



Foot-and-Mouth Disease Situation
Food and Agriculture Organization of the United Nations
Monthly Report

December 2013

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INFORMATION SOURCES USED:

Databases:

OIE WAHID World Animal Health Information Database
FAO World Reference Laboratory for FMD (WRLFMD)
FAO Global Animal Disease Information System (EMPRES-i)

Other sources:

FAO/EuFMD supported FMD networks
FAO/EuFMD projects and field officers

The sources for information are referenced by using superscripts.
The key to the superscripts is on the last page

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.



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Guest Editor's Overview:

I am very pleased to be asked to write a few words in this report that summarizes the global FMD situation at the end of 2013. It has been a busy period for all of us: not least at the WRLFMD where this year has seen a number of changes of staff within the FMD Reference Laboratory. Dr Jef Hammond (previously the Head of WRLFMD) left us in July to become the Director of the Elizabeth Macarthur Agricultural Institute in New South Wales, Australia, and Dr Yanmin Li (previously the Head of the FMD Serology Section) is now working with Boehringer Ingelheim in Shanghai, China.

During the past twelve months, the global network of FMD Reference laboratories has continued to receive representative material from field cases of FMD. Analysis of these samples has allowed us to monitor the changing patterns of FMD virus distribution in different countries, and to recognize the emergence of viral lineages in new geographical locations such as those within serotype O that have been recently uncovered in North Africa and the Middle East (as reported below in this report). Sharing of data via a strengthened OIE/FAO FMD Laboratory Network is becoming increasingly important and ensures that interpretation of these data is comprehensive, and is provided as quickly as possible to support measures to control FMD.



I. GENERAL OVERVIEW

Foot-and-mouth disease (FMD) virus pools: world distribution by serotypes in 2011-2013

(Map 1)

Pools represent independently circulating and evolving FMDV genotypes; within the pools, cycles of emergence and spread occur that usually affect multiple countries in the region. In the absence of specific reports, it should be assumed that the serotypes indicated below are continuously circulating in parts of the pool area and would be detected if sufficient surveillance was in place (Table 1).

