



World Organisation
for Animal Health



SEACFMD EPIDEMIOLOGY NETWORK MEETING

COUNTRY REPORT:
MONGOLIA

Presenter:

***Boldbaatar Byambaa –Head of animal
health deptment , GAVS***

Gerelmaa Ulziibat –Director of SCVL

***13-15 May 2025,
Qingdao, People's Republic of China***

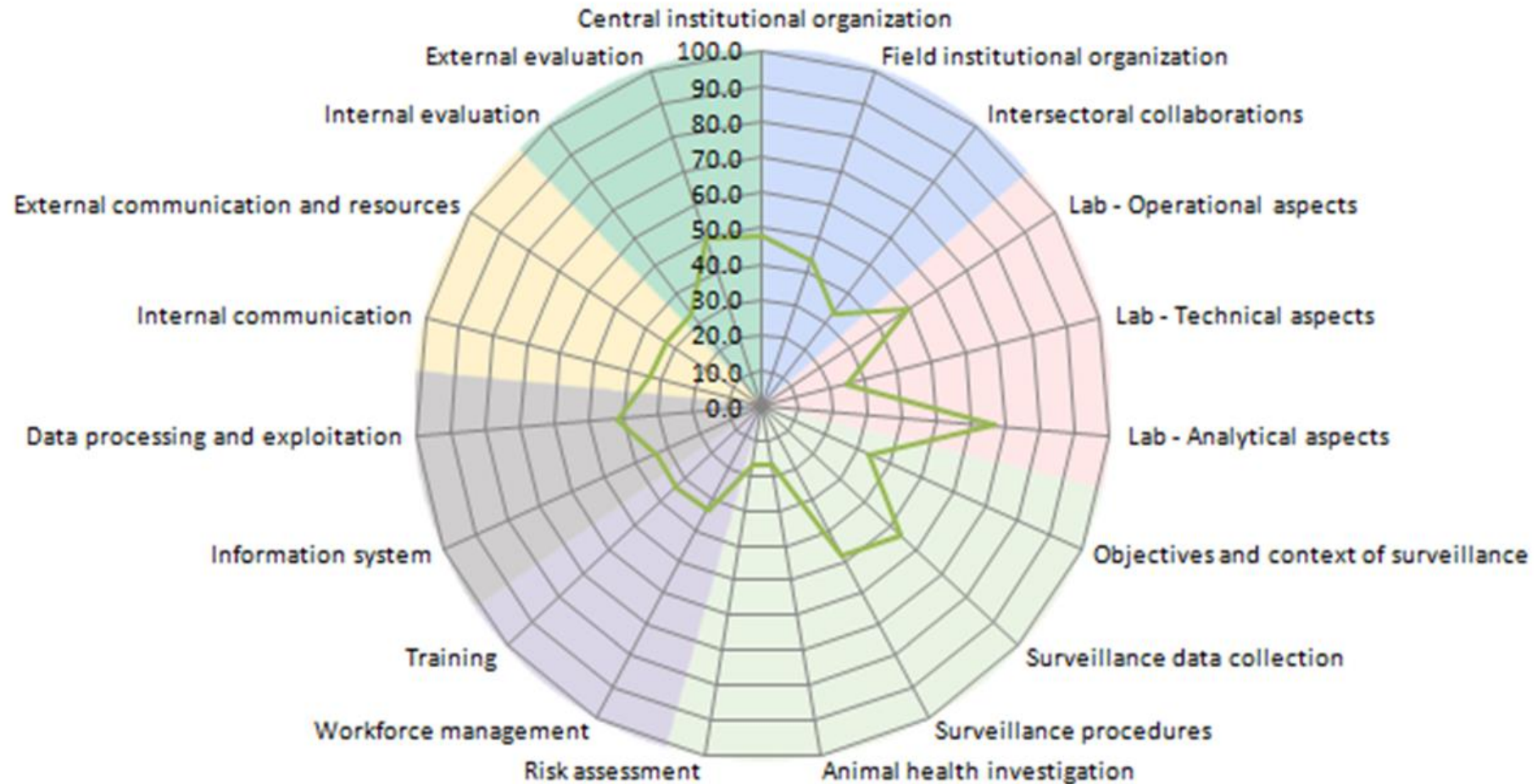


Assessments for surveillance capacities in Mongolia



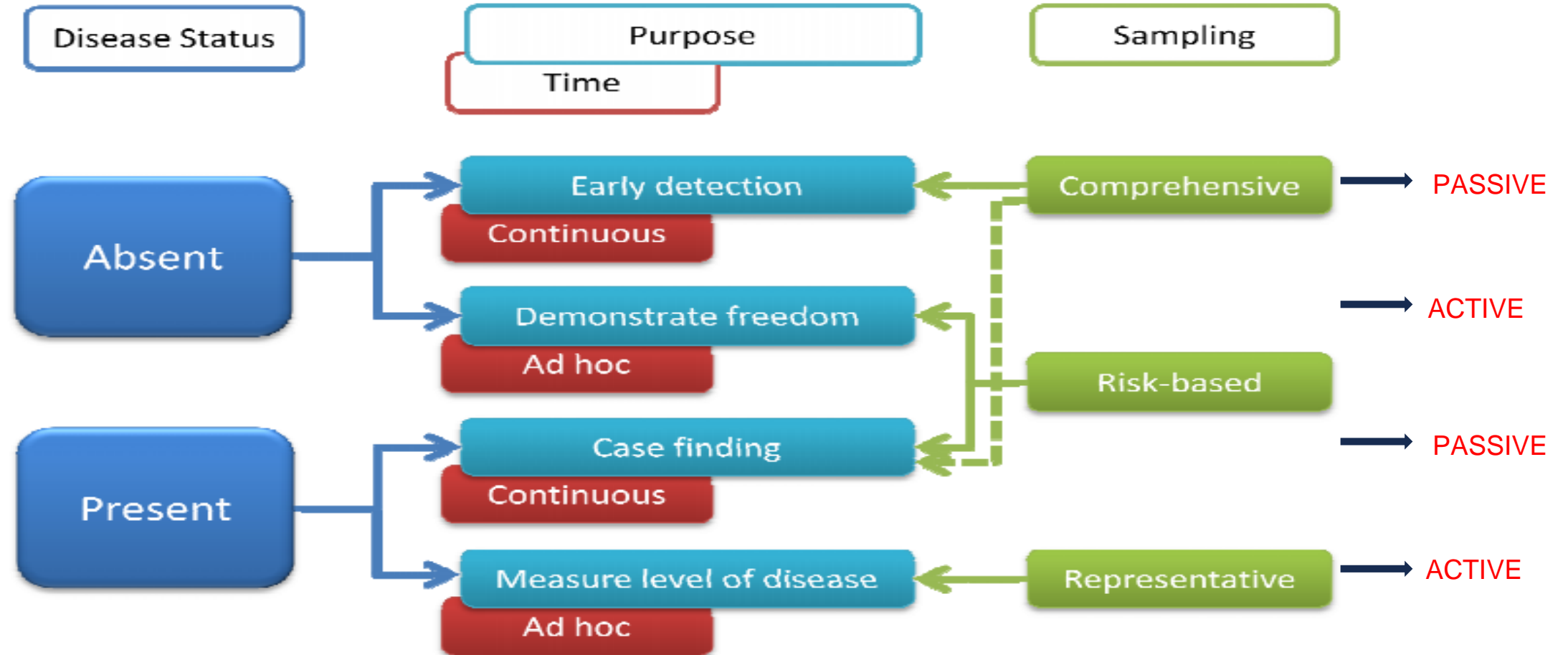
Food and Agriculture Organization
of the United Nations

