016





	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
Unsuitable	0	1	0	0	0	1	6	3	4	8	8	8
Neg.	3	2	4	6	2	7	18	22	14	31	48	83
Asia-1	13	7	6	3	6	4	0	0	2	4	2	2
A	0	1	0	13	7	12	36	33	49	67	75	52
O	1	3	3	6	10	4	23	0	11	16	99	173
samples to lab	17	14	13	28	25	28	83	58	80	126	232	318



Component 1: FMD control plan

1. *Description of vaccination plans (if in place):*

In 2015:

- *Cattle vaccination 3 time per year*  *Just two time vaccination could performed due to lack of local vaccine*
- *Vaccination sheep and goat 2 time per year (in each phase at least 35% coverage)*  *Only firs phase conducted with 25 % coverage on August and it was continued during winter*
- *Vaccine(s) used : local RAZI vaccine and imported Merial Vaccine*
 - *8400000 cattle vaccinated with Merial, Razi & Ronak vaccine*
 - *35 million sheep and goat vaccinated with local and imported vaccine*



Component 1: FMD control plan

1. Plane for 2016: (75 % cattle vaccinated 3 time with high potent vaccine & 70 % sheep and goat vaccinated with local vaccine)

Vaccination Plane Phase One:

1. vaccination Cattle population with imported vaccine on May (80 %)
2. Vaccination sheep and goat with local RONAK and RAZI vaccine (50 % of total sheep population) on May



Component 1: FMD control plan

1. Plans related to FMD surveillance

- Active Surveillance conducted monthly in each provinces based on FMD epidemiological situation (visiting random selected epi units)
- Slaughterhouse surveillance in eastern borderline in 2016.
- Molecular epidemiology in some selected samples in 2016.
- Vaccine matching and vaccine effectiveness 2016 (lead by Dr. Nick)



Component 1: FMD control plan

1. Details on cross-border activities

1. *Establish quarantine check point in eastern borders*
 - *All fattening cattle moved to slaughterhouse at least 5 day in arrival points*
2. *SnI laboratory equipped in border province*
3. *All cattle population ear tagged in western border*
4. *75 % of large animals Vaccinated each phase*



Component 1: FMD control plan

1. *Detail on other control measures (movement controls, biosecurity, awareness campaigns....)*
 - ✓ Designing integrated animal movement and quarantine systems
 - ✓ Link to GIS, Slaughterhouse, animal health certificate
 - ✓ Memorandum of Understanding (MOU) with the toll and road transport organization in the use of health certificates code in transportation licenses.
 - ✓ ***MOU with farmer cooperative union in vaccine supplying***
 - ✓ ***Strict biosecurity measures in response to outbreaks and in dairy farms complex***



Component 2: Activities to strength the veterinary services

Briefly describe:

1. *Improve governance of the FMD control programme*
 1. *Vaccine production capacity building increased in 2016 (local and imported vaccine).*
 2. *Vaccination program conducted by private and government vaccination teams ,free of charge.*
2. *Implementation of an evaluation/monitoring system*
 1. *Post vaccination evaluation*
 1. *Paper based*
 2. *Serological*



Component 2: Activities to strength the veterinary services

1. *Enhancement of the laboratory capacities*
 1. *Participating in WRL PT regularly.*
 2. *Vaccine matching*
 3. *Gen-sequencing*
4. *Other activities to improve governance of Veterinary Services (e.g. regional coordination)*
 - ECO-VECO meeting*



Ongoing projects and budget for FMD control (national or development partners)

- Information on national or international projects that feed directly or indirectly to FMD control
 - Vaccine effectiveness
 - Pilot study in FMD oil based vaccine
 - Impact of FMD outbreaks in affected dairy farm

- Any research plan?
- Any other actors supporting your FMD control plan (international organisation, NGOs, consultant, etc.)
 - Contribution of :
 - Nomadic Affairs Organization in vaccination campaign.
 - Livestock cooperative
 - Tehran dairy farmer Community



Gaps and request for support

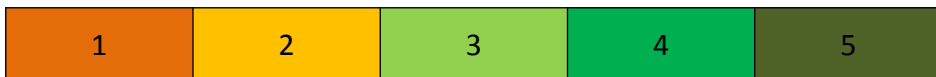
- *Training course on :*
- *Field investigation in wild life including role of wild life in FMDV epidemiology.*
- *Participatory epidemiology*
- *Required emergency vaccine bank for the regions.*
- *FMDV diagnostic kits and reagents*
- *Appropriate supportive treatment protocol for affected animals*



Country PCP-FMD expected stage progression until 2025

From previous slide

Country	2012	2013	2014	2015	2016	2022	2023	2024
Iran	1	2	2	2	2	3		





acknowledgment

- Dr. M. Khalaj Head of IVO
- Dr. D. Jahanpeyma Head of Animal Health and Disease Management department.
- Dr. M. Sholehpash responsible expert in GIS
- FAO/ OIE
- Kirgizstan veterinary organization



Summary

- FMDV continued in Iran in 2015
- Serotype A 05, A G-VII, O & Asia1 isolated during 2015.
- In 2016 most samples results was O.
- Vaccination carried out in small and large ruminant.
- Vaccine effectiveness will be done in 2016 .

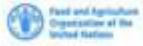


Thanks for your attention





GF-TADs
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Republic of Kazakhstan

