Report of the 21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

Manila, the Philippines 10-13 March 2015

OIE SUB-REGIONAL REPRESENTATION FOR SOUTH-EAST ASIA (SRR-SEA)
C/O Department of Livestock Development, Phaya Thai 10400, Bangkok, Thailand
Tel.: (+66-2) 6534864 * Fax (+66-2) 6534904 * Email: srr.seasia@oie.int
# EXECUTIVE SUMMARY

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

# RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

# REPORT

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
</tr>
</tbody>
</table>

## I. Introduction

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
</tr>
</tbody>
</table>

## II. Opening Ceremony

1. Dr Rubina Cresencio, Delegate of the Philippines to the OIE  
2. Dr Gardner Murray, President, OIE Sub-Commission for FMD Control in South-East Asia and China  
3. Dr Monique Eloit, Deputy Director General, World Organisation for Animal Health (OIE)  
4. Dr Davinio Catbagan, Assistant Secretary for Livestock, the Philippines Department of Agriculture

## III. Session 1: Updates on the global and regional FMD situation

1. The global FMD situation (Dr Donald King, Head, WRLFMD, Pirbright Institute Laboratory, UK)  
2. SEACFMD Video (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)  
3. The Regional FMD Situation (Dr Karan Kukreja, Project Officer, OIE SRR SEA)

## IV. Session 2: Updates on the national FMD situation

1. Brunei Darussalam (Dr Diana Dennis, SEACFMD National Coordinator)  
2. Indonesia (Dr Tjahjani Widiastuti, Deputy Director for Animal Health for Animal Biosecurity)  
3. Philippines (Dr Arlene Asteria Vytiaco, SEACFMD National Coordinator)  
4. Singapore (Dr Yi Kuang Shawn Ting, Veterinarian, Agri-Food and Veterinary Authority)  
5. Cambodia (Dr Sorn San, SEACFMD National Coordinator)  
6. China (Dr Wu Wei, China Animal Disease Control Center, Ministry of Agriculture)  
7. Lao PDR (Dr Khamphouth Vongxay, Department of Livestock and Fisheries)  
8. Malaysia (Dr Mohamed Naheed Bin Mohamed Hussein, SEACFMD National Coordinator)  
9. Myanmar (Dr Kyaw Naing Oo, SEACFMD National Coordinator)  
10. Thailand (Dr Sith Premasiththira, SEACFMD National Coordinator)  
11. Vietnam (Dr Phan Quang Minh, SEACFMD National Coordinator)

## V. Session 3: Updates from partners

1. Australian Government (Dr Sam Hamilton, Australian Department of Agriculture)  
2. Association of South-East Asian Nations (ASEAN) (Dr Lim Chee Wee, Director, Import and Export Regulation, Agri-Food and Veterinary Authority)  
3. Chinese Taipei (Dr Ming Chung Deng, Animal Health Research Institute, Council of Agriculture)  
4. FAO Regional Office for Asia and the Pacific (Dr Carolyn Benigno, Animal Health Officer)  
5. Japan (Dr Yumiko Sakurai, Assistant Director, Animal Health Division, Ministry of Agriculture, Forestry and Fisheries)  
6. New Zealand Ministry for Primary Industries (Dr. Matthew Stone, Director of Animal and Animal Products)  
7. OIE Regional Representation for Asia and the Pacific (Dr Yooni Oh, Regional Veterinary Officer)

## VI. Session 4: Technical presentations

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
</tr>
</tbody>
</table>
1. FMD laboratory proficiency testing in South-East Asia conducted by the OIE Reference Laboratory, Pakchong (Dr Somjai Kamolsiripichaiporn, Director, Regional Reference Laboratory for FMD in South-East Asia)  
2. Recent research on diagnostics and vaccination at the OIE Reference Laboratory, Lanzhou (Dr Yin Hong, Director General, Lanzhou Veterinary Research Institute)  
3. Vaccine matching and related challenges for South-East Asia (Dr Anna Ludi, WRLFMD)  
4. FMD vaccine matching: best practices and interpretation (Dr Pascal Hudelet, MERIAL)  
5. Update on the implementation of the Global FMD Strategy, Global PVM Guidelines and proposed revisions of OIE Standards on FMD (Dr Joseph Domenech, Special Advisor, OIE Headquarters)  
6. The Northern Lao PDR FMD Project - Experiences and Lessons Learned (Dr Syseng Khounsy, National Project Coordinator)  
7. The Central Myanmar FMD Project - Experiences and Lessons Learned (Dr Kyaw Naing Oo, SEACFMD National Coordinator)  
8. The pathway to FMD freedom (Dr Paul C Limson, Officer-in-Charge, Animal Health and Welfare Division, Bureau of Animal Industry)  

VII. Session 5: Risks for FMD control in South-East Asia and China  
1. Update on Animal Movement Pathways in the Upper Mekong (Dr Phil Widders, STANDZ Programme Coordinator, OIE SRR SEA)  
2. SEACFMD Performance and Achievements in Phase 4 and Lessons Learned (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)  
3. Round-table discussion: Analysis of risks of FMD in South-East Asia and China  

VIII. Session 6: SEACFMD Governance and Management  
1. FMD Resource Mapping for South-East Asia and China (Dr Karan Kukreja and Dr Corissa Miller, STANDZ Project Officers, OIE SRR SEA)  
2. The new SEACFMD 2020 Roadmap overview (Dr Phil Widders, STANDZ Programme Coordinator, OIE SRR SEA)  

IX. Session 7: Action Plan for SEACFMD  
1. Review of SEACFMD Action Plan and key actions needed for Phase 5 (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)  
2. Workshop (Concurrent Sessions) – Review of key issues and provision of advice on the 2015/2016 Action Plan and Phase 5 of SEACFMD  

X. Session 8: International Animal Disease cooperation  
1. Update on OIE Standards on rabies (Dr Joseph Domenech, Special Advisor, OIE Headquarters)  
2. Bridging the OIE PVS Tool and the WHO IHR Monitoring Framework - activities thu far and challenges ahead (Dr Monique Eloit, Deputy Director General, OIE)  
3. The OIE Regional Vaccine Banks (Dr Emily Tagliaro, Project Officer, OIE Headquarters)  
4. The Regional Rabies Control Strategy and implementation status (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)  
5. ASEAN animal health activities and cooperation with partners (Dr Chee Wee Lim, Director, Agri-food and Veterinary Authority, Singapore)  
6. Tripartite Activities in the Region (Dr Carolyn Benigno, Animal Health Officer, FAO RAP)  