The Surveillance Evaluation Tool (SET)





FMD Surveillance Strategy





FMD Surveillances in Mongolia

Integrated Animal Health Surveillance System (IAHSS)

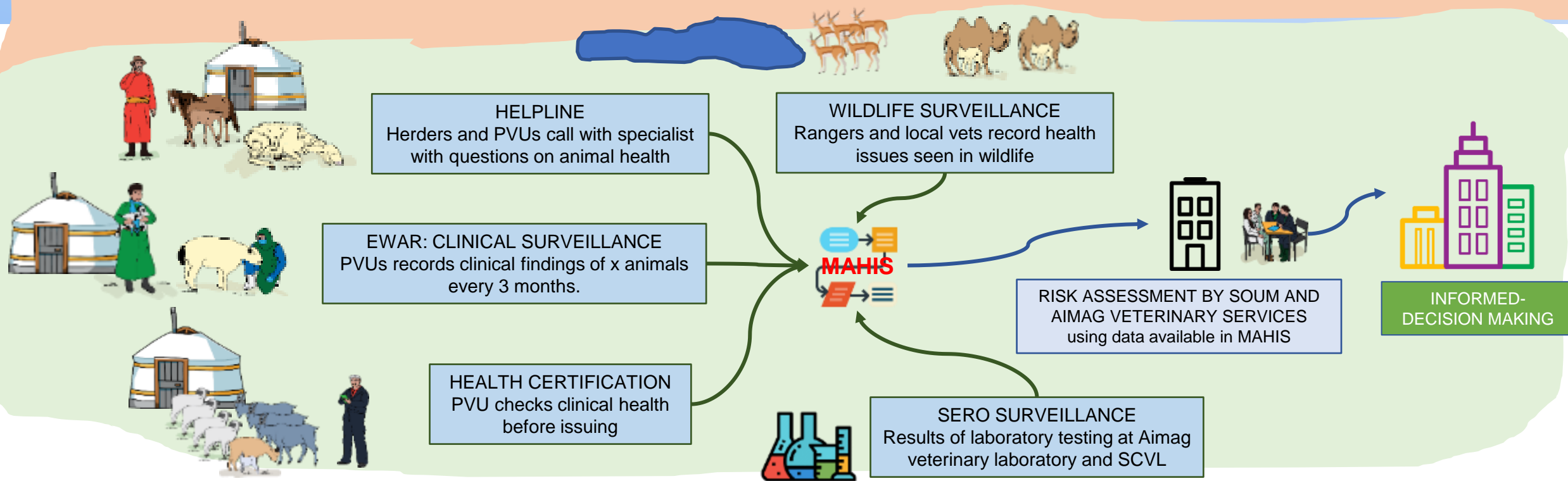
includes the following surveillance components:

- Early warning and response based on clinical examinations of herd that private veterinarians perform at time of regular herd visits and when issuing an animal health certificate;
- Sero surveillance for the purpose of defining the extend of FMD virus circulation (NSP-Ab prevalence rates) and assessment of control measures;
- Annual post-vaccination monitoring of the population immunity at herd level;
- Virological surveillance;
- Herder Helpline;
- Social media search of herder and private veterinarian groups;
- Abattoir-based surveillance;
- Wildlife surveillance;
- WAHIS and internet search.



Use of Epidemiological tools-Surveillances

- 1) **Healthy Herd Certificates**
- 2) **Early Warning and Response through regular clinical surveillance by PVUs**
- 3) **Sero-surveys including post-vaccination monitoring**
- 4) **Wildlife surveillance: linking SMART with MAHIS**
- 5) **Records on location, time and number of animals vaccinated**





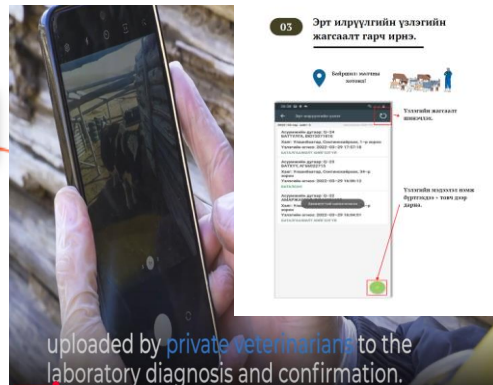
Use of Epidemiological tools-Surveillances

HELPLINE



A Herder Helpline option was elaborated as an additional surveillance component. Its objective was to offer herders and veterinary practitioners the option to place a call to a free number (7505 6655) on any subject related to animal health. (<https://youtu.be/HbPUewAUJ9Y>; <https://youtu.be/N87Af7UkfLc>).

EWAR



This pilot was conducted between July and October 2021 in three aimags (Sukhbaatar in Eastern, Uvurkhangai in Central and Khovd in Western region), involving 151 private vets. Over a period of 5 months, almost 6,500 herds and 165,000 heads of livestock were examined. As result of this pilot, the CVO issued a new regulation that was named Early Warning and Response (EWAR) in August 2022. More than 1,100 soum inspectors, soum epidemiologists and private veterinarians were trained across Mongolia based on three manuals that had been developed.

in 2023, a total of 14,621 herds were clinically examined across all aimags in Mongolia, completing examination of 365,525 heads of livestock.

