



Foot-and-Mouth Disease situation

Food and Agriculture Organization of the United Nations

Monthly Report

May 2012

Information sources used:

Databases:

Emergency Prevention System-Animal Health/Global Early Warning System (EMPRES-AH/GLEWS)
FAO EMPRES-i Global Animal Disease Information System
OIE WAHID World Animal Health Information Database

FAO World Reference Laboratory for FMD (WRLFMD)

Other sources:

FAO/EuFMD supported FMD networks (EARLN-FMD Eastern Africa, RESOLAB-FMD West Africa, WELNET-West Eurasia)
FAO/EuFMD projects and field officers
Crisis Management Centre-Animal Health (CMC-AH)

Review process:

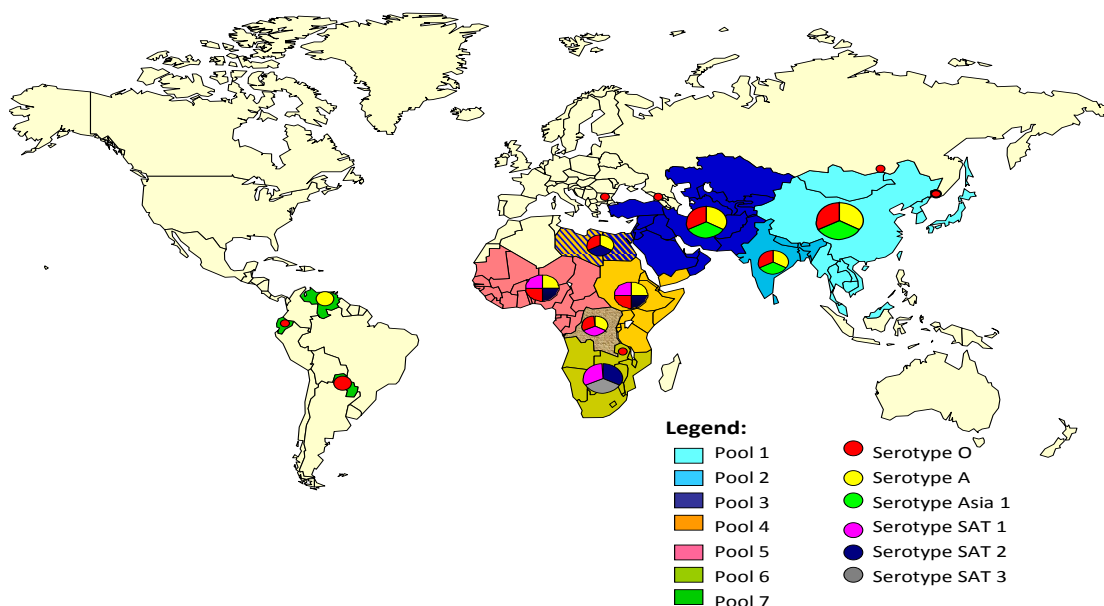
This report (in draft) was circulated for comment to focal points of the FAO Reference Centres for FMD (including Centres in process of recognition) and OIE Reference laboratories for FMD.

The following are thanked for their comments:

ARRIAH, IZSLER, OVI, NCFAD, SENASA

*Please note that the use of information and boundaries of territories should **not** be considered to be the view of the U.N. Please always refer to the OIE for official information on reported outbreaks and country status.*

Foot-and-mouth disease (FMD) distribution by Serotype and the seven virus pools, 2010-2012



HEADLINE NEWS

Pool 3:

- **Egypt¹, Libya¹ and Palestinian Autonomous Territories [the Gaza Strip]¹** - Serotype SAT 2, topotype VII, outbreaks in cattle (incursion from Pool 5). Serotype O has been found in Libya and Serotypes A and O have also been found in Egypt. See World Reference Laboratory comments for Pool 3.
- **Kazakhstan^{1,12}** - Serotype O has been confirmed close the Russian border in May 2012 and serotype A in February 2012 on the border with Kyrgyzstan.
- **Turkey³** – Continued circulation of Serotypes A and Asia-1.

Pool 4:

- **The Democratic Republic of Congo⁸** – FMD in Masisi and Plain of Ruzizi.
- **Ethiopia⁸** – FMD in Amhara Region.
- **Uganda⁸** - FMD in cattle in Nwoya District.

Pool 5:

- Boundaries of Pool 4 and Pool 5 are under review (WRL with FAO), reflecting the questions raised by the genotyping of the recent multiple SAT 2 Serotypes in North Africa and by the Eastern Africa FMD Laboratory Network Meeting in Nairobi.

Pool 6:

- **Botswana¹** – SAT 2 has recurred in Muan, Zone 2 of the country.

Pool 1. CENTRAL / EAST ASIA

Country	Data WRL FMD ⁴ 2011/2012	Data from field officers ³ 2011/2012	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Cambodia	O		...*		?	88
China (People's Rep. of)		Asia 1?	O	1	O	8
China (Hong Kong, SAR)	O		...		No details have been submitted.	
China (Taiwan Province)			O	12	O	12
Japan			...		Reported as absent.	
Korea (DPR)	O		...		O	114
Korea (Rep. of)	O		...		O	155
Lao PDR	O		...		O	?
Malaysia	O		...		O, A	28
Mongolia			...		No new outbreaks in 2011 and 2010 event resolved 01/09/2011	
Myanmar			...		23/03/2011 – report confirming no new outbreaks	
Russian Federation			O	2	O PanAsia	1
Thailand	A		...		O, A	48
Viet Nam	O		...		O	449

Note: Molecular evidence indicates Asia 1 circulates for long periods in Southeast Asia/China with gaps between reporting/isolation, with big epidemics seen less frequently than for O and A. Absence from reports does not equal evidence of absence.

*** See Annex 1 at the end of this report for Legend for new codes used regarding OIE outbreaks in this and subsequent tables.**

New events in Pool 1

- **Taiwan, Province of China** – On 1 May 2012 samples were collected during routine active FMD serosurveillance and NSP antibodies were detected. All pigs appeared healthy and the national laboratory confirmed positive results for NSP antibody but virus isolation and RT-PCR were all negative. FMD ELISA kit confirmed serotype O. Control measure have been put in place and an investigation carried out.