Map 1: Foot-and-mouth disease virus pools distribution, 2011-2013

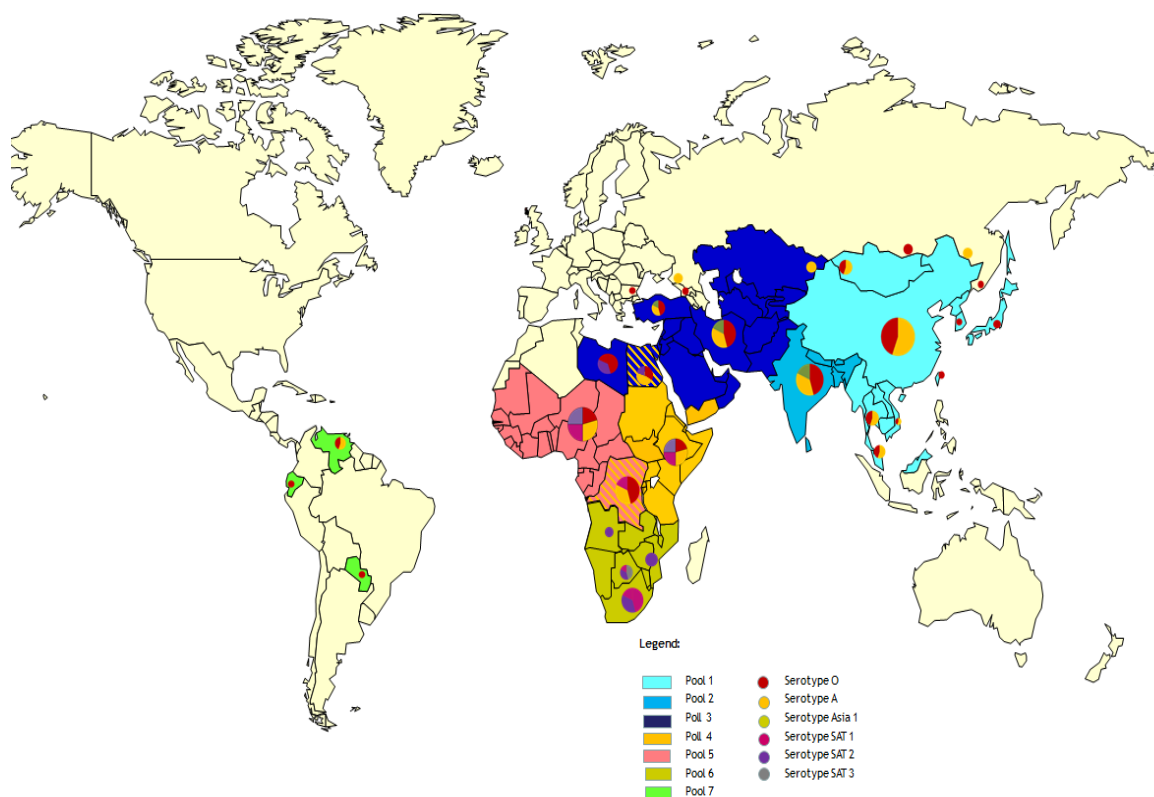


Table 1: List of countries representing each virus pool for 2010-2013

POOL	REGION/COUNTRIES	SEROTYPES
1	<u>CENTRAL/EAST ASIA</u> (Cambodia, China (People's Rep. of), China (Hong Kong, SAR), China (Taiwan Province), Korea (DPR), Korea (Rep. of), Laos PDR, Malaysia, Mongolia, Myanmar, Thailand, Viet Nam)	O, A, Asia 1
2	<u>SOUTH ASIA</u> Bangladesh, Bhutan, India, Nepal, Sri Lanka	O, A, Asia 1
3	<u>WEST EURASIA & MIDDLE EAST</u> (Afghanistan, Armenia, Azerbaijan, Bahrain, Bulgaria, Egypt, Georgia, Iran, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Libya, Oman, Pakistan, Palestine Autonomous Territories, Qatar, Saudi Arabia, Syrian Arab Republic, Tajikistan, Turkey, Turkmenistan, Uzbekistan)	O, A, Asia 1
4	<u>EASTERN AFRICA</u> (Burundi, Comoros, Congo D. R., Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Rwanda, Somalia, North Sudan, South Sudan, Tanzania, Uganda, Yemen)	O, A, SAT 1, SAT 2
5	<u>WEST/CENTRAL AFRICA</u> (Benin, Burkina Faso, Cameroon, Cape Verde, Central Afr. Rep., Chad, Congo D. R., Congo R., Cote D'ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea Biss., Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome Principe, Senegal, Sierra Leone, Togo)	O, A, SAT 1, SAT 2
6	<u>SOUTHERN AFRICA</u> (Angola, Botswana, Congo D. R., Malawi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe)	{O, A}*, SAT 1, SAT 2, SAT 3
7	<u>SOUTH AMERICA</u> (Ecuador, Paraguay, Venezuela)	O, A

* ONLY IN NORTH ZAMBIA AS OVERSPILL FROM POOL 4

Egypt and Libya are indicated as being in multiple pools, since they have evidence of FMD viruses that have originated from 2 or more pools in the recent past (4 years).

II. HEADLINE NEWS**POOL 1**

8th OIE/FAO FMD Laboratory Network meeting, Bangkok: 14th-15th November 2013

POOL 2

Bhutan¹⁰ - New outbreak was reported in Chabakha village, Neysho Geog , Wangdue Dzongkhag district

India¹¹ - FMDV serotype O has been detected

POOL 3

Iran² -FMDV serotype Asia-1 has been detected in November 2013

Turkey² - 39 new outbreaks were reported; serotypes O, A, and Asia 1 were identified

Libya⁴ – A new detection of serotype O FMDV related to the Indian viruses (O Ind 2001 sublineage)

POOL 6

South Africa¹ – Two new serotype SAT 2 outbreaks in Bushbuckridge, Mpumalanga

Guest Editor's Comment:

During November and December, the WRLFMD characterized FMD viruses that have been recently collected from cattle in Libya and Saudi Arabia. The samples from Libya were received to Pirbright via Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER), Brescia, Italy. Sequence analysis undertaken in collaboration with the Project Directorate on Foot-and-Mouth Disease, Mukteswar, India (PD-FMD) indicates that these are separate introductions of the O/ME-SA/Ind-2001 lineage most closely related to contemporary viruses from Bhutan and India. These are unexpected findings that are in contrast to recent analysis of other serotype O FMD viruses from Libya or in Saudi Arabia. The Ind-2001 lineage appears to be normally restricted to the Indian sub-continent and has only previously caused FMD outbreaks on a small number of occasions in the Middle East. The exotic incursion of this new lineage in North Africa has followed quickly after the cases due to SAT 2 that occurred during 2012 and it will important to monitor the spread of this lineage during 2014.

COUNTER

***** 24 MONTHS SINCE LAST OUTBREAK IN SOUTH AMERICA HAS BEEN REPORTED**

***** 111 MONTHS SINCE LAST C SEROTYPE OUTBREAK HAS BEEN REPORTED**

III. DETAILED POOL ANALYSIS

A. POOL 1 – Central /East Asia

8th OIE/FAO FMD Laboratory Network meeting, Bangkok: 14th-15th November 2013

Guest Editor's Comment:

The 8th annual OIE/FAO FMD Laboratory Network Meeting was held in Bangkok, Thailand during November 2013. This two-day meeting was attended by 30 representatives from FMD centers in FMD-endemic and FMD-free countries and discussed recent FMD outbreaks in the different endemic pools and tools (vaccines and diagnostics) that might be used to control the disease in these settings. This meeting was hosted by the Department of Livestock Development in Thailand, together with assistance from the FMD Regional Reference Laboratory in Pakchong, Thailand. Further information (including a copy of the meeting report) can be obtained from Dr Donald King (donald.king@pirbright.ac.uk).

FMD history for pool 1 in the past 3 years is given in Table 2, and map 2.