XI. Session 9: Recommendations and Closing
<table>
<thead>
<tr>
<th>Annex</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Programme</td>
<td>51</td>
</tr>
<tr>
<td>2</td>
<td>List of participants</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>Agenda Paper: SEACFMD Campaign Progress Report</td>
<td>66</td>
</tr>
<tr>
<td>4</td>
<td>Agenda Paper: Status of FMD in South-East Asia and China</td>
<td>72</td>
</tr>
<tr>
<td>5</td>
<td>Agenda Paper: Report on the Status of Priority Actions</td>
<td>79</td>
</tr>
<tr>
<td>6</td>
<td>Agenda Paper: Report on the 17th National Coordinators Meeting</td>
<td>87</td>
</tr>
<tr>
<td>7</td>
<td>Agenda Paper: Report on the Joint Meeting of SEACFMD LabNet/EpiNet</td>
<td>91</td>
</tr>
<tr>
<td>11</td>
<td>Agenda Paper: Resource Mapping Exercise for South-East Asia and China</td>
<td>105</td>
</tr>
<tr>
<td>12</td>
<td>Agenda Paper: Movement pathways and market chains of large ruminants in the Greater Mekong Sub-Region</td>
<td>106</td>
</tr>
<tr>
<td>13</td>
<td>Country Report: Brunei Darussalam</td>
<td>109</td>
</tr>
<tr>
<td>14</td>
<td>Country Report: Indonesia</td>
<td>113</td>
</tr>
<tr>
<td>15</td>
<td>Country Report: The Philippines</td>
<td>120</td>
</tr>
<tr>
<td>16</td>
<td>Country Report: Singapore</td>
<td>125</td>
</tr>
<tr>
<td>17</td>
<td>Country Report: Cambodia</td>
<td>128</td>
</tr>
<tr>
<td>18</td>
<td>Country Report: China</td>
<td>143</td>
</tr>
<tr>
<td>19</td>
<td>Country Report: Thailand</td>
<td>144</td>
</tr>
<tr>
<td>20</td>
<td>Country Report: Vietnam</td>
<td>146</td>
</tr>
<tr>
<td>21</td>
<td>Presentation: The Global FMD Situation</td>
<td>151</td>
</tr>
<tr>
<td>22</td>
<td>Presentation: Vaccine Matching and Related Challenges</td>
<td>152</td>
</tr>
<tr>
<td>23</td>
<td>Presentation: The Pathway to FMD Freedom</td>
<td>153</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>AAHTF</td>
<td>ASEAN Animal Health Trust Fund</td>
<td></td>
</tr>
<tr>
<td>ACCAHZ</td>
<td>ASEAN Coordinating Centre for Animal Health and Zoonoses</td>
<td></td>
</tr>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
<td></td>
</tr>
<tr>
<td>AMAF</td>
<td>ASEAN Ministers of Agriculture and Forestry</td>
<td></td>
</tr>
<tr>
<td>AMR</td>
<td>Antimicrobial resistance</td>
<td></td>
</tr>
<tr>
<td>ARAHIS</td>
<td>ASEAN Regional Animal Health Information System</td>
<td></td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
<td></td>
</tr>
<tr>
<td>AVA Singapore</td>
<td>Agri-Food and Veterinary Authority Singapore</td>
<td></td>
</tr>
<tr>
<td>CIRAD</td>
<td>Centre de coopération internationale en recherche agronomique pour le développement</td>
<td></td>
</tr>
<tr>
<td>DLD</td>
<td>Department of Livestock Development</td>
<td></td>
</tr>
<tr>
<td>DAPH</td>
<td>Department of Animal Production and Health</td>
<td></td>
</tr>
<tr>
<td>DFAT</td>
<td>Department of Foreign Affairs and Trade</td>
<td></td>
</tr>
<tr>
<td>ELISA</td>
<td>Enzyme-Linked Immunosorbent Assay</td>
<td></td>
</tr>
<tr>
<td>EU-HPED</td>
<td>European Union Regional Cooperation Programme on Highly Pathogenic and Emerging and Re-emerging Diseases in Asia</td>
<td></td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
<td></td>
</tr>
<tr>
<td>FAO RAP</td>
<td>FAO Regional Office for Asia and the Pacific</td>
<td></td>
</tr>
<tr>
<td>FMD</td>
<td>Foot-and-Mouth Disease</td>
<td></td>
</tr>
<tr>
<td>GF-TADs</td>
<td>Global Framework for Transboundary Animal Diseases</td>
<td></td>
</tr>
<tr>
<td>HPAI</td>
<td>Highly Pathogenic Avian Influenza</td>
<td></td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
<td></td>
</tr>
<tr>
<td>JTF</td>
<td>Japan Trust Fund</td>
<td></td>
</tr>
<tr>
<td>LBVD</td>
<td>Livestock Breeding and Veterinary Department</td>
<td></td>
</tr>
<tr>
<td>MARD</td>
<td>Ministry of Agriculture and Rural Development</td>
<td></td>
</tr>
<tr>
<td>MOA</td>
<td>Ministry of Agriculture</td>
<td></td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
<td></td>
</tr>
<tr>
<td>NSP</td>
<td>Non-structural proteins</td>
<td></td>
</tr>
<tr>
<td>OIE</td>
<td>World Organisation for Animal Health</td>
<td></td>
</tr>
<tr>
<td>OIE SRR SEA</td>
<td>OIE Sub-Regional Representation for South-East Asia</td>
<td></td>
</tr>
<tr>
<td>PCP</td>
<td>Progressive Control Pathway</td>
<td></td>
</tr>
<tr>
<td>PVM</td>
<td>Post-Vaccination Monitoring</td>
<td></td>
</tr>
<tr>
<td>PVS</td>
<td>Performance of Veterinary Services</td>
<td></td>
</tr>
<tr>
<td>RRL</td>
<td>Regional Reference Laboratory</td>
<td></td>
</tr>
<tr>
<td>SEA</td>
<td>South-East Asia</td>
<td></td>
</tr>
<tr>
<td>SEACFMD</td>
<td>South-East Asia and China Foot-and-Mouth Disease Campaign</td>
<td></td>
</tr>
<tr>
<td>SGF</td>
<td>Small-Grant Facility</td>
<td></td>
</tr>
<tr>
<td>SNA</td>
<td>Social Network Analysis</td>
<td></td>
</tr>
<tr>
<td>STANDZ</td>
<td>Stop Transboundary Animal Diseases and Zoonoses</td>
<td></td>
</tr>
<tr>
<td>STANDZ SGF</td>
<td>STANDZ Small Grants Facility</td>
<td></td>
</tr>
<tr>
<td>VEE</td>
<td>Veterinary Education Establishments</td>
<td></td>
</tr>
<tr>
<td>VN</td>
<td>Virus Neutralisation</td>
<td></td>
</tr>
<tr>
<td>WAHID</td>
<td>World Animal Health Information Database</td>
<td></td>
</tr>
<tr>
<td>WAHIS</td>
<td>World Animal Health Information System</td>
<td></td>
</tr>
<tr>
<td>WRL FMD</td>
<td>World Reference Laboratory for Foot-and-Mouth Disease</td>
<td></td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China
Manila, the Philippines, 10-13 March 2015

The 21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China was held in Manila from 10 – 13 March, 2015. The purpose of the meeting was to review recent developments in FMD in the region and worldwide, assess programme progress, disseminate key developments, and make recommendations of policy, strategic, technical and governance matters.

The meeting was opened by Dr Monique Eloit, Deputy Director-General of the OIE, and Dr Davinio Catbagan, Assistant Secretary for Livestock for the Philippines Department of Agriculture. Dr Eloit highlighted the critical role of the Veterinary Services in fighting FMD and other transboundary animal diseases, and thanked donors and countries for their support. Dr Catbagan emphasized the growing potential of the region’s livestock sectors, and the effect of FMD on productivity and its subsequent progress. Dr Catbagan also urged Member Countries to explore ways to control and eradicate FMD in a sustainable manner, and welcomed participants to the Philippines.

Participants received an update on the global FMD situation as well as activities of the World Reference Laboratory for FMD. Specific information was also given on the FMD situation in the Asian region. While the number of outbreaks reported in the region has increased, when interpreting this data participants were reminded that they should consider whether this is due to better reporting or whether the number of outbreaks has actually increased. The representative from the Pirbright Institute, Donald King, reiterated the need to receive more field data and samples in order to study strain and potency selection in vaccines.

The debut screening was presented of a video produced by the OIE SRR SEA with assistance from prominent regional personalities in FMD prevention and control. This video emphasized the importance of FMD in the region and detailed the role of SEACFMD and its partners in fighting the disease. It was confirmed that participants of SEACFMD Member Countries would be able to translate the video into their native languages.

As is tradition, SEACFMD Member Countries gave presentations on their national FMD situation as well as information on activities implemented, challenges encountered, future plans and resources for FMD prevention and control. Subsequently, key partners gave presentations on their activities and future plans related to FMD, with particular relevance to the SEACFMD Campaign. The discussions highlighted vaccination as a key tool for control, and the need to discuss and study characteristics including strain selection and potency. Countries were also commended for the increase in bi- and tri- lateral discussions. Economic impact studies, including those conducted by Australia and New Zealand, were discussed and put forward as models to be considered by Member Countries for their own studies. The importance of continued funding by the Australian Government (through the STANDZ Initiative) was also a focus of discussion. Donors present at the meeting were asked to extend funding in order to achieve the goals of the SEACFMD Campaign.
On the second day, the morning technical session included presentations on: (i) proficiency testing; (ii) FMD-related research; (iii) vaccine matching and post-vaccination monitoring; (iv) OIE standards on FMD and endorsement of National Control Plans; (v) FMD control projects supported by OIE in Myanmar and Lao PDR; and, (vi) the Philippines’s experience in achieving and maintaining freedom from FMD. These presentations highlighted aspects that SEACFMD needs to address in order to advance FMD control in the region. In discussions, countries asked for further assistance in preparing their national plans for OIE endorsement. The OIE confirmed that, based on the success of similar events in other OIE regions, specific workshops will be organised to assist countries in the preparation of national plans for submission to the OIE. The need for recommendations on vaccine selection, including strains and potencies, was underlined.

