



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

13th Conference of the
OIE Regional Commission for the Middle East
Kaslik (Lebanon), 10 to 14 November 2015

FINAL REPORT

CONTENTS

	Page	§
List of abbreviations	iii	
Introduction.....	1	1-2
Wednesday 11 November 2015		
<hr/>		
Opening ceremony.....	1	3-4
Election of the Conference Committee	1	5
Designation of Session Chairpersons and Rapporteurs for Technical Items and the Animal Health Situation.....	2	6
Adoption of the Agenda and Timetable	2	7
The OIE Sixth Strategic Plan - Regional perspectives.....	2	8-14
Activities of the OIE Regional Commission for the Middle East.....	3	15-24
Camel Disease Control in the Middle East, including an update on the MERS-CoV situation	4	25-33
Discussion	5	34-40
<u>Technical Item I:</u>		
Control of rabies in the Middle East region, with emphasis on stray dog control.....	6	41-50
Discussion	7	51-56
OIE/FAO Global Strategy for the Control and Eradication of PPR - Next steps	8	57-64
Veterinary Education in the Region - Approaches to the implementation of OIE guidelines and recommendations.....	9	65-70
Discussion	9	71-72
High health, high performance (HHP) horses - Recent developments.....	10	73-80
Discussion	11	81
Thursday 12 November 2015		
<hr/>		
<u>Technical Item II:</u>		
The use of non-structural proteins to differentiate between vaccinated and infected animals.....	11	82-91
Discussion	12	92-95
Analysis of the Animal health situation of Member Countries in the region during 2014 and 2015	14	96-170
Discussion	37	171-174

OIE Terrestrial Animal Health Standards Commission		
Issues of interest to the Region - Challenges and proposals	37	175-181
Discussion	38	182-186
One Health concept: OIE approach and collaboration with the WHO and the FAO including on rabies and avian influenza control and new disease naming		
Preparation of the IHR/PVS national seminars	38	187-194
Outcomes of the PVS Pathway questionnaire - Results and perspectives	39	195-204
Presentations by International and Regional Organisations	41	
Food and Agriculture Organization of the United Nations (FAO)	41	205
European Commission (EC)	41	206
World Animal Protection (WAP)	42	207
Date, venue and technical item with questionnaire for the 14th Conference of the OIE Regional Commission for the Middle East	42	208-211
Discussions of Recommendations 1 and 2	42	212-213
Friday 13 November 2015		
<hr/>		
Cultural visit	42	214
Saturday 14 November 2015		
<hr/>		
Activities of the OIE Regional Representation for the Middle East	43	215-223
Adoption of the draft Final Report and Recommendations	44	224-226
Closing Ceremony	44	227-231
 APPENDICES		
Speeches pronounced during the opening ceremony	45	
List of participants	55	
Agenda	65	
Programme	67	
Recommendation No. 1	71	
Recommendation No. 2	73	
Press release	75	
Motion of thanks	77	

List of abbreviations

ADFCA:	Abu Dhabi Food Control Authority
BSE:	Bovine spongiform encephalopathy
BTSF:	Better Training for Safer Food
DIVA:	Differentiating infected from vaccinated animals
EAEVE:	European Association of Establishments for Veterinary Education
EC:	European Commission
EHD:	Epizootic haemorrhagic disease
ELISA:	Enzyme-linked immunosorbent assay
ENSO:	El Niño Southern Oscillation
EU:	European Union
FAO:	Food and Agriculture Organization of the United Nations
FEI:	Federation International Equestre
FMD:	Foot and mouth disease
FMDV:	FMD virus
GCC:	Gulf Cooperation Council
GCES:	Global Strategy for the Control and Eradication of PPR
GF-TADs:	Global Framework for the Progressive Control of Transboundary Animal Diseases
HHP:	High health, high performance
HPAI:	High pathogenicity avian influenza
IFHA:	International Federation of Horseracing Authorities
IHR :	International Health Regulations
IPPC:	International Plant Protection Convention
ISSB:	International Standards Setting Bodies
IZS:	Istituto Zooprofilattico Sperimentale
JUST:	Jordan University of Science and Technology
LPAI:	Low pathogenicity avian influenza
LPBE:	Liquid-phase blocking ELISA
LSD:	Lumpy skin disease
MENA:	Middle East and North Africa
MERS:	Middle East respiratory syndrome
CoV:	Coronavirus
MODIS:	Moderate-resolution Imaging Spectroradiometer
NASA:	National Aeronautics and Space Administration

NDVI:	Normalised difference vegetation index
NGO:	Non-governmental Organisation
NSP:	Non-structural proteins
OIE:	World Organisation for Animal Health
PAT:	Palestinian Autonomous Territories
PCP:	Progressive Control Pathway
PCR:	Polymerase chain reaction
PMAT:	PPR Monitoring and Assessment Tool
PPR:	Peste des petits ruminants
PPR-GREN:	FAO-OIE Global Research and Expertise Network on PPR
PVE:	Post-Vaccination Evaluation
PVM:	Post vaccination monitoring
PVS:	OIE Tool for the Evaluation of Performance of Veterinary Services
RAG:	Regional Advisory Group
REEV-Med:	Network of Veterinary Education Establishments for Mediterranean countries
REMESA:	Mediterranean Animal Health Network
RT-PCR:	Real-time reverse transcription polymerase chain reaction
RT-PCR:	Reverse transcriptase PCR
RVF:	Rift Valley fever
SOI:	Southern Oscillation Index
SP:	Structural protein
SPCE:	Solid-phase competition ELISA
SPS:	Sanitary and Phytosanitary
TADs:	Transboundary animal diseases
UAE:	United Arab Emirates
USDA:	United States Department of Agriculture
USDA-APHIS:	United States Department of Agriculture - Animal and Plant Health Inspection Service
USEK:	Holy Spirit University of Kaslik
USGS:	United States Geological Service
VNT:	Virus neutralisation test
VS:	Veterinary Services
WAHIS:	World Animal Health Information System
WAP:	World Animal Protection
WHO:	World Health Organization

Introduction

1. At the invitation of the Government of Lebanon, the 13th Conference of the OIE Regional Commission for the Middle East was held in Kaslik from 10 to 14 November 2015.
2. A total of 105 participants, comprising OIE Delegates and/or nominees of 17 Member Countries and 1 Observer Countries and senior officers from 4 international organisations, attended the conference. In addition, 8 representatives of the private sector were present. His Excellency, Eng. Louis Lahoud, Director General of the Ministry of Agriculture of Lebanon, His Excellency, Mr Akef Al Zobi, Minister of Agriculture of Jordan, Her Highness Sharifa Zein Al Sharaf Bint Nasser Ben Jamil, Reverend Father Hadi Mahfouz, President of USEK, Dr Lara Hanna Wakim, Dean of the Faculty of Agricultural and Food Sciences of USEK, Dr Bernard Vallat, Director General of the OIE, Dr Kassem Nasser Al-Qahtani, President of the OIE Regional Commission for the Middle East and Delegate of Qatar, Dr Ghazi Yehia, OIE Regional Representative for the Middle East, Dr François Caya, Head of the OIE Regional Activities Department, Dr Paula Cáceres, Head of the OIE World Animal Health Information and Analysis Department, Dr Etienne Bonbon, President of the OIE Terrestrial Animal Health Standards Commission, also participated in the Conference. The Rapporteurs for Technical Items I and II, respectively Prof. Hassan Aidaros, Member of the OIE Working Group on Animal Welfare, and Dr Donald King, Expert at the Pirbright Institute, honoured the Conference by their presence.

WEDNESDAY 11 NOVEMBER 2015

Opening Ceremony

3. The following personalities addressed welcome messages to the Conference:
 - Dr Lara Hanna Wakim, Dean of the Faculty of Agricultural and Food Sciences of USEK;
 - Dr Kassem Nasser Al-Qahtani, President of the OIE Regional Commission for the Middle East and Delegate of Qatar;
 - Dr Ghazi Yehia, OIE Regional Representative for the Middle East;
 - Dr Bernard Vallat, Director General of the OIE; and
 - Eng. Louis Lahoud, Director General of the Ministry of Agriculture of Lebanon.
4. Their speeches are annexed at the end of the report.

Election of the Conference Committee

5. The Conference Committee was elected by participants as follows:

Chairperson:	Dr Elias Ibrahim (Lebanon)
Vice-Chairperson:	Dr Kassem Al Qahtani (Qatar)
Rapporteur General:	Dr Hadi Al Lawati (Oman)

Designation of Session Chairpersons and Rapporteurs for Technical Items and the Animal Health Situation

6. Session Chairpersons and Rapporteurs were designated as follows:
- | | |
|--------------------------|---|
| Technical Item I: | Dr Houssain Al Soliman (Syria), Chairperson
Dr Kamal El Sheikh (Sudan), Rapporteur |
| Technical Item II: | Dr Irfan Erol (Turkey), Chairperson
Dr Munther Al-Refai (Jordan), Rapporteur |
| Animal health situation: | Dr Ibrahim Mahros Saleh Mohamed (Egypt), Chairperson
Dr Salah Abbas (Iraq), Rapporteur |

Adoption of the Agenda and Timetable

7. The Provisional Agenda and Timetable were adopted.

The OIE Sixth Strategic Plan Regional perspectives

8. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Bernard Vallat, Director General of the OIE, to present the Regional perspectives of the OIE Sixth Strategic Plan.
9. Dr Vallat began his presentation by giving a brief overview of the main accomplishments of the OIE in the last 15 years, thanks to the OIE Strategic Planning cycles of five-year work programmes. He highlighted, among others, that the OIE was now recognised as the pre-eminent source of standards, guidelines, information and advice on animal health and welfare worldwide. He noted that the work of the OIE was supported by a world network that has grown considerably stronger over the years. The regular expansion of national Focal Points and OIE Reference Centres, the permanent exchange of information and the constant strengthening of the scientific and technical competencies of the members of this network ensure the OIE's worldwide presence.
10. Dr Vallat then referred to the OIE Sixth Strategic Plan, highlighting that it was a consolidated statement of the OIE's strategic vision and its global goals, based on the successful activities undertaken during the implementation of the Fifth Strategic Plan. He also noted that the OIE's global vision was clearly expressed in the Plan as "Protecting animals; preserving our future", leading to economic prosperity and social and environmental well-being.
11. He then examined the global/external and structural/internal challenges faced by the OIE. From this examination, he drew the conclusion that the OIE needed to remain effective, legitimate and credible for the benefit of its Member Countries. He reminded the Regional Commission of the importance, for the OIE as a whole, of fulfilling the objectives of the Sixth Strategic Plan.
12. Dr Vallat presented the different programmes and activities that the OIE had developed or would be carrying out to respond to these challenges and effectively fulfil the expectations of its Member Countries. Furthermore, he gave an overview of some proposals to consolidate the scientific excellence of the work done by the OIE. Dr Vallat also underlined the Organisation's commitment regarding the transparency of its different activities, highlighting the importance of communication tools.

13. Dr Vallat went on to provide a general overview of the strategic objectives of the OIE Sixth Strategic Plan, namely: securing animal health and welfare by appropriate risk management; establishing trust through communication; and ensuring the capacity and sustainability of the Veterinary Services. He noted that these three strategic objectives were underpinned by the three cross-cutting themes of scientific excellence; diversity, inclusiveness, engagement, transparency; and good governance.
14. Dr Vallat concluded by drawing the attention of Delegates to issues of particular relevance or importance to the Middle East region, highlighting that it was of paramount importance for countries to consider the possibility of upgrading their statutory contributions, as it was vital to allow the OIE to develop activities and implement the objectives of the Strategic Plan in the region. He reminded Delegates of the new extraordinary categories A and B and commented also on the possibility of making voluntary contributions that could be made through the OIE World Animal Health and Welfare Fund. He also underlined the need for active participation by Members of the region in foot and mouth disease (FMD), peste des petits ruminants (PPR), and rabies control programmes, as well as in the standard-setting process by submitting in a timely manner their written comments on proposed new or revised standards.

Activities of the OIE Regional Commission for the Middle East

15. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Kassem Nasser Al-Qahtani, President of the OIE Regional Commission for the Middle East, to present a brief review of the Activities of the OIE Regional Commission for the Middle East.
16. Dr Al-Qahtani introduced the new members of the bureau of the Regional Commission elected for a 3-year term of office at the 83rd General Session of the OIE, held in Paris on May 2015, as well as the new representative of the Middle East on the OIE Council.
17. He presented his vision to strengthen, during his term of office, the role of the bureau by (1) allocating specific dossiers to its members; (2) improving the dialogue with the Delegates and with the Regional Representation for the Middle East using new technologies; and (3) involving the region more in the standard-setting work of the OIE.
18. The President of the Regional Commission reminded Delegates of the goals of the Regional Commission, namely to (1) tackle specific regional animal health and welfare issues; (2) improve the quality of Veterinary Services in accordance with OIE standards; and (3) promote cooperation and harmonisation of strategies between the countries of the Middle East, with the technical support of the OIE.
19. He added that the funding of the Regional Representation for the Middle East relied on an annual voluntary contribution from the Lebanese government and slightly less than a 10% share of the annual contribution to the OIE by the 12 Member Countries of the Regional Commission not primarily belonging to other Regional Commissions. He noted that as most of these Members were not in the highest contribution categories, the share of the regional Members' contribution was insufficient to fund the annual budget required by the Regional Commission for the Middle East to implement its programme of activities.
20. Therefore, Dr Al-Qahtani encouraged Members of the Regional Commission to upgrade their level of statutory contributions to the OIE in line with their national level of economic development, adding that further efforts should also be made to find new sources of funding for its activities.

21. He stressed the relevance of maintaining regular regional scientific meetings, in particular seminars for OIE national Focal Points in the various fields of activity as part of the process of strengthening Veterinary Services. In that regard, he commented on the seminars that had already been confirmed for 2016, on animal welfare and on disease notification and veterinary laboratories, and those that had yet to be confirmed, on food safety, communication, wildlife, and aquatic animals.
22. He concluded by announcing specific regional activities for 2016 regarding the Regional Animal Welfare Strategy 2014–2019; the GF-TADs¹ FMD Progressive Control Pathway (PCP); the PPR regional plan; rabies; camel diseases; and equine diseases.
23. He then presented the meetings on OIE activities scheduled for 2016: regional seminar on participation in OIE activities; Regional Conference on implementation of OIE standards on zoning and compartmentalisation; training on the OIE procedure for disease status recognition and control programme endorsement; Seminar for new OIE Delegates, and the 84th OIE General Session.
24. Lastly, Dr Al-Qahtani stressed the importance of the questionnaires regularly sent to the Member Countries to prepare for these events. He encouraged Delegates to keep completing accurately and on time these essential tools for assessing the situation of countries with regard to OIE standards and helping to build a regional vision.

**Camel Disease Control in the Middle East,
including an update on the
MERS-CoV² situation**

25. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Mehdi El Harrak, Member of the OIE Biological Standards Commission to make a presentation on Camel Disease Control in the Middle East, including an update on the MERS-CoV situation.
26. Dr El Harrak started his presentation by providing a summary on priority diseases of dromedary camels, such as: camel pox, camel contagious ecthyma, Rift Valley fever, peste des petits ruminants, rabies, Orbivirus diseases, brucellosis, pasteurellosis, tuberculosis, and trypanosomiasis. He also commented on the role of camels in the epidemiology and transmission of several diseases and their susceptibility.
27. He recommended that diagnostic methods should be developed and specific vaccines should be validated for camels.
28. He provided information on the forthcoming OIE camel laboratory twinning project between ADFCA³/United Arab Emirates and IZS⁴/Italy to be launched in February 2016, as well as the subsequent camel laboratory network to be established within the six Gulf Cooperation Council (GCC) countries and Iraq, Jordan and Yemen. He emphasised that both initiatives had resulted from the work of the OIE *ad hoc* Group on Camel Diseases, in line with the MERS-CoV Muscat and Doha meetings.

¹ GF-TADs: Global Framework for the Progressive Control of Transboundary Animal Diseases

² MERS-CoV: Middle East respiratory syndrome coronavirus

³ ADFCA: Abu Dhabi Food Control Authority

⁴ IZS: Istituto Zooprofilattico Sperimentale

29. Concerning MERS-CoV, Dr El Harrak provided an update on the situation. He stated that, as of April 2015, the total number of cases of MERS-CoV reported by local health authorities worldwide since April 2012 had stood at 1,118, including 458 deaths related to the MERS-CoV infection, with a case fatality rate of 41 per cent. He noted that the majority of the reporting countries were in the Arabian Peninsula, especially in the Kingdom of Saudi Arabia.
30. He then added that although many cases of infection were likely to have been acquired through human-to-human transmission, the primary cases in clusters were more likely to have been acquired through contact with non-human sources of the virus.
31. Dr El Harrak emphasised that the exact role of camels in the epidemiology of the disease needed further investigation.
32. Dr El Harrak then stated that several committee meetings, technical consultations and workshops on MERS-CoV had been convened, either jointly or separately by the OIE, FAO and WHO, and had contributed to an increased awareness and understanding of the complex epidemiological features of MERS-CoV, and the role of animals and implementation of the “One Health” concept at a national level, in the context of the animal–human interface.
33. He concluded by mentioning that the Veterinary Services of the GCC countries had called for a MERS-CoV-dedicated chapter for the OIE *Terrestrial Animal Health Code (Terrestrial Code)*, if in line with the criteria for inclusion, to clearly define the “MERS-CoV camel cases” to be notified to the OIE and to define guidelines for the control of the disease at importation and in the country.

Discussion

34. Dr Ghazi Yehia, OIE Regional Representative for the Middle East, informed that, in the coming weeks, the countries to be involved in the Camel Diseases Network would receive a questionnaire would be sent in order to get the advice of the Members of the region on that network. He also confirmed that the Regional Seminar on Camel Diseases would take place in Abu Dhabi from 14 to 16 February, 2016.
35. The President of the OIE Code Commission, Dr Etienne Bonbon asked clarification to Dr El Harrak regarding the time that would be required for the development of a reliable diagnostic test for MERS-CoV in camelids for notification to the OIE.
36. To that question, Dr El Harrak explained that the time needed will depend on the test to be validated. It would also depend also on the commitment of the scientific community and Member Countries of the region. On that regard, he stressed on the importance for the Members Countries of the region and other regions affected by the disease to help in the validation of diagnostic tests by providing specimens to relevant laboratories.
37. The Delegate of Somalia, asked clarification regarding the means of transmission of MERS-CoV from camelids to human.
38. Dr El Harrak reiterated that currently the evidences are that the most likely route of infection of humans would be from close contacts with camelids through aerosols. This hypothesis is based on the fact that, in the Middle East, where the occurrence of the disease in humans is higher than in other region, humans have closed contacts with camelids because these animals are farmed for food. In Africa, where camelids are used mainly for transportation, there are less direct contacts which would apparently reduce the risk of transmission.

39. The Delegate of Bahrain stressed on the importance to also take into account parasitic diseases of camels as these diseases are responsible for huge economic losses.
40. Dr El Harrak indicated that, even if only few diseases have currently been identified as priorities to be addressed by the network, other pathologies of camelid, including parasitic diseases, could be included upon request of countries.

Technical Item I
Control of rabies in the Middle East region,
with emphasis on stray dog control

41. The Session Chairperson, Dr Houssain Al Soliman, Delegate of Syria, briefly introduced Prof. Hassan Abdel Aziz Aidaros, Member of the OIE Working Group on Animal Welfare and Rapporteur for Technical Item I - 'Control of rabies in the Middle East region, with emphasis on stray dog control'.
42. Prof. Aidaros started his presentation by commenting that the persistence of rabies around the world, as a threat to human and animal health, continued despite all the efforts put in place to stop it. He added that rabies was a fatal disease which continued to kill people, especially in developing countries, where the control of dog-related zoonotic diseases was outweighed by other priorities as the human burden of these diseases was not very well understood.
43. He went onto explain those factors causing the persistence of rabies such as socio-economic factors, as canine health was accorded relatively little value when compared to that of livestock. Prof. Aidaros noted that yet, the prevention and eradication of rabies was a feasible objective and, in contrast to many other diseases, humanity had all the necessary tools to stop it. He then added that, almost all human rabies cases were transmitted through dog bites. Consequently, the first major step to start resolving the issue of canine rabies in these endemic areas could be the control of roaming dogs, mass vaccination and dog population management.
44. Prof. Aidaros made especial emphasis on the importance of dogs' vaccinations to control the disease. He highlighted that vaccination was the only really effective way of breaking the cycle of rabies transmission.
45. While mentioning that the OIE had been committed to fighting the disease for decades, Prof. Aidaros explained that in addition to developing and regularly revising standards on rabies prevention and control, diagnostic methods and the production of high-quality veterinary vaccines, the OIE sought to ensure transparency of knowledge about rabies in animals, through the compulsory notification of the disease by its 180 Member Countries and the collection of scientific data produced by its global network of Reference Laboratories.
46. In that context, Prof. Aidaros indicated that a questionnaire was used to assess the current state of rabies management in Member Countries of the OIE Regional Commission for the Middle East and to obtain data from the national Veterinary Authorities about policies to fight rabies. He explained that it was adapted from a self-assessment tool, and designed to assess the current level of compliance with Chapter 7.7. of the OIE Terrestrial Animal Health Code.
47. He then informed that 18 countries out of the 20 Member Countries of the Commission submitted their questionnaire returns within the given time limit.

48. Prof. Aidaros reported on the analysis of the responses received which showed that OIE Member Countries in the Middle East region would require a lot of work and effort to achieve compliance with OIE standards on the control of rabies as well as on the control of stray dog populations.
49. From the analysis of the responses, Prof. Aidaros indicated that the need of technical and financial support was clearly highlighted by countries, as well as the need of provision of vaccination methods for wildlife and stray dogs; the organisation of training workshops for the preparation of a stray dog population control programme and strategy; the establishment of a regional rabies project coherent with the “One Health” concept, with the support of the OIE/FAO/WHO; and the assistance with establishing projects for eradication of rabies and stray dog control at national and regional level.
50. Finally, the organization of a regional conference was also suggested to engage the Middle East countries into a shared regional strategy and roadmap for the control and eradication of dog-mediated human rabies with a component on stray dog control, completing the Regional Animal Welfare Strategy for the Middle East.