Samat Tyulegenov

OIE Delegate

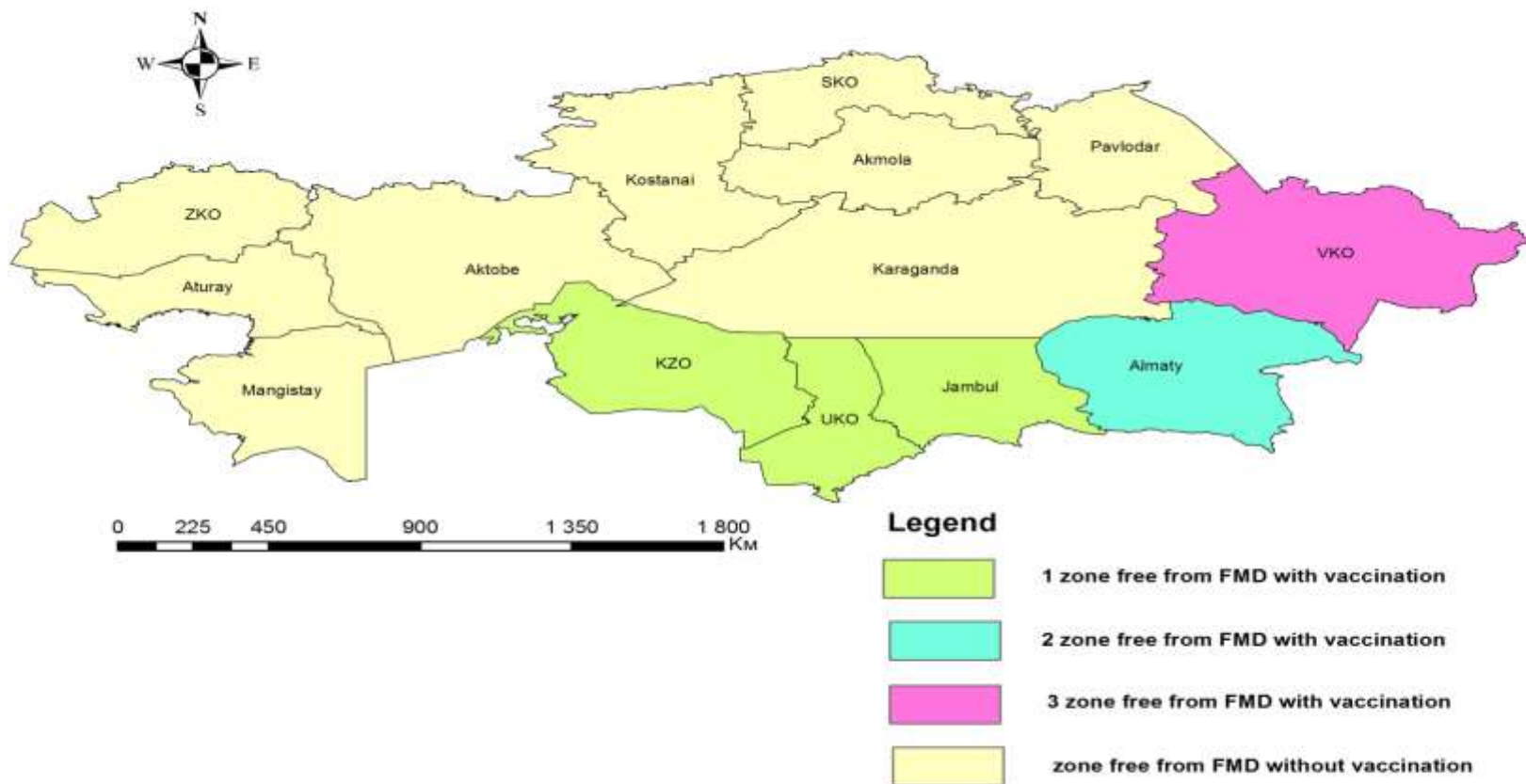


Status of the Republic of Kazakhstan on FMD

- On the 83d OIE General Session in 2015 the Republic of Kazakhstan was officially recognised as zone FMD free without vaccination for 9 regions of the country (Akmola, North Kazakhstan, Kostanay, West Kazakhstan, Aktobe, Atyrau, Pavlodar, Mangistau, Karaganda regions).



Pic. 1- Zoning of the territory of the Republic of





FMD control programme in the Republic of Kazakhstan

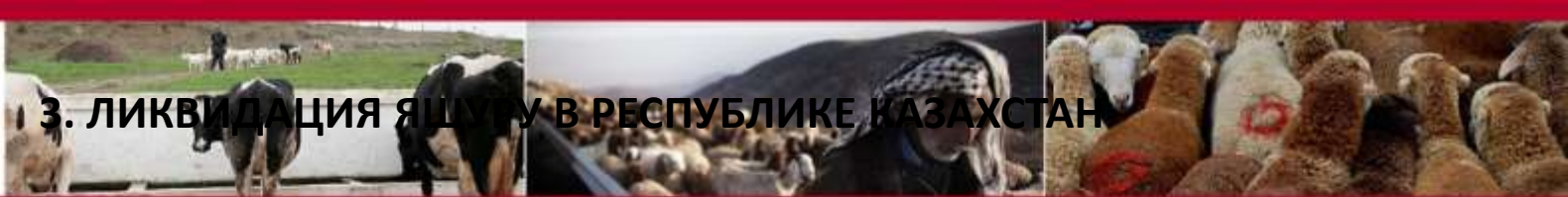
Veterinary activity is regulated by the following number of legal acts: 15 major legal acts, 6 main legal acts of the Customs Union and Eurasian Economic Union, 34 Government Regulations of Kazakhstan, 7 Rules, 20 orders and 1 Master-plan on «Modernisation of Veterinary Service of Kazakhstan in accordance with international standards» (*which was approved by the Director General of the OIE- B. Vallat*)

In the Republic of Kazakhstan the FMD surveillance is a part of the constant FMD control programme, aiming to justify FMDV absence or virus activity on the whole territory of the zone and country.

According to the Chapter 1.4. and 8.7 of the OIE Terrestrial Code the system of FMD surveillance is under the responsibility of the Veterinary Service of the Republic of Kazakhstan.

In the framework of this surveillance the targeted population, in which this work is carried out for disease detection, includes all susceptible animals within the zone and the country.





3. ЛИКВИДАЦИЯ ЯЩУРУ В РЕСПУБЛИКЕ КАЗАХСТАН

FMD Control Programme in the Republic of Kazakhstan

1. The plan on control, prevention and eradication of FMD in the Republic of Kazakhstan.

2. State veterinary organisations on regional level are established, responsible carrying out the veterinary measures against FMD, including sampling, vaccination and identification of livestock;

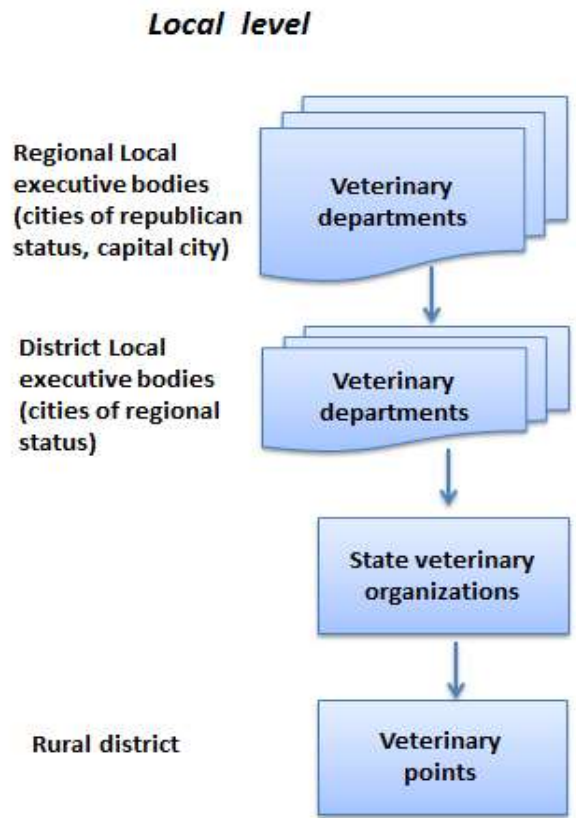
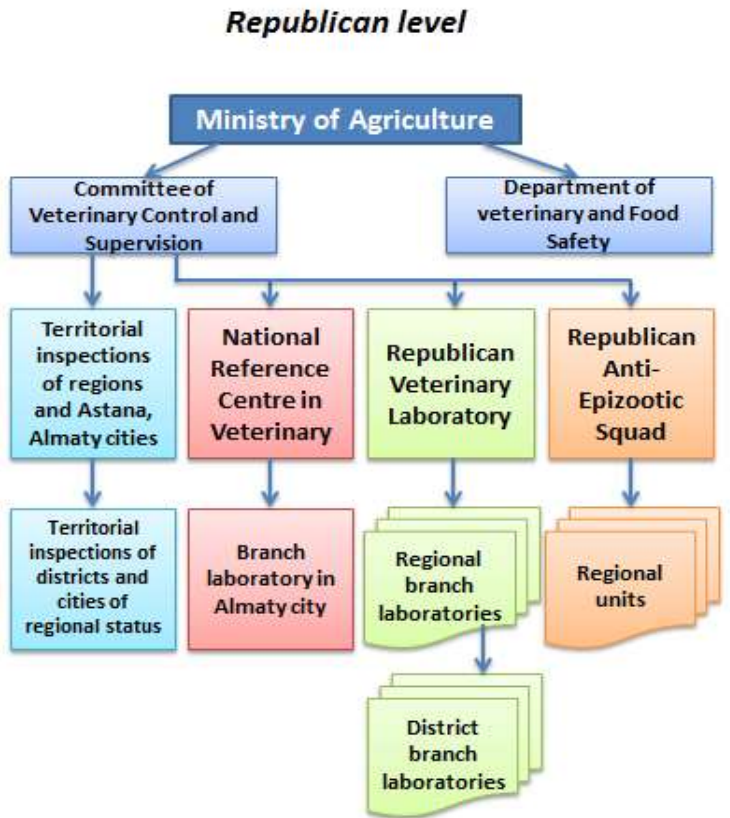
3. Veterinary measures are carried out based on the principles of analysis, assessment and risk management. Taking into account the results of:

- monitoring studies on FMD NSP;
- territory zoning on FMD according to the results of scientific and laboratory studies according to the OIE recommendations;
- epidemiological surveillance with inclusion of passive and active control is implemented ;
- newborn livestock animals identification is carrying out;
- specific immune prevention is used against FMD in the framework of chosen strategy, on the basis of: ***territory zoning; number and the timing of vaccination; connection of the diagnostic studies with the type of vaccine used.***

4. Veterinary Service reaction plan in case of emergency ;



• Scheme 1 – Veterinary Structure of the Republic of Kazakhstan





Vaccination



100 % vaccination coverage of cattle and small ruminants is carried out in 3 zones.

Adult population is vaccinated 2 times, in spring (April- May) and in autumn (September-October).

Young animals are vaccinated starting from 3 months of age, each 3 months until they reach 18 months of age.

- trivalent vaccine, the potency is not less than 6PD50 on each valency in a dose, with the quality guarantee of the manufacturer;
- purified, does not cause antibody formation to NSP FMDV in vaccinated animals;
- containing types O, A and Asia-1 of FMDV, antigenically-related (with the coefficient of antigenic matching/ relation r_1 more than 0,30) with the types of O - Pan-Asia and Pan-Asia 2, type A - SEA-97 and Iran-05, type Asia-1 - Shamir, able to build intensive immunity in vaccinated animals against abovementioned types.

All this strains are genetically related to isolated virus for the last 3 years.



Description of vaccination plan

Table 1. Information on the use of vaccine for the period of 2014-2016.

Name of zone		2014		2015		2016	
		Thousands of doses for cattle	Doses for small ruminants	Thousands of doses for cattle	Doses for small ruminants	Thousands of doses will be used for cattle	Thousands of doses will be used for small ruminants
1	Zone 1 (Almaty region)	2024,1	7962,1	1889,4	7414,3	2031,4	7883,2
2	Zone 2 (East Kazakhstan region)	1374,6	4142,5	1880,7	6251,5	1880,7	6251,5
3	Zone 3 (Zhambyl, Kyzylorda, South Kazakhstan region)	3252,6	16850,1	3468,6	17160,2	3204,7	16498,7
Total:		6651,3	28954,7	7238,8	30826,0	7116,8	30633,4