WILDLIFE SURVEILLANCE

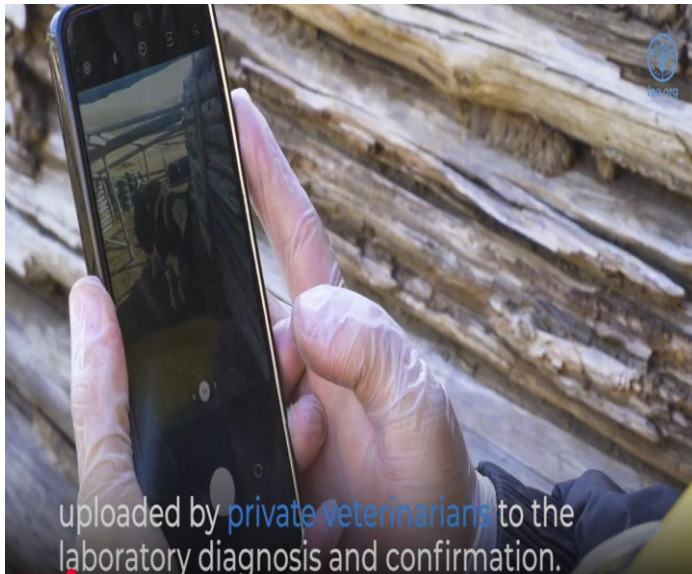


The study estimated that the saiga population was 6,664, a decrease of 33.1% compared to the same assessment in October 2021 and tested seven out of 50 tissue samples from 5 saiga carcasses positive in the RT-PCR for FMD virus. One blood sample tested positive to NSP-Ab for FMD. This was the first time that FMD virus was confirmed in Saiga.



EWAR: CLINICAL SURVEILLANCE

(Passive surveillance)



Динамик платформ

МЭНС-2.0 Хянах самбар

МЭНС-2.0 Эрт илрүүлгийн үзлэг

МЭНС-2.0 Эрсдэлийн үнэлгээ

certificate.mahis.gov.mn/detections?CurrentPageNumber=1&approveState=1

Эрт илрүүлгийн үзлэг

Б.Болдбаатар

Мэдээлэл

Хянах самбар

МЭ-ийн гэрчилгээ

МЭ-ийн үйлчилгээ

Эрт илрүүлэг

Эрт илрүүлгийн үзлэг

Эрсдэлийн үнэлгээ

Газарзүйн зураглал

Оролцооны эпидемиологи

Амьтны бүртгэл мэдээлэл

Мал эмнэлгийн нэгж

Хараглагчийн сан

Өвчний лавлагаа

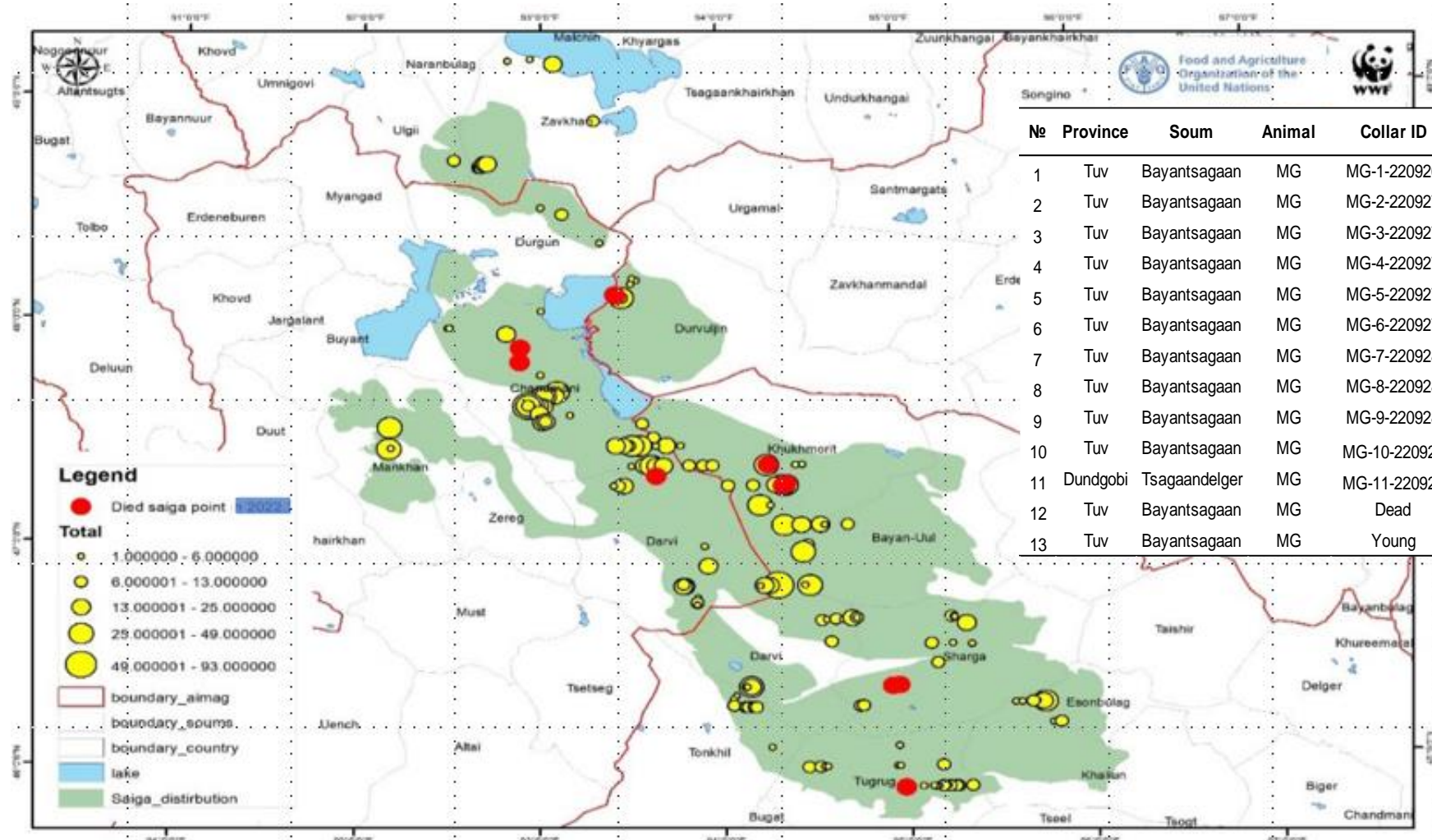
#	Үзлэгийн дугаар	Үзлэгийн төрөл	Малчин	Регистр	Үзлэгийн огноо	Хаяг	Мал бүрийн тоо	Үзлэгт орсон нийт мал	Илэрсэн шинж тэмдэгийн тоо	Бүртгэсэн хүн	Баталгаажилт
1	Q-34732	Мал, амьтны үзлэг	ЧУЛУУНБАТ.Б	ДЖ82011111	2025-05-12 10:06	Говь-Алтай, Жаргалан, 1-р баг, Бүрэн	Ямаа-10, Үхэр-5,	15	0	Б.Юра / Бүрэн-Энэрэл/	БАТАЛСАН
2	Q-34701	Мал, амьтны үзлэг	БАЯРМАА.Д	ЙГ77073115	2025-05-11 23:35	Өвөрхангай, Баян-Өндөр, 3-р баг, Өвөр зүлэгт	Хонь-120,	120	1	Г.Гантүрээ / Тэрмийн буян/	БАТАЛСАН
3	Q-34700	Мал, амьтны үзлэг	ДОРЖ.Д	ЙГ76082917	2025-05-11 23:35	Өвөрхангай, Баян-Өндөр, 3-р баг, Өвөр зүлэгт	Хонь-160, Ямаа-10, Үхэр-5,	175	0	Г.Гантүрээ / Тэрмийн буян/	БАТАЛСАН
4	Q-34699	Мал, амьтны үзлэг	БАЯРСАЙХАН.Д	ЙГ84051511	2025-05-11 23:35	Өвөрхангай, Баян-Өндөр, 3-р баг, Өвөр зүлэгт	Үхэр-25, Хонь-90, Ямаа-10,	125	1	Г.Гантүрээ / Тэрмийн буян/	БАТАЛСАН
5	Q-34698	Мал, амьтны үзлэг	УЛААНХҮҮЛ	ЙГ95110219	2025-05-11 23:35	Өвөрхангай, Баян-Өндөр, 3-р баг, Өвөр зүлэгт	Хонь-111,	111	0	Г.Гантүрээ / Тэрмийн буян/	БАТАЛСАН
		Мал,			2025-05-	Өвөрхангай, Баян-Өндөр, 3-р баг, Өвөр зүлэгт	Хонь-142, Ямаа-236,	383	0	Г.Гантүрээ / Тэрмийн буян/	БАТАЛСАН