Discussion

51. Professor Hassan Aidaros finalised his presentation by advocating for more research on stray dog populations (census, population dynamics, and prevalence of diseases especially rabies) in the region to enable the elaboration of relevant populations’ management strategies.
52. Dr Ghazi Yehia, OIE Regional Representative for the Middle East, added that the response to the questionnaire of Kingdom of Saudi Arabia was received after the deadline therefore, it was not possible to include it in the analysis.
53. The OIE Delegates of Somalia and Sudan acknowledged the difficulties encountered to answer some questions due to some misunderstandings. Thus, some answers may not be accurate.
54. Dr George Khoury, FAO Consultant in Syria, considering the weakness of the Veterinary Services in many countries of the Middle East region due to the regional multifocal crisis, raised the issue of implementing a multi-actor control plan, such as the one needed for the control of rabies and stray dog populations in compliance with the OIE standards, in affected countries.
55. Dr Bernard Vallat, Director General of OIE, informed that the OIE was fully aware of this reality worldwide. In that regards, he indicated that the OIE created an Ad hoc Group in charge of elaborating guidelines for interventions of the Veterinary Services in emergency situations (such as post natural disaster, armed conflicts, among others). Those guidelines should be published hopefully by 2016.
56. Ms Rania Dabary, from Beta (Lebanese Animal Welfare NGO), raised the importance of applying the recently adopted Animal Welfare legislation in Lebanon. In this regard, she called the local Lebanese authorities to stop the killing strategy for the management of the stray dog population currently adopted. She exhorted the Lebanese authorities to apply a control strategy in compliance with the OIE standards.

**OIE/FAO Global Strategy for the
Control and Eradication of PPR
Next steps**

57. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Susanne Münstermann, Project Officer at the OIE Scientific and Technical Department, to give a presentation on the 'OIE/FAO global strategy for the control and eradication of PPR – Next steps'.
58. Dr Münstermann started her presentation by stating that peste des petits ruminants (PPR) was considered a suitable candidate for eradication because of its impact on the livelihoods of poor livestock owners in Asia, Africa and the Middle East and its characteristics that resemble rinderpest – the first animal disease to be eradicated. She stated that the FAO-OIE PPR Working Group had prepared the Global Strategy for the Control and Eradication of PPR (GCES) during the previous 2 years in consultation with many experts and representatives of affected countries, regional organisations, specialised organisations and the private sector. The GCES had subsequently been presented at the FAO-OIE International Conference for the Control and Eradication of PPR, held in Abidjan, Côte d'Ivoire, from 31 March to 2 April 2015, and had been endorsed by the Ministers.
59. Dr Münstermann provided an overview of the three components of the GCES and its various tools. She indicated that while eradication of PPR (Component 1) was the ultimate goal of the Global Strategy, it was not a 'stand-alone' activity. Strengthening the Veterinary Services as a country moved towards PPR eradication would be the objective of Component 2 and that would in turn create more cost effective opportunities to control other priority diseases, which was the objective of Component 3. She indicated that a PPR Monitoring and Assessment Tool (PMAT) and a Post-Vaccination Evaluation (PVE) tool had been specifically developed in addition to proposed vaccination and surveillance strategies. Additionally, she commented that the OIE PVS Pathway would serve notably to evaluate the Veterinary Services and to identify the cost of the gaps to be addressed at country level.
60. At a national level, Dr Münstermann stated that a step-wise approach would be applied, starting with Stage 1, when the epidemiological situation is being assessed, leading ultimately to Stage 4, when the country can provide evidence that there is no virus circulation and is ready to apply for OIE official recognition of PPR freedom. She indicated that the activities would begin by controlling the disease in areas where it is highly endemic and then consolidate the results in areas where a low endemic level has been reached. For countries already free of PPR, the aim would be to maintain this status.
61. She also explained that OIE Member Countries could apply at any time for official recognition by the OIE World Assembly of Delegates of their national official control programmes based on technical requirements of the *Code*.
62. At a regional level, she said that the focus was on the need for regional organisations to take ownership of the progress and to evaluate progress made through the active engagement of the Regional Advisory Group (RAG), a body currently being created in affected regions. Furthermore, importance would be given to regional harmonisation of strategies and activities, in a strong partnership with the relevant regional economic communities or other regional organisations, and to the engagement of the existing regional laboratory and epidemiology networks.
63. Dr Münstermann then said that countries would participate in (sub) regional PPR Roadmap workshops, during which, after an initial self-assessment, the progress made along the 4 stages would be evaluated and agreed by the RAG. She explained that the timelines of the PPR Global Strategy provided for three phases, each of 5 years' duration. A continuous monitoring and evaluation process and a comprehensive evaluation of the results in 2020 would provide guidance on the cost of the programme, its continuation and updating of the programme activities.

64. At the global level, Dr Münstermann stated that a joint FAO-OIE Secretariat would be established to implement the GCES as a Global PPR Control and Eradication Programme (PPR-GCEP). Global networks of OIE and FAO PPR Reference Laboratories/Centres and Epidemiology Collaborating Centres would support the programme and an FAO-OIE Global Research and Expertise Network on PPR (PPR-GREN) would be established.

Veterinary Education in the Region Approaches to the implementation of OIE Guidelines and recommendations

65. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Ehab Abu Basha, Dean and Secretary General of the Arab Association of Veterinary Medical Faculties and Professor of the Jordan University of Science and Technology (JUST), to make a presentation regarding veterinary education in the region and approaches to the implementation of OIE guidelines and recommendations.
66. Dr Abu Basha began his presentation by stating that the rapid cross-continental spread and wide occurrence of transboundary animal diseases (TADs), including those raising public health, food security and food safety concerns, had highlighted the need to improve veterinary education and to encourage the establishment of continuing education programmes that would ensure prompt and proper actions on the part of veterinarians in response to new threats at a national, regional and global level.
67. He observed that, unfortunately, the quality of veterinary education varied greatly around the world.
68. Dr Abu Basha stated that the OIE had established an *ad hoc* Group on Veterinary Education to support the development of essential standards for veterinary education and fundamental skills to meet the needs of the public and private components of national Veterinary Services. The *ad hoc* Group recommended the competencies for graduating veterinarians, namely “Day 1 competencies”, to meet these essential standards for effective performance. Therefore, the OIE developed a set of Guidelines concerning the veterinary core curriculum to ensure that it would include essential skills and competencies to facilitate the international mobility of veterinarians.
69. Dr Abu Basha emphasised the importance of promoting veterinary education in the Middle East and highlighted the existing challenges and the approaches that would be needed to implement the OIE’s Guidelines and recommendations in the region.
70. Finally, he explained the role of OIE Veterinary Education Twinning projects in promoting a collaborative and fair distribution of veterinary education resources between developed and developing countries. Dr Abu Basha presented the example of the Royal Veterinary College-London/Faculty of Veterinary Medicine, Jordan University of Science and Technology Twinning project.

Discussion

71. Dr Vallat, Director General of the OIE, informed the Regional Commission about the recent establishment of a network of Veterinary Education Establishments for Mediterranean countries (REEV-Med) under the umbrella of REMESA for which one of the objective is the establishment of an accreditation mechanism in collaboration with the European Association of Establishments for Veterinary Education (EAEVE).
72. Dr Vallat also agreed with the suggestion made by Dr Abou Basha regarding the establishment of a Collaborating Centre for Veterinary Education and informed that the OIE would favourably receive such proposal from the Middle East region.

High health, high performance (HHP) horses Recent developments

73. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Susanne Münstermann to present the recent developments on high health, high performance (HHP) horses.
74. Dr Münstermann started her presentation by providing a review of the developments that led to the elaboration of the 'high health, high performance (HHP) horse' concept. She began her review by reiterating the challenges that face equestrian sports, represented by the Federation International Equestre (FEI) and the International Federation of Horseracing Authorities (IFHA), such as inconsistent application of health requirements and import certificates in many parts of the world.
75. She reminded Delegates that FEI and IFHA had signed cooperation Agreements with the OIE in January 2013 and June 2014, respectively, in support of developing international standards and guidelines that would provide an internationally accepted framework for international sport horse movement. She recalled that an *ad hoc* Group on International Horse Movement for Equestrian Sport had been set up in April 2013 and met several times until March 2015, when the work to develop the HHP concept was concluded and presented to a meeting of experts on biosecurity for further development of the Biosecurity Guidelines that form part of the concept.
76. Dr Münstermann continued by summarising the key elements of the HHP concept, namely (i) continuous veterinary supervision, including during a preparation period of 90 days; (ii) biosecurity implemented at the home stable, during transport and at the venue; (iii) traceability of movement during the entire HHP period; and (iv) specific health requirements for veterinary certification to travel to multiple destinations for a maximum period of 90 days. She recalled that the early stages of the concept had been presented and discussed between representatives of Veterinary Services, National Equestrian Federations and National Horseracing Authorities during the Regional Conference on International Horse Movement, held in Dubai from 29 September to 1 October 2014, with the support of the UAE Ministry of Environment and Water.
77. She reminded Delegates that these key elements were described in general terms in OIE *Terrestrial Animal Health Code* Chapter 4.16., which was adopted by the OIE World Assembly of Delegates of Member Countries in May 2015. She explained that Delegates could find the detailed description of each of the elements in the Handbook for the Management of HHP horses, which was endorsed by the OIE Code Commission and Scientific Commission at their September meetings.
78. Dr Münstermann elaborated on each key element, with particular emphasis on the HHP Model Veterinary Certificate, which now formed part of the Handbook rather than being proposed as a *Terrestrial Code* chapter. She explained that the underlying principle is a reduction in the number of OIE-listed diseases that require certification in order for an HHP horse to travel internationally. A risk mitigation strategy has been developed and published on the OIE website that explains the reason behind reducing veterinary certification for African horse sickness, equine influenza, equine infectious arthritis, Venezuelan equine encephalomyelitis, glanders and piroplasmiasis.
79. She stated that Delegates were encouraged to study the Handbook in order to fully understand all the technical elements of the HHP concept and to find opportunities to test the concept in their region and beyond. She informed the audience that FEI and IFHA were now developing Operational Manuals on the basis of the Handbook, specific for their needs and for equestrian sport and racing. Furthermore, they needed to establish the database for the HHP compartments and horses in order to guarantee traceability.

80. Dr Münstermann concluded by inviting Delegates to comment on the Handbook, which was intended as a living document to be improved with the benefit of experience gained when applying the concept.

Discussion

81. Dr Ghazi Yehia reminded the participants of the Regional Conference on Facilitation of International Competition Horse Movement that took place in Dubai in October 2014 and for which recommendations are still relevant. He explained that the OIE, in collaboration with the FEI and IFHA had developed relevant tools for the facilitation of horse movements and he urged Member Countries to take advantage if these tools to engage the dialogue between the Veterinary Authorities and the competition horse sectors for facilitating the movement of High Health High Performance horses.

THURSDAY 12 NOVEMBER 2015

Technical Item II The use of non-structural proteins to differentiate between vaccinated and infected animals

82. The Session Chairperson, Dr Irfan Erol, Delegate of Turkey, briefly introduced Dr Donald King, Expert at the Pirbright Institute and Rapporteur for Technical Item II-‘The use of non-structural proteins to differentiate between vaccinated and infected animals’.
83. Dr King gave a review of literature regarding the use of non-structural proteins to differentiate between vaccinated and infected animals. He explained that serological tests were widely used to monitor the immune status of animals exposed to FMD virus (FMDV) or FMDV vaccines. One particular application of these assays is to identify animals in a vaccinated herd that have been infected with FMDV. This so called DIVA (differentiating infected from vaccinated animals) principle exploits differences in the antibody (humoral) responses generated in vaccinated animals compared to those animals naturally infected with FMDV (whether or not they have been vaccinated).
84. Dr King mentioned that high quality FMDV vaccines are purified to contain structural protein (SP) viral capsid components from which most of the viral non-structural proteins (NSP) have been removed. In contrast, during natural infection with FMDV, NSP of the virus are expressed that elicit a corresponding immune response that can be detected using diagnostic approaches.
85. Referring to the principle of using NSP tests to differentiate between vaccinated and infected animals, Dr King specified that both structural (SP) and NSP antigens induced the production of antibodies in infected animals. In contrast, vaccinated animals that have not been exposed to replicating virus will only develop antibodies to the viral capsid (SP) antigens. Dr King noted that nowadays, there were a number of commercially available tests, and in-house assays that detect NSP-specific antibody responses.
86. He went onto provide a short review on the use of NSP tests to differentiate between vaccinated and infected animals; particularly focusing on the use of these tests to support FMD control programmes in regions that are endemic for FMD or are sporadically impacted by the disease, such as the 20 Member Countries of the OIE Regional Commission for the Middle East.

87. Dr King then explained that in FMD-free countries such as those in Europe and North America, NSP tests in enzyme-linked immunosorbent assay (ELISA) formats had been exploited to support control policies that follow the “vaccinate-to-live” concept, and were adopted into contingency plans for use in the event of FMD incursions (Paton et al., 2006; Paton et al., 2014).
88. He also explained that in contrast to SP tests such as the SPCE (solid-phase competition ELISA), LPBE (liquid-phase blocking ELISA) or VNT (virus neutralisation test), NSP ELISAs were not serotype specific and could therefore be used as generic screening tools. Therefore, in addition to their use to detect virus circulation in vaccinated livestock populations, these tests are also used more generally for serological investigation, even when emergency vaccination is not practised. However, the design of sampling surveys is critical when these assays are used to support national programmes to attain the OIE status of FMD-free without vaccination (i.e., to identify animals in which virus is circulating or has established persistent infections), since random surveys are not always effective at detecting rare events. In these circumstances, survey design is most effective if it accommodates epidemiological risk factors to direct sampling of animals (Paton et al., 2006).
89. Dr King also added that, in endemic settings, NSP tests could be used to support sero-surveillance exercises that assess the prevalence of infection in livestock (Pötzsch et al., 2006; Yadin et al., 2007; Ranabijuli et al., 2010; Ur-Rehman et al., 2014) and wildlife (Di Nardo et al., 2015), especially where the results for SP tests might be complicated by the presence of vaccine-induced antibodies. Following infection, NSP sero-conversion usually takes 7-14 days, after which these antibodies can be detected in serum for months, or even years, depending upon the amount of virus replication (Parida et al., 2005; Paton et al., 2009; Elnekave et al., 2015). In this scenario, it is important that only high-quality vaccines (that have been purified to remove contaminating NSPs) are deployed in the study region.
90. He went onto explain that tests with high diagnostic sensitivity (such as a 3ABC ELISA) were normally used to screen the sera, and positive results were confirmed using a second NSP antibody assay at least equivalent in sensitivity and specificity (Brocchi et al., 2006 and Paton et al., 2006). Furthermore, to rule out the false-positives, epidemiological investigations and analysis of probang samples by real-time reverse transcription polymerase chain reaction (RT-PCR) may be recommended (Paton et al., 2006 and 2009). In this context, SP testing could be explored but would require a detailed knowledge of typical responses against the vaccine to identify unexpectedly high titres associated with infection. Dr King underlined that for these studies, it was important to know the design prevalence of the study (such as to detect 5% prevalence with 95% confidence) since this would impact upon the interpretation of data. Rather than employing random sampling, the adoption of a risk-based sampling strategy may be more effective to recognise rare events.
91. Finally, Dr King mentioned that when these tests were used for ruminants, a limitation was that they were unable to distinguish between convalescent and carrier animals (Parida 2009; Biswal et al., 2008). Therefore, while these NSP antibody tests can be useful to estimate the degree of virus circulation in a population, whether these positive animals can contribute to the epidemiology of FMD is not well understood.

Discussion

92. The Chairman of the Conference congratulated Dr King for his comprehensive technical presentation.

93. The OIE Delegates of Cyprus and Sudan as well as Dr Mehdi El Harrak from Morocco requested additional clarifications regarding:

1. the best methodology recommended:
 - a) to check the purity of a NSP candidate vaccine;
 - b) to increase the sensitivity of NSP testing in a vaccinated population;
 - c) to detect FMD carriers in a vaccinated population;
2. the outcomes of vaccinated animals after emergency vaccination in countries or zones free of FMD without vaccination experiencing FMD outbreaks;
3. the comparative advantage of using ELISA testing as an alternative to VNT testing;
4. the potentiality of emergence of new FMD serotypes and antigenic variants of FMDV;
5. the possibility to use diagnostic tests to differentiate between recovered and carrier animals after FMDV infection.

94. Dr Donald King brought the following respective complements:

- 1.a. While laboratory methods can be used to provide evidence for the extent of NSP purification in vaccines, *in vivo* experimental pilot studies that evaluate the serological response to vaccination of non-infected animals is the most appropriate method to confirm the absence of NSP in the vaccine;
- 1.b. The ability to detect an infected animal is increased as sample number increases. Furthermore, it is advised to design a (risk based) sampling protocol to effectively sample clusters of population at risk of infection;
- 1.c. The NSP ELISA tests have excellent characteristics (sensitivity/specificity) for the detection of FMD carriers (possible to complement this testing by collection of probang samples and additional testing with RT-PCR);
2. From the experience so far acquired worldwide, two strategies were presented:
 - vaccinate-to-kill: animals were eventually destroyed when vaccination aimed at coping to rapid spreading of the virus (Japan experience);
 - vaccinate-to-live: animals can eventually enter the food chain which is in line with the industry and public opinion. However, this approach requires adequate NSP testing to confirm that FMDV is not circulating in the vaccinated population;
3. ELISA tests – particularly those that detect structural protein (SP) antibodies can be used as an alternative to VNT. An OIE/FAO publication providing guidelines for the post vaccination monitoring (PVM) will be available shortly;
4. The world network of OIE and FAO FMD reference laboratories enables a fine monitoring of the worldwide distribution and phylogenetic evolution of the FMDV evolving serotypes. In this regard, Dr King called for a sustained cooperation of the countries to share samples with the reference laboratories;
5. Alternative serological assays such as those that detect FMDV-specific IgA have been developed to detect carrier animals, differentiating them from convalescent animals.

95. Finally, Dr Vallat noticed the low number of countries in the Middle East region, in comparison to other regions, having reached the OIE free of FMD with or without vaccination status (respectively the Western part of Turkey, and Cyprus). In that regards, he commented that, in order to support Veterinary Services from countries wishing to reach such status and to convince their governments and/or international donors to finance the control strategy, countries could benefit from the official endorsement of their FMD official national control programmes by the OIE.

Analysis of the Animal health situation of Member Countries in the region during 2014 and 2015

96. The Session Chairperson, Dr Ibrahim Mahros Saleh Mohamed, invited Dr Paula Cáceres, Head of the OIE World Animal Health Information and Analysis Department, to present the Analysis of the Animal health situation of Member Countries in the region during 2014 and 2015.
97. This report is based on information obtained from six-monthly reports, annual reports and immediate notifications and follow-up reports submitted to the OIE by Member Countries of the Regional Commission for the Middle East up to 12 October 2015. Special attention is given to the 2014 and 2015 reporting period.
98. The report begins by presenting the exceptional events notified by countries/territories in the Middle East between 1 January 2014 and 12 October 2015. The report then reviews the situation in the Middle East regarding some specific diseases notified during this period: infection with Middle East respiratory syndrome coronavirus (MERS-CoV), lumpy skin disease, infection with Rift Valley fever virus and foot and mouth disease. This is followed by a summary of the current situation with regard to infection with avian influenza viruses and infection with peste des petits ruminants virus in the world and in the Region. The report concludes with a section focusing on regional issues for reporting to the OIE.

1. Exceptional events notified by countries/territories in the Middle East in 2014 and 2015 (up to and including 12 October 2015)

99. Figure 1 shows the exceptional events notified to the OIE by countries/territories in the Middle East between 1 January 2014 and 12 October 2015. During this period, the highest number of notifications was for infection with avian influenza viruses of high pathogenicity (with 8 notifications from four countries/territories⁵), bluetongue (with three notifications from two countries⁶), infection with MERS-CoV (with three notifications from three countries⁷) and lumpy skin disease (with three notifications from three countries⁸).