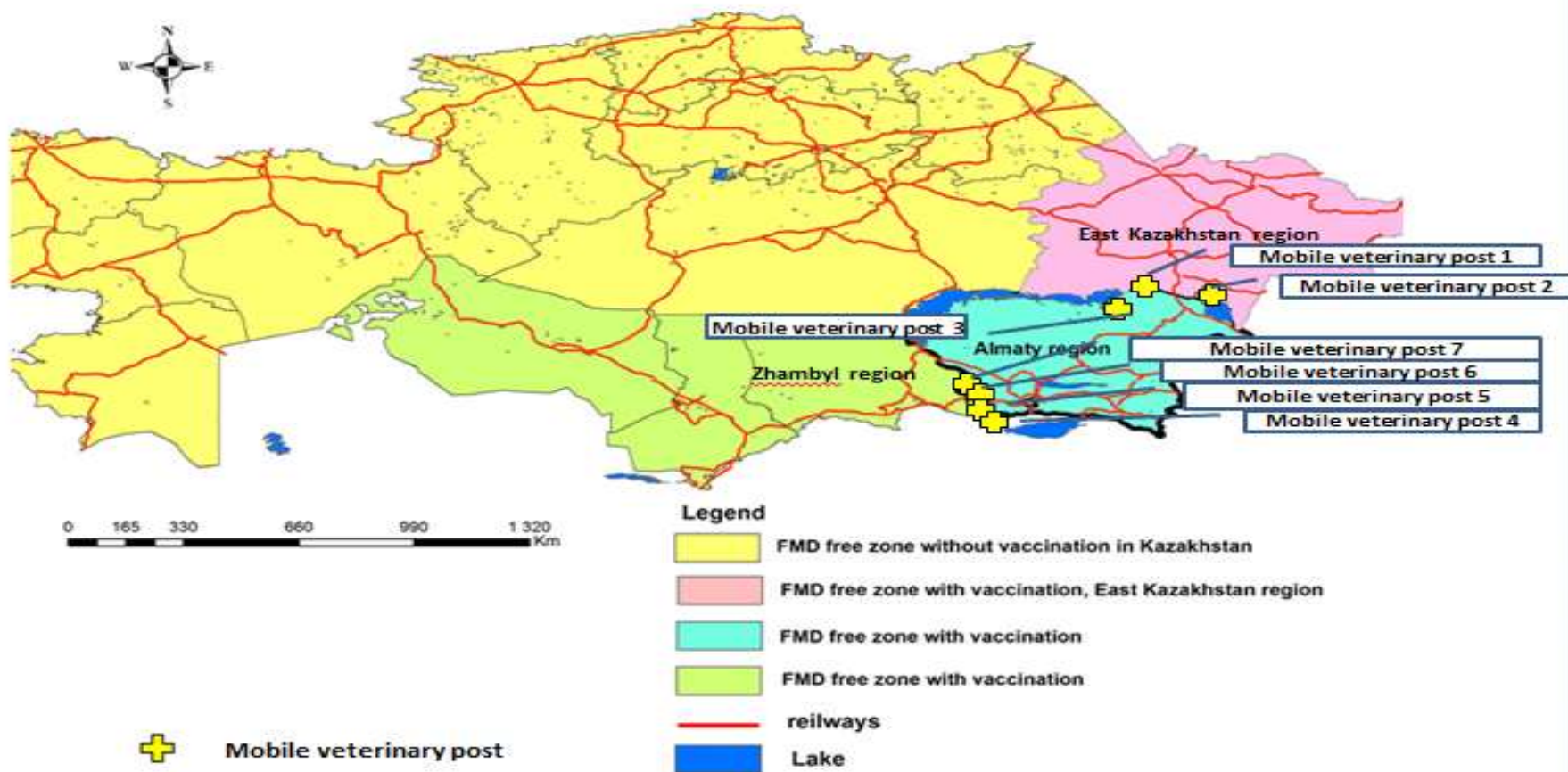


Table 2. Results of serological surveillance by ELISA on antibody titre after vaccination in 2015

Name of the zone	Cattle, small ruminants, pigs							Cp %
	Number of studied	Results			Results in %			
		A	O	Asia-1	A	O	Asia-1	
Zone 1 (Almaty region)								
up to 12 months	3638	3413	3417	3408	94	93,6	94	93,9
from 12 to 24 months	3742	3584	3601	3585	93	95	93,3	93,7
older than 24 months	37881	34457	34253	34041	91	91,3	91	91,1
Zone 2 (East Kazakhstan region)								
up to 12 months	3386	3109	3058	3067	91,3	90,4	90,4	90,7
from 12 to 24 months	6014	5529	5573	5498	91	90,5	90,6	90,6
older than 24 months	35911	30850	30619	30188	86,6	84,7	84,2	85,2
Zone 3 (Zhambyl, Kyzylorda, South Kazakhstan region)								
up to 12 months	2118	2068	2035	2055	93,7	95,3	94,7	94,5
from 12 to 24 months	6971	3998	3965	3971	94	96	96,4	96
older than 24 months	93427	90500	89650	90128	96	95,2	94,6	94,6



Pic. 2 Control on the borders between FMD free zones with vaccination





Serological surveillance

FMD serological surveillance based on the identification of antibodies to NSP is carried annually with the aim of no virus transmission in accordance with the Chapter 1.4 of the OIE Code.

1. Surveillance was developed by the method of random selection of cattle, SR, pigs herds for coverage of the whole territory of zones (in accordance with subparagraph 1) point a) Paragraph 1 of the Chapter 1.4.4 OIE Terrestrial Code, the simple method of random selection was used). Random selection was used on the whole territory of all 3 zones by the randomselection of village, herd in selected villages and animals in different herds.
2. Surveillance was developed for coverage cattle herds with the high risk, where two methods of village selection was used: villages, where outbreaks were registered in 2000-2013 (last outbreak) and neighbouring villages; and settlements, situated within the border with Kyrgyzstan and China.



Study design

Strategy design of sampling is based on following:

Number of animals, subjected to testing is calculated with the use of two steps random sampling. Firstly, herds were selected for testing and then animals were selected within the selected herd.

Surveillance is covering young cattle and SR from the age of 3 months up to 1 year.

Unit of selection is a herd as epiunit



Table 3. Planned number of cattle for testing on NSP in 2015

Zones	Total number of animals	Cattle population	Expected young animals	Young animals on the time of sampling	Proportion of studied young cattle	Number of tested animals
Zone 1 (Almaty region)	897 002	456 716	306 000	306 000	1%	3 060
Zone 2 (East Kazakhstan region)	843 389	310 444	251 460	208 000	1%	2 080
Zone 3 (Zhambyl, Kyzylorda, South Kazakhstan region)	1 439 607	686 568	556 120	460 000	1%	4 600
Total	3 179 998	1 453 728	1 173 845	974 000	1%	9 740



Table 4. Total number of livestock, planned for conduction of studies stratified by herds in 2015.

Zones	Cattle			Small ruminants		
	herds, total number	herds, selected	animals, selected	herds, total number	herds, selected	animals, selected
Zone 1 (Almaty region)	14 269	153	3 060	8 455	293	9 900
Zone 2 (East Kazakhstan region)	9 373	104	2 080	23 703	297	7 500
Zone 3 (Zhambyl, Kyzylorda, South Kazakhstan regions)	30 937	104	4 600	111 789	298	10 000
Total	54 579	486	9 740	143 947	888	27 400



- Table 5. Results of serosurveillance for cattle**

Zones	Number of animals planned for sampling	Number of sampled animals	Number of young animals, Negative on NSP after retesting by ELISA			Number of animals, Positive on NSP by ELISA				Final results on ELISA and PCR
			In all herds	NSP positive herds		screening		retesting		
				All young animals	Including the age of 3-6 months	среди молодняк а от 6-12 месяцев	среди молодняка от 3-6 месяцев	Among young animals 6-12 months	Among young animals 3-6 months	
Zone 1	3060	3 408	3 407	1 550	1 225	0	26	0	1	negative
Zone 2	2080	2 319	2 318	1 058	712	0	18	0	1	Negative
Zone 3	4600	5 440	5 430	4 120	2 710	0	79	0	10	negative
Total	9740	11167	11155	6728	4 647	0	123	0	12	