A session based on risks for FMD Control in South-East Asia and China updated participants on the progress of a recent animal movement study in the Upper Mekong Region. A presentation was then made on FMD risk factors within South-East Asia and China, including the different serotypes and their spread over time, price factors, production systems and changing r-values in vaccine matching tests. Strategies to mitigate risks, including vaccination and interventions at the source and critical points were also presented. A round-table discussion followed, focusing on the need to engage industry and to consider social and cultural factors in formulating strategies to mitigate risks.

The last session of the second day focused on the revisions to the SEACFMD 2020 Roadmap. Participants were informed of the rationale used when developing the Roadmap, the various iterations, and the framework and major strategies of the Roadmap. Information on the appendices to the Roadmap was given as well as the need to renew these documents on annual basis. Among these appendices, a manual to accompany major components of the Roadmap would be developed to provide further guidance to Member Countries and partners. A resource mapping exercise was then presented, with members being provided examples of what can be done with resource mapping in the region and its uses. Reaction was positive to these, with participants making some suggestions, and supporting the idea of an expanded resource mapping exercise to be used for the region.

On the third day, Dr Ronello Abila presented the actions implemented in the framework of SEACFMD over the past year, including key meetings and recommendations. Participants were then separated into two groups, the first composed of National Coordinators and the second of “Observers”. This parallel session provided an opportunity for both groups to review key points and issues for SEACFMD and to identify key actions to be considered for SEACFMD in the coming year. The main comments from the two groups were: need for a multi-disciplinary approach to analysis and intelligence gathering and synthesis; to engage policy makers from the top-down and across the range of relevant government departments; the importance of contingency planning (particularly for free countries); ensure consistency of national FMD Plans with the SEACFMD 2020 Roadmap; and, the importance of bilateral and multilateral negotiations. Moreover, it was agreed that a template for Member Countries contributions to the SEACFMD Roadmap Annex would be sent out in March 2015 and that this would be in turn completed by countries by June 2015. Lastly, it was also confirmed that workshops will be organised for selected countries in order to support them in the development of their national plans for submission to the OIE for endorsement. The aforementioned issues were discussed in plenary and taken into consideration for the formulation of the meeting’s recommendations.
A special session on One Health was held, with presentations on updates to OIE Standards on Rabies and the Regional Rabies Control Strategy, bridging the OIE PVS tool and WHO IHR Monitoring Framework, Tripartite Activities, and ASEAN Animal Health Activities. A presentation on OIE Vaccine Banks (FMD and Rabies) was also given. Discussion centred on the importance of vaccine selection; meeting participants were informed that relevant information on this topic will be included in the Global guidelines for Post-Vaccination Monitoring (to be released later this year).

Finally, key recommendations emerged from the meeting, which will help to guide the SEACFMD Campaign’s work in the coming year. Key recommendations included: endorsement of the Strategic Framework of the 3rd edition of the SEACFMD Roadmap 2020 and a time frame related components; organisation of a meeting of Director-General in mid-2015 to review the Final Report of the Upper Mekong Animal Movement Study; agreement to maintain and promote the OIE FMD Vaccine Bank; encouragement of Member Countries to pursue PVS follow-up evaluations; and agreement to pursue high-level advocacy at the ASEAN and national levels and for private sector engagement to be pursued.

Dr Eloit, Dr Cresencio, and Filipino Undersecretary for Agriculture Reano gave closing comments for the meeting. Dr Eloit thanked attendees for their active participation and said that the Philippines can be proud of their Veterinary Services. Dr Cresencio also took the chance to acknowledge the Filipino Veterinary Services, as well as applauding the regional quarantine officers and national veterinary inspectors, academics and private sector. She also thanked the secretariat of the meeting for their hard work. Undersecretary Reano expressed his hope that the region will be free of FMD one day.

A fieldtrip was conducted on the 4th day of the Meeting to Badaco farm to visit the facilities at a prominent Filipino dairy cooperative. A presentation was given by the Farm Manager on the management and operation of the farm, and provided insights on the Filipino dairy industry’s approach to prioritise disease management.
RECOMMENDATIONS

21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China
Manila, the Philippines, 10-13 March 2015

The Sub-Commission:

Regional Meetings

1. ENDORSES the reports and recommendations of: the 2014 Labnet/Epinet Meeting; 12th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management (UMWG); the 17th SEACFMD National Coordinators Meeting; and the 2014 Malaysia-Thailand-Myanmar Control Zone Meeting.

2. NOTES preliminary results from the Upper Mekong Animal Movement Study; and AGREES that Directors General meet mid-year to consider and make recommendations on the Final Report of the Study.*

3. AGREES that engagement with industry should occur, and that animal movement management guidelines for regional trade consistent with the Greater Mekong Sub-region ‘single window inspection’ approach be drafted for consideration by Member Countries.*

4. AGREES that selected participatory epidemiological (PE) trials be conducted during outbreak investigations by Member Countries, and that Regional Guidelines be considered for development, with support from OIE SRR-SEA.

5. NOTES that the OIE/FAO FMD Progressive Control Pathway plan should be used as the reference for Member Countries goals and activities; and NOTES that Member Countries status with respect to the PCP-FMD Stages will be included in the Annex to the Strategic Framework of the SEACFMD Roadmap (2016-2020), to provide a regional baseline for progress expected during Phase 5 of the SEACFMD Campaign.*

6. AGREES that National Coordinators will finalise these matters at the 18th National Coordinators Meeting, to be held in August, 2015, in the People’s Republic of China.*

Roadmap

7. ENDORSES the Strategic Framework of the SEACFMD ROADMAP (2016-2020), subject to editorial improvements; AGREES that Member Countries will draft country goals, objectives and timelines, including projections of future PCP status, which will form an Annex to the Strategic Framework to be considered and endorsed at the 18th National Coordinators Meeting in the People’s Republic of China in August, 2015.*

8. AGREES that the Manuals to the SEACFMD ROADMAP (2016-2020) will be finalized for consideration by October, 2015, including a resource mapping component.*

Progress (2014/2015) and Operational Plan (2015/2016)

9. NOTES the considerable progress made since the 20th Sub-Commission Meeting, including progressing the recommendations of the independent Mid Term Review; and AGREES that

* These recommendations are to be considered and endorsed at the 18th National Coordinators Meeting in the People’s Republic of China in August, 2015.
the recommendations and views of the 21st Sub-Commission form the basis for the 2015-2016 SEACFMD Operational Plan.

**Disease situation/technical**

10. NOTES the FMD situation in Member Countries, in particular the importance of understanding risk factors associated with changing trends in serotype emergence, changing animal movement pathways and disease patterns; and AGREES that Member Countries should adopt risk-based approaches to contain and control spread and minimize risk of incursion into other countries, including free countries and zones.

11. REINFORCES the need for active monitoring of circulating viruses in the region so that vaccine-matching plans can be improved and sustained; and URGES Member Countries to submit FMD specimens in a timely manner to OIE Reference Laboratories for characterization for vaccine matching, and to strengthen epidemiological knowledge to identify risks and potential critical control points, noting that OIE SRR-SEA will continue to offer support to Member Countries.*

12. AGREES that the OIE FMD Vaccine Bank has proven a critical resource in supporting FMD management; and AGREES that efforts should be made by all stakeholders and OIE to ensure its continuation.*

13. AGREES that the FAO/OIE Foot and Mouth Disease Vaccination and Post-Vaccination Monitoring Guidelines, to be published in 2015, are to be considered for application by Member Countries; and NOTES that post-vaccination monitoring is already conducted in a number of Member Countries.

14. OBSERVES that the OIE/FAO FMD Laboratory Network has established a working group to provide vaccine selection guidance that is particularly focusing on FMD endemic settings, and will be considered by the Sub-Commission when finalized.

15. AGREES that FMDV sequence data should be used to better support the understanding of regional transmission pathways.

**Programs**

16. NOTES that the OIE and the Australian Government Department of Foreign Affairs and Trade, in consultation with the Australian Government Department of Agriculture, will continue discussions on how to sustain Stop Transboundary Animal Diseases and Zoonoses (STANDZ) key activities in its last year of implementation until June 2016 and initiate discussions on Australia’s potential support for FMD control in the region after June 2016.*

17. NOTES progress with the Northern Lao PDR FMD Project, the current FMD vaccination program in Central Myanmar, and that a formal FMD Project proposal for Central Myanmar will be finalised in the near future.