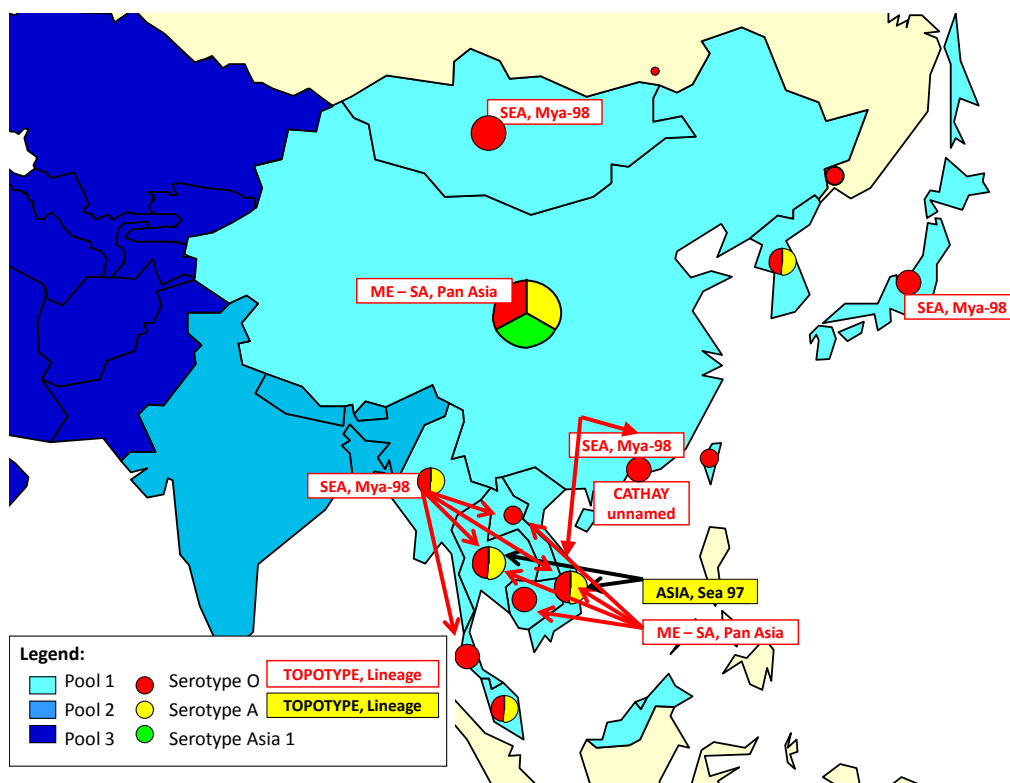
Significant events in Pool 1 from previous months.

No new significant events from previous months have been reported in Pool 1 for this reporting period.

Comments from WRLFMD Quarterly Report January –March 2012 ⁴.

- **Malaysia** - vaccine matching – samples collected in 2011 were analysed antigenically by the two dimensional virus neutralisation test (2dm VNT) all matched* with the A TUR vaccine strain, the WRL reports that a further two isolates from Malaysia also matched* with A₂₂Iraq.
* Suggests that there is a close relationship between field isolate and vaccine strain. A potent vaccine containing the vaccine strain is likely to confer protection.
- **Thailand** - the receipt of two FMD Serotype A VP1 sequences from the Thailand Regional Reference Laboratory indicated the continued presence of the toptype ASIA lineage Sea-97.
- **Viet Nam** ⁴ - Four samples taken in 2008 and 2011 (all from pigs) were submitted for sequencing in 2012 were all Serotype O. The two 2011 samples were toptype ME-SA , lineage PanAsia. One of the 2008 samples were also Serotype O toptype ME-SA, lineage PanAsia, the other sample from 2008 being Serotype O toptype Cathay. All four samples were taken within a 100km radius of Ho Chi Minh City, which is located in the south of Vietnam. An additional four samples from 2011 (three pigs, one buffalo) were reported as Foot and Mouth Disease Virus Genome Detected (FMDV-GD).

FMD distribution in Pool 1 by Serotypes 2010 - 2012

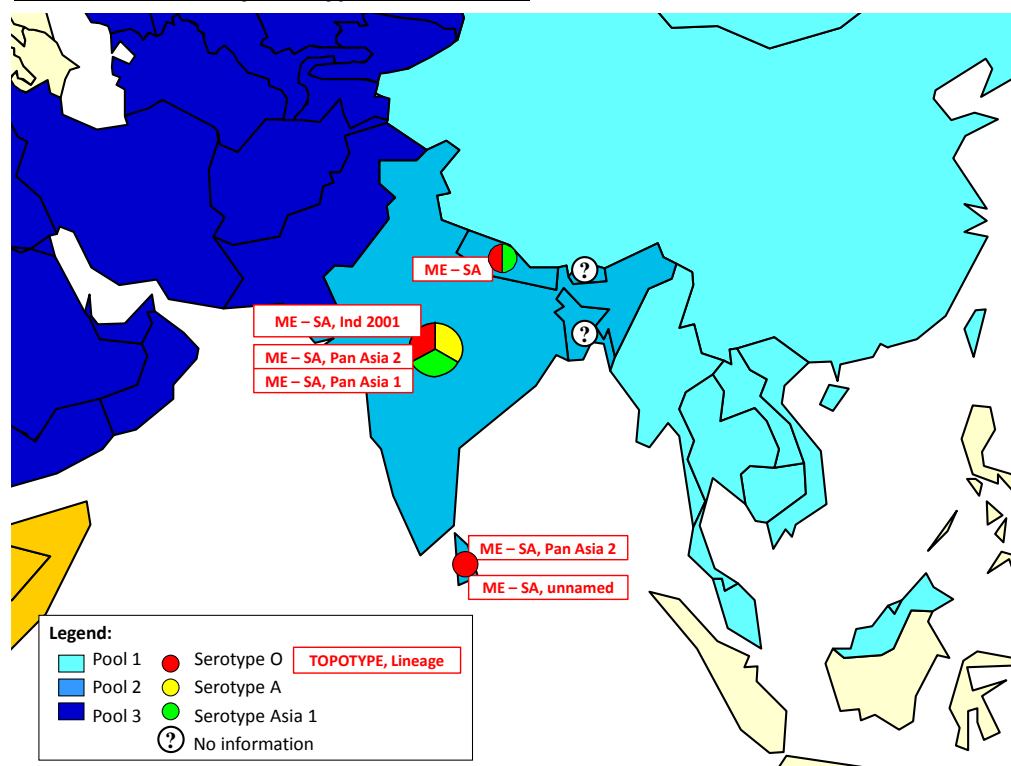


Country	Data WRL FMD ⁴ 2011	FAO-ICAR International conference 2012 ⁷	Reported serotype/outbreaks in OIE 2012 (immediate notifications) ¹		Reported serotype/outbreaks in OIE 2011		Reported serotype/outbreaks in OIE 2010 (annual report) ¹	
			Serotype	No of outbreaks	Serotype			
Bangladesh					+..		+..	
Bhutan					?	6	?	5
India		O, A, Asia 1			O, Asia 1	439	O, A, Asia 1	422
Nepal					O, Asia 1	72	O	22
Sri Lanka	O				O	6	O	18

POOL 2 SOUTH ASIA

No new events reported for this reporting period.