PVUs records clinical findings of x animals every routine works

None of these notifications led to confirmation of presence of clinical FMD in the herds.



WILDLIFE SURVEILLANCE FOR FMD AND PPR IN 2022



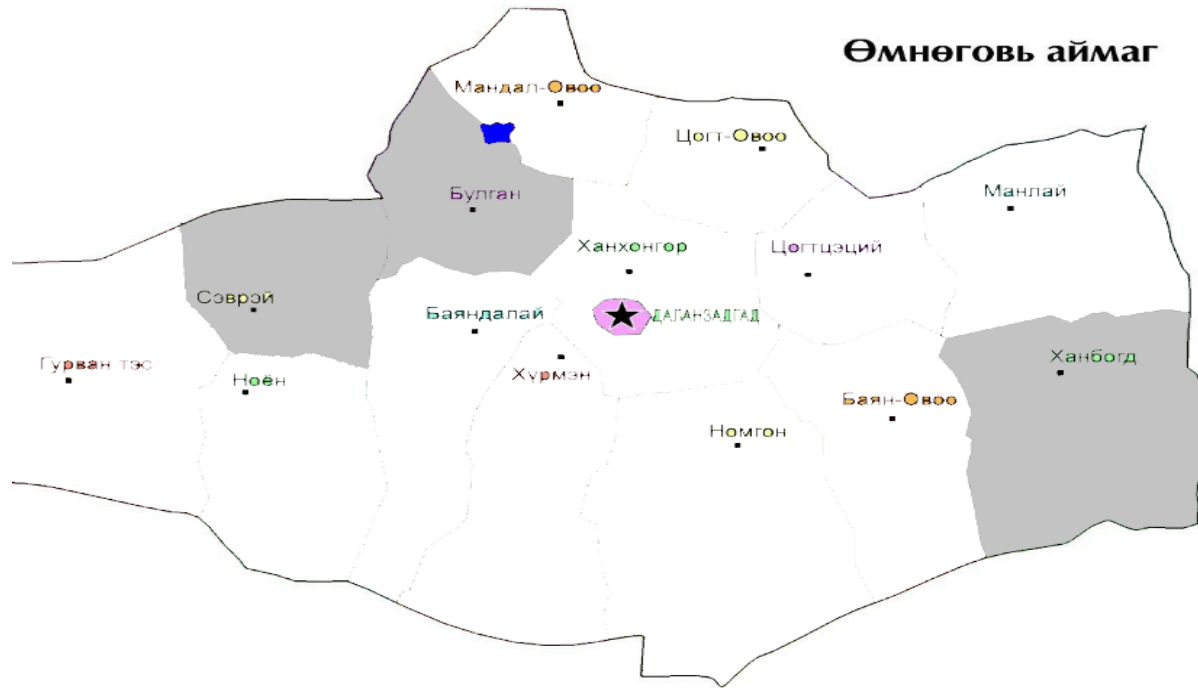
No	Province	Soum	Animal	Collar ID	Age	Sex	Sample located		Body condition	PPR Ab	FMD NSP
1	Tuv	Bayantsagaan	MG	MG-1-220926	5	F	46.61666	107.040715	Normal	Neg	Pos
2	Tuv	Bayantsagaan	MG	MG-2-220927	4	F	46.61666	107.040715	Normal	Neg	Pos
3	Tuv	Bayantsagaan	MG	MG-3-220927	3	M	46.61666	107.040715	Normal	Neg	Pos
4	Tuv	Bayantsagaan	MG	MG-4-220927	3	F	46.61666	107.040715	Normal	Neg	Neg
5	Tuv	Bayantsagaan	MG	MG-5-220927	4	M	46.593406	107.112321	Normal	Neg	Neg
6	Tuv	Bayantsagaan	MG	MG-6-220927	4	F	46.593406	107.112321	Normal	Neg	Neg
7	Tuv	Bayantsagaan	MG	MG-7-220928	4	F	46.557312	107.163666	Normal	Neg	Neg
8	Tuv	Bayantsagaan	MG	MG-8-220928	4	F	46.557312	107.163666	Normal	Neg	Pos
9	Tuv	Bayantsagaan	MG	MG-9-220928	4	F	46.557312	107.163666	Normal	Neg	Pos
10	Tuv	Bayantsagaan	MG	MG-10-220928	4	F	46.557312	107.163666	Normal	Neg	Pos
11	Dundgobi	Tsagaandelger	MG	MG-11-220929	4	F	46.332713	107.949690	Normal	Neg	Pos
12	Tuv	Bayantsagaan	MG	Dead	3	F	46.593406	107.112321	Normal	Neg	Pos
13	Tuv	Bayantsagaan	MG	Young	1	M	46.593406	107.112321	Normal	Neg	Neg

Died saiga location with FMDV natural infection in Mongolian saiga, 2016

Laboratory test results, information and natural infection surveillance in Mongolian gazelle, August 2022



WILDLIFE SURVEILLANCE FOR FMD AND PPR IN 2023





WILDLIFE SURVEILLANCE FOR FMD in 2021-2022

Name of provinceSukhbaat	Surveillance year	Species of wildlife	Number of samples	FMD NSP positive result	RT-PCR positive result
Govi-Altai in the Western	2021	Goitered Gazelle	1	0	
Khovd and Uvs in the Western	2021	Saiga	50	1	5
Umnugovi and Dornogovi in the South	2021	Goitered Gazelle	31	0	
Khentii and Dornod in the Eastern	2021	Mongolian Gazelle	18	4	
Govi-Altai, Khovd, Zavkhan in the Western	2022	Saiga	14	0	
Dundgovi and Tuv in the Central	2022	Mongolian gazelle	18	12	
Sukhbaatar in the Eastern	2022	Mongolian gazelle	9	5	
Umnugovi in the Eastern	2023	Mongolian gazelle	10	1	0

In October, 2021 and tested seven out of 50 tissue samples from 5 saiga carcasses positive in the RT-PCR for FMD virus. One blood sample tested positive to NSP-Ab for FMD. This was the first time that FMD virus was confirmed in Saiga.