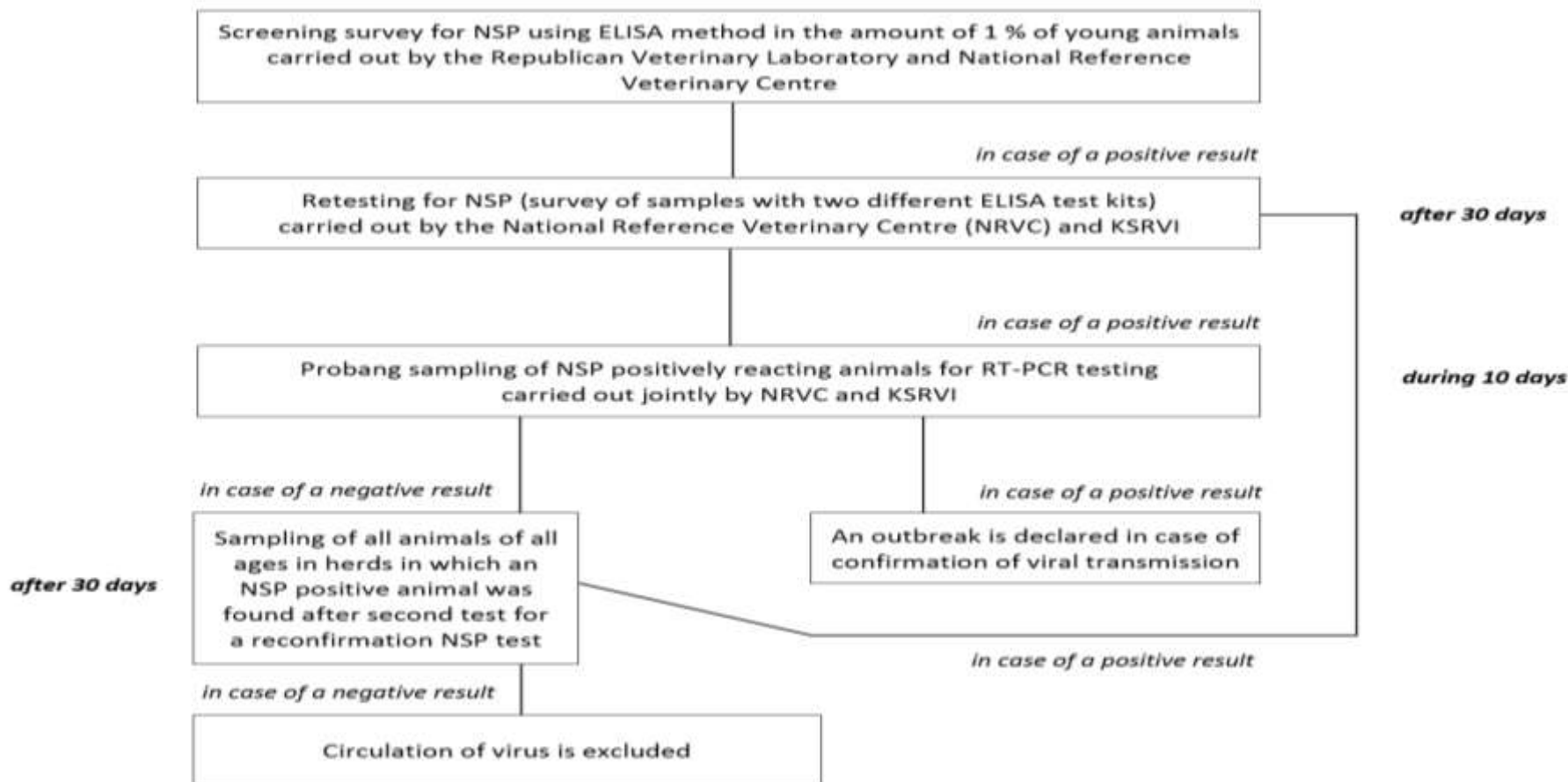
Table 6. Results of serosurveillance for small ruminants

Zones	Number of animals planned for sampling	Number of sampled animals	Number of young animals, negative on NSP after retesting by ELISA			Number of animals, positive for NSP by ELISA				Final results on ELISA and PCR
			In all herds	NSP positive herds in screening		screening		retesting		
				All young animals	Including at the age of 3-6 months	Among young animals aged 6-12 months	Among young animals aged 3-6 months	Among young animals aged 6-12 months	Among animals aged 3-6 months	
Zone 1	9100	14 047	14 046	773	573	0	10	0	1	отрицательно
Zone 2	9100	10 000	9 965	2 939	1 795	0	55	0	35	отрицательно
Zone 3	9200	24 982	24 832	14 644	12 284	0	258	0	150	отрицательно
Total	27400	49029	48843	18356	14652	0	323	0	186	



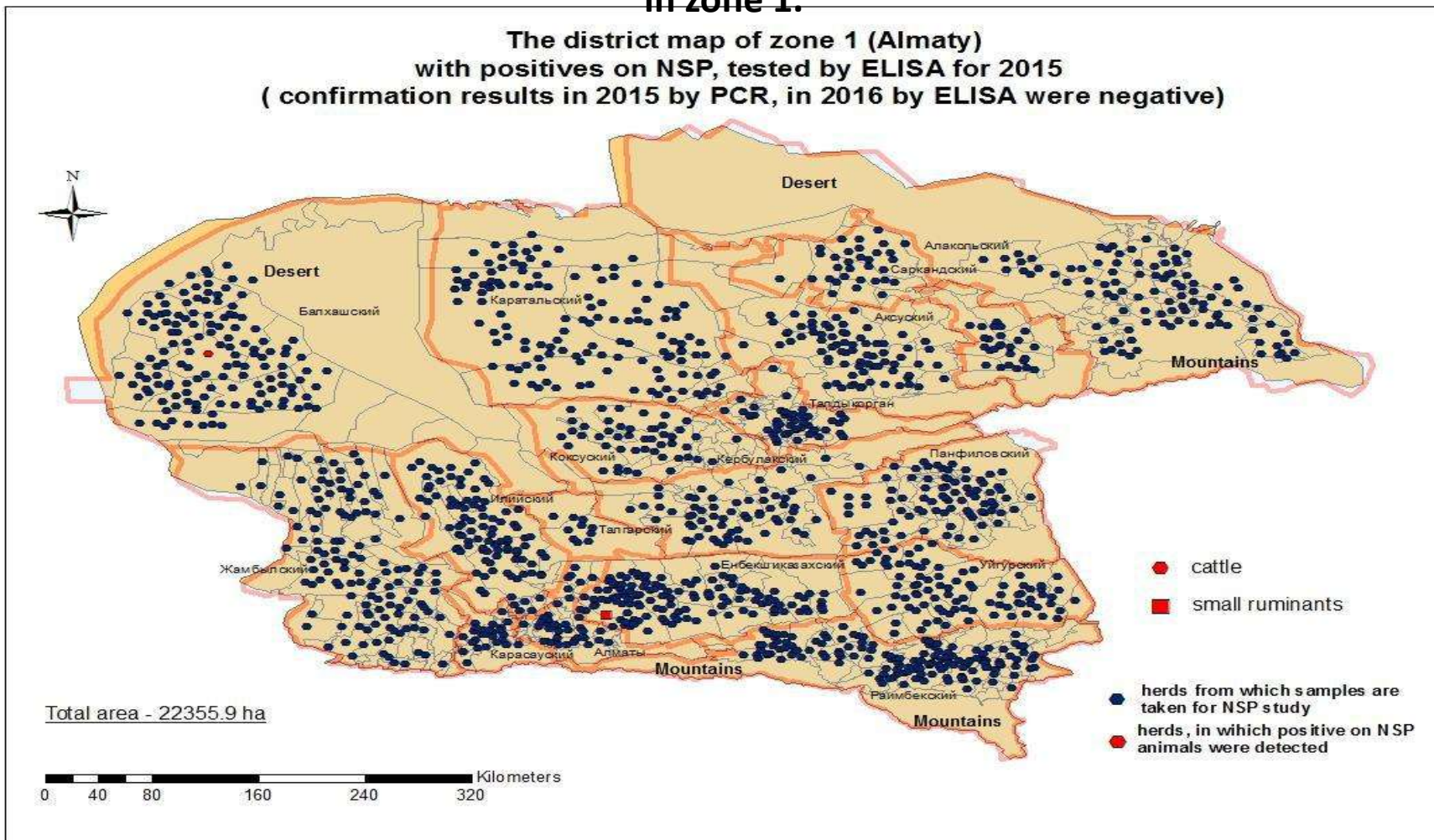
Scheme 2.