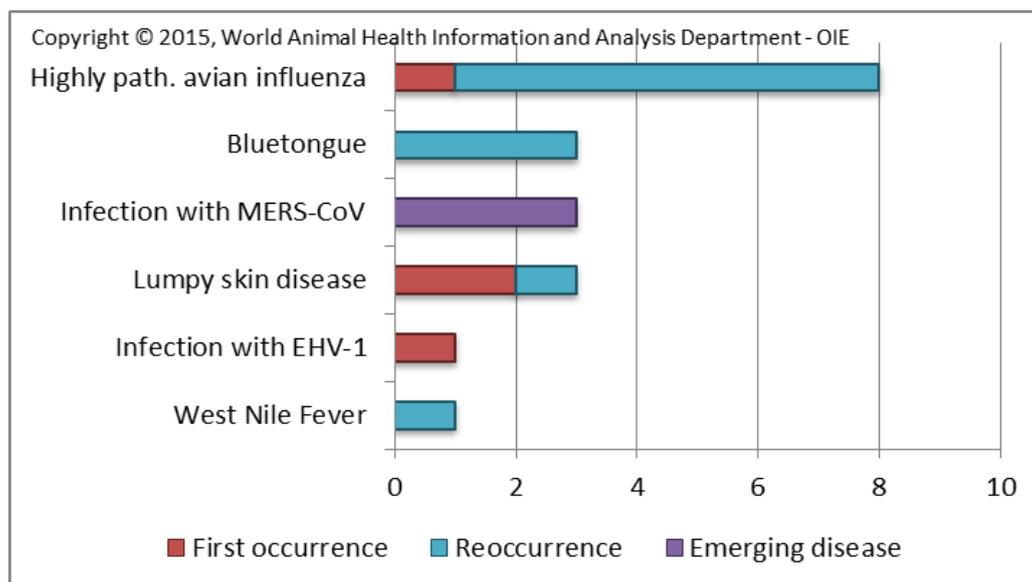
⁵ Iran, Libya, Palestinian Autonomous Territories and Turkey

⁶ Cyprus and Turkey

⁷ Iran, Kuwait and Oman

⁸ Iran, Kuwait and Saudi Arabia

Figure 1: Number of immediate notifications received from countries/territories in the Middle East in 2014 and 2015, by disease (up to and including 12 October 2015)



100. Furthermore, two other OIE-listed diseases of terrestrial animals were notified through immediate notifications during this period. No disease of aquatic animals was reported as an exceptional event.
101. Short notification times are essential to allow other countries to conduct appropriate risk assessments and take any necessary preventive actions to avoid the spread of pathogens. Therefore, the OIE *Terrestrial Animal Health Code (Terrestrial Code)* and the *Aquatic Animal Health Code (Aquatic Code)* each stipulate in Chapter 1.1. that in accordance with relevant provisions in the disease-specific chapters, immediate notifications for OIE-listed diseases should be submitted to the OIE within 24 hours of their confirmation. Moreover, follow-up reports should be submitted on a weekly basis.
102. During the period between 1 January 2014 and 12 October 2015, among the 19 immediate notifications submitted by countries/territories in the Middle East, 15 were submitted by Member Countries of the Regional Commission (the others having been submitted by the Palestinian Autonomous Territories⁹), 16 of these were for OIE-listed diseases (the others having been submitted for an emerging disease). Moreover, Member Countries of the Regional Commission also submitted 63 follow-up reports for OIE-listed diseases during this period. For these reports, only 25% of immediate notifications for OIE-listed diseases were submitted to the OIE within 24 hours after the confirmation of the event and only 13% of follow-up reports were submitted to the OIE within one week after the previous report, the interval indicated in the *Codes*.
103. Very long delays were sometimes observed for submission times of both immediate notifications and follow-up reports, and the countries concerned are urged to make greater efforts at the national level to submit these reports on time. Considerable efforts have been made by the World Animal Health Information and Analysis Department since January 2014 to encourage countries to provide their follow-up reports for exceptional events in a timelier manner and reminders have been sent to countries more regularly and more frequently, to raise awareness of the need to provide information on a regular basis. Following these actions an improvement in submission time is expected.

⁹ PAT is not a Member Country but was included in the analysis given the geographical location and not belonging to other OIE Regional Commissions.

2. Situation relating to reporting of selected diseases

104. This section provides an update on some selected diseases that have occurred in the Region since the previous Conference in September 2013. Information on animal health status for the diseases selected is derived from the reports submitted to the OIE and covers the countries/territories in the Middle East.
105. Regarding six-monthly reports for terrestrial animal diseases, and as of 12 October 2015, 85% (17/20) of Member Countries of the Regional Commission¹⁰ had submitted both six-monthly reports for 2014, whereas one Member, Cyprus, had submitted only the first six-monthly report for 2014. Regarding 2015, 45%¹¹ (9/20) of Member Countries had submitted the six-monthly report for the first semester.
106. In addition, the Palestinian Autonomous Territories had submitted both six-monthly reports for 2014.
107. Libya and Yemen have not yet submitted their six-monthly reports for 2013 or subsequent years. These Member Countries and the others with outstanding reports for 2014 and 2015 are encouraged to submit their reports as soon as possible so that their animal health information can be updated.

2.1 Infection with Middle East respiratory syndrome coronavirus (MERS-CoV)

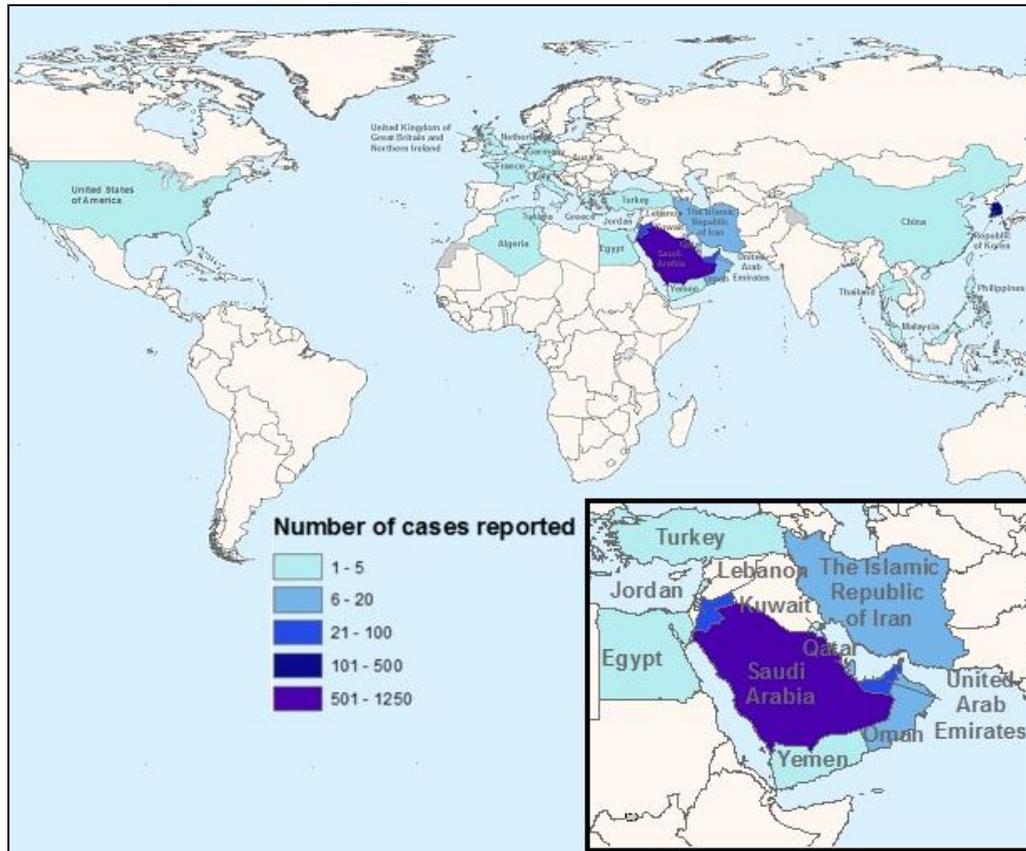
108. Middle East respiratory syndrome (MERS) is a viral respiratory disease caused by a coronavirus (MERS-CoV) that was first identified in humans in Saudi Arabia in 2012. According to the World Health Organization (WHO)¹², two countries in the Middle East (Jordan and Saudi Arabia) as well as two countries in Europe (Germany and United Kingdom) reported human cases of MERS in 2012. In 2013, four newly affected countries in the Middle East (Kuwait, Oman, Qatar and United Arab Emirates), two newly affected countries in Europe (France and Italy) as well as, for the first time, a country in Africa (Tunisia), reported human cases. In 2014, the disease spread to five countries in the Middle East (Egypt, Iran, Lebanon, Turkey and Yemen), three countries in Europe (Austria, Greece and the Netherlands) and one country in Africa (Algeria) and, for the first time, reached Asia (Malaysia) and the Americas (United States of America). Up to 12 October, the disease was reported in 2015 in four additional countries in Asia (China [People's Rep. of], Korea [Rep. of], Philippines and Thailand). Altogether, as of 12 October 2015, 26 countries in the world, including 11 countries in the Middle East, have reported the disease in humans. Figure 2 shows the distribution of confirmed human cases of MERS between 2012 and 2015, as reported to WHO (last update 16 October 2015).

¹⁰ Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Turkey and United Arab Emirates.

¹¹ Afghanistan, Djibouti, Egypt, Iran, Iraq, Kuwait, Sudan, Turkey and United Arab Emirates.

¹² WHO, Frequently Asked Questions on Middle East respiratory syndrome coronavirus (MERS-CoV), http://www.who.int/csr/disease/coronavirus_infections/faq/en/

Figure 2: Confirmed human cases of Middle East respiratory syndrome between 2012 and 2015 (Source WHO, last update 16 October 2015)¹³



109. According to WHO, it is not yet fully understood how people become infected with MERS-CoV, which is a zoonotic virus. The virus does not appear to pass easily from person to person unless there is close contact, such as providing clinical care to an infected patient while not applying strict hygiene measures. This has been seen among family members, patients and health care workers. The majority of cases have resulted from human-to-human transmission in health care settings¹⁴. It is believed that humans can be infected through direct or indirect contact with infected dromedary camels in the Middle East.
110. Between November 2013 and October 2014, Qatar, Oman, Kuwait and Iran fulfilled their obligations to the OIE by reporting that MERS-CoV had been identified in camels. In October 2013, Qatar investigated the health status of the animals that had been in contact with infected people working in a farm. Three camels were identified as positive for MERS-CoV by polymerase chain reaction (PCR). Two additional outbreaks in animals were detected in February and May 2014. In December 2013, Oman sampled apparently healthy camels and detected five positive animals (by reverse transcriptase PCR [RT-PCR]). In May 2014, Kuwait also implemented animal testing and detected five positive cases in apparently healthy camels (by RT-PCR). People working in the affected farms tested negative for MERS-CoV. Finally, in October 2014, Iran sampled camels illegally imported from Pakistan and 11 animals tested positive (by RT-PCR).
111. Figure 3 shows the location of the positive camels detected.

¹³ http://www.who.int/entity/csr/disease/coronavirus_infections/mers-global-map-16-october-2015.png?ua=1

¹⁴ WHO, Middle East respiratory syndrome coronavirus (MERS-CoV) Fact sheet N°401, June 2015, <http://www.who.int/mediacentre/factsheets/mers-cov/en/>

Figure 3: Location of MERS-CoV outbreaks in camels, as reported to the OIE in 2013 and 2014



112. Other published studies have indicated that MERS-CoV and genetic material from MERS-CoV have been identified in camels in countries in the Middle East (Saudi Arabia¹⁵, United Arab Emirates¹⁶ and Egypt¹⁷); antibodies to MERS-CoV or a very similar virus have been identified in samples taken from camels in the Middle East and Africa^{18,19}. Similar strains of MERS-CoV have been identified in samples taken from camels and humans in the same locality and in some cases there has been an association between infections in humans and camels.
113. Serological studies suggest that antibodies to MERS-CoV have been detected with varying prevalence within and between countries in populations of camels in the Middle East and Africa. The range of prevalence indicates the need to assess risk factors for infection between and within herds. Infections with MERS-CoV have sometimes been associated with mild respiratory signs in camels, but this needs further investigation. Significant morbidity or mortality of unknown aetiology should be investigated.

¹⁵ Esam I. Azhar et al. Evidence for Camel-to-Human Transmission of MERS Coronavirus. *N Engl J Med* 2014; 370:2499-2505 June 26, 2014 DOI: 10.1056/NEJMoa1401505

¹⁶ Yusof MF et al. Prevalence of Middle East respiratory syndrome coronavirus (MERS-CoV) in dromedary camels in Abu Dhabi Emirate, United Arab Emirates. *Virus Genes* 2015 Jun; 50(3):509-13. doi: 10.1007/s11262-015-1174-0. Epub 2015 Feb 5.

¹⁷ Chu DK et al. MERS coronaviruses in dromedary camels, Egypt. [Emerg Infect Dis](#). 2014 Jun;20(6):1049-53. doi: 10.3201/eid2006.140299.

¹⁸ Deem SL et al. Serological Evidence of MERS-CoV Antibodies in Dromedary Camels (*Camelus dromedaries*) in Laikipia County, Kenya. *PLoS One*. 2015 Oct 16;10(10):e0140125. doi: 10.1371/journal.pone.0140125.

¹⁹ Reusken CB et al. Geographic distribution of MERS coronavirus among dromedary camels, Africa. *Emerg Infect Dis*. 2014 Aug;20(8):1370-4. doi: 10.3201/eid2008.140590.

114. Serological tests detect antibodies produced by the host against the virus but do not detect the virus itself. Depending on the test that is used, the presence of antibodies may indicate previous exposure to MERS-CoV or a similar virus. Virus neutralisation is the most specific assay. PCR (molecular) tests detect genetic material of the virus. Genome sequencing of the virus (parts of it or the full genome) is the best way to confirm that the genetic material belongs to a MERS-CoV. Genetic data also provide important information about the evolution of the virus and how closely related MERS-CoV isolates are.
115. The OIE together with WHO and FAO reiterate the importance of collaboration between the public health and animal health sectors and the need to share data and design studies to develop a better understanding of the overall epidemiology of MERS.
116. An OIE twinning project on camel diseases between the Istituto Zooprofilattico Sperimentale network of laboratories in Italy and the Abu Dhabi Food Control Authority, Animal Health Centre for Diagnosis and Research in United Arab Emirates was signed on 25 May 2015 in Paris, France. MERS is one of the diseases that were included for capacity building in this twinning project. The other potential objective of the project is to possibly establish a camel disease network in the Middle East, with the Abu Dhabi Food Control Authority as the lead laboratory.
117. The OIE reiterates that infection of camels with MERS-CoV should be notified to the OIE through an immediate notification (and weekly follow-up reports) as an emerging disease, in accordance with Article 1.1.4. of the *Terrestrial Code*.

2.2 Vector-borne diseases: lumpy skin disease and infection with Rift Valley fever virus

118. The OIE's Sixth Strategic Plan (2016 – 2020) states that is desirable that participation in the OIE's decision-making processes should reflect the informed scientific opinion of specialists, including those familiar with cutting-edge scientific developments and technologies, as well as the opinion of specialists in economic, social and environmental areas. In achieving its strategic objectives of securing animal health and welfare, the organisation will take into account, among others, economic, social and environmental factors. To achieve this, the Strategic Plan identifies as one of the key areas an understanding of the relationship between climate change and eco-system health, biodiversity loss and the spread of diseases that impact on animal health and welfare.
119. Climate and environmental changes in particular affect infectious disease occurrence, creating favourable ecological niches and affecting disease behaviour in terms of spread pattern, diffusion range, amplification and persistence²⁰. These changes are important determinants of vector-borne disease transmission as they influence vector survival and reproduction, the vector's biting rate and the pathogen's incubation rate within the vector. Vectors and pathogens survive and reproduce within a range of optimal climatic conditions (temperature and precipitation). Recent clusters of outbreaks of mosquito-borne diseases (e.g. Rift Valley fever) in Africa illustrate how climate variability influences the risk patterns of disease outbreaks²¹.
120. In this context, the Middle East Region, due to its strategic geographical location, can play a crucial role in the potential spread of diseases that are endemic in the African Region to Europe and Asia. For this reason, vector-borne diseases merit special attention and a heightened level of surveillance in the Middle East Region.

²⁰ De La Rocque S, Rioux JA, Slingenbergh J. (2008). Climate change: effects on animal disease systems and implications for surveillance and control. *Rev Sci Tech*. 2008 Aug;27(2):339-54.

²¹ Anyamba, A, et al. Climate teleconnections and recent patterns of human and animal disease outbreaks. *PLoS Negl Trop Dis* 6.1 (2012): e1465.

121. This section looks at the dynamics of two vector-borne diseases (Rift Valley fever and lumpy skin disease) that were traditionally endemic in Africa but in recent decades have been moving faster northwards, spreading into the Middle East Region and posing a threat for further spread into other continents. In particular, in the context of climatic and environmental condition changes, we speculated that such changes could affect the distribution of these diseases. If the environmental/climatic conditions do indeed affect the distribution of vector-borne diseases, these conditions can then be used to predict their future potential spread.
122. The evaluation of environmental/climatic conditions was done by analysing MODIS (Moderate-resolution Imaging Spectroradiometer) satellite images²². The satellite captures data in 36 spectral bands at varying spatial resolutions (2 bands at 250 m, 5 bands at 500 m and 29 bands at 1 km). A full image of the entire Earth is acquired every 1 to 2 days. The instruments provide measurements in large-scale global dynamics about changes in the Earth's cloud cover, radiation budget and processes occurring in the oceans, on land and in the lower atmosphere.
123. In particular the information derived from the satellite images was used to produce an NDVI (normalised difference vegetation index) map for the whole Middle East Region. The NDVI is an indicator of the state and seasonality of vegetation, the primary productivity on the earth that drives the dynamics of most animal populations including those of mosquitoes. In addition, NDVI shows a high degree of correlation with annual rainfall and so it is a factor that includes in one parameter both environmental and climatic conditions²³. The NDVI index ranges from -1 to +1: the higher the value of the index, the denser the vegetation, the higher the humidity and, consequently, the greater the likelihood finding optimal conditions for the presence of vectors.
124. The NDVI map was produced using the images provided by the United States Geological Service (USGS)²⁴. A map showing the mean NDVI for the whole Region was created by combining the monthly NDVI values acquired during one full year (Figure 4). Both the spatial analysis and map production were done using the software QGIS 2.10.1²⁵
125. On the map, the darker the shade of green, the higher the NDVI, thus indicating the most favourable areas for the presence of vectors (and potentially for vector-borne diseases).

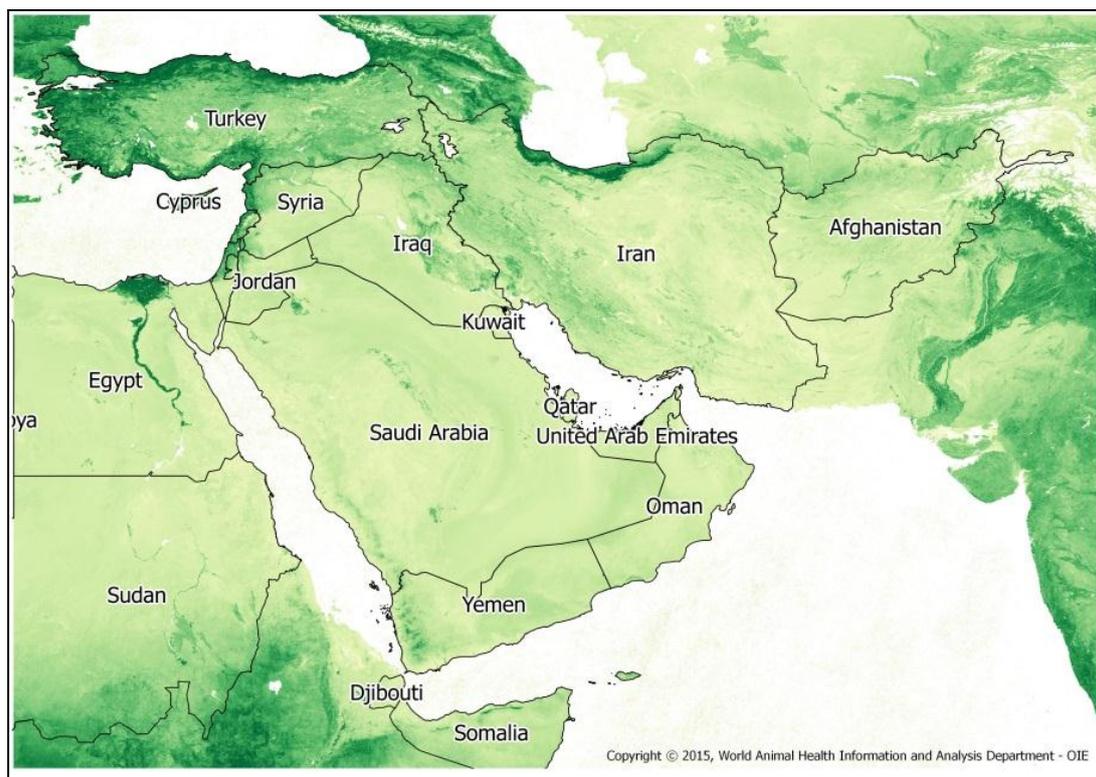
²² <http://modis.gsfc.nasa.gov/>

²³ Anyamba, Assaf, Compton J. Tucker, and Robert Mahoney. From El Niño to La Niña: vegetation response patterns over East and Southern Africa during the 1997-2000 period. *Journal of climate* 15.21 (2002): 3096-3103.

²⁴ <http://earthexplorer.usgs.gov/>

²⁵ QGIS Core Development Team, 2015

Figure 4: Vegetation map of the Middle East Region. The map shows the mean NDVI annual value in the Region, directly correlated to vegetation presence and rainfall.



126. In the next sections, the dynamics of **Rift Valley fever** and **lumpy skin disease** and their relationship with environmental/climatic conditions are discussed, followed by general conclusions about both diseases.

2.2.1. Lumpy skin disease

127. Lumpy skin disease (LSD) is an economically devastating viral disease of cattle. The transmission of LSD occurs mainly by blood-feeding arthropods^{26,27}. During the first historical LSD outbreaks reported in southern Africa, isolated outbreaks occurred in scattered herds in the absence of cattle movements. These outbreaks were associated with wet and warm weather conditions with an abundance of blood-feeding arthropod populations, and it was not possible to control the spread of the disease effectively by quarantine measures²⁸.
128. LSD outbreaks have been reported in the Middle East Region since 1980. LSD has been reported in the following countries/territories: Oman in 1984; Egypt in 1990; Kuwait in 1991; Bahrain in 1994; United Arab Emirates in 2000; Palestinian Autonomous Territories in 2006; Iraq, Turkey and Jordan in 2013; Iran in 2014; and Saudi Arabia in 2015. The disease very recently spread to Europe (18 August 2015) with its first occurrence in Greece.