FMD distribution by Serotypes 2010 - 2012



Pool 3: WEST EURASIA & MIDDLE EAST

Country	Data WRL FMD ⁴ 2011/ 2012	Data from field officers ³ 2011/ 2012	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Afghanistan	A, O, Asia 1				A, O, Asia 1	294
Armenia		No outbreaks 2012				Reported as Absent.
Azerbaijan		No outbreaks 2012				
Bahrain	A, O, Asia 1		(SAT 2)*	(1)*	?	33
Bulgaria	O				O	11
Egypt	A, O, SAT2	Epidemic	SAT 2	43		Reported as Absent.
Georgia		No outbreaks 2012				Reported as Absent.
Iran	O, A, Asia 1	O, A, Asia 1			O, A, Asia 1	2053 was 1304
Iraq					...	...
Israel	O		O	2	O	16
Jordan					...	...
Kazakhstan			O	8	O	11
Kuwait	O				O	3
Kyrgyzstan		A**			A, O	66
Lebanon						Reported as Absent.
Libya	O		O, A, SAT 2	24	...	...
Oman					O	122
Pakistan	O, A, Asia 1				A, O, Asia 1	?
Palestine Autonomous Territories	SAT 2		O SAT 2	2	?	1
Qatar					....	?
Saudi Arabia						?
Syrian Arab Republic					Reported as absent.	Reported as absent.
Tajikistan			Asia 1		ASIA 1	1
Turkey	O, A Asia1	O, A Asia1		O, ASIA 1	O, A Asia1	1045
Turkmenistan					....	...
Uzbekistan					...	...

()* - identified in the quarantine centre.

** GLEWS

New events in Pool 3

- **Egypt³** – 83 villages reported clinical FMD for the first time in May 2012, compared to 553 in April. This brings the number of **first time notifications** of FMD for this epidemic (started February 2012) to 3164.
Emergency vaccination with monovalent SAT 2 commenced in April 2012 in those governorates with little or no FMD and according to central authorities for this reporting period 216,000 cattle, 66,000 buffaloes, 115,000 sheep and 11,000 goats have been vaccinated ie a total of 410,000 animals.
Passive surveillance – five Serotype SAT2, one Serotype O and one Serotype A have been detected in samples submitted to the lab in May 2012.
Active surveillance – three Serotype O outbreaks have been confirmed in May 2012.
- **Kazakhstan** – Serotype O has been reported in a new location – on 30/05/2012 a village, Borovoe, Borodulihinsky in East Kazakhstan, near the Russian border, reported clinical signs of FMD in 34 out of 250 cattle. 136 cattle have so far been notified as having been destroyed. The village also has 2300 sheep, which were not reported as showing clinical signs and 571 of these have been destroyed. There have been seven other outbreaks of FMD in Kazakhstan in 2012. These have been located closer to either China or Kyrgystan.
Quarantine, movement control, zoning, vaccination and stamping out have been applied in response.
- **Libya³** – A surveillance and vaccination strategy is being promoted by the new CVO of Libya to enhance the knowledge on the identification and distribution of FMD types in Libya and to reduce the spread and impact of FMD. For reports on serotyping please see WRLFMD comments Page 9.
- **Gaza, Israel, West Bank³** - Mission by Crisis Management Centre-Animal Health (CMC-AH) regarding the reporting of SAT 2 in the Gaza strip was completed. There have been 2 outbreaks of FMD in Gaza – the second as being Serotype SAT 2. The mission reports that the farms are close together, and that only healed lesions of FMD were seen when the animals were examined.
It is reported that vaccination of the first round of large ruminants in Gaza for SAT2 has been completed - 15,000 cattle vaccinated.
There have been no new outbreaks reported.

Trans-Caucasian Countries³:

- **Armenia** – 150 000 doses of trivalent vaccine arrived for the Spring vaccination campaign. All large ruminants and high risk small ruminants (ie those living in or moving to summer pasture areas in the north west and the south and in the border areas with Turkey and Iraq) are to be vaccinated.
- **Azerbaijan** – In May the spring vaccination is almost finished with 72 993 cattle and 2 082 811 sheep vaccinated in May 2012 and 1 405 641 cattle and 1 758 047 sheep vaccinated in April. Sero monitoring campaign started in May 2012 with around 2100 cattle and 900 sheep samples collected.
In addition 50 samples were collected from naïve cattle from Germany before vaccination and 21 days after vaccination as part of a study to examine vaccine suitability.
- **Georgia** - In April 2012 the authorities received 250 000 doses of trivalent vaccine, (composed of A – Iran 05, O – 1Manisa, Asia1 – Shamir), for use in the spring vaccination campaign in 2012 which is aimed to be completed at the end of May 2012.

3000 sera are to be collected in the Spring survey.

Significant events in Pool 3 from previous months

- **Bahrain⁴** – 23 outbreaks were reported to the OIE for the second half of 2011, bringing the annual total for 2011 to 33.