Map 2: FMD distribution by serotypes 2010 – 2013

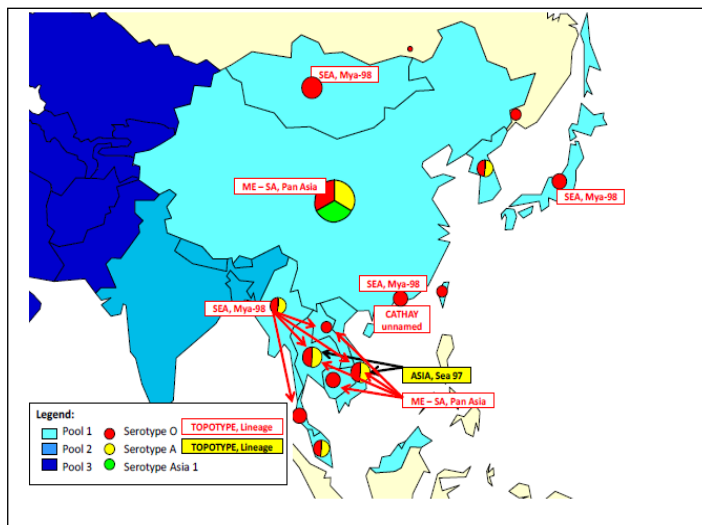


Table 2: Pool 1 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
CAMBODIA	NOT TYPED ¹	OCT 2012/O ¹⁰
CHINA (PEOPLE'S REP. OF)	A, O ^{1, 16}	SEPTEMBER 2013/A ¹
CHINA (HONG KONG, SAR)	O ^{1, 5}	NOV 2012/O ³
CHINA (TAIWAN PROVINCE)	O ^{1, 5}	JUNE 2013/O ¹
JAPAN	NO REPORTED OUTBREAKS ¹	JULY 2010/O ^{1, 5}
KOREA (DPR)	2011 – O ^{1, 5}	MARCH 2011/O ¹
KOREA (REP. OF)	2011 – O ^{1, 5}	APR 2011/O ¹
LAOS PDR	O ⁹	MARCH 2013/O ⁹
MALAYSIA	O, A ^{1, 5} 2013 – NOT TYPED ⁹	JAN 2013/NOT TYPED ⁹
MONGOLIA	2012 - O ¹⁰	SEPTEMBER 2013/A ¹
MYANMAR	2011 – O ¹	FEB 2012/O ⁹
RUSSIAN FEDERATION	2011- 2012 – O ¹ 2013 – A ¹	NOVEMBER 2013/A ^{1, 5}
THAILAND	O, A ^{1, 5}	OCT 2012/A, O ¹
VIET NAM	2011 – O ^{1, 5} 2012 – A, O ⁵ 2013 – A ¹⁸	APR 2013/A ¹⁸

B. POOL 2 – South Asia**Guest Editor's Comment:**

Recent data from PD-FMD, India indicates that the O/ME-SA/Ind-2001 is the predominant serotype O lineage in India. These viruses belong to lineage d and are characterized within a sub-lineage named KAR-13, and are also closely related to viruses recovered from Libya and Saudi Arabia (described elsewhere in this report).

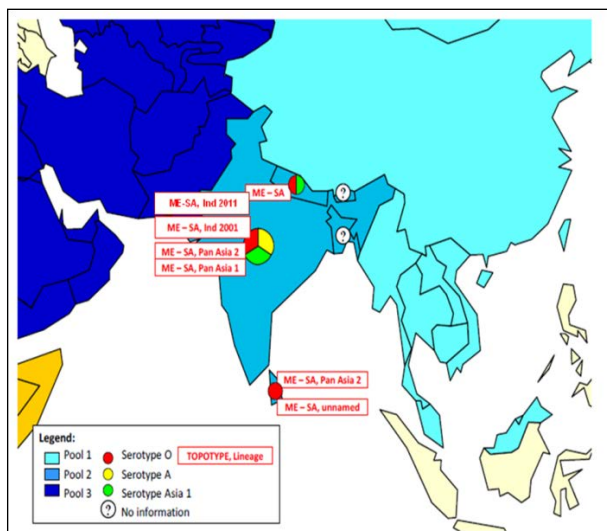
Bhutan⁸:

An FMD outbreak was reported on 28th December 2013, in Chabakha village Neysho Geog under Wangdue Dzongkhag. A total of 10 cattle were affected in five households, from the 24 households with 90 susceptible animals present in the locality. In the report investigation carried by Regional Livestock Development Center and Dzongkhag Livestock Sector Wangdue was also stated that the animals were brought from the forest a month back for winter crop cultivation and that they were last vaccinated against FMD in March 2012.

India⁹:

In the samples analyzed in December 2013, by the FAO Reference Laboratory PD-FMD (Mukteswar) FMDV serotype O has been detected, 13 serotype O field isolates were sequenced for the 1D genomic region and also 15,134 serum samples from cattle and buffalo were tested for FMDV antibodies.

Map 3: FMD distribution by serotypes 2011 – 2013



FMD history in the past 3 years is given in Map 4 and Table 3.