Algorithm of actions to demonstrate absence of FMDV transmission



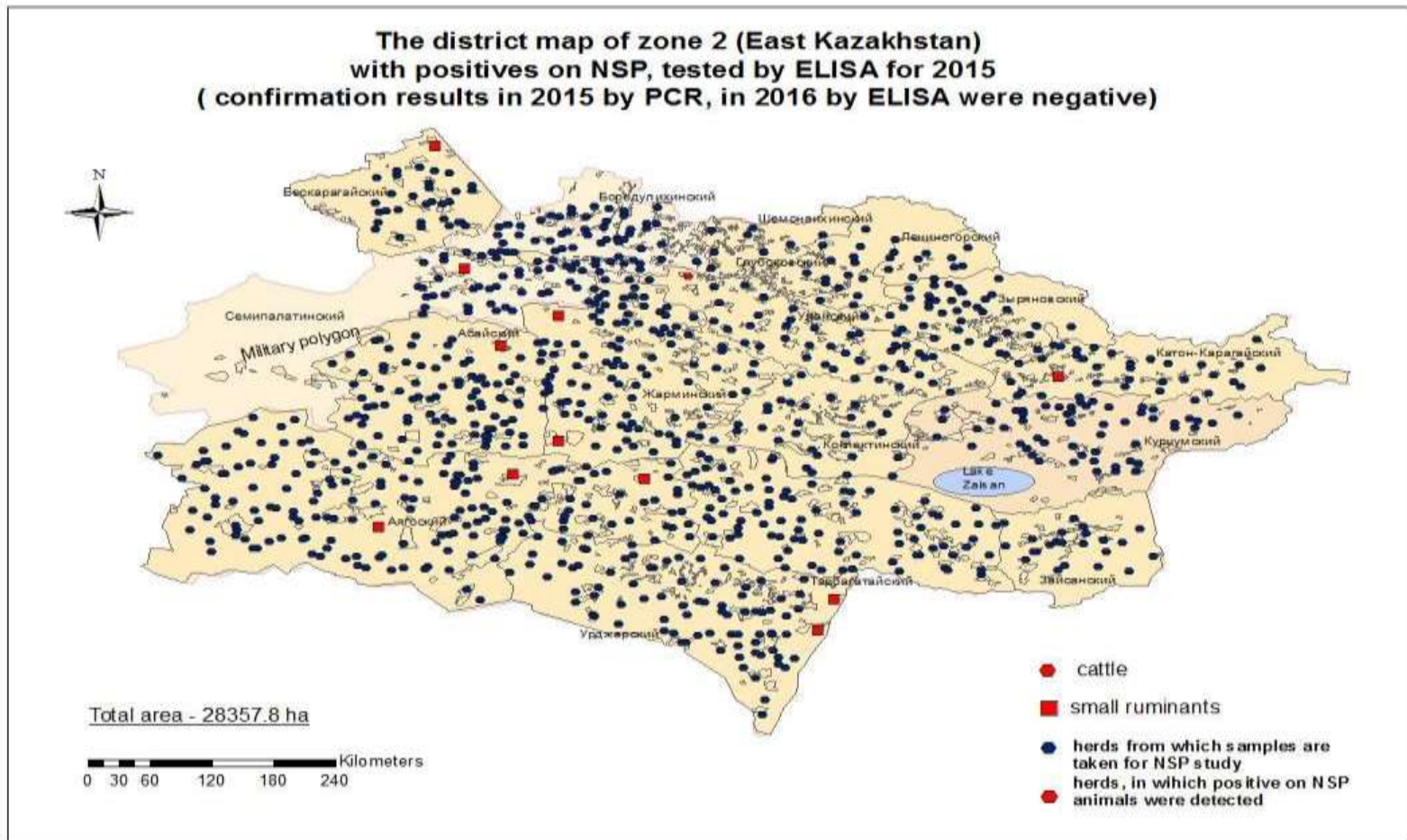


- **Pic. 3 Clustering analysis among seropositive herds in screening studies in zone 1.**





- **Pic.4 Clustering analysis among seropositive herds in screening studies in zone 2.**





- **Pic 5. Clustering analysis among seropositive herds in screening studies in zone 3**