Serotypes, lineages and other details are summarized in the table below:

Date collected	Species	Location	Serotype/number of samples	Topotype Genotype	Most closely related viruses
February 2011	Unknown	Unknown	ASIA1 / four	ASIA Sindh-08	PAK2010/2011
October 2011	Cattle	Unknown	O / two	ME-SA PanAsia-2 ^{ANT-10}	AFG2010 IRN2010 AFG 2010
October 2011	Cattle	Unknown	A / one	ASIA Iran-05 ^{HER-10}	AFG 2011
March 2012	Cattle	VETERINARY QUARANTINE Farm 1	O/ two	ME-SA PanAsia ^{-2ANT-10}	KUW 2012
March 2012	Cattle	VETERINARY QUARANTINE Farms 4, 5, 6	SAT2 / four	Topotype IV	KEN 2009

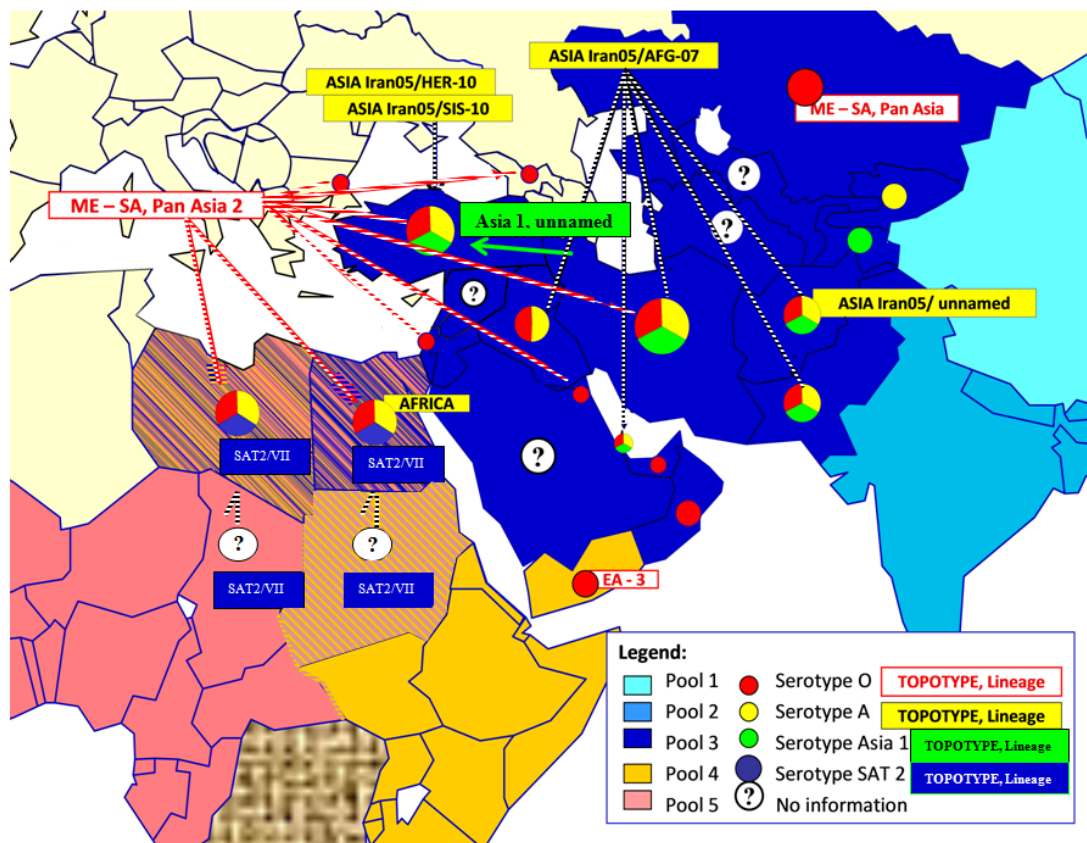
- **Kazakhstan³**: Serotype O topotype PanAsia I epidemics in Kazakhstan, in 2011, are evidence of the FMD movements associated with transborder animal movements between Kazakhstan and Xinjiang, China, which has an ethnic Kazakh population. FMD restrictions have been lifted in Moyinkum and Lhideli on 14 March 2012, where two outbreaks commenced in February 2012. FMD restrictions were also lifted in Sholakkargaly on 20 March 2012 and in Bota, Degeres, Ushbulak and Kindiktas on 26 March 2012. These five outbreaks were detected in February 2012.
- **Kyrgyzstan¹**: 66 outbreaks were reported in 2011. The serotypes were A and O.
- **Tajikistan¹**: Serotype Asia 1 in cattle and goats – near the border with Kyrgyzstan, but no further outbreaks reported since 06/12/2011.
- **Pakistan³**: (West Eurasia 3rd progress meeting) – 2010-2011 204 tissue samples collected from suspect FMD cases were tested at the National Veterinary Laboratory(NVL) Islamabad. 173 samples were sent to WRL for genetic typing and vaccine matching. Serotypes detected were: Serotype A, topotype ASIA lineage Iran 05^{AFG-08 and BAR-07}; Serotype O, topotype ME-SA, lineage PanAsia II^{Pun-10 and ANT-10} and Serotype Asia 1 topotype ASIA lineage Sindh-08. Some of these new strains matched poorly with the currently available vaccinal strains and have been associated with most of the disease outbreaks.

- **United Arab Emirates⁴**: location unknown – Goat sampled 23/12/2011 was Serotype O toptotype ME-SA genotype PanAsia-2^{ANT-10}.

Comments from WRLFMD Quarterly Report January –March 2012 ⁴ for Pool 3.

- **Afghanistan⁴** – FMD Serotype O PanAsia-2^{ANT-10} continue to circulate as does Serotype A toptotype Iran-05^{Her-10} and Iran-05^{AFG-10}, and Serotype Asia 1 toptotype ASIA1 genotype Sindh-08
- **Egypt⁴** - Two lineages of Serotype SAT 2 toptotype VII have been identified – SAT2/VII/Alx-12 found in Alexandria province and SAT2/VII/Ghb-12 in eight other provinces.
Two lineages of Serotype A have been identified – four samples taken in 2011 were Serotype A, toptotype ASIA, lineage Iran-05^{BAR-08} and one sample taken in 2012 was Serotype A, toptotype AFRICA, lineage G-IV^{ISM-12} – the latter was found to be most closely related to viruses from Sudan and Eritrea.
Three samples taken in 2011 were Serotype O, toptotype ME-SA, lineage PanAsia-2. They were most closely related to a virus from Egypt in 2010.
Vaccine Matching: Two SAT2 viruses from Egypt both gave a close match with SAT 2 Eritrea vaccine strain but also a poor match with SAT 2 Zimbabwe.
- **Iran⁴** – results from samples taken in 2011/2012 and sent to WRL in February 2012 have come back as being **Serotype A** Topotype ASIA, genotypes Iran-05^{SIS-10} and Iran-05^{Her-10}, **Serotype ASIA 1** toptotype ASIA, genotype Sindh-08 and there were also two genotypes of **Serotype O** toptotype ME-SA – genotypes PanAsia-2^{FAR-09} and PanAsia2^{ANT10}. All three serotypes have previously been found widespread throughout the country.
- **Kuwait⁴** – samples collected in 2011 were Serotype O toptotype ME-SA genotype PanAsia-2^{ANT-10}
- **Libya⁴** - 11 out of 23 samples from the east of the country (Benghazi/Darnah), sampled in December 2011/January 2012, were shown to be O/ME-SA/ PanAsia-2^{ANT-10}. Three samples from Bengazi sampled on 11 February 2012 were Serotype SAT2, toptotype VII, lineage Lib-12. This is the same toptotype that occurred in Libya in 2003, but the two lineages differ by 8.8%. The 2003 virus has been designated as lineage Lib-03.
Vaccine Matching: Two FMDV type SAT 2 viruses from Libya showed poor antigenic matching with either SAT 2 Zimbabwe or SAT 2 Eritrea vaccine strains.
- **Pakistan⁴** – Serotype ASIA 1, toptotype ASIA and Serotype A, toptotype ASIA, lineages Iran-05^{Her-10} have been detected in a sample collected from cattle in January 2012. ⁴.Samples taken in late 2011/early 2012 indicate Serotype Asia 1 toptotype ASIA genotype Sindh-08 present in the country.