Table 3: Pool 2 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
BANGLADESH	2011 – O, A, Asia 1 ⁶	NOT AVAILABLE
BHUTAN	2011, 2012 – O ⁵	NOV 2012/O ⁵
INDIA	O, A, Asia 1 ^{1, 15}	SEPTEMBER 2013/O, Asia 1 ^{3, 15}
NEPAL	O, A, Asia 1 ^{1, 6}	MAR 2013/O ²
SRI LANKA	O ^{1, 5}	2012/O ⁵

C. POOL 3 – West Eurasia & Middle East**Guest Editor's Comment:**

Although current focus of our efforts may be directed towards to characterization and monitoring of exotic FMD lineages into this region (such as O/ME-SA/Ind-2001), established strains continue to cause outbreaks across a wide area. In addition to the outbreaks reported below, there have been recent FMD cases due to closely related field strains of serotype O (within the O/ME-SA/ PanAsia-2^{FAR-09} sub-lineage) in Israel and the Palestinian Autonomous Territories. Furthermore, recently characterized samples submitted to WRLFMD from Pakistan revealed the presence of FMDV serotypes O, A and Asia 1 including examples of new genetic lineages of the ME-SA topotype. These findings continue to demonstrate the complexity of FMD epidemiology in West Eurasia and show how viral lineages are continuously changing in this region.

Iran²:

FMDV serotype Asia 1 has been reported in November.

Turkey²:

In the month of December, WELNET FMD laboratory reported 39 new outbreaks mainly due to the serotypes: O, A and Asia 1.

The distribution of the outbreaks by serotype is as follows:

Serotype	Number of outbreaks
O	13
A	12
Asia 1	2
PCR (+)	6
Unidentified	6
Total	39

Libya³:

New samples collected from cattle and analyzed by WRL Pirbright for genotyping were found to belong to the same Indian lineage Ind2001^{KAR-13} as the previous ones genotyped in October.

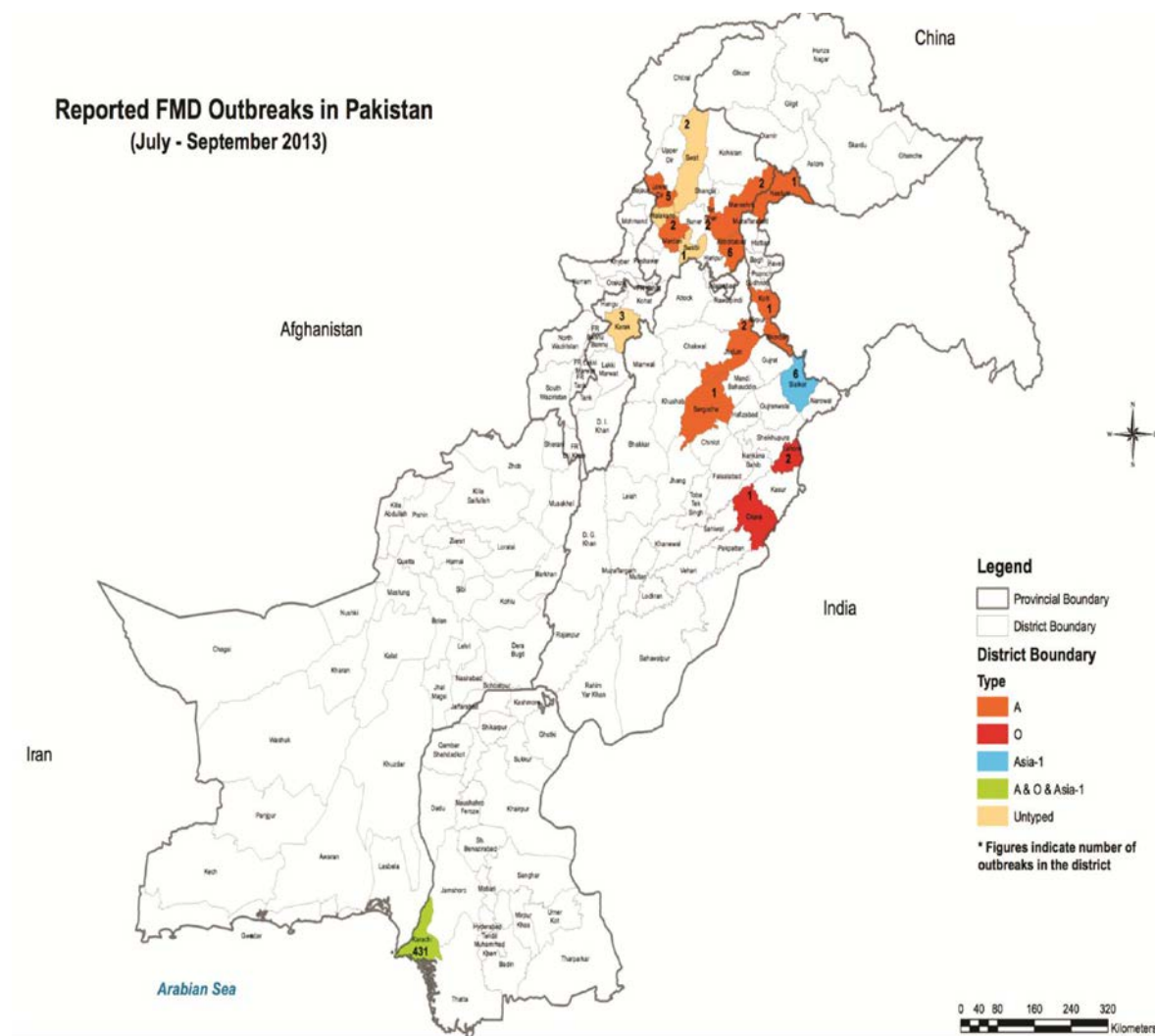
Pakistan⁶:

According to *Pakistan FMD Bulletin*, 468 outbreaks were reported in different regions of Pakistan during July – September 2013. Most of the outbreaks, 431, were in Sindh province and were due to the serotype A- (309 outbreaks).

In the analyzed period, the most prevalent serotype was A with 326 outbreaks, followed by O with 77 and Asia 1 with 10 outbreaks. Additionally, 10 outbreaks have been reported as caused by both serotypes O and A.

The distribution of the FMD outbreaks in Pakistan for different FMDV types is given in the map 5.

Map 5: FMD outbreaks in Pakistan between July-September 2013⁶



December, 2013

Table 5: Pool 3 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
AFGHANISTAN	2011 – O, A, Asia 1 ^{1,5}	DEC 2011 ¹
ARMENIA	NO REPORTED OUTBREAKS ¹	NOT AVAILABLE
AZERBAIJAN	NO REPORTED OUTBREAKS ¹	JUN 2001 ¹
BAHRAIN	2011 – O, A, Asia 1 ⁵ 2012 – O ⁵	MAR 2012/O ⁵
BULGARIA	2011 – O ^{1,5}	APRIL 2011/O ¹
EGYPT	A, O ^{1,5} 2012 – O, A, SAT 2 ^{1,5}	JUN 2012/SAT 2 ¹
GEORGIA	NO REPORTED OUTBREAKS ¹	2002 ¹
IRAN	O ² , A ² , Asia 1 ⁵	SEPTEMBER 2013/O ⁵ , A ² , JUNE 2013/Asia 1 ²
IRAQ	O, A ^{1,5}	2012 ⁵ /A
ISRAEL	O ^{1,5}	NOVEMBER 2013/MAR 2012/O ⁵
JORDAN	NO REPORTED OUTBREAKS ¹	2006 ¹
KAZAKHSTAN	O, A ^{1,5}	JUNE 2013/ A ¹
KUWAIT	O ⁵	FEB 2012/O ⁵
KYRGYZSTAN	2011 – O, A ¹	NOV 2011/O, A ¹
LEBANON	NO REPORTED OUTBREAKS ¹	03/2010 ¹
LIBYA	2011 – O ⁵ 2012 – O, SAT 2 ⁵	OCTOBER 2013/O ^{1,2,5}
OMAN	NO DATA AVAILABLE	DEC 2011 ¹
PAKISTAN	O, A, Asia 1 ^{5,13}	NOV 2012/O, Asia 1, NOV 2013/ A ^{5,13}
AUTONOMOUS TERRITORIES PALESTINE	2011 – O, A, Asia 1 ¹ 2012 – SAT 2 ^{1,5} ; 2013 - A ²	MARCH 2013/A ^{2,10} NOV 2013/O ⁴
QATAR, 2011	NO DATA AVAILABLE	NOT AVAILABLE
SAUDI ARABIA	O ⁵	NOV 2013/O ⁵
SYRIAN ARAB REPUBLIC, 2011	NO REPORTED OUTBREAKS ¹	MARCH/2002 ¹
TAJIKISTAN, 2011	2011 – Asia 1 ¹	NOV 2011/Asia 1 ¹
TURKEY,	Asia 1, A, O ^{5,1,2}	DECEMBER 2013/O, A, Asia-1 ²
TURKMENISTAN	NO DATA AVAILABLE	NOT AVAILABLE
UZBEKISTAN	NO DATA AVAILABLE	NOT AVAILABLE



D. POOL 4 – Eastern Africa

Guest Editor's Comment: During October, the Global Foot-and-Mouth Disease Research Alliance (GFRA) met in Arusha, Tanzania. This meeting discussed research priorities and highlighted the requirement for tailored vaccines for this region and other endemic pools in sub-Saharan Africa. An agenda for this meeting can be found at: <http://www.ars.usda.gov/GFRA/events.htm>

No new outbreaks have been reported for this reporting period.