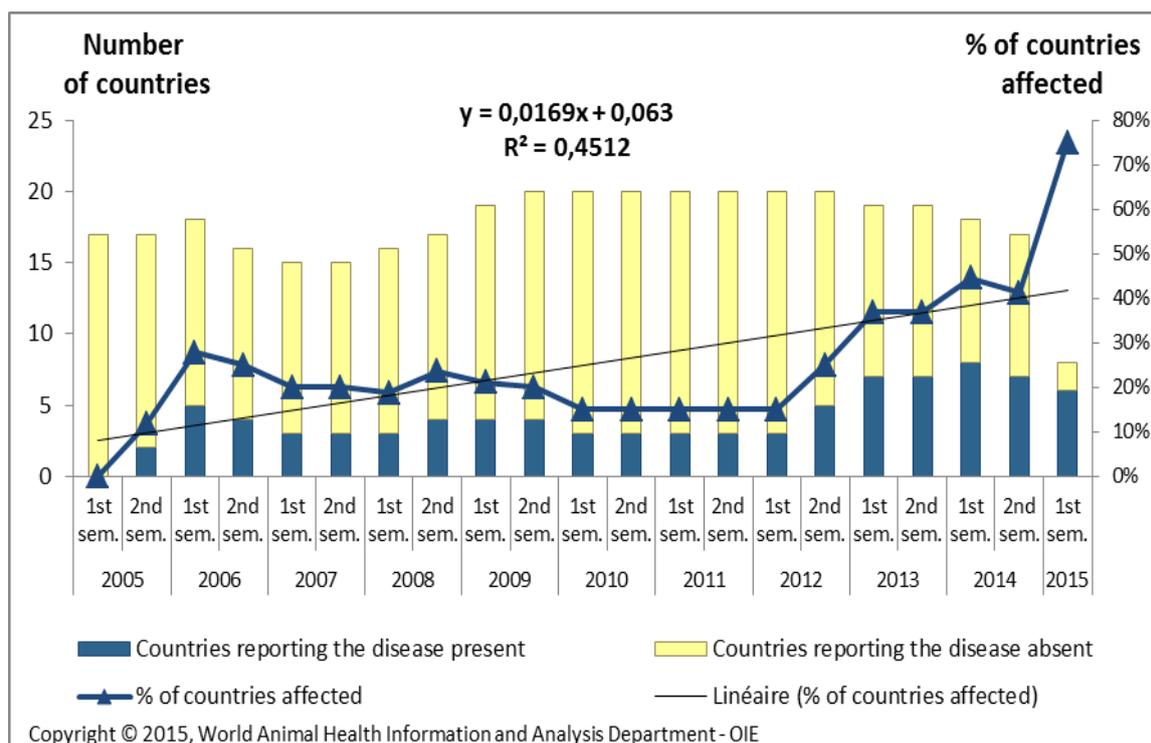
²⁶ OIE Technical Disease Cards. Lumpy Skin Disease. Last updated April 2013

²⁷ Chihota, C.M., L.F. Rennie, R.P. Kitching, and P.S. Mellor, P.S. (2001) Mechanical transmission of lumpy skin disease virus by *Aedes aegypti* (Diptera: Culicidae). *Epidemiol. Infect.* 126, 317–321.

²⁸ Thomas, A.D. and Mare, C.v.E. (1945) Knopvelsiekte. *J. S. Afr. Vet. Assoc.* 16, 36–43.

129. The progressive spread of the disease in the Region is shown in Figure 5. The percentage of affected reporting Members increased from 0% in the first semester 2005 to 75% in the first semester 2015, with a statistically significant positive trend ($S = 695.84$, $p\text{-value} < 0.05$, $\rho = 0.55$). After a first peak in the first semester 2006, the number of affected countries decreased until the first semester 2012 (15% of reporting countries affected), before suddenly increasing to very much higher value (44% in the first semester 2014). The relatively high value registered in the first semester 2015 has to be carefully considered as the data are still largely incomplete.

Figure 5: Percentage of countries reporting lumpy skin disease between 2005 and 2015, by semester (as of 12 October 2015)

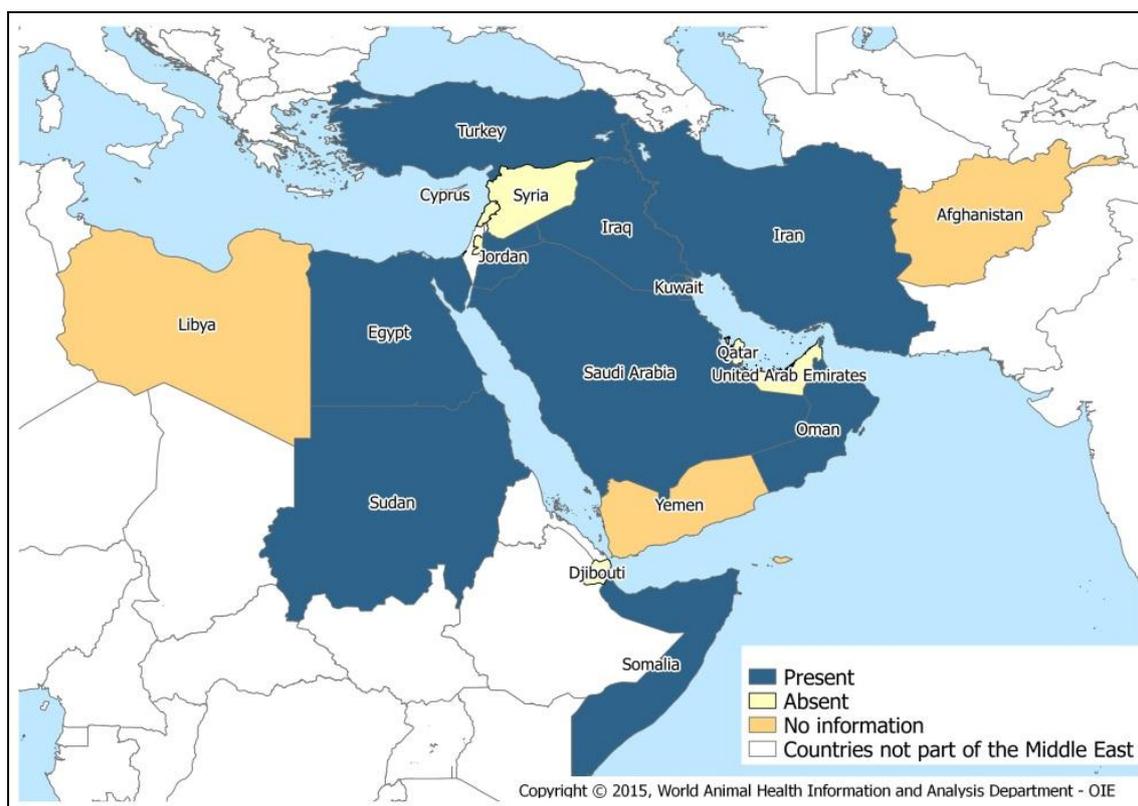


130. Between 1 January 2014 and 12 October 2015, LSD was reported present by 55% of the reporting Member Countries (10/18)²⁹. The disease was reported absent by 44% of the countries/territories in the Region (8/18)³⁰, with Cyprus being the only country in the Region indicating the disease as “never reported”. Afghanistan did not provide information about the disease in its six-monthly reports. The geographical distribution of the disease during this period is shown in Figure 6.

²⁹ Egypt, Iran, Iraq, Jordan, Kuwait, Oman, Saudi Arabia, Somalia, Sudan and Turkey.

³⁰ Bahrain, Cyprus, Djibouti, Lebanon, Palestinian Autonomous Territories, Qatar, Syria and United Arab Emirates.

Figure 6: Distribution of lumpy skin disease in the Middle East between 1 January 2014 and 12 October 2015

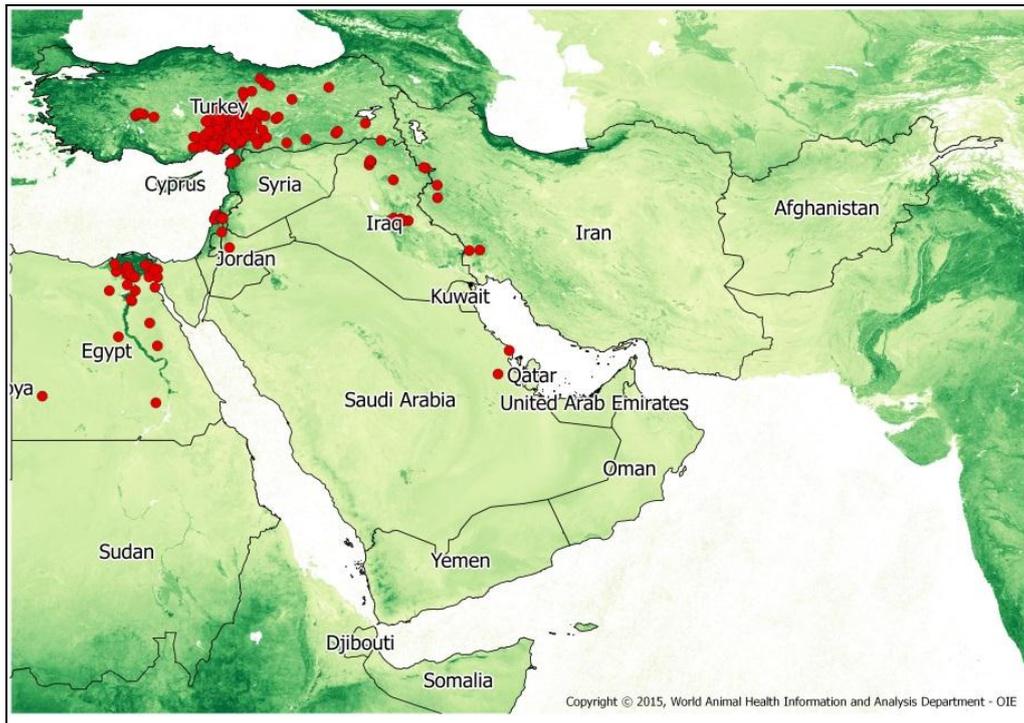


131. Analysing the historical data on the occurrence of LSD in the Region, 35% of the countries/territories (7/20)³¹ declared the disease as “never reported” in 2004. By 12 October 2015, the number of countries declaring the disease as “never reported” had fallen to one.
132. Nine immediate notifications were reported to the OIE for the first occurrence or the reoccurrence of the disease during the period 2005 – 2015 (up to 12 October 2015), with a total number of 352 outbreaks. The level of detail provided by the countries concerned allowed the effect of NDVI on disease distribution to be analysed.
133. Using the geographical coordinates provided in the immediate notifications, the 352 outbreaks were superimposed on the NDVI map to obtain the mean NDVI value for all the outbreak (Figure 7). To evaluate the influence of NDVI on the presence of the disease, a background NDVI value for the whole Region was calculated using 1000 randomly generated points (also known as “pseudo-absence” points). A Wilcoxon test was used to evaluate the presence of significant differences in NDVI values between the outbreaks and the random points. The statistical analysis was carried out using R software 3.1.2³².

³¹ Cyprus, Iran, Iraq, Jordan, Libya, Saudi Arabia and Turkey.

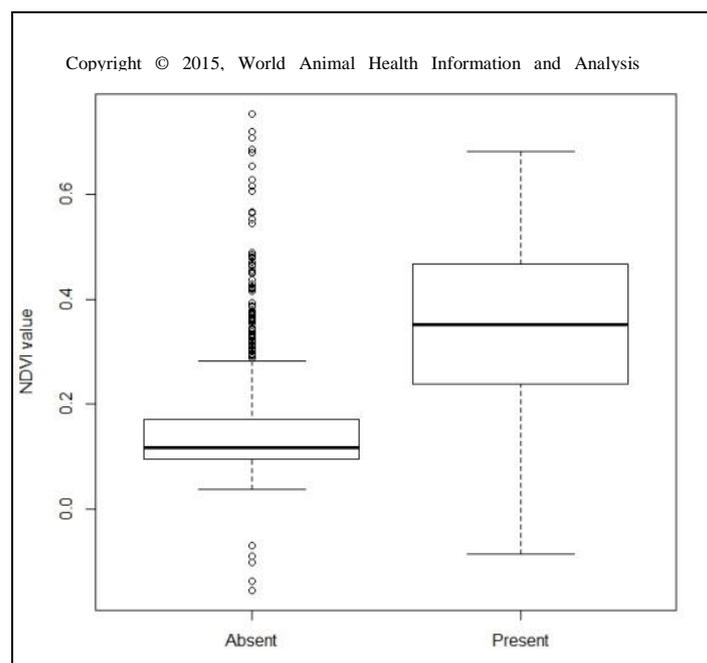
³² R Core Team, 2015

Figure 7: Superimposition of LSD outbreaks on the NDVI map to derive the vegetation index for each outbreak localisation.



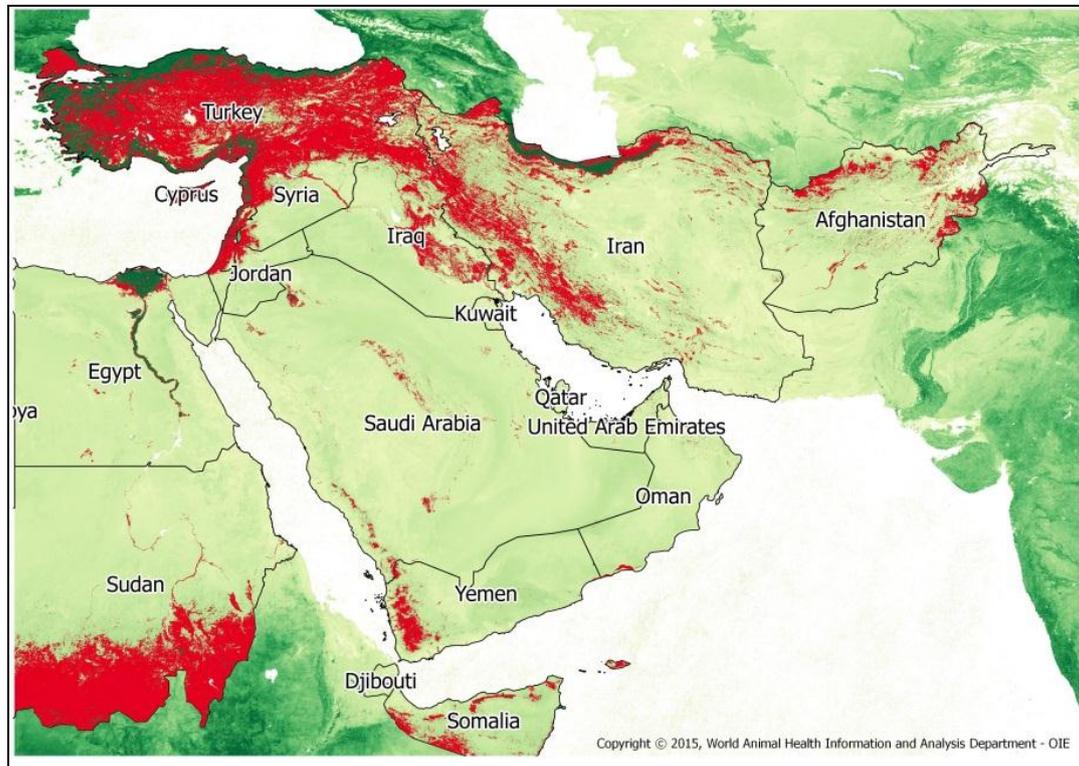
- 134. A spatial clustering of LSD outbreaks can be observed, with high NDVI values influencing the distribution of the outbreaks.
- 135. The mean NDVI value of the outbreaks (mean NDVI = 0.35) was more than double the mean NDVI value of the random points (mean NDVI = 0.15) and this difference was statistically significant (Wilcoxon rank sum test, $W = 37430.5$, $p\text{-value} < 0.001$) (Figure 8).

Figure 8: Comparison of NDVI values corresponding to the points where LSD is present (outbreaks) and absent (random points)



136. Considering the above, the NDVI is a good predictor of the potential occurrence of LSD in a region. By applying to the map a cut-off value equal to the mean NDVI \pm SD (standard deviation), it is consequently possible to map areas with a higher risk for the potential occurrence of the disease in the Middle East Region. Figure 9 shows the potential high-risk areas in the Middle East for occurrence of LSD. Potential high-risk areas outside the Middle East Region were not calculated.

Figure 9: Potential areas for the occurrence of LSD in the Middle East (in red).



2.2.2. Rift Valley fever

137. Rift Valley fever (RVF) is a viral zoonosis that can cause severe disease and is transmitted mainly by mosquitoes or by exposure to infected blood and bodily fluids. In the period 2005 – 2015 (up to 12 October 2015) outbreaks were reported to the OIE by 22 African countries³³. In September 2000, RVF virus was confirmed in Saudi Arabia and Yemen, marking the first reported occurrence of the disease outside the African continent and raising concerns about its possible extension to other parts of Asia and to Europe³⁴.

³³ Botswana, Cameroon, Central African Republic, Comoros, Congo (Dem. Rep. of), Equatorial Guinea, Ethiopia, Kenya, Madagascar, Malawi, Mauritania, Mozambique, Namibia, Niger, Republic of Guinea, Rwanda, Senegal, South Africa, Sudan, Swaziland, Tanzania, Zimbabwe.

³⁴ Balkhy H.H., Memish Z.A. (2003). Rift Valley fever: an uninvited zoonosis in the Arabian peninsula. *International Journal of Antimicrobial Agents*, 21 (2): 153-157.

138. RVF outbreaks are known to follow periods of anomalously high rainfall in Eastern Africa^{35,36}. Periods of above-normal rainfall in equatorial eastern Africa are associated with warm El Niño Southern Oscillation (ENSO) events that lead to severe droughts or floods, ideal ecological conditions for disease vectors to emerge, and may result in epizootics and epidemics³⁷. This phenomenon causes a shift in precipitation patterns over the global tropics. Exceptionally above-normal rainfall was coincident with major regional RVF epizootics in 1951-1953, 1961-1963, 1968-1969, 1977-1979, 1997-1998, and 2006-2007³⁸. The variability in rainfall influences the dynamics of mosquito disease vector populations and consequently the occurrence of mosquito-borne disease outbreaks. More generally, anomalous climatic conditions caused by ENSO are recognised to be linked with outbreaks of several human and livestock diseases in various countries³⁹.
139. Since 2005, RVF has been reported in only three Members in the Middle East Region, with sporadic occurrence in Sudan (in 2007 and 2008) and Yemen (in the period 2005 – 2007) and endemic presence in Saudi Arabia (in the periods 2007 – 2008 and 2010 – 2014).
140. The only peak in RVF occurrence was observed in 2007 and was due to heavy and exceptional rainfall with, consequently, a high density of vectors. After 2007, Saudi Arabia remained the only Middle Eastern country that reported the presence of the disease in the Region.
141. Between 1 January 2014 and 12 October 2015, RVF was reported only by Saudi Arabia. The disease was reported “absent” by 44% of the reporting countries/territories (8/18)⁴⁰ and “never reported” by 50% (9/18)⁴¹. Lebanon did not provide information about the disease in its six-monthly reports. The distribution of the disease during this period is shown in Figure 10.

³⁵ Linthicum, K.J., F.G. Davies, C.L. Bailey, and A. Kairo (1983). A. Mosquito species succession in a dambo in an East African forest. *Mosquito News*, 43:464-470.

³⁶ Linthicum, K.J., F.G. Davies, C.L. Bailey, and A. Kairo (1984). Mosquito species encountered in a flooded grassland dambo in Kenya. *Mosquito News*, 44:228-232.

³⁷ Ropelewski, C.E, and M.S. Halpert (1987). Global and regional scale precipitation patterns associated with the El Niño/Southern Oscillation. *Monthly Weather Review*, 115:1606-1626.

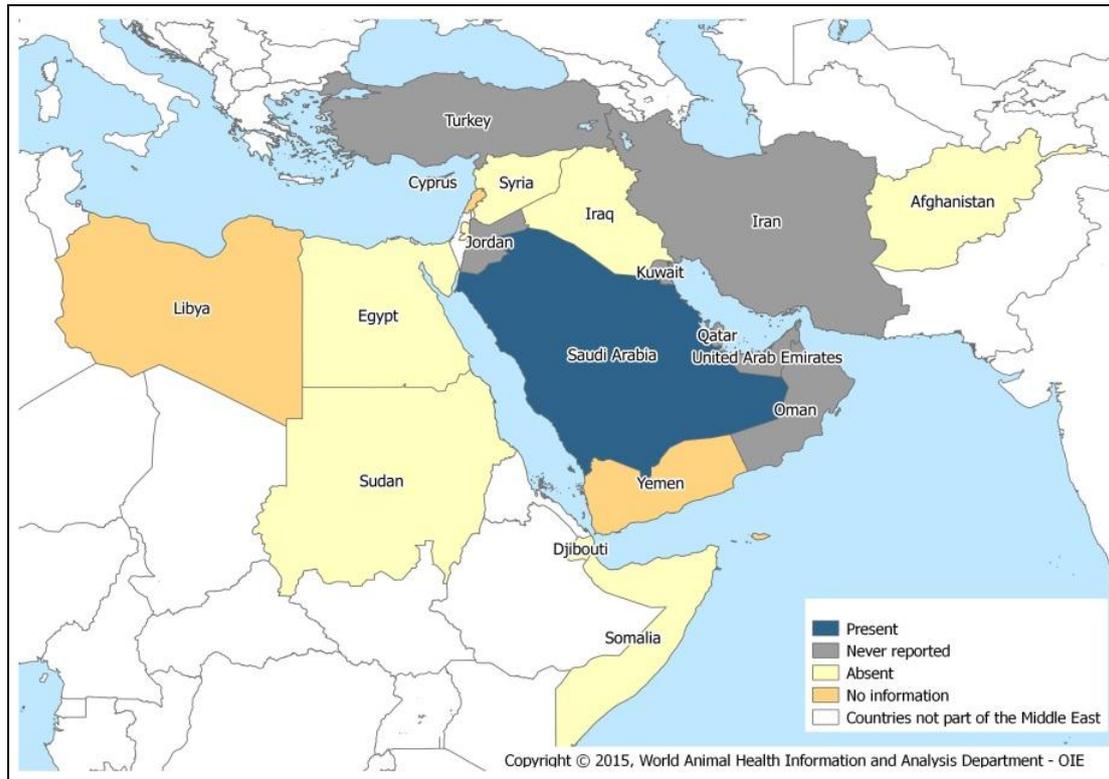
³⁸ Anyamba, A., Chretien, J.-P., Small, J., Tucker, C.J., Formenty, P.B., Richardson, J.H., Britch, S.C., Schnabel, D.C. Erickson, R.L., Linthicum, K.J., 2009. Prediction of a Rift Valley fever outbreak. *Proc. Natl. Acad. Sci. U. S. A.* 106, 955–9. doi:10.1073/pnas.0806490106.