Pool 3. FMD distribution by Serotypes 2010 - 2012



Pool 4. EAST AFRICA

Country	Data WRL FMD ⁴ 2011/ 2012	Data from field officers ³ / EARLN ⁸	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Burundi		O A SAT1 SAT 2 ⁸			...	...
Comoros					...	...
Congo D. R.	A(2011)	2012 - 2 districts.			O, A, C*, SAT 1	3
Djibouti						Reported as Absent.
Egypt	O, A SAT 2		SAT 2	43		Reported as Absent
Eritrea					...	...
Ethiopia	O	O, A SAT1 ⁸			A, SAT 1, SAT 2, O,C	15
Kenya	O	O, SAT 1, SAT 2 ⁸			O,SAT 1 SAT2	60
Libya	O		O, A, SAT 2	37	...	
Rwanda		Reported as absent ⁸			...	
Somalia		No data available ⁸			?	39
North Sudan		No confirmed outbreaks 2012			?	9
South Sudan		O, A SAT 1 C**, SAT 2				
Tanzania	SAT 2	SAT 1 in buffalo SAT 2 in cattle			SAT 2 SAT 3	14
Uganda		O ³ A ⁸ SAT 1 SAT 2 SAT 3			O	15
Yemen					...	...

* In the 2011 Jan-Jun report Congo D.R reported Serotype C to the WAHIS database of the OIE. Data was rechecked and not confirmed by the local authorities. However the notification of Serotype C still remains in WAHIS.

**C in South Sudan may be evidence of it's circulation or cross re-activity of the LPBE tests.

New events in Pool 4

- **Democratic Republic of Congo⁸:** The Veterinary Laboratory in Goma, DRC reports two outbreaks of FMD in May 2012:

Masisi – in the East of the country 45 km north-west of Lake Kivu and 50 km from Goma town and the border with Rwanda – high morbidity in animals which had only returned to the farm a few days earlier from the vicinity of Virunga National Park to where they had been displaced during local unrest.

Plain of Ruzizi – also in the East of the country but 350 km south of Masisi and five to ten kilometers from the border with Burundi, high morbidity of FMD in cattle following the introduction of 48 cattle from Tanzania via Burundi. The Ruzizi river runs from Lake Kivu to Lake Tanganyika and forms part of the border between DRC and Burundi.

- **Ethiopia⁸:** The National Animal Health Diagnostic and Investigation Center (NAHDIC) reports outbreaks in the following regions:

Amhara - 23 May 2012 South Wollo Zone (central North Ethiopia) – clinical signs in 40 cattle and sheep, with 3 deaths. 12 sera and four tissue samples have been taken from bovines.

Amhara – March 2012 in six zones towards the Sudan border – cattle and goats affected. 16 whole bloods, 11 tissue samples and six swab samples have been taken.

Tigray - March and April 2012 in two zones towards the Eritrean border (East Zone and Southern Zone) goats and cattle were reported as showing clinical signs of FMD.

In these areas of Ethiopia groups of around 1 500 cattle and 500 sheep/goats are grazed in extensive systems, each over a radius of 20 to 30 km, so there is a lot of opportunity for disease transmission at watering holes and during grazing. An individual farmer typically owns 20 to 40 head of cattle.

It is reported that a total of 6535 cattle have developed clinical signs of FMD from March 2012 to May 2012.

FMD was confirmed by NAHDIC using 3ABC ELISA

- **Uganda⁸:** National Animal Disease Diagnostics and Epidemiology Centre (NADDEC)

Ministry of Agriculture Animal Industry and Fisheries (MAAIF) Entebbe, Uganda has reported on two outbreaks of FMD which have been confirmed on serology by NADDEC.

Nwoya District – 31 May 2012 (towards Lake Albert) 100km from DRC and near the Murchison Falls National Park. Out of population of around 3000 at risk cattle 200 showed clinical signs and eight calves died. Ring vaccination is to be carried out. There have recently been a lot of moves from East Uganda to the general area as there is a programme to restock animals in the north of the country, but no pre-movement FMD screening is carried out.

Kween District – February 2012 (20km from Kenyan border) – zero grazed and free range cattle with access to drink from the streams flowing from Mount Elgon. The District Veterinary Officer (DVO) was quickly notified by the farmers of a sudden onset of FMD-like symptoms and a response team went immediately. Quarantine and a ban on animal movement were imposed. Samples have been sent for serotyping.

There are unconfirmed reports of FMD in large and small ruminants in the northeast of the country, but veterinary teams have not been able to get to the area because of floods and inaccessibility.

Significant events in Pool 4 from previous months

- **Eritrea**⁸: severe epidemic of FMD in 2011
- **Ethiopia**⁸: It is reported that there were 58 outbreaks of FMD in 2011. Samples submitted to WRL identified Serotype O topotype EA-3, and one sample, from the Tigray Province in the north of the country (which borders Sudan and Eritrea), was specifically identified as Serotype O topotype EA-3^{Sudan}. Regarding the Tigray outbreaks FMD was subsequently detected in neighbouring Afar region to the east of Tigray, which borders Eritrea and Djibouti and in Amhara region to the south of Tigray which borders Sudan. The samples from outbreaks in the south of the country (Ethiopia) showed close genetic relationships with previous Ethiopian isolates.
- **Kenya**⁶: Serotype O in the Rift Valley (Nakuru, Laikipia, Koibatek, Keiyo) and Eastern (Mukaa) in January 2012. Serotype O continued into Central province (Nyeri) in March 2012 and was reported in Naivasha in April 2012.
Serotype SAT 2 in Rift Valley (Nakuru, Nyandarua, Nakuru, in autumn 2011 and continuation into 2012 (Naivasha)⁶
- **South Sudan** – 3,228 samples collected, 1,183 positive sandwich ELISA. Positives sent to Embakasi for serotyping – Serotypes SAT 1, SAT 2, O, C and A confirmed, with Serotypes SAT 2 and O being most prevalent and SAT 1 and A next prevalent. The detection of antibodies to Serotype C may be evidence of its circulation or cross-reactivity of the LPBE tests.
- **Tanzania**⁴: SAT 2, topotype IV in cattle.