Table 6: Pool 4 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
BURUNDI	O, A, SAT 1, SAT 2 ⁷	AUGUST 2013 ²⁵ / NOT AVAILABLE
COMOROS	NO DATA AVAILABLE	2010 ¹
CONGO D. R.	O, A, SAT 1 ⁴	JUNE 2013 ¹⁴ /NOT TYPED
DJIBOUTI	NO DATA AVAILABLE	NOT AVAILABLE
EGYPT	2011 – A, O ^{1,5} 2012 – A, O SAT 2 ^{1,5}	JUN 2012/SAT 2 ¹
ERITREA	O ⁵	DEC 2011/O ⁵
ETHIOPIA	A, SAT 1, O ^{5,7}	2012/O ⁵
KENYA	2011 – O, A, SAT 1, SAT 2 ^{1,5}	JAN 2013 ^{7,5,25} /A, OCT 2013/O, SAT2, SAT1
LIBYA	2011 – O ⁵ 2012 – O, SAT 2 ^{5,7}	O, OCTOBER 2013/APR 2012 ^{1,5}
RWANDA	ABSENT ⁷ NOT TYPED ²	NOV 2012/NOT TYPED ²
SOMALIA	NO DATA AVAILABLE	2011 ¹
SUDAN	A, O ¹	2013 ^{2,5} /O, SAT2
SOUTH SUDAN	O, SAT 1, SAT 2, A ⁷	2011 ⁷
TANZANIA	2011 – SAT 1(buffalo), SAT 2 (cattle), O ⁷ , SAT3 ^{1,5} 2012 – A, O, SAT 1, SAT 2 ⁵	MAR 2013/O ¹⁷ APRIL 2013/ A, SAT 1, SAT 2
UGANDA	O, A, SAT 1, SAT 2, SAT3 ^{7,2,1}	2013 ^{19,25} /A, SAT2
YEMEN	NO DATA AVAILABLE	NOT AVAILABLE

E. POOL 5 – West / Central Africa

Guest Editor's Comment: The table below provides a clear indication of the gaps that exist in our current knowledge of FMD circulating strains in Africa which is particularly evident in this region. In light of these gaps, sampling and characterization of FMD field strains causing outbreaks in West African countries was identified as a priority at the recent OIE/FMD FMD Laboratory Network meeting.

No new outbreaks have been reported for this reporting period.

Foot-and-mouth disease is endemic in West Africa. The FMDV topotypes presented in the region are given on the (Map 6)

Map 6: FMD distribution by serotypes 2011 – 2013

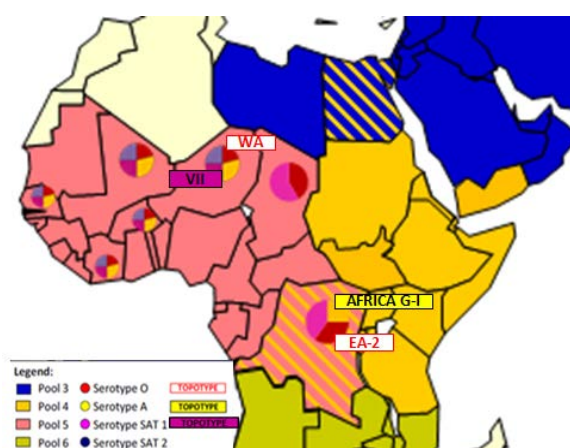


Table 7: Pool 5 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
BENIN	2011 – A, O, SAT 1, SAT 2 ^{4,1}	DEC 2011/O, A, SAT 1, SAT 2 ¹
BURKINA FASO	O, A, SAT 2 ⁴	2013 ^{2,23} / NOT AVAILABLE
CAMEROON	2011 – O, A, SAT 2 ^{4,1}	2013 ^{2,23} /O; SAT1; SAT2
CAPE VERDE	NO DATA AVAILABLE	NOT AVAILABLE
CENTRAL AFR. REP.	NO DATA AVAILABLE	NOT AVAILABLE
CHAD	2011, 2012 – A, SAT 1 ⁴	NOT AVAILABLE
CONGO D. R.	2011, 2012 O, A, SAT 1 ⁴	JUNE 2013 ¹⁴ /NOT TYPED
CONGO R.	NO DATA AVAILABLE	NOT AVAILABLE
COTE D'IVOIRE, 2011	2011 – SAT 1, A ¹ , O, SAT 2 ⁴	2011 ⁴



EQUATORIAL GUINEA, 2011	NO DATA AVAILABLE	NOT AVAILABLE
GABON, 2011	NO DATA AVAILABLE	NOT AVAILABLE
GAMBIA	O, A, SAT 2 ⁹	2012 ⁴ /O
GHANA	O, A, SAT 1, SAT 2 ^{4,1}	2013 ^{2,23} /NOT AVAILABLE
GUINEA BISS.	NO DATA AVAILABLE	NOT AVAILABLE
GUINEA	NO DATA AVAILABLE	NOT AVAILABLE
LIBERIA	A, SAT 2 ⁴	2011/2012 ⁴ , NO PRECISE DATA
MALI	O, A, SAT 1, SAT 2 ^{4,1}	2011/2012 ⁴ , NO PRECISE DATA
MAURITANIA	NO DATA AVAILABLE	NOT AVAILABLE
NIGER	O, A, SAT 1, SAT 2 ^{4,1}	2013 ^{2,23} /NOT AVAILABLE
NIGERIA	O, A, SAT 1; SAT 2 ^{4,1}	2013 ^{2,23} /O, A, SAT 1, SAT 2
SAO TOME PRINCIPE	NO DATA AVAILABLE	NOT AVAILABLE
SENEGAL	O, A, SAT 1, SAT 2 ^{4,1}	2012/O, A, SAT 1 ⁴
SIERRA LEONE	NO DATA AVAILABLE	OCT 1958 ¹
TOGO	O, SAT 1 ^{1,4,1}	2012/O ⁴

F.POOL 6 – SOUTHERN AFRICA

South Africa¹:

Two new outbreaks of serotype SAT 2 were confirmed in Bushbuckridge, Mpumalanga, South Africa (map 7). The cattle were the only affected species, with 39 clinical cases from 23,450 susceptible animals. The source of infection is putatively via contact with wild species.