³⁹ Anyamba A, Small JL, Britch SC, Tucker CJ, Pak EW, et al. (2014) Recent Weather Extremes and Impacts on Agricultural Production and Vector-Borne Disease Outbreak Patterns. *PLoS ONE* 9(3): e92538.

⁴⁰ Afghanistan, Djibouti, Egypt, Iraq, Palestinian Autonomous Territories, Somalia, Sudan and Syria.

⁴¹ Bahrain, Cyprus, Iran, Jordan, Kuwait, Oman, Qatar, Turkey and United Arab Emirates.

Figure 10: Distribution of Rift Valley fever in the Middle East Region between 1 January 2014 and 12 October 2015

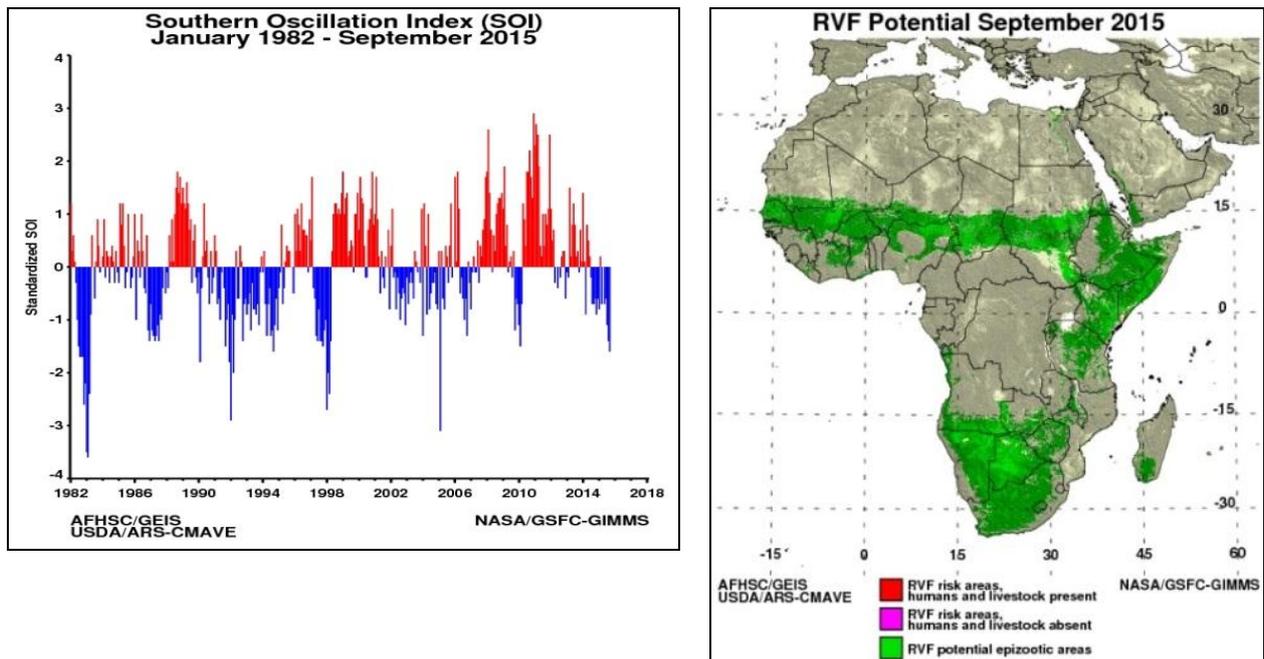


142. In general, and in contrast to the situation with LSD, the level of detail that Member Countries have provided for RVF is quite low. For the period 2005 – 2015 (up to 12 October 2015) only 42% of the reports provided contained quantitative information (number of outbreaks and number of affected animals). Moreover, all the affected countries provided the information at country level (occurrence of the disease in the whole country), without data at the administrative division level. More detailed information about the geographical distribution of the disease is available only for the two immediate notifications relating to Sudan (2007) and Saudi Arabia (2010). In view of the existing data, it is difficult to derive any evaluation of the influence of environmental/climatic conditions on the dynamics of the disease in the Region.
143. Considering that data from the United States Department of Agriculture (USDA) Agricultural Research Service show a clear relationship between the climatic condition produced by El Niño and the occurrence of the disease, provision of detailed information on vector-borne diseases is really important⁴². We are currently observing a negative phase of the El Niño Southern Oscillation Index (SOI), which in East Africa is related to an increase in RVF occurrence⁴³ (Figure 11 left panel – the negative oscillation is represented in blue on the graph). As shown in Figure 11 (right panel), these conditions allow one to predict a potential appearance of the disease in the southern part of Sudan and in a narrow area in the western part of Saudi Arabia and Yemen. It has also been forecast that there is a 90% chance of the El Niño event continuing through to early 2016. This should therefore prompt planners and decision-makers to be on the alert for the appearance of RVF.

⁴² <http://www.ars.usda.gov/Business/docs.htm?docid=23460>.

⁴³ Chretien J, Anyamba A, Small J, Britch S, Sanchez JL, Halbach AC, Tucker C, Linthicum KJ. Global Climate Anomalies and Potential Infectious Disease Risks: 2014-2015. PLOS Currents Outbreaks. 2015 Jan 26.

Figure 11: The Southern Oscillation Index between 1982 and September 2015 (on the left) and the potential risk for the occurrence of RVF (on the right)



144. In terms of the information collected in WAHIS, there is clearly a huge difference in the quality of information provided for RVF and LSD. As a result, it has not been possible to obtain any clear indications about the dynamics of RVF in the Region, whereas very useful information was derived from the analysis of LSD data.
145. In view of the above, Member Countries are encouraged to provide the OIE with information of the highest possible quality, to help the OIE to fulfil its mission to improve animal health worldwide.
146. Climatic and environmental changes, as shown by the results of the analysis, play an important role in the epidemiology of vector-borne diseases.
147. Current climatic conditions suggest that an El Niño event of historic magnitude is approaching, with a high probability of the re-emergence of **Rift Valley fever**. NASA predicts a high likelihood of above-normal rainfall and flood conditions occurring in Eastern Africa (and part of the Middle East). In this context, monitoring efforts to prevent the spread of the disease have to be maximized
148. **Lumpy skin disease** is an important disease in the Region, in terms of the role that Middle Eastern countries can play in preventing its further spread to areas beyond those where it is currently endemic, and to Europe and Asia. The recent occurrence of LSD in Greece shows that more efforts have to be made to control this disease. The simple NDVI model developed for **lumpy skin disease** clearly shows the areas that are more likely to be infected in the future. Even if the model is very simple, as it does not take into account other important epidemiological factors such as host density, animal movements, mean temperatures etc., it could be a good starting point to exemplify the importance of, and the potential for, combining the collection of traditional epidemiological data with more advanced analytical instruments.
149. More advanced predictive models could be produced in the future to help the Member Countries in their surveillance and prevention activities.

150. Considering the information and analysis provided in this section, the following suggestions for more effective management of vector-borne diseases should be taken into account:

- proper monitoring: an effective surveillance system to quickly detect the disease and to collect high quality information (from a quantitative and spatial point of view);
- proper analysis of the data: in view of the role that environmental and climatic conditions play in the epidemiology of these diseases, it would be appropriate to constantly monitor not only the occurrence of the diseases but even the factors that can affect their distribution (climatic and environmental data) by means of the most modern techniques of spatial epidemiology and with the use of remote sensing-derived data;
- proper use of the outcomes of the analysis: real-time monitoring of the risk factors could allow a timely response from the Veterinary Services. Real-time monitoring can be used to produce real-time predictive and risk maps, which are useful tools for decision-makers to maximize the efficacy of the control measures and improve their cost/benefit ratio;
- proper communication and transparency among Member Countries: considering the capacity of these diseases for rapid spread, it is very important for Member Countries to comply with the obligation for transparency by reporting as soon as possible the presence of the disease to the OIE.

2.3 Foot and mouth disease

151. Although foot and mouth disease (FMD) is a disease of low mortality, its impact is colossal. This impact includes direct losses due to reduced production and indirect losses caused by the cost of FMD control and poor access to markets.

152. The disease is widespread in the Middle East. Between 1 January 2014 and 12 October 2015, 65% (13⁴⁴/20) of reporting countries/territories in the Region reported the disease present at least once and 35% (7⁴⁵/20) reported the disease absent. Figure 12 shows the distribution of FMD in countries/territories of the Middle East during this period. As shown on the map, almost all affected countries/territories (11⁴⁶ among 13) notified serotype O, six countries⁴⁷ notified serotype A, three countries⁴⁸ notified serotype Asia 1, Afghanistan reported serotype SAT 1 and Egypt reported serotype SAT 2. Two affected countries, Saudi Arabia and Somalia, did not provide information about the serotypes.

⁴⁴ Afghanistan, Egypt, Iran, Iraq, Libya, Oman, Palestinian Autonomous Territories, Qatar, Saudi Arabia, Somalia, Sudan, Turkey and United Arab Emirates.

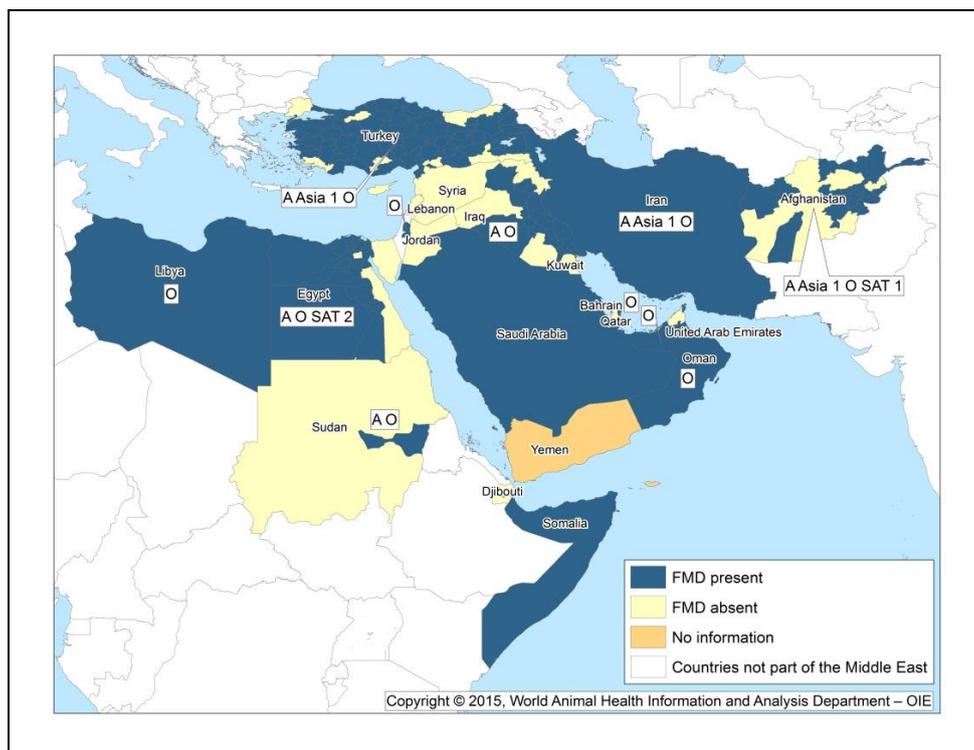
⁴⁵ Bahrain, Cyprus, Djibouti, Jordan, Kuwait, Lebanon and Syria.

⁴⁶ Afghanistan, Egypt, Iran, Iraq, Libya, Oman, Palestinian Autonomous Territories, Qatar, Sudan, Turkey and United Arab Emirates.

⁴⁷ Afghanistan, Egypt, Iran, Iraq, Sudan and Turkey.

⁴⁸ Afghanistan, Iran and Turkey.

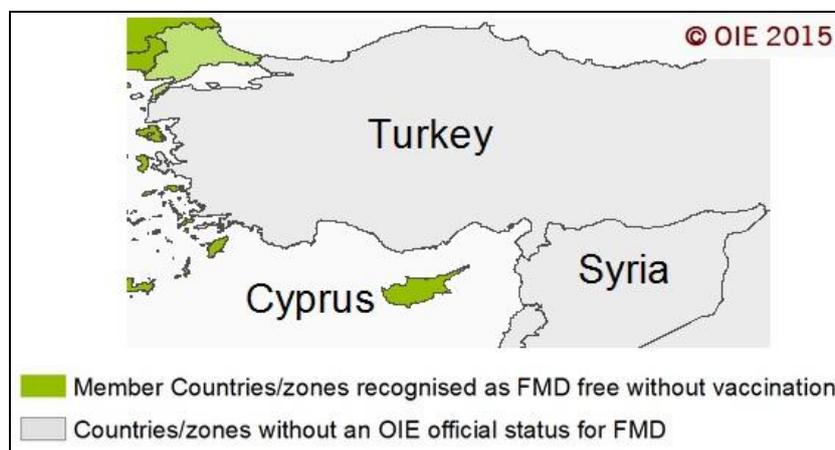
Figure 12: Distribution of foot and mouth disease in countries/territories of the Middle East, between 1 January 2014 and 12 October 2015, and serotypes notified



153. In total, 10 countries/territories provided information on the number of cases in domestic animals, with an average of about 5200 cases in livestock detected annually per country. Most of the affected countries did not apply a stamping-out policy during the period under study but vaccination has been massively implemented in the Region. During this period, 77% (10/13) of affected countries and 57% of non-affected countries (4/7) reported vaccination programmes. Countries applying vaccination reported an average of more than 6 000 000 livestock animals vaccinated annually per country.

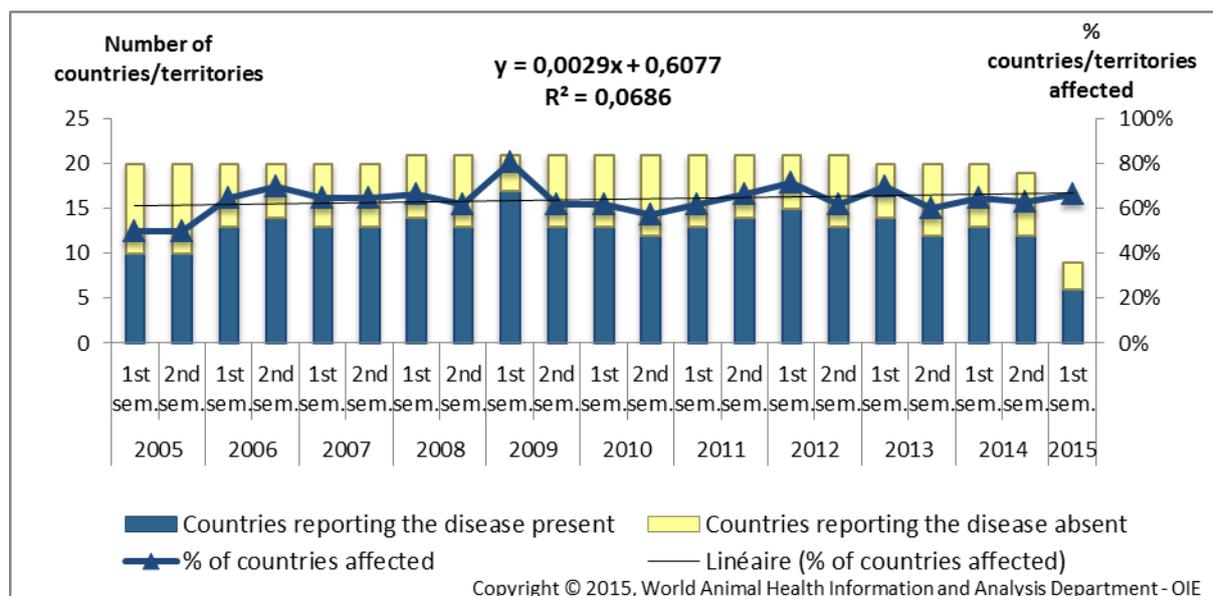
154. Although FMD is widespread in the Middle East, one country, Cyprus, was recognised as FMD free where vaccination is not practised and one country, Turkey, was recognised as having an FMD free zone where vaccination is practised, according to the provisions of Chapter 8.7. of the *Terrestrial Code* (Figure 13). In the Region, there are no Member Countries with an OIE-endorsed official control programme for FMD.

Figure 13: Official foot and mouth disease status (last update May 2015)



155. Figure 14 shows the percentage of countries/territories in the Middle East reporting FMD between 2005 and 2014, by semester. The percentage remained relatively stable between the first semester of 2005 and the first semester of 2015, between 50% and 81%, with a median value of 65%, indicating a stable situation over the past 10 years, with no significant improvement or deterioration observed.

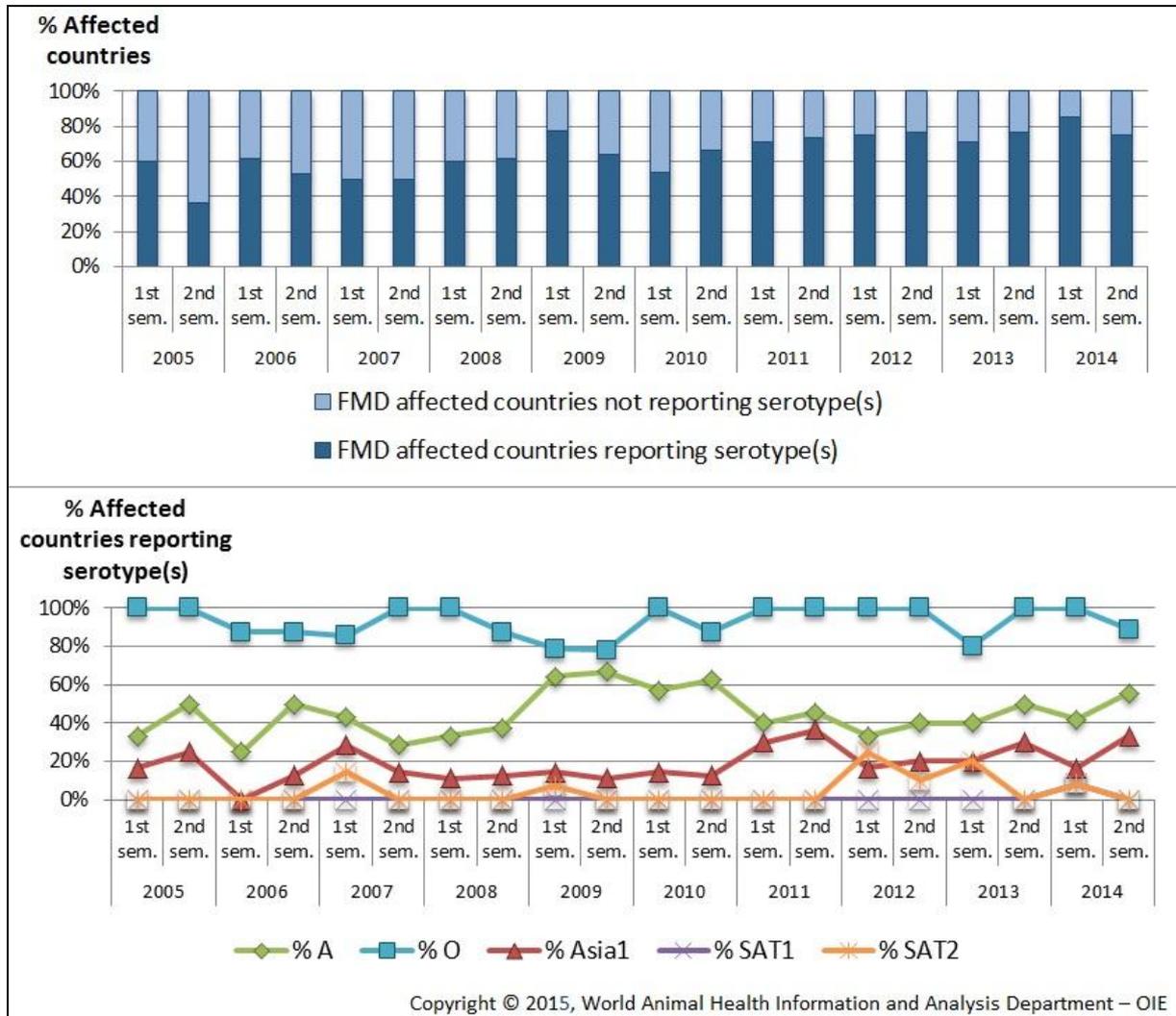
Figure 14: Percentage of countries reporting foot and mouth disease between 2005 and the first semester of 2015, by semester
(data based on reports received up to 12 October 2015)



156. Five FMD serotypes, A, O, SAT 1, SAT 2 and Asia 1, have been circulating in the Middle East during the past 10 years. The upper part of Figure 15 shows that, during this period, not all the affected countries of the Region provided information about the serotype(s) involved. Each semester, between 14% and 64% of affected countries did not report this data. However, the situation significantly improved with time, with a higher percentage of affected countries providing information about the serotypes in the Region (Spearman rank correlation = 253, $p = 1.5e-05$; $\rho = -0.8$).