№	Нас	Хүйс	Аймаг	Сум	Уртлаг	Өргөрөг	Биеийн байдал	PPR SN	БМ мялзан	FMD NSP SN	Шүлхий
MG-1-221102	3	Эм	Сүхбаатар	Сүхбаатар	47.251479	114.053406	Шүд гэмтэлтэй	95.87	Сөрөг	5.748	Эерэг
MG-2-221102	5	Эм	Сүхбаатар	Сүхбаатар	47.251479	114.053406	Хэвийн	97.09	Сөрөг	14.058	Эерэг
MG-3-221102	6	Эм	Сүхбаатар	Сүхбаатар	47.251479	114.053406	Хэвийн	97.28	Сөрөг	5.515	Эерэг
MG-4-221102	4	Эр	Сүхбаатар	Сүхбаатар	47.251479	114.053406	Хэвийн	104.13	Сөрөг	19.573	Эерэг
MG-5-221103	6	Эм	Сүхбаатар	Сүхбаатар	47.229759	113.892217	Хэвийн	97.92	Сөрөг	83.81	Сөрөг
MG-6-221103	4	Эм	Сүхбаатар	Сүхбаатар	47.315855	114.212156	Хэвийн	103.62	Сөрөг	88.08	Сөрөг
MG-7-221103	3	Эм	Сүхбаатар	Сүхбаатар	47.315855	114.212156	Хэвийн	89.28	Сөрөг	41.48	Эерэг
MG-8-221103	2	Эм	Сүхбаатар	Сүхбаатар	47.315855	114.212156	Хэвийн	92.54	Сөрөг	113.94	Сөрөг
MG-9-221103	4	Эм	Сүхбаатар	Сүхбаатар	47.315855	114.212156	Хэвийн	105.73	Сөрөг	55.30	Сөрөг



Communication material on FMD

The video animations are also available on GAVS's YouTube channel with the following titles and links:

- What are the clinical signs of FMD in livestock? <https://www.youtube.com/watch?v=4JpbJffw1Rk/>
- How FMD is spread? <https://www.youtube.com/watch?v=ySerEPyaXK4>
- Quarantine and restriction regime during FMD outbreak: <https://www.youtube.com/watch?v=cOvpMRhoSIw>
- Let's prevent the spread of FMD by restricting animal movement: <https://www.youtube.com/watch?v=YT17CeSyuPY>
- Economic impact of FMD: https://www.youtube.com/watch?v=PSaV_lr88aA

A series of 5 veterinary video lessons on clinical diagnosis, stages, sample collection, sample packaging and transporting, and biosecurity measures of FMD for the aimag, soum, and local veterinarians were prepared and posted on social media. The prepared video lessons can be found at the GAVS's YouTube channel with following titles and links:

- Lesson 1: Method for blood and serum sample preparation: <https://www.youtube.com/watch?v=dY3C36XyrE4>
- Lesson 2: Method for tissue/Epithelium sample collection: <https://www.youtube.com/watch?v=HRWqYOzIHSM>
- Lesson 3: Method for saliva and swab sample collection: https://www.youtube.com/watch?v=k8UHj_3WVIE
- Lesson 4: Method for probang sample collection: https://www.youtube.com/watch?v=k8UHj_3WVIE
- Lesson 5: Delivering samples to the laboratory and principles of biosafety and biosecurity measures: <https://www.youtube.com/watch?v=dhexsD-awjI>

Additionally, the video programmes that are produced for the purpose of raising awareness among the public and veterinarians:

No	Subject	Duration	Topic
1	Video: Global, regional and national FMD situation, and its' economic impact	30 min	FMD and its transmission route and control, and history of FMD outbreaks and its impacts at a national, regional and international levels
2	Video: Principles and benefit of establishing FMD free zone without vaccination	30 min	Guiding principles for establishing a zone free from FMD without vaccination/with vaccination
3	Video: National strategy for FMD control and prevention in Mongolia	30 min	Principles of Strategy development and guidelines, Action plan for National strategy for FMD control and prevention (2013-2017), Duties and responsibilities of stakeholders for FMD control plan
4	Video: FMD diagnostic capacity in Mongolia	30 min	FMD diagnosis and surveillance capacity in Mongolia and its future plan
5	International cooperation on FMD free zone	30 min	Procedures for self-declaration and for official recognition by the OIE, and International cooperation on FMD control



Veterinary certification issuance and its progress on MAHIS.

The following figures demonstrate how the electronic animal health certificate is being processed in practice:

A list of animal health certificate and its progress/status displayed on admin console

	МЭГ дугаар	Хаанаас	Хүлээн авагчийн нэр	Хүлээн авагчийн хаяг	Хүчинтэй хугацаа	Зориулалт	Төлөө
1	Meg248555	ЭНХТУЯА.Ч (Төв,Аргалант, 2-р баг, Хөшөөт)	ЭНХИРЭЭДҮЙ.М	Баянхонгор-Баянхонгор-10-р баг, Рашаант	2020/09/02 - 2020/09/09	Үржил	ТАТГАЛЗСАН
2	Meg243535	БАЯРЖАРГАЛ.С (Өвөрхангай,Баянгол, 1-р баг, Өнц)	Бат	Говь-Алтай-Дарив-2-р баг, Хужирт	2020/08/30 - 2020/09/02	Отор, нүүдэл	ШАЛГАСАН
3	Meg242449	ГЭРЭЛТӨД.Д (Дундговь,Өндөршил, 2-р баг, Талын нар)	СОДНОМСҮРЭН.Ж	Хөөсгөл-Түнкэл-3-р баг, Баян Эрхэт	2020/08/29 - 2020/09/05	Үржил	БАТАЛСАН
4	Meg242058	ГАНТӨМӨР.Ж (Төв,Өндөрширээт, 3-р баг, Уянга)	Увс аймаг наран булаг сум	Увс-Наранбулаг-4-р баг, Улаан-Үзүүр	2020/08/28 - 2020/10/10	Отор, нүүдэл	БАТАЛСАН
5	Meg240491	АЛТАНХУЯГ.М (Төв,Аргалант, 2-р баг, Хөшөөт)	ӨСӨХБАЯР.М	Завхан-Ургамал-4-р баг, Төв	2020/08/28 - 2020/09/04	Үржил	ТАТГАЛЗСАН
6	Meg238756	ТӨРМӨНХ.М (Өмнөговь,Баян-Овоо, 3-р баг, Налих)	ХҮСЭЛ БҮТЭЭМЖ ХХК	Хөөсгөл-Мөрөн-7-р баг	2020/08/27 - 2020/09/03	Үйлдвэрлэл, худалдаа	БАТАЛСАН