The outbreaks occurred within South Africa's FMD protection zone in a portion where vaccination for FMD is done by the State Veterinary Services.

Map 7: Two new outbreaks in South Africa (WAHID-OIE)



December, 2013

Swaziland and Lesotho are free from FMD without vaccination. There is a zone in both Botswana and Namibia which is FMD free without vaccination, since 2010 and 1997 respectively (Map 7).

FMD history in past 3 years is given in Table 8.

Map 8: FMD distribution by serotypes 2011 – 2013

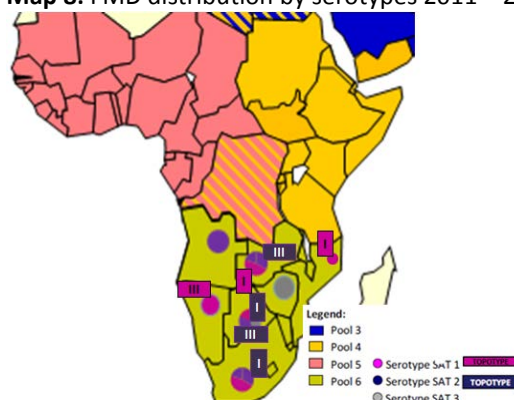


Table 8: Pool 6 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
ANGOLA	NO REPORTED OUTBREAKS	DEC. 2010/ SAT 2 ¹
BOTSWANA	SAT 1, SAT 2, SAT 3 ¹	APR 2013 ¹
CONGO D. R.	O, A, SAT 1 ⁴	2011/2012 ⁹ , NO PRECISE DATA
MALAWI	2011 – SAT 2 ¹	OCT 2011 ¹
MOZAMBIQUE	2011 – SAT 2 ¹	JUN 2011/SAT 2 ¹
NAMIBIA	SAT 1 ¹	AUGUST 2013/ NOT AVAILABLE
SOUTH AFRICA	SAT 1 ¹ , SAT 2 ¹	AUGUST 2013/SAT 1 ¹ ; DECEMBER 2013 SAT 2 ¹
ZAMBIA	SAT 1 ⁵ , SAT 2 ¹	JAN 2013/SAT 1 ⁵ , SAT 2
ZIMBABWE	SAT 2 ¹	AUGUST 2013/NOT AVAILABLE JUN 2013/SAT 3



POOL 7 – SOUTH AMERICA

Guest Editor's Comment: It is reassuring to end this report on a positive note: In pool 7, there continue to be indications that the considerable efforts to control FMD are yielding optimistic results. There have been no new FMD outbreaks reported on the entire continent in 2013, and it is now two years since the last cases were reported anywhere in South America.

No new outbreaks have been reported for this reporting period.

Most South America countries are FMD free with (Uruguay) or without (Chile, Guyana) vaccination or with free zones with/without vaccination. Small areas of the continent are considered as endemic but clinical cases are rare (Map 9).

FMD history in past 3 years is given in Table 9.

Map 9: FMD distribution by serotypes 2011 – 2013

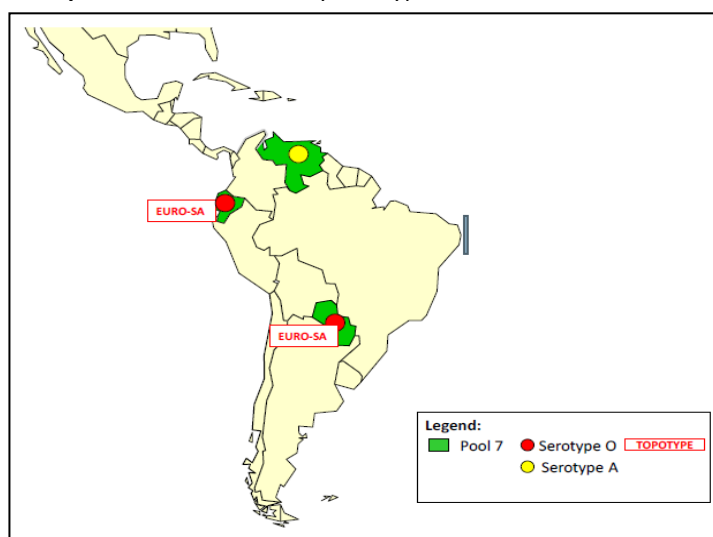


Table 9: Pool 7 FMD history 2011-2013

COUNTRY	FMD HISTORY FMDV serotypes, reported to OIE in 2011 - 2013	LAST OUTBREAK REPORTED/SEROTYPE
ECUADOR	O ^{1,8}	AUG 2011/O ^{1,8}
PARAGUAY	O ^{1,8}	DEC 2011/O ^{1,8}
VENEZUELA	O, A ⁸	2011/O, A ⁸

2012 was the first year without reported FMD outbreaks in 50 years in the Andean region. According to official reports submitted to the OIE, in 2012 Peru completed more than eight years without the presence of the disease, Bolivia and Colombia 4 and 6, respectively¹.