157. The lower part of Figure 15 shows the contribution of each FMD serotype to the presence of the disease in the Region between 2005 and 2014. It indicates the evolution of the percentage of each serotype among affected countries providing information on serotypes. Serotype O was regularly notified by the quasi-totality of affected countries reporting this information and remained the most widespread in the Region during the whole period. Serotype A was reported by about half of the affected countries providing information on serotypes (median of 42%), but with an irregular trend. Serotype Asia 1 was reported by less than a fifth of the affected countries providing information on serotypes (median of 17%), SAT 2 was reported by a few countries during six out of the 20 semesters and serotype SAT 1 was reported only during the first semester of 2014 (by Afghanistan).

Figure 15: FMD-affected countries in the Middle East providing serotype information between 2005 and 2014, by semester (data based on reports received up to 12 October 2015), and frequency of serotypes notified



158. In conclusion, FMD has been widespread in the Region for many years, with five circulating serotypes, and only two Member Countries have managed to obtain an OIE-recognised official FMD status: in one case as a Member Country recognised as FMD free where vaccination is not practised, and in the other case as a Member Country having an FMD free zone where vaccination is practised. Currently, the economic impact of the disease is significant, not only because of production losses due to diseased animals, but also because of the impact of the control programmes, with a high percentage of susceptible livestock being vaccinated annually. The OIE encourages countries/territories of the Region to share timely and accurate information about FMD distribution and control. This section indicates that several countries have not yet provided information for 2014 and 2015 on the FMD situation in their territory or the serotype(s) involved. However, sharing this information with neighbouring countries and trade partners is a necessary condition for improving the preparation of national control programmes. In this respect, GF-TADs⁴⁹ Steering Committee for the Middle East is fostering cooperation between Member Countries, donors, Regional Specialised Organisations and the Regional Support Units. GF-TADs also has the role of ensuring guidance and coherence, monitoring progress and determining, with the GF-TADs Secretariat, performance indicators for effective field, laboratory, epidemiological evaluation of disease events and control efforts⁵⁰.

3. Summary of the current situation of infection with avian influenza viruses and infection with peste des petits ruminants virus in the world and in the Region

3.1 Infection with avian influenza viruses

159. High pathogenicity avian influenza (HPAI) viruses can kill up to 90-100% of a poultry flock, devastating the poultry industry and resulting in severe trade restrictions. Currently, the world is experiencing an extensive HPAI outbreak, with no immediate prospects for complete, worldwide eradication. Moreover, some avian influenza viruses can have severe consequences in humans, independently from their pathogenicity in poultry (e.g. low pathogenic avian influenza [LPAI] H7N9 virus circulating in Eastern Asia).

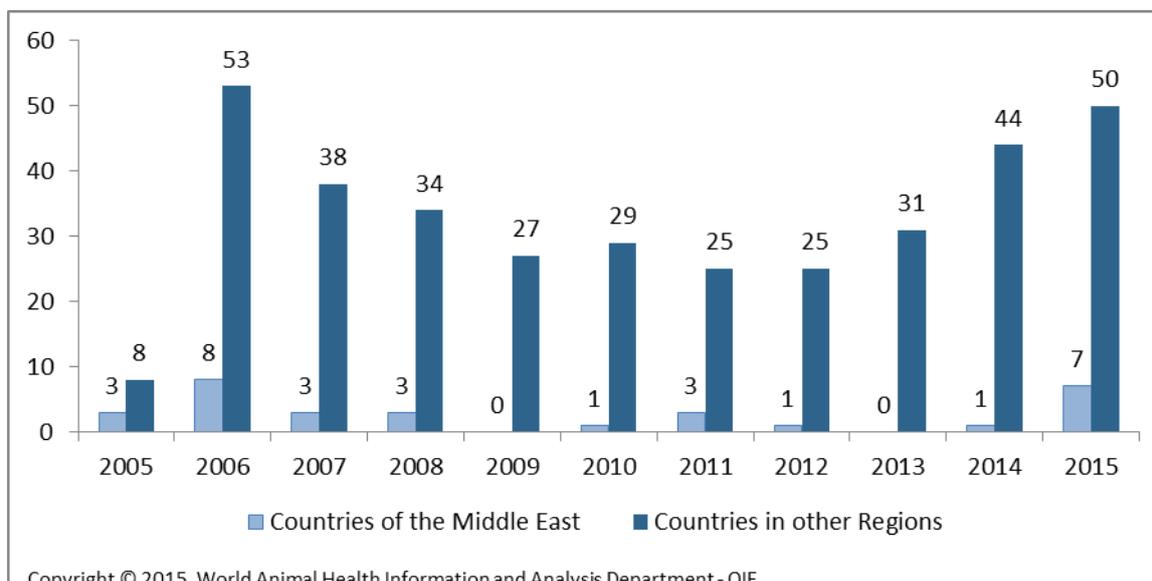
160. Figure 16 shows the number of immediate notifications for infection with avian influenza viruses (both HPAI and LPAI) reported to the OIE by countries/territories in the Middle East and in other regions between 2005 and 2015 (as of 12 October). In the Middle East Region, one immediate notification was submitted in 2014 (by Libya) and seven in 2015 (by Iran, Libya, Palestinian Autonomous Territories and Turkey); all these notifications were made for the first occurrence or the reoccurrence of HPAI H5N1 in a country or a zone, indicating a spread of H5N1 viruses in the Region. Altogether, more than 2 000 000 poultry were affected and lost due to death or destruction.

161. However, the spread of avian influenza viruses is even more alarming in other regions. There were 50 immediate notifications in 2015 (as of 12 October), which is comparable to the number of notifications received during the peak of the H5N1 epidemic in 2006. In 2015, seven influenza virus subtypes were notified by 25 countries outside the Middle East.

⁴⁹ FAO–OIE Global Framework for the progressive control of Transboundary Animal Diseases.

⁵⁰ GF-TADS in the Middle East, OIE Regional Representation for the Middle East. Presentation made during the Conference on “Rift Valley fever: new options for trade, prevention and control”, held in Djibouti, 21 to 23 April 2015, www.rr-africa.oie.int/docspdf/en/2015/RVF/GHAZI2.pdf.

Figure 16: Number of immediate notifications for infection with avian influenza viruses (both HPAI and LPAI) reported to the OIE by countries/territories in the Middle East and in other regions of the world, between 2005 and 2015 (as of 12 October)



162. Therefore, the OIE recommends that all countries/territories in the Middle East apply surveillance in domestic birds and wild birds where applicable, and notify their situation to the OIE in a timely manner, as stipulated in Chapter 1.1. of the *Terrestrial Code*. This information will in turn allow the international scientific community to detect in a timely manner any change in the virus subtypes circulating in the Region, and allow neighbouring countries and trade partners to take the appropriate steps to prevent the spread of the viruses on their territories. It will also help to improve control strategies in the Region.

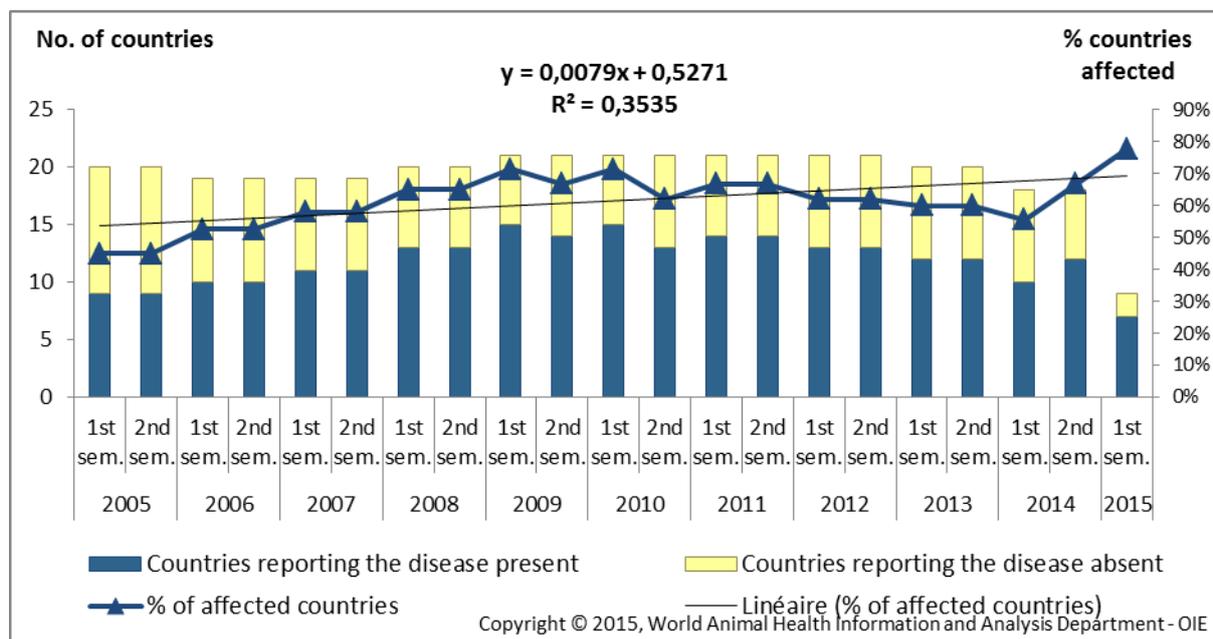
3.2 Infection with peste des petits ruminants

163. Infection with peste des petits ruminants (PPR) is one of the priority diseases indicated in the FAO-OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs). The Global Strategy for the eradication of PPR by 2030 was adopted in April 2015 in Abidjan⁵¹. Since 2005, the presence or suspicion of PPR has been notified to the OIE by 60 Members, mostly in sheep and goats. The global percentage of reporting countries affected by the disease has gradually increased during the last 10 years from 18% to 25%⁵². In the Middle East Region this percentage shows a similar statistically significant trend ($S = 736.77$, $p\text{-value} < 0.005$, $\rho=0.52$), increasing from 45% in the first semester 2005 to 78% in the first semester 2015 (data for 2015 still incomplete) (Figure 17).

⁵¹ Global Strategy for the control and eradication of PPR, OIE and FAO 2015, <http://www.oie.int/eng/ppr2015/doc/PPR-Global-Strategy-2015-03-28.pdf>.

⁵² Final reports on the animal health situation in Members of the OIE Regional Commission for Asia, the Far East and Oceania in 2014 and 2015 – 29th Conference of the OIE Regional Commission for Asia, the Far East and Oceania – Ulan Bator, Mongolia, 14 to 18 September 2015.

Figure 17: Percentage of countries/territories in the Region reporting infection with peste des petits ruminants virus, between 2005 and the first semester of 2015, by semester (as of 12 October 2015)



164. PPR is mostly reported through six-monthly reports. Between 2005 and 2015 only 31 immediate notifications were submitted by Member Countries, five of them corresponding to countries in the Region. It is important to note that if the disease is always reported through the six-monthly reports, it means that the countries concerned consider it to be endemic or sufficiently stable. The trend of the disease and its endemic status provide an added incentive for the programme to achieve global eradication by 2030.

165. To better estimate the evolution of the disease in the Region and to provide an adequate response for its control, the OIE highly recommends that Member Countries submit good quality information through six-monthly reports and through immediate notifications when relevant.

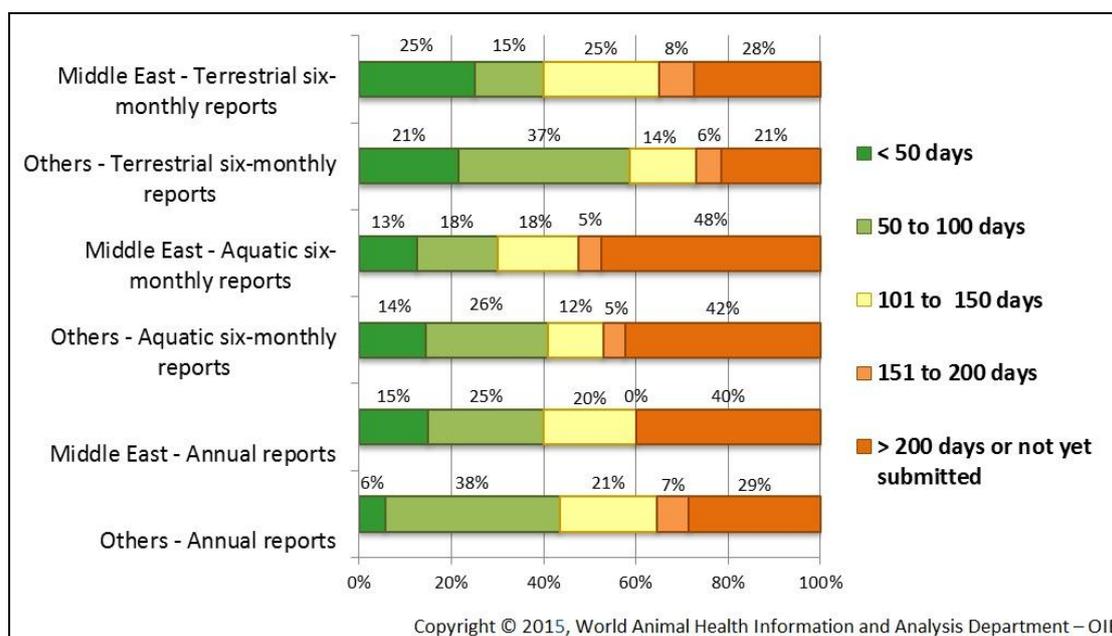
4. Regional issues for reporting to the OIE

166. In 2014 and 2015, the OIE World Animal Health Information and Analysis Department has developed several performance indicators to evaluate and target reporting issues.

167. Figure 18 shows the distribution of submission times for the 2014 reports of Member Countries of the Regional Commission for the Middle East in comparison with that of other Members, by report type. Concerning six-monthly reports for terrestrial animal diseases, the percentage of Member Countries in the last three categories (“101 to 150 days”, “151 to 200 days” and “more than 200 days or not yet submitted”) is higher for the Regional Commission for the Middle East than for other Regions. The situation is similar concerning six-monthly reports for aquatic animal diseases. For these two types of reports, Member Countries of the Regional Commission for the Middle East took more time for submission than those in other Regions.

168. Concerning annual reports, the percentage of Member Countries in the best category (within 50 days after the end of the year) was higher for the Regional Commission for the Middle East than for other Regions, which is very positive (15% vs. 6%). However, the percentage of Member Countries in the last category (“more than 200 days or not yet submitted”) was also higher for the Regional Commission for the Middle East than for other Regions (40% vs. 29%).
169. Altogether, these delays prevent other Member Countries from accessing the information and the OIE recommends that Member Countries of the Regional Commission for the Middle East put more effort into submitting information in a timelier manner.

Figure 18: Distribution of submission times for 2014 reports of Member Countries of the Regional Commission for the Middle East in comparison with other Members, by report type



170. Forty-five percent of the six-monthly reports for 2014 for aquatic animal diseases due to be submitted by Member Countries of the Regional Commission for the Middle East had not yet been submitted as of 12 October 2015. This percentage is higher than that observed for other Member Countries (45% vs. 33%). The OIE encourages Member Countries of the Regional Commission for the Middle East to put more effort into submitting information for aquatic animals. These reports are meant to provide animal health information for both capture and aquaculture animals. The OIE wishes to draw the attention of its Members to the following recommendation: if a certain category of aquatic animals is not produced or captured in a country (for example amphibians), the country should indicate the diseases affecting this category as “absent” or “never reported” in its reports, instead of simply providing no information. Furthermore, the OIE recommends its Members to nominate a National Focal Point for Aquatic Animals, in order to support the optimal collection of aquatic animal disease information and its submission to the OIE through WAHIS, as stated in the Terms of Reference. All Member Countries of the Regional Commission for the Middle East except Djibouti have nominated a National Focal Point for Aquatic Animals. However, many are not yet submitting any information about aquatic animal diseases.

Discussion

171. Dr George Khoury, FAO Consultant in Syria, asked for an update regarding the new lineage of FMDV serotype A recently notified in Saudi Arabia and in Turkey. As this new strain appeared to be close to strains circulating in India, he wondered if there was cross immunity with the vaccine strains currently used in the region for this serotype.
172. Dr Donald King from the OIE FMD Reference Laboratory indicated that Pirbright Laboratory was currently working in collaboration with the national laboratory in Turkey in order to better characterised the new strains of serotype A notified by Saudi Arabia and Turkey. He explained that results on vaccine matching to confirm that vaccine strains currently used against serotype A in the region are suitable would be available in few weeks. In any case, on the long term, in-vivo study would be necessary to ensure appropriate protection of susceptible animal populations through vaccines.
173. Dr Susanne Münstermann, Project Officer at the OIE Scientific and Technical Department, stressed on the importance of the information provided by Dr Cáceres regarding the meteorological phenomenon El Niño. Based on past experiences, she explained that the increased rain falls foreseen by this phenomenon should alert this region, as well as Eastern Africa and the Horn of Africa, on the increased risk for Rift Valley Fever. She confirmed that the experts from both the OIE and the FAO were on an alert mode and ready to support Member Countries in facing this situation. She finally urged Member Countries to take necessary actions, i.e. vaccination, to prevent outbreaks of Rift Valley Fever in the coming months.
174. Dr Ghazi Yehia closed the discussion by reiterating the importance for Member Countries to notify to the OIE their sanitary situation with quality information provided on a timely manner.

OIE Terrestrial Animal Health Standards Commission Issues of interest to the Region Challenges and proposals

175. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Etienne Bonbon, President of the OIE Terrestrial Animal Health Standards Commission (the Code Commission), to make a presentation on 'Issues of interest to the Region and challenges and proposals' regarding the OIE Terrestrial Animal Health Standards Commission.
176. Dr Bonbon presented the major issues relating to the *Terrestrial Animal Health Code (Terrestrial Code)* that had been adopted at the 83rd General Session in May 2015 and those that had been discussed during the meeting of the Code Commission on 31 August to 10 September 2015.
177. He first highlighted the importance for the Middle East Region of the adoption in May of the updated User's Guide and Glossary, the revised chapters on bluetongue and FMD, and the new chapter on epizootic haemorrhagic disease (EHD).
178. He then detailed the outcome of the Code Commission discussions in September, especially on the procedures for standard setting, on the updating of the glossary and chapters on disease notification and criteria for listing diseases, on the drafting of a new chapter on the welfare of working equids and on the complete revision of the chapters on glanders, African swine fever and tuberculosis.
179. He also stressed the importance of the endorsement by the Scientific Commission of the OIE Handbook on high health, high performance (HHP) horses, including biosecurity guidelines and model certificate.

180. He finally referred to the programme of revision of the *Terrestrial Code*, including the discussions held with the Scientific Commission regarding some pending issues on FMD and bovine spongiform encephalopathy (BSE), the future work of Specialist Commissions and *ad hoc* Groups of experts on vaccination, zoning and disease outbreak management, and the forthcoming revision of the chapters on theileriosis and lumpy skin disease.
181. Dr Bonbon ended by giving the Delegates some indications on how best to participate in the standard-setting process and called for a greater participation from the Middle East Region.

Discussion

182. Dr Ghazi Yehia reminded the Delegates that the Terrestrial Animal Health Code was available in Arabic on the website of the Regional Representation and that it was regularly updated.
183. He indicated that the User's Guide to support Member Countries in preparing their comments to OIE texts under consultation would also be translated to Arabic soon.
184. Making reference to lumpy skin disease and glanders, two diseases of importance for the region, he urged Member Countries to contribute to the OIE standard setting process by providing, before February 2016, their comments on the relevant *Code* chapters.
185. Following a comment from Dr Mahmoud Orabi, Animal Health Specialist at USDA-APHIS, the President of the Code Commission reiterated that the Terrestrial Code was a complex document developed with logical approach and, as such, Member Countries should apply it in its entirety especially when used for trade purposes.
186. Dr Vallat finally took the opportunity to remind the Member Countries that the OIE Codes were not developed only for trade purpose, but were also fundamental elements to support Member Countries in the development of their national animal health policies and programmes.

One Health concept: OIE approach and collaboration with the WHO and the FAO including on rabies and avian influenza control and new disease naming Preparation of the IHR/PVS national seminars

187. The Conference Chairperson, Dr Elias Ibrahim, invited Dr Stéphane De la Rocque, Animal Health Specialist, to deliver a presentation on 'One Health concept: OIE approach and collaboration with the WHO and the FAO including on rabies and avian influenza control and new disease naming. Preparation of the IHR/PVS national seminars'.
188. Dr De La Rocque started his presentation by mentioning that experience gathered from the pandemic influenza crisis and other similar emergencies involving major zoonotic infectious diseases had confirmed that collaboration between human and animal health systems was crucial to effectively manage their potential global spread.
189. He emphasised that human and animal health systems needed to be robust and have sufficient capacities to ensure global health safety. He explained that, in order to be effective, they needed to work in close partnership to address common issues regarding early detection, assessment and rapid response, whilst respecting international standards.