Comments from WRLFMD Quarterly Report January –March 2012⁴

Ethiopia – A single isolate from the Tigray region was Serotype O topotype EA-3, but a distinct lineage from those viruses found in the centre of the country.

Tanzania – SAT 2 topotype IV was detected in the north of Tanzania, from samples collected in 2011.

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Pool 5. WEST AFRICA

Country	Data RESOLAB 2011/2012	Serotypes reported from RESOLAB 2011/12	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Sero type	Nb of outbreaks	Serotype	No of outbreaks
Benin		A SAT 1 O SAT 2			A,O, SAT 1, SAT 2	37
Burkina Faso		A, O SAT 2			?	48
Cameroon	11 outbreaks 2012	A O SAT 2 11 outbreaks 2012			?	35
Cape Verde						No details submitted.
Central Afr. Rep.					...	...
Chad		A, SAT 1			...	...
Congo D. R.	O,A	A C SAT 1			O,A, C*, SAT 1	3
Congo R.					...	...
Cote d'Ivoire		A, O SAT2			SAT 1, A	13
Equatorial Guinea						Disease suspected but not confirmed.
Gabon						Reported as absent.
Gambia	pending	A O SAT 2				No details submitted.
Ghana	43 samples ELISA positive	A O SAT 1 SAT 2			?	57
Guinea Biss.						Reported as absent.
Guinea						...
Liberia		A, SAT 2				No details submitted.
Mali		A,SAT 1 O, SAT2			?	3
Mauritania					...	...
Niger	13 Outbreaks awaiting serotyping	A,O,SAT 1 SAT 2			?	37
Nigeria		A, SAT1,O			?	10
Sao Tome Principe						No details submitted.
Senegal		A,O,SAT 2			?	12
Sierra Leone						Reported as absent.
Togo	One outbreak 2012	O,SAT 1 One outbreak 2012			O, SAT 1	79

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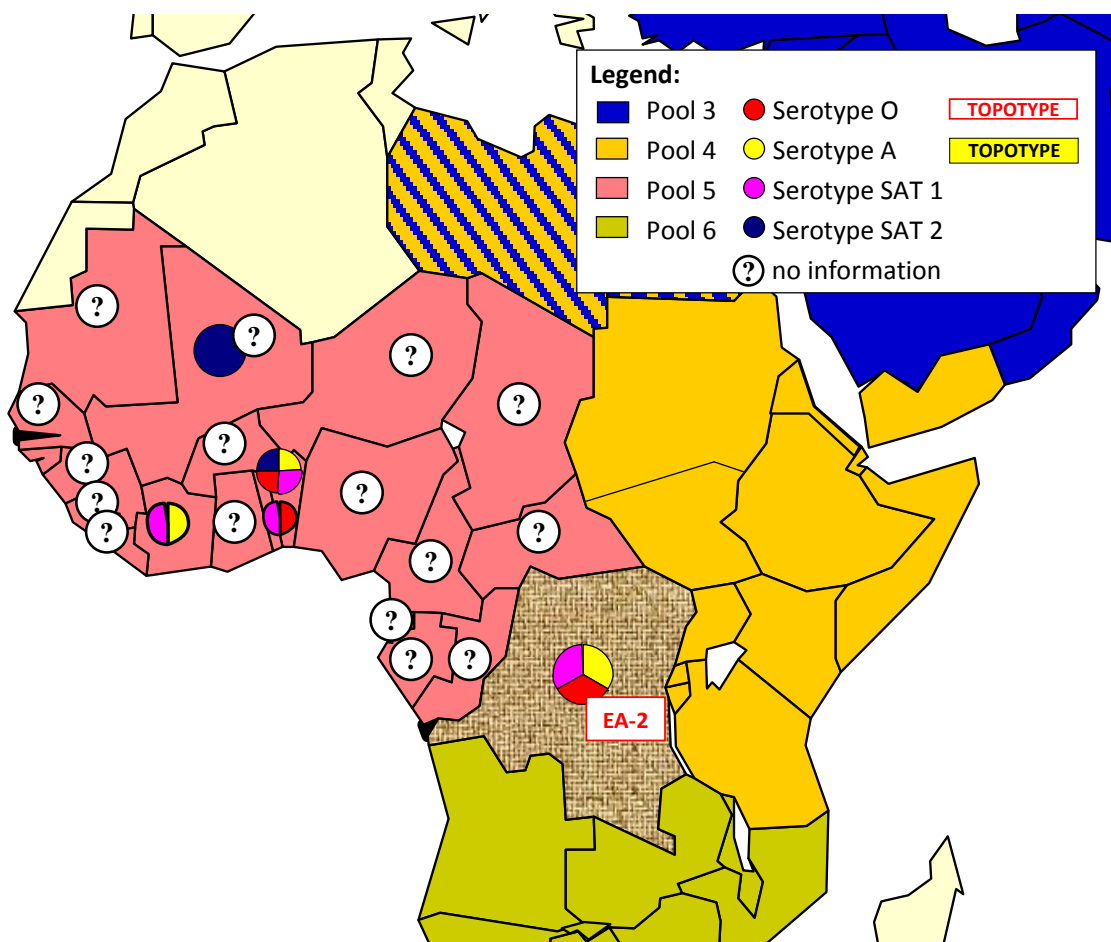
* In the 2011 Jan-Jun report Congo D.R reported Serotype C to the WAHIS database of the OIE. Data was rechecked and not confirmed by the local authorities. However the notification of Serotype C still remains in WAHIS.

New or significant events in Pool 5 .