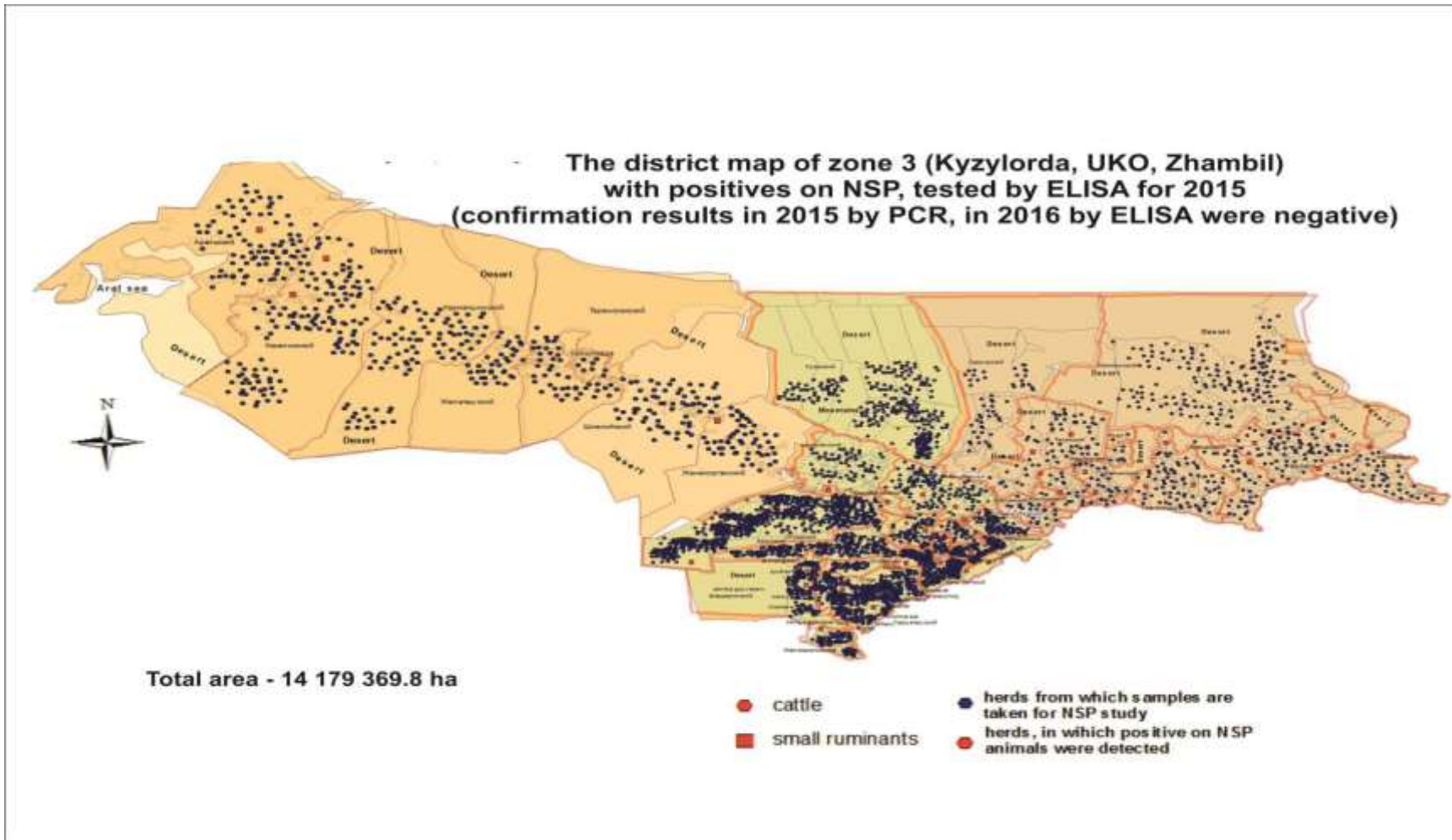




Table 7 - amount of funding of veterinary Republic of Kazakhstan from the state budget

No.	Name of activity	2014		2015	
		KZT million	Euro million	KZT million	Euro million
1.	Diagnosis of diseases of animals	9 082,70	37,3	9 548,5	38,5
2.	Conducting anti-epizootic measures	11 050,20	45,4	11500	46,5
3.	Construction, reconstruction veterinary laboratory, biostorage	1 371,30	5,6	537	4,2
4.	Antiepidemiological activities, elimination of outbreaks of acute and chronic infectious diseases of animals, including:	8 614,60	35,4	8954,2	36,5
	purchase and storage of veterinary drugs	6 321,30	25,9	6320,2	25,8
	purchase SI "Republican Antiepidemiological Squad"	1 111,50	4,6	1109,2	4,6
	reimbursement of the cost for withdrawing animals and destruction of sick animals	1 181,80	4,9	1203,5	5
5.	Material and technical support of "Republican Antiepidemiological Squad"	1,8	0,01	3	0,02
6.	Material and technical support of «National Veterinary Reference Centre»	0	0		
7.	Building of new 126 gov.laboratories (additionally to existing 18 regional + 192 rayon level gov.lab)	52 lab		26 lab	
8.	Total sum for building of new 126 gov.laboratories:12000 mln tenge or 74.9 mlnEUR	6240	31,2	3120	12,5
9.	Material and technical support of «Republican Veterinary Laboratory» of 126 veterinary gov.lab 7170 mln tenge or 34.7 mln euro	2496	12,5	1248	5
10.	Organization and Carrying out identification of farm animals	1 122,90	4,6	1800	6,2
11.	Monitoring, reference laboratory diagnosis and ensuring food safety in veterinary medicine	643,8	2,6	850,2	3,5
12.	Material and technical support of the state veterinary organizations	9 319,90	38,3		
TOTAL:		49 237,90	210,01	41 147,60	207,52
For FMD		2 356,10	6,1	2 255,90	5,9



Short-term plans

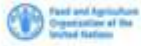
1. Republic of Kazakhstan is developed the control programme on FMD and submitted it to OIE for validation;
2. In september-October 2016 the next OIE PVS mission is planned;
3. In the framework of OIE Twinning education the ongoing work on increasing the quality of education of veterinary experts is carried out;
4. In 2016 FMD simulation training in collaboration with OIE, Pirbright Institute will be organised on the territory of the Republic of Kazakhstan.



Thank you for attention!