190. Dr De La Rocque stated that the OIE and WHO were the intergovernmental organisations mandated to improve animal health and human health, respectively, on a global scale; they assisted countries with strengthening their capacities and improving their compliance under the normative frameworks of the international standards described in the OIE *Terrestrial Animal Health Code* and *Aquatic Animal Health Code* and the WHO International Health Regulations (IHR, 2005).
191. He then explained that the use of these normative frameworks had provided opportunities to engage human and animal health systems in a constructive and operations-oriented dialogue, exploring ways to improve their coordination. Stemming from this, significant results had recently been obtained and were in line with good governance principles. He indicated that to support countries in improving their governance systems, the OIE and WHO had developed complementary tools to assess national capacities and to analyse gaps in their compliance with OIE international standards and the IHR (2005).
192. Dr De La Rocque stated that the OIE and WHO had also conducted, with the support of the World Bank, an in-depth analysis of the differences and synergies between the frameworks and tools used in the two sectors. Joint WHO IHR/OIE PVS Pathway national bridging workshops offered a structured approach to help countries identify strengths and weaknesses and accordingly define concerted corrective measures and strategic investments. He noted that pilot workshops had demonstrated their relevance in helping countries to define national strategies targeting capacity building at the human–animal health interface and had led to the publication of a guide entitled “OIE WHO Operational framework for Good governance at the human–animal interface: Bridging WHO and OIE Tools for the assessment of national capacities”. Dr De La Rocque indicated that this approach was now being proposed as part of programmes undertaken by the OIE and WHO and several countries had already requested such workshops for the coming months. It would contribute to globally promoting the importance of a One Health approach, while accelerating progress towards global health security.
193. Dr De La Rocque explained how this approach could be used to stimulate intersectoral collaboration for the implementation of disease-specific programmes, using rabies and avian influenza as case studies.
194. Finally, he described the recently published “Best Practices for the Naming of New Human Infectious Diseases”, developed by WHO in consultation and collaboration with the OIE and FAO, with the aim of minimising any unnecessary negative impact of disease names on trade, travel, tourism or animal welfare, and avoiding causing offence to any cultural, social, national, regional, professional or ethnic groups.

Outcomes of the PVS Pathway questionnaire Results and perspectives

195. The Conference Chairperson, Dr Elias Ibrahim, invited Dr François Caya, Head of the OIE Regional Activities Department to make a presentation on the Results and perspectives of the outcomes of the PVS Pathway questionnaire sent to Member Countries earlier this year.
196. Dr Caya provided the Regional Commission with an overview of the preliminary results of the analysis of the answers to the questionnaire on OIE Member Countries’ experience with the PVS Pathway.

197. He first reminded the objective of the questionnaire which was to identify impact, measure satisfaction, and capture success stories related to the PVS Pathway experience of OIE Member Countries. The questionnaire was sent to countries that had received at least one PVS Evaluation mission for which the report was validated. Accordingly, there were 4 groups of countries targeted: countries that had received only a PVS Evaluation mission, countries that had received a PVS Evaluation and a PVS gap Analysis missions, countries that had received a PVS Evaluation and a Veterinary Legislation Identification missions, and countries that had received a PVS Evaluation, a PVS Gap Analysis, and a Veterinary Legislation Identification missions. In this context, a total of 119 countries received the questionnaire, sixteen (16) of which were from the OIE Regional Commission for the Middle East. He indicated that the survey was performed from 23 February to 21 July, 2015.
198. He indicated that the global response rate to the questionnaire was 84%. He thanked the countries of the Middle East Region which responded at a rate of 75%, the vast majority of questionnaires being responded by national Focal Points. A good percentage of the questionnaires were also responded by more than one person including, heads of Department in the central level, Directors of Laboratories, and official veterinarians.
199. Dr Caya then listed the eighteen (18) potential outcomes of PVS Evaluation and PVS Gap Analysis missions evaluated through the questionnaire and the scoring system established for evaluating them. He went on providing the list of the top improvements resulting from PVS Evaluation missions and PVS Gap Analysis missions according to the answer from the countries involved in the Region. He indicated that the improvements resulting were quite different for both steps of the PVS Pathway. When it comes to the PVS Evaluation missions, Dr Caya noted that it was a greater understanding of the strengths and the weaknesses of the Veterinary Services, their needs, as well as the OIE standards. Improvements were also reported on the expansion of the activities of the Veterinary Services and the physical infrastructure. Regarding the PVS Gap Analysis missions, he noted that it was an improvement in the integration of international norms and standards in countries' regulations, the support in the development of projects funded by donors, as well as in the training opportunities. However, Dr Caya noted that a more in depth analysis would be necessary to better categorize the differences.
200. Regarding the distribution of the PVS Pathway mission reports by Member Countries, Dr Caya indicated that, for both PVS Evaluation and PVS Gap Analysis, the sharing of the reports was remaining quite limited to staff within the Veterinary Authority, namely senior officials of the Ministry, persons having participated to the mission, OIE Focal Points, and other colleagues in the Veterinary Services who did not participate in the PVS Evaluation.
201. Regarding suggestions for improving the OIE PVS Pathway, Dr Caya indicated that Member Countries appeared to be quite interested in getting trained in the use of PVS Pathway tools. The nomination of a national PVS Pathway contact person was identified by Member Countries as an interesting next step that could help Member Countries to better take ownership of PVS Pathway missions' outcomes. The possibility of translating reports in local languages was also selected by respondents as a useful tool for effective dissemination of reports. Some countries provided precise suggestions and proposed that the OIE provide more support in the following fields:
- Restructuration of the VS and in the development of the public/private partnerships (sanitary mandate);
 - Evolution of the Gap Analysis tool to facilitate and help finding supports from donors; and
 - Support through training and workshops.

202. Dr Caya then went on providing some concrete examples of success stories reported by Member Countries. He explained that these success stories well illustrated the overall level of satisfaction of OIE Member Countries with the PVS Pathway. Indeed, 98% of Member Countries involved in the PVS Pathway described their overall experience from good to excellent.
203. With regards to the likelihood for requesting, in the future, other PVS Pathway services, the Member Countries of the Region top ranked the following types of missions:
- PVS Evaluation Follow-up
 - Laboratory Twinning
 - PVS Evaluation of Aquatic Animal Health Services
 - PVS Pathway Laboratory
 - Veterinary Education Establishment Twinning
 - Veterinary Statutory Body Twinning
204. In conclusion, Dr Caya explained that the results presented needed further in depth analysis in order to better understand the experience of OIE Member Countries with the PVS Pathway. Once the analysis completed, the results will be shared with the OIE Member Countries through a publication in the OIE Bulletin and, most likely, through a short presentation at the next General Session of the World Assembly of Delegates. The results will also be shared with the OIE donors during the next meeting of the Advisory Committee of the World Animal Health and Welfare Fund. Finally, he indicated that the results of this survey would be used to improve the PVS Pathway to ensure this important OIE programme continue fulfilling the expectations of OIE Member Countries.

Presentations by international and regional organisations

Food and Agriculture Organization of the United Nations (FAO)

205. Dr Markos Tibbo, Livestock Officer at FAO, gave a brief review regarding the assistance provided by the FAO to Veterinary Services in the Near East and North Africa region. He detailed the challenges faced by the livestock sector in the region and commented on the economic impacts of diseases event in the region. He then explained the FAO intervention in the region and the major areas of technical support to countries. Finally, he commented on the upcoming events as well as on the publications of the organisation.

European Commission (EC)

206. Dr Moritz Klemm, Veterinary Officer of the European Commission responsible for relations with the OIE, highlighted the recent and on-going activities under the European Union – DG SANTE programme Better Training for Safer Food (BTSF) in the region. The "BTSF World" programme (2013-2016) includes Animal Health and Welfare, as well as Food Safety and Plant Health activities benefitting government officials and the private sector in several Middle Eastern and Asian countries. The programme includes various regional workshops and sustained training missions, with the overall objective to strengthen capacities of veterinary services and their understanding of EU legislation in this field, contributing to safe trade and enhancing cooperation in the SPS area. Furthermore, the first phase of the "BTSF ISSB" programme (2014-2015) provided training to government officials from Southern Mediterranean and Middle Eastern countries on Codex, OIE and IPPC standard setting. Furthermore, a dedicated workshop on OIE standard setting covering all countries of the Middle East region is under preparation under the second phase (2016-2017) of this programme.

World Animal Protection (WAP)

207. Dr Alistair Findlay, Representative of the World Animal Protection, gave a brief introduction to World Animal Protection's global campaign on Dog Population Management called "Better Lives for Dogs". He also highlighted the MENA region's aims of the campaign methodology and its various components. Dr Findlay concluded by commenting on the campaign role of World Animal Protection.

Date, venue and technical item with questionnaire for the 14th Conference of the OIE Regional Commission for the Middle East

208. Dr Vallat explained that, as is customary, one of the technical items would include responses by Members of the OIE Regional Commission for the Middle East to a questionnaire to be prepared on a specific item. This item would be decided at the next meeting of the OIE Regional Commission, due to take place during the OIE General Session in May 2016. The other item would be on a topical issue to be proposed by the Regional Commission and approved by the said Commission at the OIE General Session preceding the Conference, that is to say in May 2017.
209. Dr Elias Ibrahim, Chairperson of the Conference, invited a proposal from a country willing to host the 14th Conference of the OIE Regional Commission for the Middle East.
210. The Delegate of Turkey proposed his country to host the next Conference.
211. The preliminary proposal of Turkey was applauded and adopted unanimously.

Discussions of Recommendations 1 and 2

212. Dr Vallat reminded the Delegates that the recommendations adopted at the Conference would be presented for endorsement by the World Assembly of Delegates at the General Session in May 2016, making it binding on the OIE to implement these recommendations.
213. Draft Recommendations 1 and 2 on the two technical items were presented to the participants and put forward for discussion. Some amendments were proposed for each of the draft recommendation. The amended recommendations will be presented for final adoption at the Saturday session.

FRIDAY 13 NOVEMBER 2015

Cultural visit

214. The participants enjoyed the cultural visit organised by the host country. They expressed their gratitude to the organisers for the warm hospitality.

**Activities of the OIE Regional Representation
for the Middle East**

215. Dr Ghazi Yehia, OIE Regional Representative for the Middle East, made a brief presentation regarding the activities of the OIE Regional Representation for the Middle East (RR-ME). He commented on the objectives of the RR-ME which are: supporting the reinforcement of the Veterinary Services capabilities of the Member Countries for the control and surveillance of animal diseases, notably trans-boundary diseases; harmonising regulations for regional trade in animals and animal products; improving animal disease information systems; strengthening collaboration with regional and international organisations; holding conferences and seminars to help targeting specific animal and public health related issues; and promoting the establishment of a network of regional reference laboratories and coordinating their activities.
216. He then added that, in liaison with the Regional Commission for the Middle East and to respond to Member Countries requests, the Regional Representation for the Middle East helped the mobilisation of OIE experts from the 247 Reference Laboratories and the 49 Collaborating Centres through different activities especially, regional meetings, *ad hoc* missions and Twinning projects.
217. The OIE Regional Representative for the Middle East described the challenges related to the region, in particular the negative impact of the regional political disturbances on the control of TADs.
218. He then detailed the activities for 2016 in a work plan with goals and objectives to be met as follows:
- Goal 1: Promotion of OIE guidelines and standards
 - Goal 2: Strengthening the capacities of the Veterinary Services
 - Goal 3: Assistance to Member Countries
 - Goal 4: Specific regional concerns
 - Goal 5: Regional and international cooperation
 - Goal 6: Regional Representation office management
219. He also outlined the various related events to be organised in 2016 including (confirmed events): a sub-regional conference on camel diseases scheduled to be held in Abu Dhabi, United Arab Emirates, on 14-16 February; a regional conference on implementation of OIE standards on zoning and compartmentalisation in Aqaba, Jordan, on 29-31 March 2016; a workshop on disease status and official national control programme recognition training in Kaslik, Lebanon, on 19-21 April 2016. Seminars for OIE National Focal Points: animal welfare in Aqaba, Jordan, on 27-28 March 2016; WAHIS advanced Regional updating seminar with Africa in Sharm El Sheikh, Egypt, on 15-18 August 2016; veterinary laboratories in Kaslik, Lebanon, on 27-29 September 2014.
220. He also presented the foot and mouth disease (FMD) stepwise assessment conducted at the inter-regional consultative meeting on FMD and peste des petits ruminants (PPR) of the Global Framework for the progressive control of Transboundary Animal Diseases (GF-TADs), held in Amman, Jordan, in March 2014, which was an important step in the FMD Progressive Control Pathway (PCP) roadmap and to assisting countries in preparing national control plans.
221. Dr Yehia described shortly the situation of PPR in the Middle East (prevalence and vaccination strategies) and discussed the coming steps to elaborate a regional strategy in line with the Global strategy for control and eradication of PPR adopted in Abidjan earlier in 2015.

222. Lastly, he outlined the implementing steps of the Regional Animal Welfare Strategy (2014-2019) including the activation of the Middle East Coordination Group to elaborate the Regional Animal Welfare Implementation Plan; the strengthening of the transportation and handling components (Animal welfare Focal Points seminar in Aqaba); and the development of a new component on stray dog management.
223. Dr Yehia concluded by presenting the activities done by the Regional Representation for the Middle East regarding Arabic translation of documents (OIE reference documents, OIE regional website) to ease the OIE information and communication within the Middle East region.

Adoption of the draft Final Report and Recommendations

224. Dr François Caya, Head of the OIE Regional Activities Department, explained the procedures for adopting the report and recommendations of the Conference. Delegates could submit comments or suggestions for consideration during the Conference itself. Further comments on the report received at the OIE Headquarters by 30 November 2015 would also be taken into consideration. However, the recommendations had to be adopted during the current session and could not be changed subsequently.
225. The report was unanimously adopted without comments.
226. The two recommendations were adopted, with some amendments taking into account participants' suggestions and discussions.

Closing ceremony

227. On behalf of the Bureau of the OIE Regional Commission for the Middle East, the OIE Headquarters and the Conference participants, Dr Kassem Nasser Al-Qahtani, President of the OIE Regional Commission for the Middle East and Delegate of Qatar, read the traditional motion of thanks dedicated to the host country.
228. Dr Ghazi Yehia, OIE Regional Representative for the Middle East, expressed his gratitude to all participants attending the Conference. He congratulated Delegates for the great effort they did to be there despite the political tensions and difficult situation in the region.
229. Dr François Caya, Head of the OIE Regional Activities Department, thanked OIE Delegates of the region for their participation as well as the Authorities of Lebanon for all the support provided to ensure the success of the Conference. He expressed his gratitude to the USEK University for the administrative and technical facilities made available during the Conference. Finally, he thanked the OIE staff from the Regional Representation and the Headquarters for their active and fruitful contribution to the success of the event.
230. Dr Elias Ibrahim, OIE Delegate of Lebanon, made a special mention and thanks to the OIE Director General and to his staff from the OIE Headquarters and the OIE Regional Representation for the Middle East as well as to all OIE Delegates from the region for their active participation and efforts to attend the Regional Conference. He highlighted that the whole week was very constructive both technically and culturally. He thanked USEK University for the work done in the preparation of the Conference. He then expressed his gratitude, on behalf of his government and on his own, to the speakers and the OIE secretariat for the productive Conference. He wished all a safe trip back home and hoped that participants enjoyed their stay in Lebanon.
231. Dr Elias Ibrahim declared the Conference officially ended at 11:00 a.m.

Speeches pronounced during the opening ceremony

**Speech pronounced by Dr Lara Hanna Wakim
Dean of the Faculty of Agricultural and Food Sciences of USEK
at the occasion of the
13th Conference of the OIE Regional Commission for the Middle East**

Our distinguished International Guests,

I'm delighted to welcome you all at the Holy Spirit University of Kaslik.

I completely believe in the vision of OIE ensuring a fair and consistent approach to animal health, providing solutions to many of the great challenges of our planet.

That being said, it is also my wish that Dr Bernard Vallat the Director General of OIE, steers organization to greater heights.

Dr Vallat,

In one of your latest speeches, you stressed on OIE role in supporting programs for countries seeking to improve the capacities of their veterinary services.

In this context, we rely on your support in achieving our goal.

In this occasion, I would like to express a deep appreciation to Dr Ghazi Yehia, Regional Director of the OIE in the Middle East Region.

Thank you for your valuable advice and guidance.

Ladies and Gentleman,

The world is changing, in both the old and the new worlds, we must not just see the problems, but we must see that there are solutions possible.

I believe that fairness, consistency and safety must be at the core of all what we do. And I hope, very much hope, that our effort will be coordinated and constructive, so that we may make the 21st century one of security, peace and continued development.

Thank you

**Speech pronounced by Dr Kassem Nasser Al-Qahtani
President of the OIE Regional Commission for the Middle East and Delegate of Qatar
at the occasion of the
13th Conference of the OIE Regional Commission for the Middle East**

H.H. Sherifa Zein Al-Sharaf Bint Naser Ben Jamil,
Dr Vallat, Director General of the OIE,
Ing Louis Lahoud, Director General of the Lebanese Ministry of Agriculture,
Dr Elias Ibrahim, Director General of animal resources and his distinguished team,
Dr Ghazi Yehia, OIE Regional representative for the Middle East,
Gentlemen country delegates and representatives of regional and international organisations,
distinguished guests and dear colleagues,
Excellency and distinguished guests,
Welcome to you all,

I have the pleasure to express my sincere thanks and appreciation to the Lebanese government for its precious invitation to host the activities of this Regional Commission Conference of the World Organization for Animal Health in the Middle East in its current session. Our special thanks go to his Excellency the Lebanese Minister of Agriculture Mr Akram Shehayeb and the distinguished team of the Ministry of Agriculture.

Dear attendance,

I am pleased to welcome you on behalf of the Regional Commission of the World Organization for Animal Health in the Middle East at its thirteenth meeting in Kaslik, from 10 to 14 November 2015.

The OIE regional commissions have been created in order to improve the cooperation between the regional countries, and to consider problems related to the veterinary services of each zone, and to regulate the activities of epidemiological surveillance and disease control for each region.

The organization of this conference comes within the framework of the Regional representation for the Middle East, in line with the OIE organisation activity plan aiming at strengthening its efforts in monitoring and control of animal diseases, so we may have the opportunity to study all developments related to the epidemiological situation of animal diseases in the Middle East and the development of appropriate strategic plans to t these diseases. This will have a positive impact on public health and animal resources, and will support the regional economies as well as the development of projects, in order to ease the international trade between countries of the same region.

We know that the liberalization of the international trade in its multiple aspects eliminates the increasing burdens on all professionals working in the animal health sector. This will also increase the responsibilities of the Veterinary Quarantine management due to the increasing freedom of animals and animal products flow across the border check points and other passageways, as well as the spread of many animal diseases in various regions of developed and developing countries as well, which gives more importance to the conference we are opening today.

The holding of such a conference came from the need to build bridges of personal and professional links between the participants in this conference. This will effectively contribute to the development of the livestock sector at the regional level.

Ladies and gentlemen,

This conference abounds with many important topics of interest to the Middle East in the field of public health and animal health and in presence of a group of specialists in this field.

In conclusion, I extend my sincere thanks to His Excellency the Minister of Agriculture to host this regional conference. I would also like to thank the President of the OIE, its Director General and staff, and to His Excellency Dr Ghazi Yehia, the OIE regional representative for the Middle East and all his staff, as much as for all members of the organisational committee for their kind hospitality, the meeting preparations and for providing all means of success to this important conference.

May God help you and guide your steps.

Thank you

**Speech pronounced by Dr Bernard Vallat
Director General of the OIE
at the occasion of the
13th Conference of the OIE Regional Commission for the Middle East**

Her Highness Sharifa Zein Bint Nasser,
Honourable Minister of Agriculture of Lebanon,
Honourable Minister of Agriculture of Jordan,
Reverend Father President of USEK,
Excellency the Director General of the Ministry of Agriculture of Lebanon,
Delegate of Lebanon to the OIE,
President of the OIE Regional Commission for the Middle East,
Members of the Bureau of the OIE Regional Commission for the Middle East,
Delegates of Member Countries of the Middle East region,
Representatives of international, regional and national organisations,
OIE Regional Representative for the Middle East,
Dean of the Faculty of Agricultural and Food Sciences of USEK,
Lebanese Colleagues,
Distinguished guests,

We are extremely grateful to the Lebanese government for having kindly agreed to host the 13th Conference of the OIE Regional Commission for the Middle East, and for inviting us to the Holy Spirit University of Kaslik.

I would like to express my deepest gratitude to His Excellency, Mr Akram Chehayeb, Minister of Agriculture of Lebanon, to the Lebanese Authorities, to Dr Elias Ibrahim, Delegate of Lebanon to the OIE, to all our colleagues from the Animal Resources Directorate, to the regional and local authorities, and to the OIE staff and our Regional Representation for all the efforts they have devoted to ensuring the success of this Conference.

Since its foundation, the OIE has been working to establish animal health standards, primarily to improve disease control and prevention methods while facilitating and regulating safe trade in animals and animal products between countries.

Over the past decade, the OIE has expanded its mandate to include the promotion of the importance of Veterinary Services activities, food safety of animal products, and animal welfare. The OIE also strives to assist Members with complying with international standards on governance by offering them ongoing support through the OIE PVS Pathway and convincing rich countries to support the others.

To ensure the implementation of its mandate, the OIE has established strong alliances not only with its Members, but also with international governmental agencies such as the FAO and WHO, other international and regional organisations, the community of international donors supporting animal health programmes, such as the European Union and the World Bank, and Agencies from Members, and the private sector, such as the Bill & Melinda Gates Foundation and FEI.

Yesterday, with the financial support of the Bill & Melinda Gates Foundation, we held a Regional Seminar on the development of public-private partnerships to support Veterinary Services. The seminar provided the opportunity for fruitful discussions about OIE intergovernmental standards on the quality and responsibilities of the Veterinary Services and the importance of improving the relationship between the official Veterinary Services and the private sector including private veterinarians and livestock owners for prevention and control of animal diseases.

Engagement in public-private-partnerships can be extremely useful for the Veterinary Services in helping them to implement their regulatory responsibilities in the veterinary domain. A positive example of this engagement at global level is the public-private partnership formed between the

OIE, the FEI and the IFHA to develop the “high health, high performance horse (HHP)” concept for international competitions. This could be extended to the World Arabian Horse Organisation.

The OIE Global Programme for strengthening Veterinary Services, mainly based on the OIE PVS Tool for the evaluation of performance of Veterinary Services, has advanced significantly and has largely passed the symbolic number of 130 OIE Members involved in the process with a very strong involvement of the region. We are very pleased to highlight the recent involvement of developed countries in the OIE PVS Pathway such as Australia and Canada. This involvement testifies that the OIE PVS Pathway is the only global programme that can ensure the sustainable improvement of Member's compliance with OIE standards. This is now considered as a global model by several international organisations and agencies such as the World Bank and WHO, and several bilateral donors which consider systematically the PVS Pathway for all its livestock related projects.