18. NOTES that the OIE has submitted to ACIAR a five year project proposal ‘Improving livelihoods in animal health and biosecurity research in the Mekong region’ which will complement SEACFMD work.
19. NOTES that a New Zealand funded project within OIE SEACFMD is being developed, and is expected to be announced and implemented in 2015.

20. NOTES that the Government of Japan has expressed continued funding support for the OIE Japan Trust Fund (JTF) Project for an additional five years.

21. Notes the contribution of FAO FMD control initiatives in supporting the achievement of SEACFMD objectives.

22. NOTES that the People’s Republic of China will continue to provide financial support to the SEACFMD Campaign.

**Governance/Policy**

23. AGREES on the essentiality of strong governance of programs funded by STANDZ, and that the procedures and processes successfully used in the Northern Lao PDR FMD Program be considered for like programs.*

24. ENCOURAGES countries to request PVS follow-up evaluations and any other PVS Pathway Missions when relevant.*

25. AGREES that Member Countries will continue to improve the application of OIE intergovernmental standards on surveillance, diagnosis, detection and notification of the occurrences to WAHIS, and other relevant standards on FMD control and eradication.*

26. NOTES the bilateral and multilateral meetings held over the last 12 months to support biosecurity including FMD, and enhance the overall SEACFMD Campaign.*

27. NOTES that OIE is discussing with ASEAN the revision of the 2008 Memorandum of Understanding.

**Application for status**

28. NOTES updated developments of National Plans (NPs) in particular countries (finalization of NPs of Cambodia and Lao PDR; endorsement of Myanmar NP by the Delegate of Myanmar to OIE); and NOTES that Vietnam has formally requested assistance from OIE SRR SEA and FAO ROK Project to update the NP (2016-2020); and NOTES that a workshop to draft this NP will be supported.

29. ACKNOWLEDGES that Thailand is likely to apply for OIE endorsement of official control programs and/or FMD free zone status in 2015.


31. NOTES that OIE SRR-SEA offers support to Member Countries in development of National Plans, through specific workshops on OIE procedures for the recognition of disease control programs.*

**Socio economic status**
32. NOTES the results of OIE and FAO socio-economic studies; and AGREES Member Countries use the results of these studies to inform policy makers of the importance of and need to invest in FMD control and prevention programs.*

33. NOTES that the SRR-SEA will seek to work with Indonesia and the Philippines to conduct cost-benefit studies to demonstrate the importance in investing in prevention and contingency planning measures for FMD.*

34. URGES Member Countries to continue to undertake economic studies on the impact of FMD in their countries and the cost-benefit of control; and URGES donors to support Member Countries in undertaking economic studies, in order to assist the development of robust cases for government budgetary support for FMD control.

**Support**

35. AGREES to pursue high-level advocacy at the ASEAN and National Level to reinforce the need for political and resource support for Phase 5 of the SEACFMD Campaign.*

36. AGREES that private sector engagement is essential for maintaining and improving FMD status, in free and endemic countries, and that efforts be made to engage the private sector in Sub-Commission activities.*

**Thanks**

37. THANKS Member Countries, partners and observers for their active participation in the meeting.

38. THANKS the Australian Government through the Department of Foreign Affairs and Trade for its continued support and contributions to the SEACFMD Campaign through the STANDZ Initiative.

39. THANKS FAO/ROK Project for its contribution and activities to support the SEACFMD Campaign.

40. THANKS the Republic of Korea for its contribution to the OIE in support of the SEACFMD Campaign.

41. THANKS China and New Zealand for initial grants to support the SEACFMD Campaign.

42. THANKS the OIE/Japan Trust Fund for its contribution and activities to support the SEACFMD Campaign.

43. THANKS the European Union for its support to the OIE vaccine banks and the PVS Pathway through the now completed HPED Programme.

44. THANKS the Government of the Philippines and the Bureau of Animal Industries for hosting an outstanding and successful meeting.

**Next Meeting**
45. REQUESTS the Kingdom of Thailand to host the 22nd Meeting of OIE Sub-Commission for Foot and Mouth Disease in South-East Asia and China.

* Recommendations to be progressed with priority
I. Introduction

Precluding the 21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China, three meetings for the Steering Committees of the SEACFMD Campaign, the Rabies/One Health Programme and the STANDZ Initiative were held in Manila on 9 March, 2015. The Sub-Commission President Dr Gardner Murray led discussions with key staff from OIE Headquarters, OIE Sub-Regional Representation for South-East Asia and respective Steering Committee members in the three closed sessions.

The 21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China was held in Manila, the Philippines, on 10-13 March 2015. The meeting was attended by over 90 participants from the region and other parts of the world, including attendees from SEACFMD Member Countries, representatives of partner organisations, local observers and key OIE Officials headed by Deputy Director General Dr Monique Eloit, SEACFMD President Dr Gardner Murray, and OIE Sub-Regional Representative for South-East Asia Dr Ronello Abila. The Philippines Department of Agriculture was represented by Dr Davinio Catbagan, Assistant Secretary of Livestock, and Dr Rubina Cresencio, Delegate of the Philippines to the OIE. Jose Reano, Undersecretary for Agriculture, represented Secretary Proceso Alcala as the Guest of Honour.

The four-day meeting had nine sessions in total. On Day 1, sessions 1, 2, and 3 provided updates on the global, regional and national FMD situations in Member Countries, and progress of FMD activities from partners. Sessions 4, 5 and 6 on Day 2 included presentations and discussions on key technical, policy and governance issues relating to FMD. On Day 3, session 7 focused on developing the SEACFMD 2015/2016 Action Plan through parallel workshops for SEACFMD delegates and observers (partners), while session 8 focused on One Health from the perspective of international animal disease cooperation. During session 9, recommendations of the 21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease in South-East Asia and China were developed and endorsed by the Member Countries. On Day 4 a field trip to showcase Filipino agricultural industry was organised.
II. Opening Ceremony

1. Dr Rubina Cresencio, Director, Bureau of Animal Industries / Delegate of the Philippines to the OIE

Dr Rubina Cresencio commenced the opening ceremony of the 21st Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China by welcoming participants to Manila on behalf of the Philippines Bureau of Animal Industry, Department of Agriculture. Dr Cresencio acknowledged the efforts and progress made towards the control and eradication of FMD by Member Countries, introduced key representatives of the OIE and the Philippines Department of Agriculture, and wished participants a successful meeting.

2. Dr Gardner Murray, President, OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in South-East Asia and China, thanked the Government of the Philippines for hosting the meeting, and welcomed participants from SEACFMD Member Countries, OIE representatives, partner organisations and observers. Dr Murray emphasised the continued need for FMD control in the region, and highlighted the importance of SEACFMD in delivering a sustained and long-term effort towards FMD eradication. Recent socio-economic studies have highlighted the impacts of the disease in the region, at both local and national levels, with significant impediment to development and trade. As FMD poses a continued threat to both infected and free countries, SEACFMD remains highly relevant, and is a well-developed model for a multi-lateral approach to disease control. Dr Murray congratulated Member Countries and partners for the significant accomplishment made by the SEACFMD Campaign to date, and with the end of Phase 4 approaching, acknowledged the need for ongoing technical, political and financial support in order to achieve the final objectives of Phase 5. Now more than ever, during the final phase of the campaign, a strong commitment from Member Countries and investment in FMD control by donors is required. Dr Murray summarised the key objectives of the meeting, emphasising a focus on risk-based control and innovative approaches to vaccination programmes and animal movement management. He stressed the importance of international multilateral cooperation to achieve FMD control, and ultimately, eradication in the region.

3. Dr Monique Eloit, Deputy Director General, World Organisation for Animal Health (OIE)

Dr Monique Eloit welcomed participants to the meeting, and acknowledged that eradication of a trans-boundary animal disease such as FMD takes consistent and sustained commitment. In order to pursue a regional goal towards FMD control and eradication there is a need for increased funding and resources to support the SEACFMD Campaign. Furthermore, the successful implementation of any disease control program requires strong and resourceful Veterinary Services. Dr Eloit encouraged governments to invest in their Veterinary Services, including support for laboratory networks, and building of relationships with the private sector and the World Organisation of Animal Health. Strengthening of Veterinary Services will not only enable successful prevention, control and eradication of FMD, but also build the foundations to tackle a range of trans-boundary animal diseases in the region. Dr Eloit acknowledged that many of the achievements of the SEACFMD Campaign would not have been possible without the support of Member Countries, partners and
donors, in particular the Australian Government, through the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative. Future support to continue to achieve the objectives of Phase 5 of the SEACFMD Campaign is required, and Dr Eloit implored new donors and Member Countries to work together under the united regional FMD control program of SEACFMD. Dr Eloit thanked the Government of Thailand for hosting the office of the OIE Sub-Regional Representation for South-East Asia (OIE SRR SEA), and supporting the OIE in the implementation of the SEACFMD Campaign. Finally, she thanked the Government of the Philippines for hosting the event, and wished participants a successful meeting.