GF-TADS
GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES

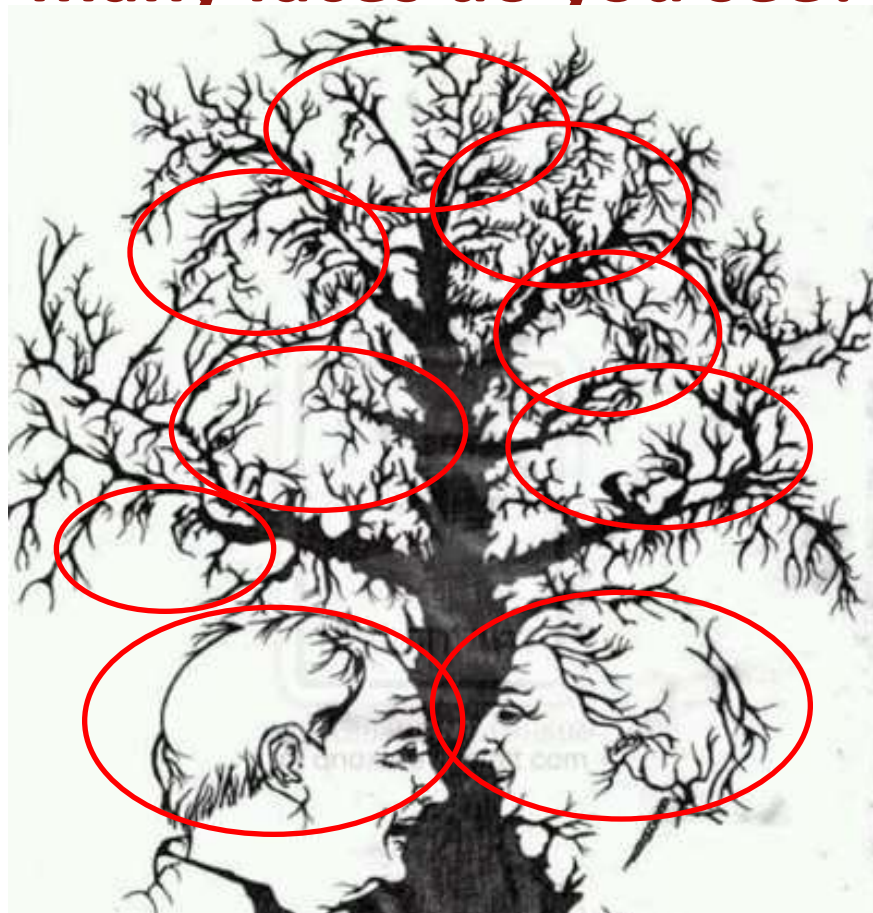


Surveillance for early detection and outbreak investigation

Dr Gregorio Torres
FMD GF-TADS Working Group



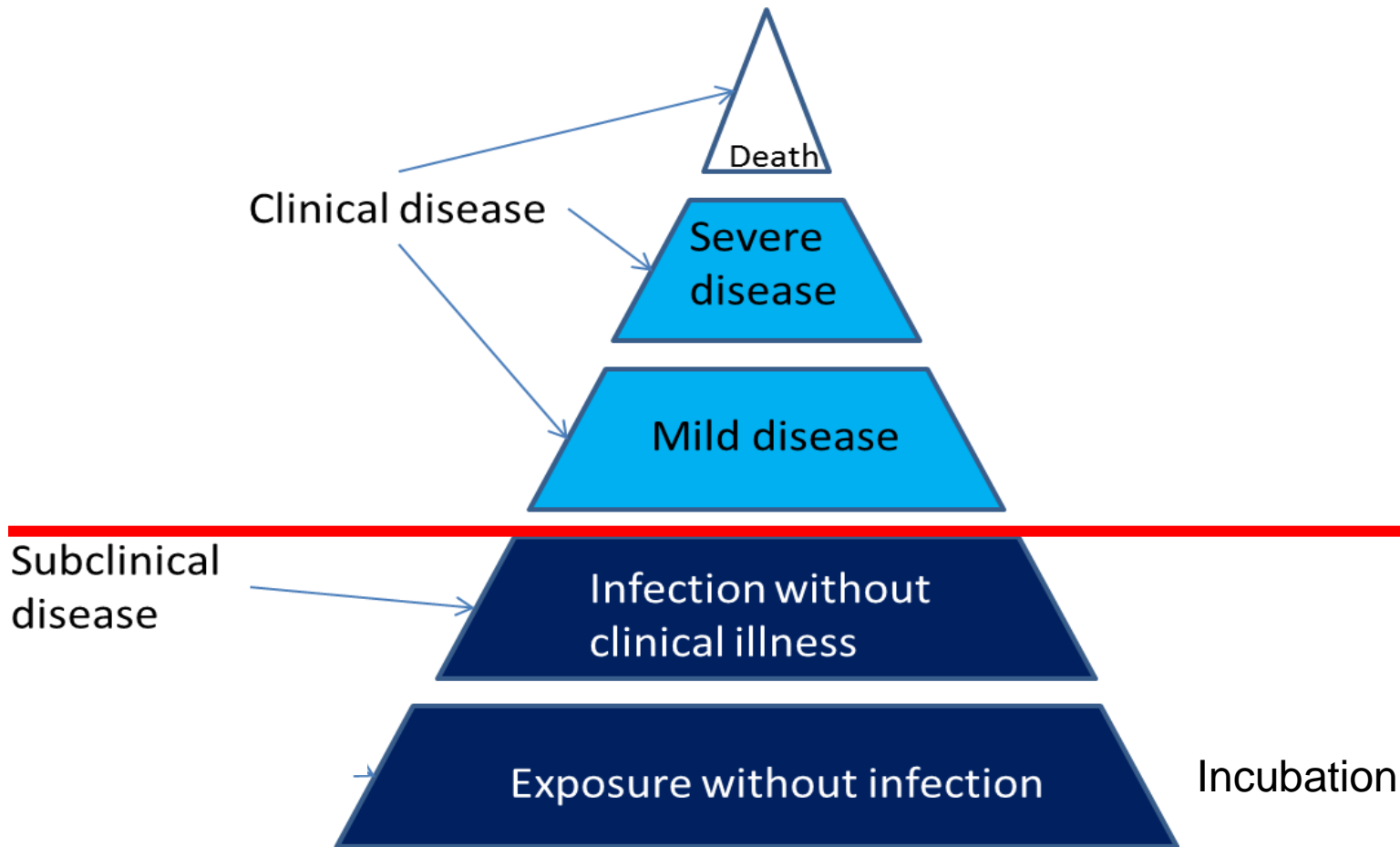
How many faces do you see? 2,4,8, 9



If you search, you may find it



Disease



Adapted from C. Bartels



Surveillance

OIE Terrestrial Animal Health Code Definition

“Means the systematic ongoing **collection, collation** and **analysis** of information related to animal health and the timely dissemination of information so **action** can be taken”



Demonstrate absence of disease or determining presence of disease or early detection



Essential part of any disease control programme



Types of Surveillance Art 1.4

- Means of data collection: Active Vs Passive, Target Vs Scanning
- Disease focus: Pathogen-specific Vs General surveillance
- Selection: Structured Vs Non-random



Plan to regularly collect and analyse information so **ACTIONS** can be taken



Share results (report)



Surveillance main components

- Surveillance objectives -> Adapt the strategy
- Case definition
- Target population
- Epidemiological unit
- Means to collect data (sampling and testing, questionnaires, syndromic)
- Analysis of the data
- Two ways reporting system (national and internationally)
- Actions to be taken
- Responsibilities
- Monitoring and evaluation



Surveillance for early detection

Collecting and analyse information so prompt actions can be taken to reduce the spread and mitigate the impact of disease

(Sentinel, passive, clinical inspections in abattoir, etc.)

Specific requirements

- Awareness (stakeholders and vets). Reduced sensitivity
- Reporting system. Where, how and to whom report
- Field epidemiological network across the country
- Outbreak investigation- Contingency plan



Outbreak investigation

- Systematic procedure to understand the disease in the field
- Identify the source of cases with a view to control and prevent spread
- Steps:
 1. Confirmation of the case (Clinical, sampling)
 2. Where did it come from and who else is at risk –risk factors
 3. Take actions to prevent further spread –awareness
 -
 4. Evaluate (impact, risk factors, extend of spread – serosurvey)

It is much more than taking samples



Conclusion

Surveillance essential part of any disease control programme (PCP1,2,3,4,5)

Aim

- Detect outbreaks as soon as possible
- Identify as many outbreaks as possible
- React as prompt as possible



Goal: Minimise the impact of the disease

Indicator: Good understanding of the virus and of the disease

Data -> Information -> **Knowledge**-> reporting



Task for the group discussion

1. Split in two groups
2. Chose a rapporteur (if not voluntary select it randomly)
3. Discuss each of the questions
4. Identify at least 3 gaps in each of the topics that could be sorted by next year (be realistic and provide solutions)
5. Summarise your discussion including the gaps and report to the plenary

Suggestion: Report the variety within your group and what is the response as a Group

Aim: Better understand surveillance and outbreak investigation capacities in the region and identify gaps



Questions

1. Surveillance

- Do you have an official and functional nationally coordinated FMD surveillance system?
- Is it supported by the epidemiological team (serosurvey)?
- Is it revised and amended regularly?
- Do you have a robust reporting system (from the field to central level)?
- How do you coordinate/inform your neighbours?
- How is the communication with regional and central labs



Questions

2. Surveillance for early detection

- Considering the FMD situation in your country, how important is early detection for your country?
- Is your staff well trained in early detection? And the stakeholders?

3. Outbreak investigation

- Do you have a written protocol to investigate outbreaks, including sampling?
- Do you think is necessary to investigate all outbreaks?
- How good is your official FMD contingency plan (if any)?



The Bishkek 6 actions for Effective Surveillance

1. Awareness of stakeholders and staff
2. Capacity building
3. Correct equipment
4. Enough resources to reach remote areas
5. Actions to enhance farm collaboration
6. Feedback staff and stakeholders



Thank you for your contribution