It would not have been possible to progress towards achieving the ambitious objectives of the previous Fifth Strategic Plan without the support of our donors. I would like to express my thanks to all the donors that have contributed to the OIE's work, mainly through the OIE World Animal Health and Welfare Fund. The OIE counts on their support to continue assisting the work of the OIE during the implementation of the Sixth Strategic Plan to start in January 2016.

Successful implementation of the Sixth Strategic Plan and its objectives will definitely depend on the commitment of OIE Member Countries in providing an adequate budget through OIE statutory contributions (for which we have now two extraordinary categories: A and B) and voluntary contributions, including those channelled through the OIE Animal Health and Welfare Fund.

The support provided to our Regional Representation for the Middle East will also have an enormous impact on the development of OIE activities and the success of the Strategic Plan in the region.

The Regional Representation needs your permanent support in order to provide regionally adapted services to OIE Members so that they may strengthen the surveillance and control of animal diseases and other OIE Member Countries objectives.

Notwithstanding the advances made to date, there are still many challenges ahead, such as, among others, unsuitable veterinary legislation, scarce public funding of Veterinary Services, environmental controversies around livestock, and antimicrobial resistance.

High level veterinary education, in compliance with OIE guidelines, is needed in your region. A Twinning programme between the Royal Veterinary College of London and JUST University in Jordan is already implemented under the OIE auspices and funding. We are trying to extend this approach to Lebanon through the participation of USEK and some French veterinary schools.

Ladies and Gentlemen, National OIE Delegates,

The Sixth Strategic Plan has been developed with the aim of addressing these challenges and effectively fulfilling the expectations of our Members, consolidating the scientific excellence of the work done by the Organisation, ratifying our commitment to the transparency of activities, with particular emphasis on the importance on the use of communication tools and the updating of procedures for good administrative management of the Organisation.

But OIE policies will always stick on our slogan “protecting animals preserving our future”.

To conclude, allow me once again, to welcome you all and, on behalf of all the participants, to express my sincere thanks to the Lebanese authorities and our sponsors for inviting us to Kaslik, and to all our colleagues from Lebanon for their warm welcome.

Thank you for your attention.

**Speech pronounced by Eng. Louis Lahoud
Director General of the Ministry of Agriculture of Lebanon
at the occasion of the
13th Conference of the OIE Regional Commission for the Middle East**

Ladies and Gentlemen,

I have the honor to welcome you to the thirteenth conference of the OIE Regional Commission for the Middle East. I take also this opportunity to welcome all those responsible in the OIE, led by His Excellency the Director General Dr Bernard Vallat for their efforts in organizing communication between the Member countries in order to promote the level of coordination between them in their efforts to improve the animal health situation, to control the spread and transmission of infectious diseases, and reduce their threat to public health and food safety.

My thanks go to the OIE for its cooperation and support provided to the Lebanese Republic by choosing to establish the OIE Regional representation for the Middle East office in Lebanon, supporting the Ministry of Agriculture in its efforts to develop the animal health sector, and by affording experts and specialists to train the national staff on means of prevention and control of animal infectious diseases. This enabled Lebanon to launch its control programs of many diseases, especially rinderpest and foot and mouth disease, knowing that our country recently succeeded in eradicating glanders in horses during the years 2012-2013.

My thanks go also to the OIE organization for its contribution in supporting the Lebanese veterinary services and their projects implementation, the last recent was "building and strengthening the veterinary services capacities" funded by the Italian government.

Ladies and gentlemen,

The holding of this conference in Lebanon represents an additional support to our country in facing great challenges in the animal health situation in the last four years due to the increasing pressure of the Syrian crisis raging on our northern and eastern borders, and the arrival of many cattle herds to the Lebanese territory for protection.

Facing these events the Lebanese authorities exert great efforts in order to fortify our borders and to control the animal movement coming across, especially in nearby borders and livestock markets that represent high risk areas for disease transmission, particularly foot and mouth disease and peste des petits ruminants, without failing in implementing their usual activities in protecting our livestock and preserving animal health in the country. The Lebanese government is still committed to support the OIE decision, especially in controlling rabies spread, and supporting the OIE approach to develop a regional strategy particularly for fighting against the spread of rabies, as the Lebanese government supports the OIE intention to develop a regional plan for eradication of this disease in collaboration with the World Health Organization. Such plan will be exposed at the World Conference to be held in Geneva next month.

Dear participants,

Cooperation between the Lebanese Ministry of Agriculture and the World Animal Health Organization was not confined to the protection of animal health in Lebanon, but had extended to the development of the veterinary staff. Since 2010 the ministry has been implementing the recommendations of the OIE Technical Committee report concerning capacity building of the veterinary services in Lebanon. In this respect we would ask the organization to form a new PVS mission in order to find out the progress made in this field and afford us with its suggestions for subsequent phases.

On this occasion we address our sincere thanks to the friendly countries who supported Lebanon projects, led by the Italian Republic, British government (UKAID) and the European Union, by providing the necessary means for capacity building of the veterinary services in Lebanon

We also take this opportunity to reiterate Lebanon's commitment to the decisions of the last conference held in Brazil in 2013, concerning the promotion and development of the basic Veterinary Education. Building on this, our Ministry of Agriculture intends to develop mutual cooperation in this context with public and private national universities. Our presence in this USEK edifice today is a renewal of confidence in the ties of cooperation and coordination with the University of the Holy Spirit– Kaslik. We highly appreciate the extraordinary activity shown by the College of Agriculture at this university. Our sincere thanks go to USEK Dean Dr. Lara Wakim for organizing this conference; the ministry of agriculture put at her disposal all its competences in support of her project of establishing a veterinary college, in accordance with the international rules and standards.

Ladies and gentlemen,

The admission of Lebanon and neighboring countries membership in the Mediterranean animal health network (REMESA) would have a significant impact on the protection of animal health and cooperation for control and eradication of transboundary animal diseases in these countries.

Hence, we renew the call made by our Minister of agriculture last May to support the establishment of a sub-regional center for REMESA network for the Middle East region, intended to be established in Lebanon for its geographical location and its close ties with the Arab and European countries.

Thank you

Long live the OIE

Long live Lebanon

13th Conference of the OIE Regional Commission for the Middle East
Kaslik, Lebanon, 10 to 14 November 2015

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13th Conference of the OIE Regional Commission for the Middle East
Kaslik, Lebanon, 10-14 November 2015

AGENDA

1. The OIE Sixth Strategic Plan-Regional perspectives.
2. Activities of the OIE Regional Commission for the Middle East.
3. Camel Disease Control in the Middle East, including an update on MERS-CoV situation.
4. Technical Item I:
“Control of rabies in the Middle East region, with emphasis on stray dog control”.
5. OIE/FAO Global Strategy for the Control and Eradication of PPR-Next steps.
6. Veterinary Education in the Region-Approaches to the implementation of OIE Guidelines and recommendations.
7. High health high performance (HHP) horses-Recent developments.
8. Technical Item II:
“The use of non-structural proteins to differentiate between vaccinated and infected animals”.
9. Analysis of the Animal health situation of Member Countries in the region during 2014 and 2015.
10. OIE Terrestrial Animal Health Standards Commission-Issues of interest to the Region-Challenges and proposals.
11. One Health concept: OIE approach and collaboration with the WHO and the FAO including on rabies and avian influenza control and new disease naming. Preparation of the IHR/PVS national seminars.
12. Outcomes of the PVS Pathway questionnaire-Results and perspectives.
13. Presentations by international and regional organisations.
14. Other matters:
 - ✓ Date, venue and technical item with questionnaire for the 14th Conference of the OIE Regional Commission for the Middle East;
 - ✓ Discussions of Recommendations 1 and 2.
15. Activities of the OIE Regional Representation for the Middle East.

13th Conference of the OIE Regional Commission for the Middle East
Kaslik, Lebanon, 10-14 November 2015

PROGRAMME

TUESDAY 10 NOVEMBER 2015

5:00 p.m. Registration and distribution of documents regarding the Conference

WEDNESDAY 11 NOVEMBER 2015

09:00 a.m. Registration and distribution of documents (cont.)

10:00 a.m. Opening ceremony

10:45 a.m. Break
(Group photo)

11:15 a.m. * Election of the Conference Committee
(Chairperson, Vice-Chairpersons and Rapporteur General)
* Designation of Session Chairpersons and Rapporteurs for Technical Items and
Animal Health Situation
* Adoption of the Agenda and Timetable

11:45 a.m. The OIE Sixth Strategic Plan-Regional perspectives
(Dr Bernard Vallat, OIE Director General)

12:15 a.m. Activities of the OIE Regional Commission for the Middle East
(Dr Kassem Al-Qahtani, President of the OIE Regional Commission for the Middle
East and Delegate of Qatar to the OIE)

12:30 p.m. Camel Disease Control in the Middle East, including an update on MERS-CoV
situation (Dr Mehdi El Harrak, Member of the OIE Biological Standards
Commission)

13:00 p.m. Lunch

2:00 p.m. Technical Item I:
"Control of rabies in the Middle East region, with emphasis on stray dog control"
(Prof. Hassan Abdel Aziz Aidaros, Member of the OIE Working Group on Animal
Welfare)

3:00 p.m. Discussion

3:30 p.m. OIE/FAO Global Strategy for the Control and Eradication of PPR-Next steps
(Dr Susanne Münstermann, Project Officer, OIE Scientific and Technical
Department)

4:00 p.m. Break
(Preparation of Recommendation No. 1 by designated small group)

- 4:30 p.m. Veterinary Education in the Region-Approaches to the implementation of OIE Guidelines and recommendations (Dr Ehab Abou Basha, Dean and Secretary General of the Arab Association of Veterinary Medical Faculties and Professor of the Jordan University of Science and Technology (JUST))
- 5:00 p.m. High health high performance (HHP) horses-Recent developments (Dr Susanne Münstermann)
- 5:30 p.m. End of the session
- 7:00 p.m. Reception offered by the OIE

THURSDAY 12 NOVEMBER 2015

- 09:00 a.m. Technical Item II:
“The use of non-structural proteins to differentiate between vaccinated and infected animals” (Dr Donald King, Expert, Pirbright Institute)
- 10:00 a.m. Discussion
- 10:30 a.m. Break
(Preparation of Recommendation No. 2 by designated small group)
- 11:00 a.m. Analysis of the Animal health situation of Member Countries in the region during 2014 and 2015 (Dr Paula Cáceres, Head of the OIE World Animal Health Information and Analysis Department)
- 11:45 a.m. Discussion
- 12:15 p.m. OIE Terrestrial Animal Health Standards Commission-Issues of interest to the Region-Challenges and proposals (Dr Etienne Bonbon, President of the OIE Terrestrial Animal Health Standards Commission)
- 12:45 p.m. Discussion
- 13:00 p.m. Lunch
- 2:00 p.m. One Health concept: OIE approach and collaboration with the WHO and the FAO including on rabies and avian influenza control and new disease naming. Preparation of the IHR/PVS national seminars (Dr Stéphane De la Rocque, Animal Health Specialist, World Health Organization)
- 2:45 p.m. Outcomes of the PVS Pathway questionnaire - Results and perspectives (Dr François Caya, Head of the OIE Regional Activities Department)
- 3:15 p.m. Presentations by international and regional organisations
- 4:15 a.m. Break
- 4:45 p.m. Date, venue and technical item with questionnaire for the 14th Conference of the OIE Regional Commission for the Middle East
- 5:15 p.m. Discussions of Recommendations 1 and 2
- 5:45 p.m. End of the session
- 7:00 p.m. Reception offered by Lebanon

FRIDAY 13 NOVEMBER 2015

Cultural visit

SATURDAY 14 NOVEMBER 2015

09:00 a.m. Activities of the OIE Regional Representation for the Middle East
(Dr Ghazi Yehia, OIE Regional Representative for the Middle East)

09:30 a.m. Adoption of the draft Final Report and Recommendations

10:30 a.m. Closing ceremony

Recommendation No. 1

Control of rabies in the Middle East Region, with emphasis on stray dog control

CONSIDERING THAT:

1. Rabies is a widespread, neglected and under-reported zoonosis that has an almost 100% case fatality rate in humans and animals untreated in time and causes a significant social and economic burden in many countries of the Middle East;
2. The Member Countries where the disease is endemic should consider rabies as a high priority zoonosis;
3. Massive culling of dog populations or wildlife, as an isolated, interim or emergency control measure, is neither sustainable nor scientifically supported for efficiently controlling or eliminating dog-mediated rabies;
4. The control and elimination of rabies in dogs, through vaccination, and appropriate stray dog population control remains the only cost-effective way to sustainably protect humans from contracting the disease;
5. Only four (4) out of eighteen (18) countries of the Middle East Region estimate the size of their stray dog population, only two (2) countries have information on the prevalence of rabies in their stray dog population, and only five (5) countries have a vaccination programme for stray dogs;
6. The OIE has adopted and continually updates its intergovernmental standards relating to rabies prevention and control and stray dog population control;
7. The World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the OIE, united in a “One Health” approach to eliminate human and animal rabies, provide Governments and other concerned stakeholders with strategic and technical guidance and build advocacy around rabies prevention, underpinned by strong Public Health and Veterinary Services;
8. The “One Health” concept and approaches are gaining momentum and attention across OIE Member Countries of the Middle East;
9. There is a consensus among Member Countries of the Middle East Region that the OIE should strengthen its support for rabies control and eradication in the Middle East region using the “One Health” approach; and
10. The scope of the Regional Animal Welfare Strategy for the Middle East (2014-2019) includes the appropriate control of stray dog populations.

THE OIE REGIONAL COMMISSION FOR THE MIDDLE EAST

RECOMMENDS THAT:

1. The Member Countries, with the support of the OIE, WHO, and FAO, develop and adopt a Regional Strategy for the eradication of rabies from the Middle East in which the vaccination of dogs and the control of stray dog populations, in compliance with the relevant OIE standards, including Animal Welfare standards, will be key components;
2. The Member Countries develop national roadmaps, including extension programmes, for the control of rabies, which will provide a pathway towards achieving the objectives of the aforementioned Regional Strategy, based on measurable activities and realistic timelines and indicators;
3. The Veterinary Services of Member Countries collaborate with the Public Health Services (Ministry of Public Health), municipalities, relevant NGOs and local communities to develop the national roadmaps and benefit from the cost-effective advantage of eliminating rabies at the animal source through appropriate programmes;
4. The Member Countries, with the support of the OIE and in collaboration with WHO and FAO, update and enforce their legislation (in accordance with the Regional Strategy) to comply with relevant standards, including those of the OIE, for effective rabies prevention and control, and stray dog population control;
5. The OIE, in collaboration with WHO and FAO, organise biennial “One Health” coordination regional workshops in the Middle East to provide technical support and monitor the progress of the Member Countries, to discuss future steps and actions, and, when relevant, to review and update the aforementioned Regional Strategy;
6. The OIE, with the financial contribution of Member Countries and donors, consider the establishment of an OIE Rabies Vaccine Bank to which Member Countries of the Middle East region would have access; and
7. The OIE, provided funding is available, organise in 2016 a Regional Conference in the Middle East aimed at presenting to Member Countries the OIE standards applicable to rabies and stray dog population control, establishing the baseline situation of the Member Countries and validating the aforementioned Regional Strategy.

Recommendation No. 2

**The use of non-structural proteins to differentiate between
vaccinated and infected animals**

CONSIDERING THAT:

1. Serological tests are widely used to monitor the immune status of animals potentially exposed to foot and mouth disease virus (FMDV) or vaccinated against FMD;
2. There are a number of commercially available tests, and in-house assays that detect non-structural protein (NSP)-specific antibody responses;
3. The strength of the NSP-specific antibody responses in vaccinated animals that are subsequently infected with FMDV can vary according to the extent of virus replication;
4. NSP tests to differentiate between vaccinated and infected animals are already used by several countries to support foot and mouth disease (FMD) control programmes;
5. The design of sampling surveys is critical when NSP tests are used to support national programmes to attain the OIE status of FMD-free without vaccination (i.e., to identify animals in which virus is circulating or has established persistent infections), since random surveys are not always effective at detecting rare events; and
6. The OIE *Terrestrial Animal Health Code* and *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* provide standards on the use of vaccines and interpretation of serological tests for FMD.

THE OIE REGIONAL COMMISSION FOR THE MIDDLE EAST

RECOMMENDS THAT:

1. According to their national FMD status, and their official control programme, including vaccination strategy, Member Countries clearly define the purpose of sero-surveys: e.g. i) to determine the serological prevalence, ii) to provide robust evidence that the country or a zone of the country is free from FMD, and iii) to monitor the population immunity after vaccination;
2. With the support from the OIE/FAO FMD Laboratory Network, Member Countries identify and compile the FMDV field strains currently circulating in the Middle East region as well as the strains that could sporadically occur;
3. Member Countries compile a list of all vaccines (including details of manufacturers, specific FMDV strains, formulations, and degree of purity) that are currently deployed or available in the Middle East region;

4. Member Countries ensure that the FMD vaccines used are appropriate for the viruses circulating in the region and make greater use of the vaccine matching services offered by the OIE Reference Laboratories;
5. Member Countries ensure that the vaccines used comply with the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*;
6. Member Countries wishing to differentiate vaccinated from infected animals use vaccine purified from NSPs, as recommended in OIE standards;
7. When using NSPs surveys, Member Countries carefully consider the study design and interpretation of results in the context of the performance of the assays used and, whenever required, seek advice from OIE Reference Laboratories;
8. Member Countries consider the importance of establishing and supporting a laboratory network to develop and harmonise capacity in the Middle East region using, among others, OIE Twinning mechanism;
9. The OIE continue to provide support to countries wishing to engage in the OIE procedure for endorsement of their official national control programme and official recognition of FMD freedom, including the organisation of a regional workshop on OIE's procedures in the region;
10. The OIE consider the possibility of establishing an FMD vaccine bank for the Middle East region; and
11. The OIE, in collaboration with its Reference Laboratories, collate field data and, where relevant, experimental data on the extent of NSP sero-prevalence in vaccinated herds that become infected, to inform the design of future serological surveys.

13th Conference of the OIE Regional Commission for the Middle East
Kaslik, Lebanon, 10-14 November 2015

PRESS RELEASE

Kaslik (Lebanon), 14 November 2015- The 13th Conference of the World Organisation for Animal Health's (OIE) Regional Commission for the Middle East, which counts 20 Member Countries, was held in Kaslik (Lebanon), from 10 to 14 November 2015.

The opening ceremony was attended by several local and regional authorities. His Excellency, Eng. Louis Lahoud, Director General of the Ministry of Agriculture of Lebanon, Dr Bernard Vallat, Director General of the OIE, Dr Kassem Nasser Al-Qahtani, President of the OIE Regional Commission for the Middle East and Delegate of Qatar, and Dr Lara Hanna Wakim, Dean of the Faculty of Agricultural and Food Sciences of USEK, addressed welcome messages to the audience. His Excellency, Mr Akef Al Zobi, Minister of Agriculture of Jordan, Her Highness Sharifa Zein Al Sharaf Bint Nasser Ben Jamil, and Reverend Father Hadi Mahfouz, President of USEK, also attended the ceremony.

The event gathered several high level representatives of the OIE Headquarters, the OIE Regional Representation for the Middle East, as well as national Delegates and/or representatives of 17 Member Countries of the OIE Regional Commission for the Middle East, and 1 observer country. Representatives of international and regional organisations involved in animal and veterinary public health activities in the region and numerous observers and experts also participated.

The main agenda items of the conference started with a brief report on the activities of the OIE Regional Commission for the Middle East, followed by a presentation from Dr Bernard Vallat, OIE Director General, regarding the regional perspectives of the OIE Sixth Strategic Plan. Dr Vallat started his presentation providing participants with a brief overview of the main accomplishments of the OIE in the last 15 years, thanks to the OIE Strategic Planning cycles of five-year work programmes. He highlighted that the OIE was now recognised as the pre-eminent source of standards, guidelines, information and advice on animal health and welfare worldwide.

Participants were also provided with detailed information, analysis, and trends on the terrestrial and aquatic animal disease situation of the region, gathered through the OIE World Animal Health Information System (WAHIS). The following technical items were subsequently discussed: "Control of rabies in the Middle East region, with emphasis on stray dog control" and "The use of non-structural proteins to differentiate between vaccinated and infected animals".

Several key issues involving the Member Countries of the region, with special emphasis on the following matters were also deliberated:

- camel disease control in the Middle East, including an update on MERS-CoV situation;
- the OIE/FAO global strategy for the control and eradication of PPR ;
- recent developments on guidelines on international movements of High Health High Performance (HHP) horses;
- the implementation by the OIE of the "One health" approach and the implementation of national seminars gathering public and animal health policy makers;
- the outcomes of the PVS (Performance of Veterinary Services) Pathway in the Region;
- veterinary education and the implementation of related OIE Guidelines and recommendations;

The discussions were fruitful and the recommendations adopted during the Conference will be submitted to the OIE World Assembly and its 180 national Delegates, in May 2016, for endorsement

The Conference was kindly hosted by the Government of Lebanon. It received the support of the OIE Headquarters and of the OIE Regional Representation for the Middle East.

13th Conference of the OIE Regional Commission for the Middle East
Kaslik, Lebanon, 10-14 November 2015

MOTION OF THANKS

The President and the Members of the OIE Regional Commission for the Middle East, the Director General of the OIE, members of delegations, country representatives, representatives of international and regional organisations and observers, wish to express their gratitude to the Holy Spirit University of Kaslik and the Government of Lebanon, the Host Country of the 13th Conference of the OIE Regional Commission, held from 10 to 14 November 2015, for the warm welcome extended to the participants, the excellent organisation and for all facilities made available to participants during their stay in Kaslik.