The following figures demonstrate how the electronic animal health certificate is being processed in practice:

Translation of some of the listed animal health certificates

	Certificate number	Sender's Name and Originated location	Receiver's Name	Destination	Validity period	Purpose of movement	Status
1	Meg243535	Bayanjargal 1 st Bag, Bayangol Soum, Uvurkhangai	Bat	2 nd Bag, Khujur Soum, Gobi-Altai.	2020/08/30 - 2020/09/02	movement	INSPECTED
2	Meg242449	Gerelt-Od 2 nd Bad, Undurshil soum, Dundgobi	Sodnomsuren	3 rd Bag, Tunel soum, Khuvsgul	2020/08/29 - 2020/09/05	Breeding	CONFIRMED
4	Meg240491	Altankhuyag 2 nd Bag, Argalant soum , Tuv aimag	Usukhbayar.M	4 th Bag, Urgamal Soum, Zavkhan	2020/08/28 - 2020/09/04	Breeding	REFUSED
5	Meg238756	Turmunkh.M 3 rd Bag, Bayan-Uvuu, Umnu-Gobi	Khusel Buteej LLC	7 th Bag Murun, Khuvsgul	2020/08/27 - 2020/09/03	Trade	CONFIRMED
6	Meg237967	Ariuntugs.B 3 rd Bag Khutag-Undur soum, Bulgan	Delgersaikhan	1 st Bag, Tosontsengel, Khuvsgul	2020/08/26 - 2020/08/28	Breeding	INSPECTED
10	Meg230221	Odonchimeg.T 2 nd Bag, Tsakhir soum, Arkhangai	Zavkhan	4 th Bag, Telmen soum Zavkhan,	2020/08/23 - 2020/08/30	Fairs	CONFIRMED
19	Meg221038	Battumur.E 2 nd Batner soum, Tuv	Jargalsaikhan	6 th Bag, Aldarkhaan soum, Zavkhan	2020/08/18 - 2020/08/21	movement	CONFIRMED
20	Meg204537	Ochirsum.B 2 nd Bag, Esonzuil soum, Uvurkhangai	Bayambasuren	2 nd Bag, Bumbugur soum, Bayankhongor	2020/08/12 - 2020/08/13		SUSPENDED

Detailed information screen can be seen as follows



The following figures demonstrate how the electronic animal health certificate is being processed in practice:

Uvurkhangaal **Bayankhongor**

Detailed information screen can be seen as follows

Confirmation history can be seen as follows:

Огноо	Төлөө	Тайлбар	Хэн	Хааг
2020-06-07 21:26	БАТАЛСАН		Лх.Ганболд	Булган - Бургасхай
2020-06-08 12:33	СААТУУЛСАН	Увс аймгийн засаг дарлын А/275 дугаар захирахаар Увс аймгийн нутаг дэвсгэрт хивсэгч мал оруулахыг хориглосон учир саатуулах арга хэмжээг авч амжилттай байна.	Д.Нямцорон	Увс - Өмнөговь

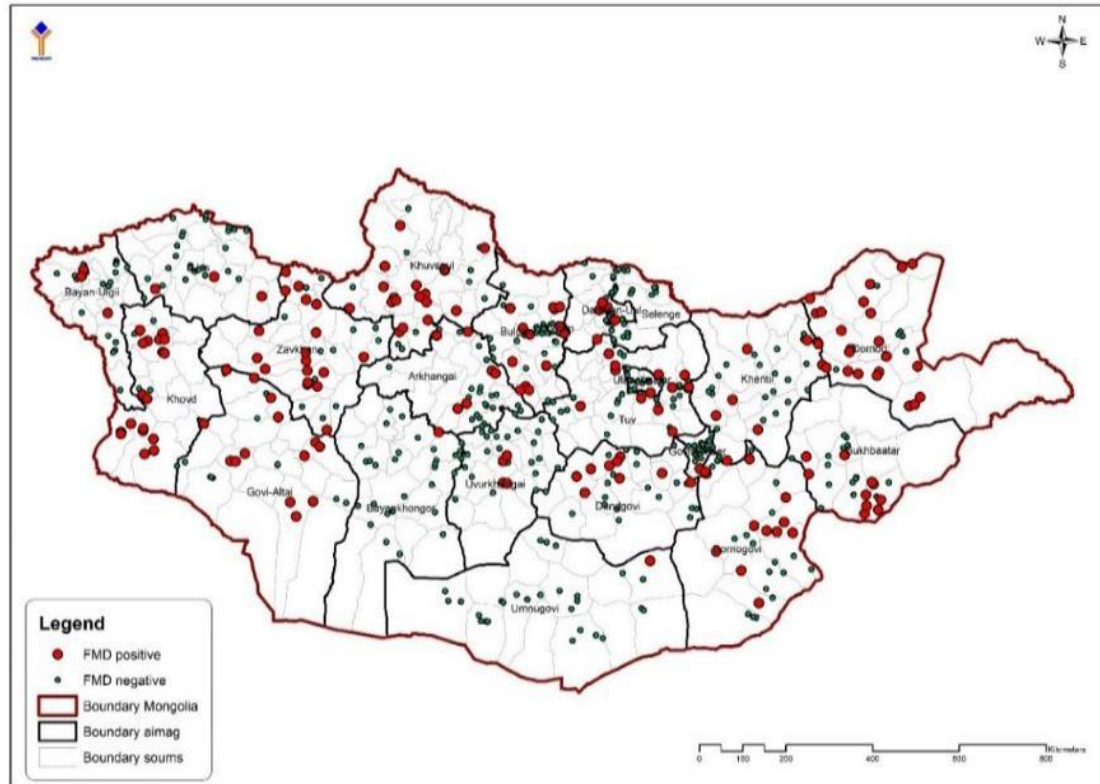
Each movement detailed information appears on separate screens, showing the information such as issuing and verifying veterinarians, its current status, moving animals and its image, and moving direction.