4. Dr Davinio Catbagan, Assistant Secretary for Livestock, the Philippines Department of Agriculture

Dr Davinio Catbagan welcomed participants to the city of Manila, and expressed his gratitude for the opportunity for the Philippines to host the 21st OIE Sub-Commission for FMD Control in South-East Asia and China. He thanked the OIE for its support of FMD control activities in the Philippines and in the region as a whole. Dr Catbagan highlighted the growing potential of the region’s livestock sectors, noting the significant impact and threat that trans-boundary animal diseases pose to these industries. FMD threatens food security and livelihoods through reductions in productivity, elimination of entire herds and restrictions of trade barriers. Dr Catbagan noted that a number of countries in South America have incorporated vaccination into FMD control plans to successfully eradicate the disease. He stated that the Philippines used vaccination as a ‘stamping-out’ tool to illuminate FMD in the 1990’s, as a part of the progressive zoning approach through the Philippines FMD Task Force. Dr Catbagan commended OIE for the achievements of the SEACFMD Campaign, but noted that unfortunately FMD remains endemic in a number of countries in the region. He urged Member Countries to improve multi-lateral efforts to develop innovative ways to progress towards FMD control and eradication in the region, and wished participants a successful meeting.
III. Session 1: Updates on the global and regional FMD situation

(Chaired by Dr Gardner Murray)

1. The global FMD situation (Dr Donald King, Head of WRLFMD, Pirbright Institute Laboratory, UK)

Dr Donald King presented on the current FMD situation globally. The update was based on laboratory data generated from clinical samples received by the World Reference Laboratory for Foot and Mouth Disease (WRLFMD) at the Pirbright Institute, and partner laboratories within the OIE/FAO FMD Laboratory Network. These data are used to monitor the continued trans-boundary movements of FMD virus in Asia and Africa due to established FMD virus lineages, and to also provide recommendations about the suitability of vaccine strains that can be used to control these outbreaks. Dr King explained that, in addition to mapping epidemiological patterns in FMD endemic settings, the sequence data also reveal exotic and unexpected incursions of FMD virus into new regions and countries that can pose an increased risk for onward spread of the disease, including to FMD-free countries.

See Annex 21 for further information

Dr Matthew Stone highlighted the importance of vaccine matching in order to facilitate effective selection of strains for vaccine banks. Issues surrounding selection of strains and potency of vaccines have been discussed at previous Sub-Commissions. Dr Stone recalled that these discussions suggested that increase potency can result in better results, even where strain matching is sub-optimal. Dr Stone requested Dr King to comment further on this issue, and whether it should be the focus of further discussion. Dr King responded by saying that, in an endemic setting, there are studies which could be done to investigate efficacy of vaccines against field strains. However, at present we seem to be missing the opportunity to acquire such data from the field, and need to further encourage Member countries to submit samples and participate.

In light of the above discussion, Dr Gardner Murray suggested that Dr King provide the Sub-Commission with several proposed recommendations based on the summary of findings from this year’s reporting period at the WRLFMD. Dr King suggested the following recommendations for consideration by the assembly:

i. Observes that the OIE/FAO FMD Laboratory Network have established a working group to provide vaccine selection guidance that particularly focusing on FMD endemic settings.

ii. Recommends that the OIE and SEACFMD member states should continue to support the collection and transport of samples to FMD Reference Laboratories

iii. Recommends that FMDV sequence data should be used to better understand intra-regional transmission pathways.

2. SEACFMD Video (Dr Ronello Abila, Sub-Regional Representative for South-East Asia)

The OIE SRR SEA recently commissioned an informative video to raise awareness of the history, work and achievements of SEACFMD, in collaboration with partners and Member Countries. Dr Abila provided a brief introduction to the video, explaining that several versions will be distributed for use as an advocacy and public awareness material. Several delegates requested whether it would be
possible to have the video translated into respective Member Country languages. Dr Abila confirmed that, once final adjustments have been made, Member Countries will be welcome to translate the video into their respective languages.

Copies of the video were distributed to participants on the official meeting USB.

3. The regional FMD situation (Dr Karan Kukreja, Project Officer, OIE SRR SEA)

Dr Karan Kukreja presented an update on the status of FMD in the region of South-East Asia and China for the 2014/2015 period. Dr Kukreja reiterated that FMD outbreaks and status are reportedly regularly by Information Focal Points in countries to the ASEAN Regional Animal Health Information System (ARAHIS) and through the World Animal Health Information System (WAHIS) for immediate notifications and 6-monthly disease status reports. The OIE SRR-SEA bases its analysis of the regional status on the reports uploaded by the Members in the ARAHIS as well as WRLFMD reports, WAHIS and country reports at meetings. Dr Kukreja noted that, due to technical errors ARAHIS has unfortunately been non-functional in 2015. However countries have instead sent their reports directly to the SRR-SEA. Regardless, submissions from some members are often delayed and/or are not updated to reflect updates in laboratory results such as serotyping, including results from the Regional Reference Laboratories. Dr Kukreja stressed that this may lead to potential flaws to analysis, and encouraged Member Countries to provide outbreak reports as soon as possible.

Dr Kukreja summarised that the total number of outbreaks reported in 2014 is 303 – this is a 26% increase as compared to the 240 outbreaks reported in 2013 and a 143% increase as compared to 2012 in which there were 142 outbreaks but a marked decrease of 80% from the 1488 outbreaks reported to ARAHIS and directly to SEACFMD in 2011. All countries in ARAHIS submitted reports this year until July, with reporting more sporadic thereafter. Ninety-three outbreaks (31%) out of the total were characterized as being caused by Serotype O virus, while 84 (28%) were serotyped as being caused by Serotype A. The rest are reported as un-typed or with results pending. This is a return to the trend seen for a number of years previously, in which O was the predominant serotype in the region. However, the trend in 2014 does not show as much of a dominance of O as has been seen previously. In 2013, serotype O was identified in 28% of outbreaks and serotype A in 33%. Four outbreaks were reported in January 2015, with serotype A identified in all of these outbreaks, with serotype O not being identified thus far. O SEA/Mya-98 was typed in outbreaks in China, Malaysia, Thailand and Vietnam. O ME-SA/PanAsia was typed in outbreaks in Thailand and Vietnam. A/Asia/Sea-97 was typed in outbreaks in China, Lao, Thailand, and Vietnam in 2013. The FMD-free areas of East Malaysia (Sarawak and Sabah), Brunei, Indonesia, and Singapore remained FMD-free. Dr Kukreja concluded by stating that the timeliness and accuracy of reporting by all Members is essential towards to delivery of a timely, accurate and meaningful analysis for the region. Countries are also strongly encouraged to update information submitted to ARAHIS and WAHIS in cases where new information, such as serotyping results, becomes available.

See Annex 4 for further information
IV. Session 2: Updates on the national FMD situation

(Chaired by Dr Gardner Murray)

1. Brunei Darussalam (Dr Diana Dennis, SEACFMD National Coordinator)

Dr Diana Dennis presented an update on the national FMD situation in Brunei Darussalam. Brunei Darussalam has been given the status of a FMD-free country since 2007. Historically, a clinical case of FMD has never been reported. To safeguard this FMD-free status, Brunei Darussalam has taken three main components into consideration to carry out plans of actions. The main emphasis is on quarantine requirements and animal movement managements at the country borders. The enactment of a new legislation, Animal (Disease and Quarantine) Order is expected to be passed in March 2015, at the National Legislative Council Meeting.

The nation is continuously conducting serosurveillance and monitoring under the National Animal Health Program. As a measure to improve traceability to ease management of animal and animal products, Brunei Darussalam is currently developing the enforcement of a “One Animal, One ID” concept as well as through stringent importation regulations via the implementation of the new policy.

See Annex 13 for more information

Dr Gardner Murray noted that, based on Dr Dennis’ presentation, the most significant threat to Brunei Darussalam’s status of FMD freedom is illegal animal movements. The country shares borders with other nations, and Dr Dennis finished by stating that Brunei Darussalam understands the importance of working together with countries in the region, to deliver a united effort towards FMD control and eradication.