- **Cameroon⁵**: 11 outbreaks reported for the first three months of 2012; samples to be sent for analysis.
- **The Gambia⁵**: Outbreaks in the North bank, Central river and Western regions; samples sent for analysis.
- **Togo⁵**: one outbreak at Adetikope (Adodovi) on 21 February 2012; epithelial and sera samples collected and submitted to Accra Veterinary Laboratory, for further submission to WRL.

In an update on the FMD situation for the RESOLAB area for January to March 2012 it was noted '...considering the disease dynamics.. the problem of transhumance and outbreaks in Cameroon's North West and Far North regions... could indicate possible outbreaks in Chad, Nigeria, Central African Republic....outbreaks in Togo could affect Burkina Faso, Benin and Ghana.'

Pool 5. FMD distribution by Serotypes 2010 - 2012



Pool 6. SOUTHERN AFRICA

Country	Data WRL FMD ⁴ 2011 - 2012	Data from field officers ³ 2011 - 2012	Reported serotype/outbreaks in OIE 2012		Reported serotype/outbreaks in OIE 2011	
			Serotype	Nb of outbreaks	Serotype	Nb of outbreaks
Angola					SAT 2	?
Botswana	SAT 2				SAT 2	4
Congo D. R.	A	A, C SAT 1			O, A, C*, SAT 1	3
Malawi					SAT 2	2
Mozambique					SAT 2	2
Namibia	SAT 1		SAT 1	1	SAT 1	4
South Africa			SAT 2	1	SAT 1	46
Zambia	SAT 2		?	1	O	1
Zimbabwe					SAT 2	10

* In the 2011 Jan-Jun report Congo D.R reported Serotype C to the WAHIS database of the OIE. Data was rechecked and not confirmed by the local authorities. However the notification of Serotype C still remains in WAHIS.

New events in Pool 6

- **Botswana¹:** Recurrence of SAT 2 in Matsebe Crush, Ngami, Ngamiland, Zone 2, Sub zone 2d on 23/05/2012. The last detection of FMD in this zone was in September 2011. Zone 2 is subject to vaccination every four months with tri-valent (SAT1, SAT2, SAT3) vaccination. 56 cattle from a susceptible population of 280,000 showed clinical signs. The disease was detected after poor vaccination following flooding in the area which made some animals inaccessible for vaccination (361,762 cattle were vaccinated). The recurrence is reported as suspected to be due to contact with cattle and buffalo which crossed into the area where the affected livestock were found. Biosecurity measures, surveillance and public education are ongoing in this zone. No moves of cloven hoofed animals or their derived fresh products will be allowed out of the zone.

Zone 7 (south of Zone 6) outbreak has been declared as resolved on 6 June 2012. Zone 7 was FMD free without vaccination and the outbreak occurred in the direction of the border with Zimbabwe in May 2011.

A vaccination campaign commenced, as well as 5,000 cattle being destroyed. The outbreak has been declared as resolved on 6 June 2012 but vaccination, biosecurity, movement control and surveillance shall remain in place as part of the long-term control strategy in the zone.

Significant events in Pool 6 from previous months

- **Botswana¹:** Zone 6, Francistown (in the east of Botswana, near the border with Zimbabwe, and also the border of Zone 7 – Zones 6 and 7 had been FMD free without vaccination). Following two outbreaks of FMD in Zone 6 (May and June 2011) a containment zone was set up with vaccination of all ruminants, with a view to depopulation of the cattle in the zone. The stamping out of cattle was completed on 30 January 2012. The total cattle stamped out was 47,578.

Sero-surveillance has been carried out in small ruminants, with a low incidence of positives being reported – in Botswana, small ruminants are considered epidemiologically insignificant in the transmission of FMD, although they continue to be vaccinated. Surveillance of pigs has been negative and they are no longer being sampled.

Zone 7 (south of Zone 6). Zone 7 was FMD free without vaccination and the outbreak occurred in the direction of the border with Zimbabwe in May 2011.

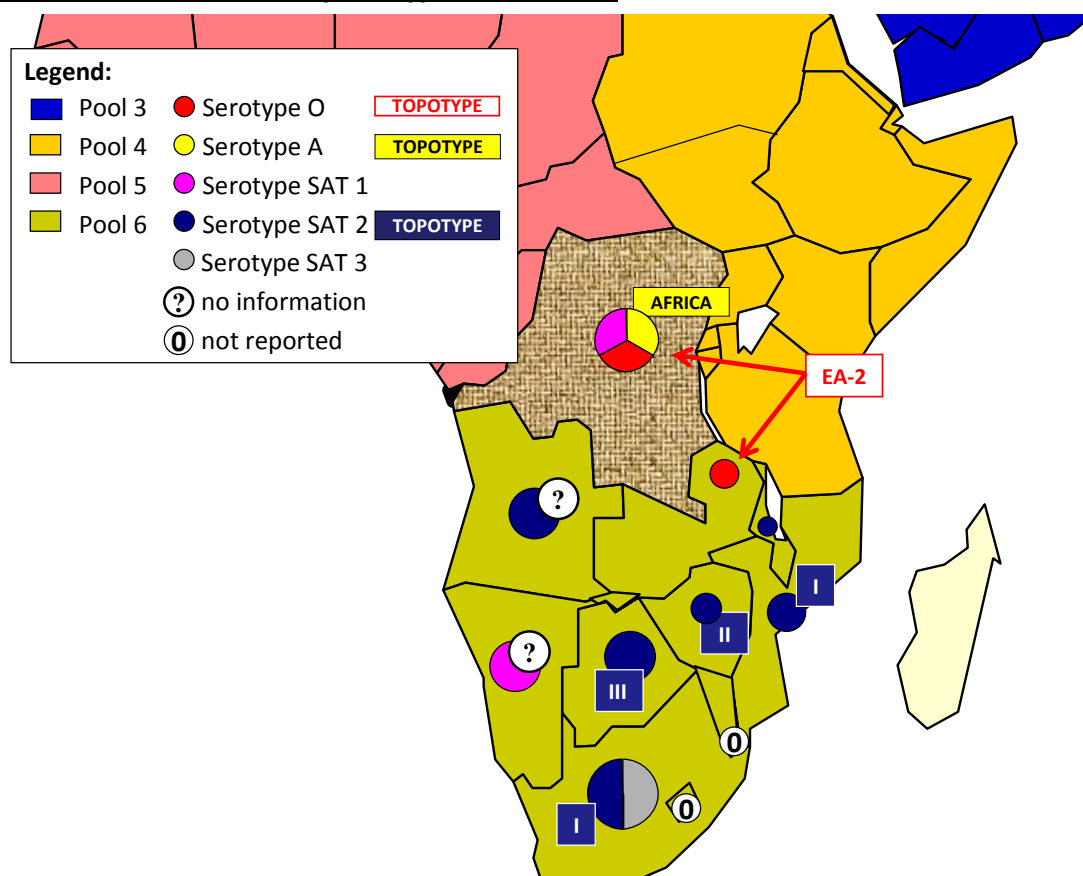
A vaccination campaign commenced, as well as 5,000 cattle being destroyed. The outbreak has been declared as resolved on 6 June 2012 but vaccination, biosecurity, movement control and surveillance shall remain in place as part of the long-term control strategy in the zone.