Confirmation history also can be seen popup screen. If refused or suspended, the reason must entered to the system. In this case the moving animal is under suspension due to Ordinance of the Governor of Uvs aimag – May 12, 2020, A/275, on Restriction of Animal Movement

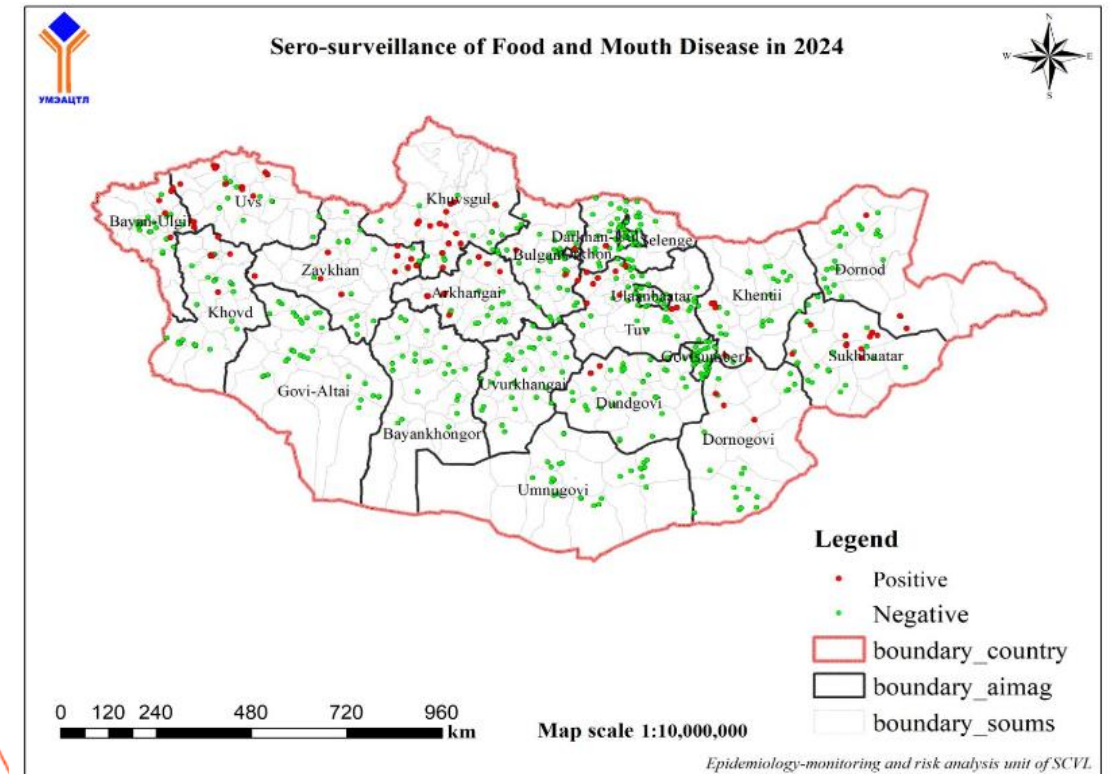


FMD NSP-Surveillances 2022-2024

Herder locations tested for FMD-NSP antibodies in 2022



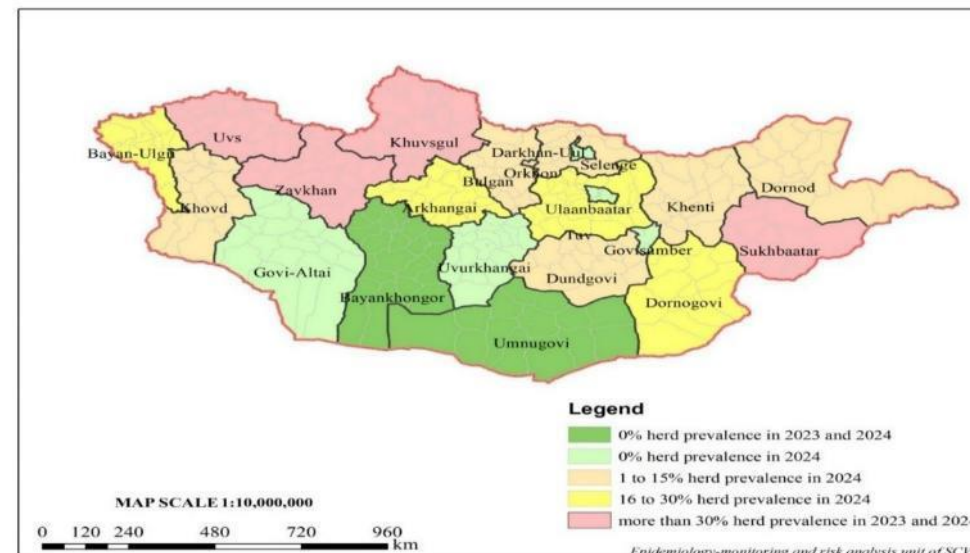
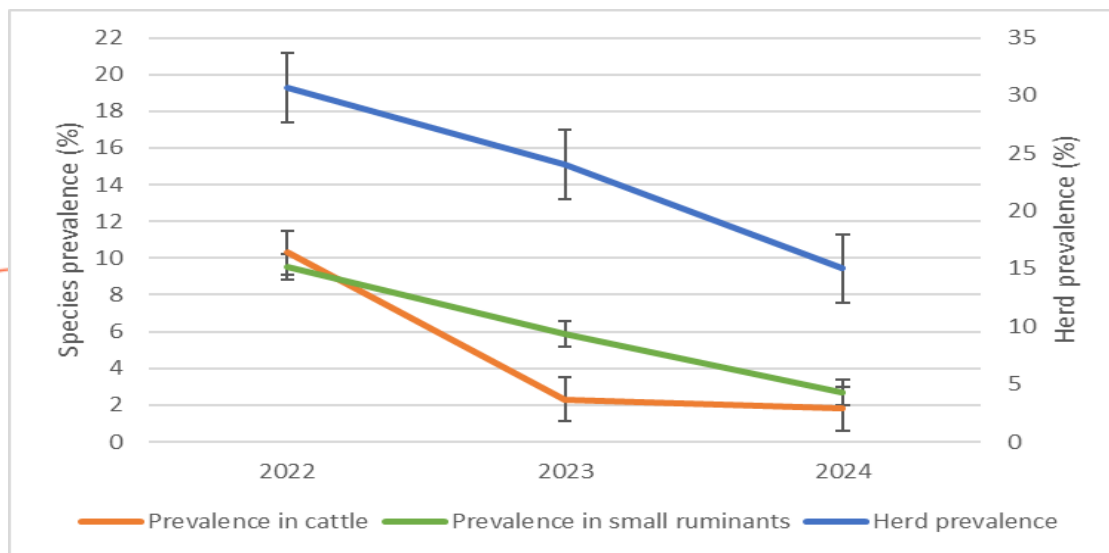
Herder locations tested for FMD-NSP antibodies in 2024



Note: Green dots are hot-ails testing all sampled animals negative for FMD-NSP Ab, red dots are hot-ails with one or more animal testing FMD-NSP Ab positive.