2. Indonesia (Dr Tjahjani Widiastuti, Deputy Director for Animal Health, Animal Biosecurity)

Dr Tjahjani Widiastuti presented an update on the national FMD situation in Indonesia. Indonesia is recognized by OIE as a Foot and Mouth Disease (FMD) free country where vaccination is not practised. Dr Widiastuti listed efforts for maintaining FMD Free status in Indonesia as follows:

1. Strengthening policy and legislation;
2. Improving diagnosis and surveillance strategy;
3. Strengthening disease reporting system;
4. Keep up dating of Indonesia emergency preparedness plan;
5. Improving private sector integration;
6. Improving awareness, technical advisory among institution related, improving communication, advocacy and coordination to sub national or local government;
7. Implementation of FMD simulation exercise for monitoring and evaluations the emergency plan.

See Annex 14 for more information

Dr Gardner Murray thanked Indonesia for their active engagement in SEACFMD activities during this reporting period, and congratulated them on continuing to maintain FMD freedom. He also noted
the importance of demonstrating the benefit of maintenance of FMD freedom, and noted that the OIE is in full support of cost-benefit analysis studies, which are currently under discussion with FMD free Member Countries. Dr Murray emphasised the importance of delivering findings of these studies in a discourse accessible to Members of Parliament and government departments outside of the agricultural sector, so as to maximise the impact of findings and use as advocacy tools.

3. **The Philippines (Dr Arlene Asteria Vytiaco, SEACFMD National Coordinator)**

Dr Arlene Asteria Vytiaco presented an update on the national FMD situation in the Philippines. From the status of having five (5) FMD-FREE ZONES without vaccination, the OIE Scientific Commission for Animal Diseases will be recommending the recognition of the Philippines as an FMD-FREE COUNTRY without vaccination by the OIE World Assembly of Delegates at the 83rd General Session on May 2015. Dr Vytiaco stated that, as the Philippines strives to maintain free status, it is insured that FMD Prevention activities are constantly implemented. One thousand copies of the FMD Emergency Preparedness (FMD EPP) Manual are currently being printed. The FMD Coordinators Cards have been distributed to all the regional and provincial FMD coordinators. The card gives information on the things to be done in case of an FMD suspect or incursion. It also contains the directory of the FMD coordinators on a per region basis.

For advocacy, there were regular meetings with various stakeholders, both government and private, from the national to the local level. Some regions have regular radio programs where all livestock programs, including FMD are discussed and phone-in questions are entertained. For capacity building, a series of trainings on Outbreak Investigation and Management have been conducted in several regions and is still being continued this year.

To hone the necessary skills of the FMD coordinators in emergency situations, a table top simulation exercise entitled FMD COMPREHENSIVE SCENARIO INDUCED SIMULATION EXERCISE was conducted on October 22-24, 2014 concurrently with the Annual FMD Coordinators Meeting. It was attended by the regional and provincial coordinators. They were asked to present their annual FMD accomplishment reports along with the constraints/challenges being met.

*See Annex 15 for more information*

4. **Singapore (Dr Yi Kuang Shawn Ting, Veterinarian, Agri-Food and Veterinary Authority)**

Dr Yi Kuang Shawn Ting presented an update on the national FMD situation in Singapore. Singapore remains FMD free without vaccination. As a city state with a very small livestock industry, Singapore depends heavily on the import of animals and animal products for its food supply. Singapore has a strategy for the multi-pronged prevention of FMD. Source accreditation and import controls are based on a risk-based approach and scientific evidence. Susceptible commodities can only be imported from FMD free countries and zones, or be treated to inactivate FMDV. At the same time, clinical and serological surveillance is conducted on the local livestock population to affirm Singapore’s FMD free status.

*See Annex 16 for more information*
5. Cambodia (Dr Sorn San, SEACFMD National Coordinator)

Dr Sorn San presented an update on the national FMD situation in Cambodia. From January to December 2014, 58 outbreaks of FMD were reported from 12 provinces (Preah Sihanouk, Svay Rieng, Prey Veng, Pursat, Kampong Chhnang, Kampong Cham, Tboung Khmum, Kracheh, Kampot, Takeo, Kandal and Kampong Speu). 5,711 heads of cattle; 834 heads of buffaloes and 185 heads of pigs displayed clinical signs resembling FMD. Amongst them, there were mortalities of 87 heads of cattle; 02 heads of buffaloes and 09 heads of pigs. A total of 17 samples were collected and the results were Sero-type O and A.

With support from FMD-ROK Project funded by Korean government through FAO, the Department of Animal Health and Production conducted two training courses on FMD outbreak investigation for district veterinarians in 03 targeted provinces (Takeo, Prey Veng and Kampong Cham) with the distribution of outbreak investigation kits to all 46 participants. Kits are kept at the provincial animal health and production offices. Stakeholder meetings were conducted with 25 provincial animal health and production offices on 15 January 2015.

See Annex 17 for more information

6. China (Dr Wu Wei, China Animal Disease Control Center, Ministry of Agriculture)

Dr Wu Wei presented an update on the national FMD situation in China. In total in 2014, China notified 7 FMD outbreaks, among them 2 outbreaks were caused by type O FMD virus and 5 outbreaks were caused by type A FMD virus. From January to February 2015, China reported 2 FMD outbreaks, both caused by type A FMD virus. China hasn’t detected FMD clinical cases of type Asia I for more than 5 years. The main strain of Type A involved in FMD outbreaks is Sea 97-G2, while that for type O is Mya-98.

In 2014, China continued to implement a compulsory vaccination policy towards all pigs, cattle, sheep and goats. The central budget allocated 3.72 billion RMB for FMD vaccines. During the year, there were a total of 0.88 million samples examined by pathological test, and 3.83 million samples were examined by serological test. Among them, 20 samples were positive by pathological test. Efforts were made to enhance animal disease inspection, supervision and emergency response, improve the capacity of veterinary laboratories and personnel resources, and strengthen the public awareness of animal disease. On the basis of maintaining the existing FMD free zones, China put forward the proposal to establish the North-east FMD free zone. China has initiated surveillance and assessment on the withdrawal of vaccination for Type Asia I and has also conducted active multi-lateral and bilateral exchanges and cooperation with many international organizations such as OIE and FAO, as well as counties including Singapore, Vietnam, Laos, Myanmar, Russia and Mongolia.

Currently, the biggest challenge for China in prevention and control of FMD is the large number of smuggling of livestock and relative animal products from South-east Asia. In the future, China will continue to implement its comprehensive FMD prevention and control strategy which combines vaccination with the stamping-out policy, speed up the construction of specific animal disease free zones and animal disease control areas in border areas (like Yunnan province) in accordance with the National FMD Prevention and Control Program.
7. Lao PDR (Dr Khamphouth Vongxay, Department of Livestock and Fisheries)

Dr Khamphouth Vongxay presented an update on the national FMD situation in Lao PDR. FMD remains endemic in Lao PDR. From January 2014 to January 2015 Lao PDR reported 13 outbreaks, with a total of 349 buffalo, 684 cattle and one pig affected, including mortalities in 55 buffalo and 81 cattle. Dr Vongxay stated that FMD occurs annually in Lao PDR, with peaks generally seen during the dry season from October to March. However, the number of outbreaks peaked in late 2010 and a decrease in outbreaks has since been seen, with some stabilisation since 2012. Dr Vongxay reinforced that movement of infected animals is likely the major source of outbreaks. Current FMD prevention and control activities included actions towards identification of foci and sources of FMD through training and outbreak investigations; elimination of sources of the virus through improved cleaning and disinfection practices; prevention of spread of virus through maintenance of border check points, quarantine, movement restriction in affected areas and a zoning approach in Northern Lao PDR; and protection of susceptible hosts through vaccination. Advocacy materials were also distributed, and a Knowledge, Attitudes and Perceptions (KAP) survey conducted. Key bilateral and multilateral activities involving China, Thailand, Myanmar and Vietnam were also conducted.

Dr Vongxay noted the primary constraints to FMD control include difficulties in accessing some vaccination sites, and the shared and free-grazing livestock systems. Suggested solutions included careful planning of vaccination activities to coincide with the dry season and fostering a sense of ownership through involvement of provincial and district staff in project activities. Future planned activities include finalisation of the Cambodia FMD National Plan for government endorsement; strengthening of surveillance systems; pilot sero-surveillance in Xiengkhouang and Savanakhet; completion of vaccination targets, post vaccination monitoring and KAP surveys; activities on animal movement management; and assessment of the PCP for FMD.