- **South Africa**¹: 4 April 2012, a third outbreak of Serotype SAT 2 was detected in Mpumalanga, which is within South Africa's surveillance zone of their FMD control zone. Six cattle in a village of 1,001 cattle, showed clinical signs. Cattle in this zone are vaccinated against FMD. Vaccination for FMD is prohibited in the rest of South Africa. These outbreaks are in a different locality from the 2011 outbreaks (which have now been confirmed as SAT 1). The 2012 outbreaks were located at a diptank near the Kruger National Park. Most of the 2011 outbreaks were about 350 km away, near the border with Swaziland. Contact with wild species is believed to be epidemiologically significant.
- **Mozambique**¹: 10/02/2012 – SAT outbreak commenced 2010, resolved – no new outbreaks in nine months.

Comments from WRLFMD Quarterly Report January –March 2012⁴.

Zambia – An outbreak of SAT 2 topotype IV was found in cattle on 24/01/2012 in Mwamba Kaka area, Mbala district, Northern Province. It is most closely related to viruses isolated in the north of Tanzania in 2011.

Pool 6. FMD distribution by Serotypes 2010 – 2012



Pool 7. SOUTH AMERICA

Country	Data WRL FMD ⁴ 2011 - 2012	Data from field officers ³ 2011 - 2012	Reported serotype/outbreaks in OIE 2012		Reported serotype/outbreaks in OIE 2011	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Ecuador					O	5
Paraguay					O	2
Venezuela				

Commentary on the endemic Serotypes for 2010 is found in the annual FAO/OIE FMD surveillance report (www.wrlfmd.org)

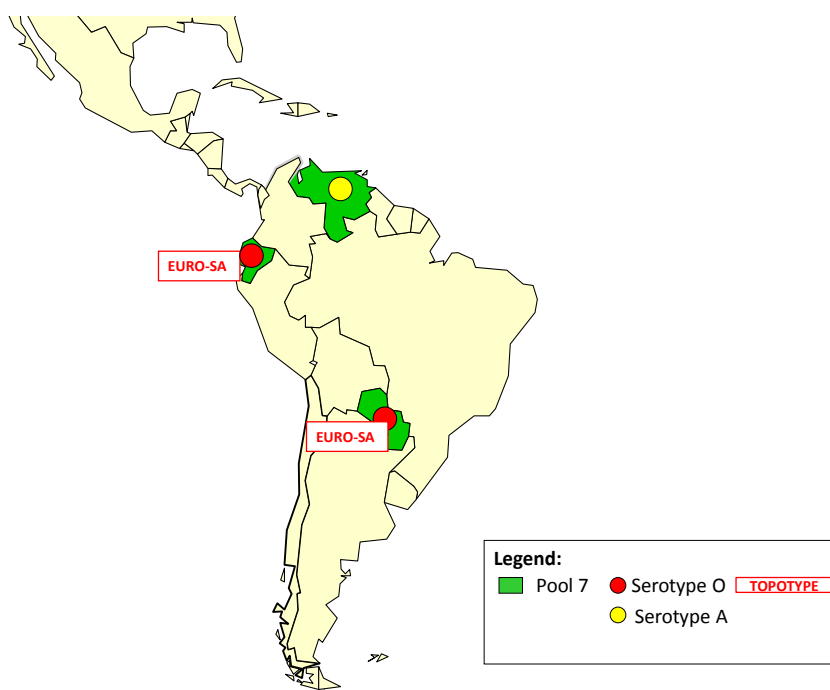
New Events in Pool 7

SENASA report that no outbreaks were notified to them from Pool 7 for this reporting period.

Significant events in Pool 7 from previous months

Paraguay¹: No further cases have been reported for this reporting period. On 30/12/2011, in San Pedro, of a total of 131 mixed age cattle, 15 cattle, under 24 months old, showed clinical signs compatible with a vesicular disease: salivation and lameness. The farm is located at about 15 kilometres from the previous outbreak (detected in San Pedro in September 2011; confirmed as Serotype O, toptype EURO-SA⁴) in the emergency zone established at that time; during surveillance, illegal introduction of 23 animals of unknown origin was identified, the farmer could not justify the origin of these animals. Serotype O has been confirmed.

Pool 7. FMD distribution by Serotypes 2010 – 2012



References

1. WAHID Interface – OIE World Animal Health Information Database
<http://web.oie.int/wahis/public.php?page=home>
2. Global Early Warning System (EMPRES/GLEWS) reports <http://empres-i.fao.org/empres-i/home> ; National Authorities, 10/11/2011, <http://www.gov.kg/?p=4716>
3. Reports from FAO/EuFMD projects and field officers
4. World reference laboratory for Foot and mouth disease (WRLFMD), www.wrlfmd.org
5. RESOLAB-FMD West Africa (FAO/EuFMD supported FMD network), Quarterly report on the Western & Central African laboratories network, January to March 2012.
6. Nakuru Real-Time Training courses (NTC) on Foot-and-Mouth Disease reports
7. Subramaniam, S., Mohapatra J. K., Sanyal, A., Rout, T., Prasad, G., & Pattniak, B., Molecular epidemiology of Foot-and-mouth Disease in India, *FAO-ICR International conference, Scientific developments and technical challenges in the progressive control of Foot-and-mouth Disease in South Asia*, 13-15 February 2012, New Delhi, India
8. East African-FMD Laboratory Regional Network.
9. Project Directorate on Foot and Mouth Disease, India
10. SENASA
11. Scientific developments and technical challenges in the progressive control of FMD in South Asia, New Dehli, India, 13-15 February 2012.

Annex 1

- +.. Disease present but without quantitative data
- + Disease present with quantitative data but with an unknown number of outbreaks
- ... No information available for this disease