Summary result of FMD NSP-Surveillances 2022-2024

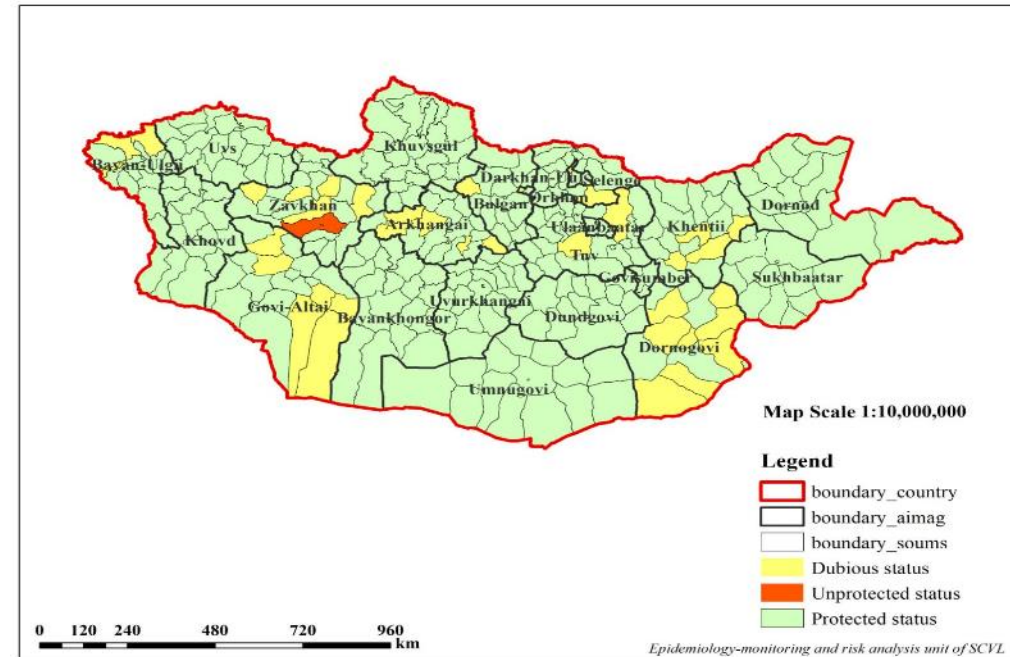
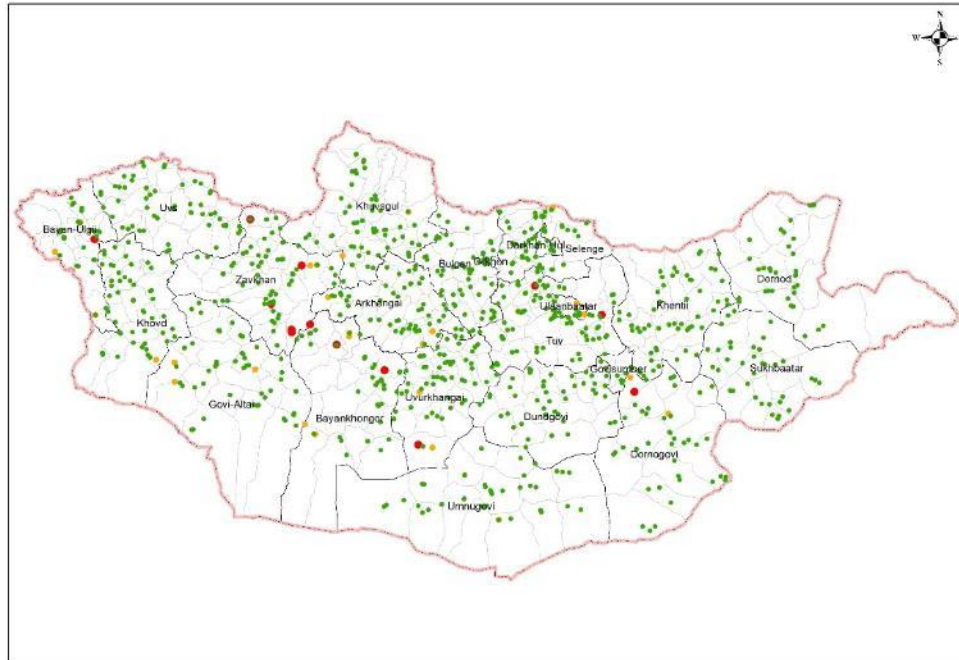


FMD	FMD sero-positivity % [95%CI] in 2022	FMD sero-positivity % [95%CI] in 2023	FMD sero-positivity % [95%CI] in 2024
	Overall: 9.7% [9.1-10.3%]	Overall: 5.0 [4.6-5.5%]	Overall: 2.5 [2.2-2.8%]
Animal level	For cattle: 10.3% [9.2-11.6%]	For cattle: 2.3 [1.7-3.0%]	For cattle: 1.8 [1.3-2.4%]
	For small ruminants: 9.5% [8.8 –10.2%]	For small ruminants: 5.9 [5.4-6.5%]	For small ruminants: 2.7 [2.4-3.1%]
	No statistically significant difference in sero-prevalence between cattle and small ruminants	Cattle are two and half times less likely to test positive for FMD-NSP-Ab (Mantel-Haenszel odds ratio controlling for age and sex)	Cattle are 1.5 times less likely to test positive for FMD-NSP-Ab
Hot-ail level	194 (30.7% [27.2 – 34.5])	126 (22% [19-25%])	94 (15% [12-18%])
	FMD-positive hot-ails in all aimags except Selenge	No FMD positive hot-ails in Bayankhongor, Dundgobi, Orkhon, Selenge and Umnogobi	No positive hot-ails in Bayankhongor, Gobi-Altai, Gobisumber, Darkhan-Uul, Ulaanbaatar, Uvurkhangai and Umnogobi
Within hot-ail prevalence (for FMD positive hot-ails)	Mean: 5	Mean: 3.6	Mean: 2.7
	Median: 3	Median: 3	Median: 3
	12 or more animals positive: 27 hot-ails	12 or more animals positive: 1 hot-ail	10 animals positive in 1 hot-ail



FMD Post-vaccination monitoring

Choropleth map on presence of population immunity for each of the Mongolian soums, based on post-vaccination monitoring in 2023.



Based on SP-serotype O	Herds in 2022	Percentage [95%CI]	Herds in 2023	Percentage [95%CI]	Herds in 2024	Percentage [95%CI]
Herd unprotected	16	1.6% [0.9 – 2.6%]	23	2.3% [1.5 – 3.5%]	34	3.4% [2.3 – 4.7%]
Herd dubiously protected	29	2.9% [1.9 – 4.1%]	28	2.8% [1.9 – 4.1%]	44	4.4% [3.2 – 5.8%]
Herd sufficiently and well protected	963	95.5% [94.0 – 96.7%]	938	94.8% [93.3 – 96.1%]	930	92.3% [90.4 – 93.8%]
Total	1,008		989		1,008	

Of the 1,008 herds, 930 (92.3% [90.4 – 93.8%]) herds were sufficiently and well protected based on the results of SP-ELISA against serotype O in 2024



Thank you for your attention

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