8. Malaysia (Dr Mohamed Naheed Bin Mohamed Hussein, SEACFMD National Coordinator)

Dr Mohamed Naheed Bin Mohamed Hussein presented an update on the national FMD situation in Malaysia. FMD remains endemic in Malaysia, however the incidence of outbreaks has continued to decline since 2010, with only 2 outbreaks of serotype A and 8 of serotype O reported nationally in 2014. The decreasing trend correlates with the reported decrease in outbreaks in the Myanmar-Thailand-Malaysia region over this period. Based on sequencing results provided by the WRLFMD at the Pirbright Institute, serotype A Mya 98 and serotype O SEA-97 were recovered from cattle in 2014.

Malaysia has a number of ongoing FMD prevention and control activities. FMD control is achieved through effective implementation of Outbreak Control Management operating procedures, which include animal movement controls, outbreak investigation, vaccination, surveillance, public awareness and reporting procedures. Protection of susceptible animals is recommended through strategic vaccination, and prevention of spread is achieved through implementation of e-permits to control animal movements. Communication and advocacy is achieved through public awareness campaigns. Coordination and programme management is through the Committee for National
Disease Control and the FMD Task Force; coordination with MAQIS on importation of livestock; and regional OIE SEACFMD activities and meetings.

Key multi-lateral activities for 2014 included the importation of cattle from Thailand in accordance with agreed importation protocol and a formal request from private livestock industry to restart importation of cattle and goats from Myanmar, which is under consideration by DVS. In order to reduce the risk of entry of FMDV, a preference to import frozen beef over live animals from Thailand and Myanmar is under consideration. Further bilateral activities in 2014 included attendance of meetings where FMD status and information is shared, namely: MTM control Tri-State Commission; Meeting of National FMD Coordinators; and Meeting of the OIE Sub-Commission on FMD Control in South-East Asia and China.

Dr Naheed outlined the constraints and solutions to FMD control and eradication as follows:

i. Stakeholders may become complacent when the incidence of outbreaks decreases. Consistent communication and public awareness could address this.

ii. Field personnel may become tired, impacting work and productivity, and it can be difficult to maintain trained personnel due to position transfers and promotions. This may be addressed through involvement of private veterinarians, and through succession planning to train backup human resources.

iii. Land borders currently pose a threat for minor incursions, and require continuous vigilance and enforcement.

iv. It can be challenging to source cattle for importation from another MTM member country where the price is reasonable and cattle numbers are sufficient. Re-establishment of bilateral cooperation is in progress.

v. Approximately 30% - 40% of epithelial tissues submitted for diagnosis are of low quality, inadequate or not suitable for diagnosis. This leads to no virus being detected. Continuous training for collection procedures and timing is required.

Future FMD activities in Malaysia include: continued adherence to the FMD Control and Eradication Plan, towards freedom in 2016; seek OIE endorsement of National FMD Control Plan; progress to PCP stage 4; maintain FMD freedom in Mukims sub-districts, and declare new free zones; establish prompt reporting to ARAHIS; continue inter-laboratory proficiency testing with RRL Pakchong; train new staff in outbreak investigation and management; conduct awareness and communication programme on the Malaysia FMD SOP; maintain a close collaboration with MAQIS; and establish cooperation and collaboration with other government agencies at country borders.

9. **Myanmar (Dr Kyaw Naing Oo, SEACFMD National Coordinator)**

Dr Kyaw Naing Oo presented an update on the national FMD situation in Myanmar. FMD remains endemic in Myanmar, with four outbreaks reported in 2014 in the townships of Hpapum, Kyainseikgyi, MyanAung and Netmouk. Two of the outbreaks were identified as serotype O. There have been no reported outbreaks in 2015, although unconfirmed outbreak investigations are being conducted in Sagaing and Magwe. Dr Kyaw Naing Oo stated that, although there were a very low number of reported outbreaks across the country in this reporting period, the demand for FMD vaccine from private farmers is still high. Key activities for FMD control and prevention have
included: the launch of an OIE STANDZ and EU-HPED funded vaccination campaign in Central Mandalay; opening of the new BSL 2 laboratory in NayPyiTaw, funded by South Korea; bilateral meetings with China and Thailand; and an OIE supported animal movement study, funded by China.

Dr Kyaw Naing Oo noted that constraints for FMD control were an under-reporting of the disease, and the need for harmonisation of control activities between regional and union governments. Future activities include completion of the OIE supported vaccination campaign in Central Myanmar, with associated post-vaccination monitoring; completion of the OIE supported animal movement study; and organisation of OIE supported outbreak investigation training.

10. Thailand (Dr Sith Premashthira, SEACFMD National Coordinator)

Dr Sith Premashthira presented an update on the national FMD situation in Thailand. From a web-based system developed by Department of Livestock Development (DLD) called E-Smart Surveillance, one hundred and fifty FMD outbreaks were reported in 2014 from all livestock regions in Thailand except the Eastern Region. This has been the highest number of outbreaks reported since 2004. According to the report by month, August to November was the peak of FMD outbreaks in 2014. Livestock Region 7 (Western region) was the major area of FMD; Livestock Region 5 (Northern region) was the second major area of FMD. The number of cases and deaths were 7,543 and 150 respectively. Beef cattle outbreaks were more disseminated but dairy cattle population were more affected by FMD. From all 150 outbreaks, the strain of FMD virus was diagnosed 39 percent for type O, 35 percent for type A, 3 percent for type O plus type A, 14 percent for no virus detected and 9 percent for not-sampled.

See Annex 19 for more information

Dr Gardner Murray noted the increase in reported outbreaks in 2014/2015 in Thailand. While the increase may be multifactorial, he questioned whether there was also a true increase in outbreak incidence. Dr Premashthira confirmed that there has been a stronger emphasis on reporting of outbreaks, as well as improvements in reporting pathways, which may account for some of the increase in identified outbreaks in 2014/2015. However, a higher demand for animal trade within the dairy industry means we are likely seeing a true increase in incidence also.

11. Vietnam (Dr Phan Quang Minh, SEACFMD National Coordinator)

Dr Phan Quang Minh presented an update on the national FMD situation in Vietnam. In 2014, 63 outbreaks of foot and mouth disease (FMD) were reported in Viet Nam with the occurrence of FMD serotype O and A. The country has continued to apply an integrated control programme using the combination of measures best suited to its existing situation and implement activities of the second year of the National Plan to control FMD for the period from 2011 to 2015. A vaccination approach remains the key intervention. Other control measures include early detection, outbreak investigation and response; compartmentalisation/zoning approach; closely monitor the virus; enhanced animal movement control; improve private sector integration; and better understanding of value chain.

See Annex 20 for more information
Dr Jeff Hammond commented that there are a high number of vaccines being used in the region. In future reports it would be useful for countries to report the derivation, strains and potency of the vaccines they are using. Dr Abila suggested that this can be included in the Country Report Templates in the future.
**V. Session 3: Updates from partners**

*(Chaired by Dr Rubina Cresencio)*

1. **Australian Department of Agriculture and Department of Foreign Affairs and Trade (Dr Sam Hamilton, Department of Agriculture)**

   Dr Sam Hamilton presented an update on the national FMD situation in Australia, on behalf of both the Department of Agriculture and the Department of Foreign Affairs and Trade. While Australia remains FMD free, Dr Hamilton emphasised that preparing for an incursion of FMD remains a high priority. Simulation exercises have been conducted to evaluate Australia’s ability to implement a national livestock standstill, and a Performance of Veterinary Services Assessment is planned for 2015. Other activities include: renewal of Australia’s FMD vaccine bank for 2015 to 2019; a review of general surveillance; continued EuFMD real time training of Australian vets and livestock workers in Nepal; and an action plan on collaboration on FMD preparedness with New Zealand.

   Australia has provided funding support to SEACFMD since 1997. Support is currently supplied through the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative, contributing towards Australia’s international development policy and Australia’s biosecurity. Dr Hamilton noted that the Australian support to SEACFMD through the STANDZ Initiative is scheduled to finish in June 2016, although future support is under discussion. Australia and OIE are discussing a strategy to ensure that national and regional components of SEACFMD work are sustained by countries using local resources, and/or with support from other countries and development partners. Australia’s future support beyond STANDZ is under consideration and will be subject to funding availability.