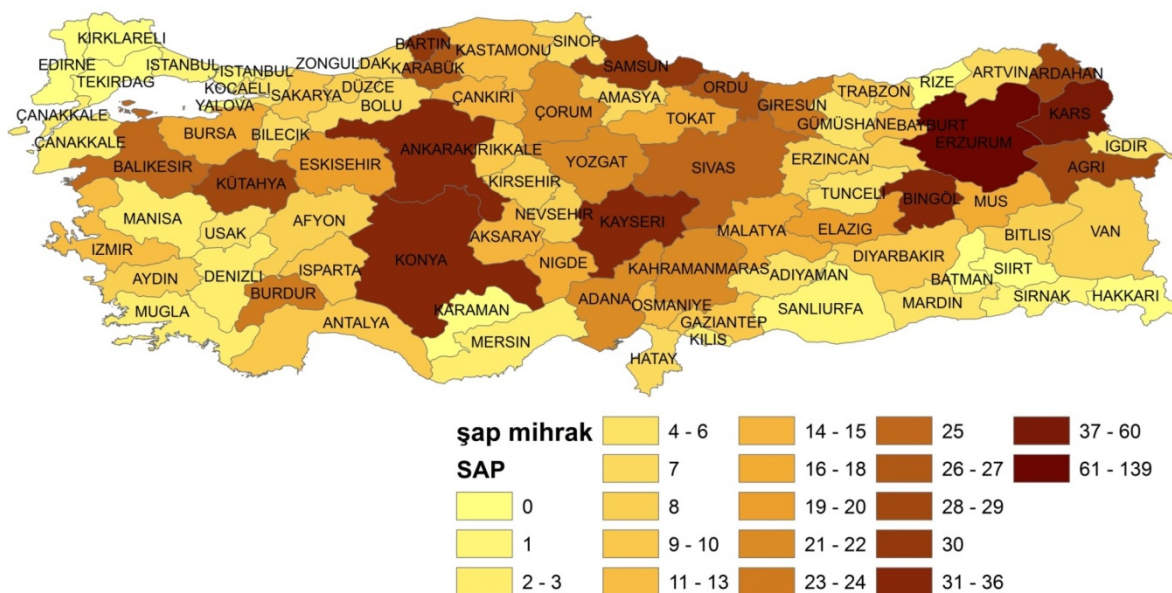
Argentina has not had an FMD outbreak since February 2006¹⁰.

IV. OTHER NEWS:**2013 summary report on FMD situation in Turkey²:**

FMD is endemic in the Anatolia region and is due to the serotypes O, A and Asia 1. On the other hand, since 2010 the Thrace region of Turkey is free of FMD with vaccination. A risk based control policy has been used to control the disease in the country.

In 2013 WELNET FMD Laboratory detected 1,199 outbreaks, out of which 442 outbreaks of serotype O, 400 outbreaks of serotype A, 58 outbreaks of serotype Asia 1. Another, 46 outbreaks were RT-PCR positive and 253 were unidentified. The distribution of the outbreak is presented in the map 10.

Map 10: Distribution of FMD outbreaks by province in Turkey for 2013²

**Legend:**

Sap mihrak = Number of FMD outbreaks

Decrease of milk yield in South East Asia caused by FMD⁵:

Milk production in South East Asia has come under threat as it struggles with outbreaks of foot and mouth (FMD) disease. A 20 per cent drop in China's milk production is reported to have taken place in part due to FMD. This, combined with high feed prices and high beef prices, is believed to have led to the slaughtering of around 2 million cows.

Despite official claims that the disease is under control, it is thought that some regions of India are experiencing reduced milk production. Korea is still recovering from an outbreak of FMD in 2008, after it was forced to slaughter 8 per cent of its dairy herd.



V. REFERENCES

1. WAHID Interface – OIE World Animal Health Information Database
<http://web.oie.int/wahis/public.php?page=home>
2. Reports from FAO/EuFMD projects and field officers
3. World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD), www.wrlfmd.org
4. SEAFMD, <http://www.arahis.oie.int/reports.php>
5. ProMed, (<http://www.promedmail.org>)
6. Pakistan- FMD Bulletin, Vol.2 (issue 3), July-September 2013
7. Report from the 8th OIE/FAO FMD Laboratory Network meeting Bangkok:14th-15th November 2013
8. ECTAD South Asia Weekly Animal Disease E-Information: http://www.saarc-rsu-hped.org/content/weekly_e_info/ECTAD_SA_Weekly_Animal_Disease_E-Information_Vol_3_No_02_09_Jan_2014.pdf
9. Project Directorate on Foot and Mouth Disease (PD-FMD), Indian Council of Agricultural Research, Mukteswar, India (Dr. B. B. Dash)
10. SENASA, Argentina