2. **Association of South-East Asian Nations (ASEAN) (Dr Lim Chee Wee, Director, Import and Export Regulation, Agri-Food and Veterinary Authority)**

   Dr Lim Chee Wee presented the partner report for the Association of South-East Asian Nations (ASEAN). During the 22nd ASEAN Sectoral Working Group on Livestock (ASWGL) Meeting which held on 7-9 May 2014 in Singapore, ASEAN:

   i. Noted the progress of controlling FMD in the region over the past 20 years and the recommendation from the Sub-Commission to revise the SEACFMD 2020 roadmap to take into consideration the changes in the epidemiology of circulation FMD serotypes and socio-economic development in the region.

   ii. Noted and appreciated the support provided by the SEACFMD in the AMS efforts to reduce FMD.

   iii. Noted that the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) would support a comprehensive FMD control project in northern Lao PDR and central Myanmar from 2014 to 2016. Support of FMD vaccines from EU-HPED Vaccine Bank was recognised.

   iv. Noted the proposed NZ$ 4.5 Million New Zealand FMD project that will support pilot areas in Myanmar and Laos, and possibly will extend to Cambodia and Vietnam.

   v. Informed that the 20th Meeting of the OIE Sub-commission for FMD agreed to the drafting of the 3rd Edition of the SEACFMD 2020 roadmap and encourage the participation of ASEAN Secretariat and/or the chair of the ASEAN Sectoral Working Group for Livestock in the Sub-commission and other relevant meetings.
vi. OIE suggested AMS to submit FMD samples in a timely manner to OIE Reference Laboratories.

3. Chinese Taipei (Dr Ming Chung Deng, Animal Health Research Institute, Council of Agriculture)

Dr Ming Chung Deng presented an update on the FMD situation in Chinese Taipei. Pigs are by far the main FMD susceptible species in Chinese Taipei, or which 87% are located in the south. The last case of FMD was detected in 2013, with no reported outbreaks for this reporting period. Chinese Taipei practices blanket vaccination, and has a vaccine bank for emergency use in the event of an incursion of other serotypes of FMDV. The vaccination program is empowered by the Regulation of Kinds of Vaccines and their Management for Elimination Classical Swine Fever and Foot and Mouth Disease. Pigs are vaccinated at 12-14 weeks, and then subsequently every 6 months. Ruminants are vaccinated at 4 and 12 months, and then every subsequent year. Compulsory vaccination has been funded by livestock owners since 2013. Both active and passive surveillance is also practiced.

4. FAO Regional Office for Asia and the Pacific (Dr Carolyn Benigno, Animal Health Officer)

Dr Carolyn Benigno presented the partner report for the FAO Regional Office for Asian and the Pacific. The FAO FMD control initiatives as well as the general animal health activities in the region follow five specific themes, namely: assistance to control and prevent high impact diseases, capacity building, regional cooperation, human health animal health collaboration and information sharing and dissemination. Assistance to countries is provided, to control particular diseases such as FMD, swine diseases, rabies and avian influenza. Specifically for FMD control, activities in support of the SEACFMD objectives are the control activities under the ROK funded project where the focus is on three countries, Cambodia, Lao PDR to progress to PCP Stage 2 and for Vietnam to complete Stage 2 and progress to Stage 3. This project works closely with the SEACFMD and recently a meeting of project coordinators with representatives from SEACFMD attending was held to discuss complementary activities on outbreak investigation, surveillance, laboratory diagnosis and public awareness. Other initiatives funded by other sources are on assistance to Lao PDR to develop their animal health legislation, conduct of a WEBINAR on outbreak investigation by a project called LinkTADs, support to border control activities under the USAID. There are other FAO initiatives outside of SEACFMD and these are projects in Pakistan, Democratic Peoples’ Republic of Korea and Sri Lanka.

5. Japan (Dr Yumiko Sakurai, Assistant Director, Animal Health Division, Ministry of Agriculture, Forestry and Fisheries)

Dr Yumiko Sakurai presented an update on the national FMD situation in Japan. Japan experienced invasion and epizootics of FMD in the early 1900s, and after 92 years of absence, there was another invasion in 2000, and then again in 2010. Japan regained FMD-free status without vaccination in February 2011. The basic principle for FMD Control in Japan is stamping out to maintain FMD free status. The Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF) has been supporting the FAO/OIE Global Framework for the progressive control of Transboundary Animal Diseases (GF-TADs) and related activities including SEACFMD in Asia by the contribution to the OIE and FAO since 2005. From 2011 to 2015, JTF/OIE Project for FMD Control in Asia is implemented by the OIE and the
project supported vaccine donation from MAFF to Laos and Myanmar, in 2012-2013 and 2013, respectively.

The National Institute of Animal Health of Japan, as the OIE Collaborating Centre on Diagnosis and Control of Animal Diseases and Related Veterinary Product Assessment in Asia, has contributed to the follow-up investigations after vaccine donation to Laos and Myanmar. The JTF/OIE Project for FMD Control in Asia will be renewed in 2015 for another 5 years, continuing collaboration with SEACFMD activities.

6. New Zealand (Dr Matthew Stone, Director of Animal and Animal Products)

Dr Matthew Stone presented an update on the national FMD situation in New Zealand. The Ministry for Primary Industries in New Zealand has over the last two years led a comprehensive review of FMD preparedness. Overarching policies and detailed plans, supported by technical reviews, have been completed in all critical areas of operations for FMD preparedness, including movement control, destruction, disposal, disinfection, vaccination, response coordination and whole of government interaction. New Zealand’s economic impact analysis for FMD has been updated, and provides a compelling case for the stamping out policy. Next year New Zealand will continue to focus on operational capability against the updated plan, with a particular emphasis on people capability and training, including through our exercise programme.

As always for New Zealand, we continue to place a heavy emphasis on risk reduction activities, given our status as free from FMD and many other OIE listed diseases. The development of import health standards supported by robust science-based risk analysis, and operational delivery of strict border clearance activity across all major pathways (cargo, passenger, mail, vessels), underpins our biosecurity programme. Post-border risk reduction continues to receive emphasis, and our programme to lift awareness and compliance with regulations prohibiting feeding of uncooked meat to pigs has been a focus. The National Animal Identification and Traceability system (NAIT) is now fully implemented across cattle and deer, and targets have been established with respect to compliance with requirements for tagging and movement recording by farmers. Early detection systems are provided through our surveillance and incursion investigation capability. Across the board, there is an emphasis on performance measurement for our biosecurity system, and effective liaison and communication with stakeholders.

Following Dr Stone’s presentation, Dr Song Junxia expressed interest in the New Zealand economic impact study. She asked what factors require consideration when conducting a study, including the scale of farms, species and husbandry systems. Dr Stone replied that the study is available for public access, and he confirmed he would send it to Dr Song and anyone who requested a copy. He also clarified that Massey University was heavily involved in the study, and developed a computer model to take into account all scales of farming practices, species and husbandry systems. The model can be used to simulate an outbreak scenario based on the data input. Aside from the epidemiology component, another critical consideration is to link an economic component to the model. This is important for advocating the importance of disease control with other government departments, such as treasury. Within New Zealand’s model, the epidemiological data can be analysed within a macroeconomic framework to consider potential impacts on socio-economic factors, trade and employment. Dr Gardner Murray supported the linking of epidemiological and economic data, but
also pointed out that we need to be conscious that it is difficult to quantify social and personal factors that may be impacted in an economic framework. Dr Peter Windsor added that the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) had resources regarding a socio-economic cost-benefit analysis conducted in Australia. Appendices to social costs are included, which he offered to share with any interested persons.

Dr Naheed offered congratulations to New Zealand for ongoing support for SEACFMD, expected to be announced in April 2015. Dr Stone extended congratulations to colleagues in Australia, for the work that has been done since the inception of SEACFMD, to fund and build the foundations of the Initiative. Dr Murray agreed, highlighting the assembly’s recognition of the extraordinary value that has resulted from Australia’s donations since 1997, and urging Australia and other donors to consider support for the programme in the future. It is not only ASEAN that will benefit from FMD control, but also neighbouring countries.

7. OIE Regional Representation for Asia and the Pacific (Dr Yooni Oh, Regional Veterinary Officer)

Dr Yooni Oh presented the partner report for the OIE Regional Representation for Asia and the Pacific (RRAP). The OIE RRAP continued to conduct the OIE/JTF Project on FMD Control in Asia since 2011. This project is an initiative of the OIE and the Japanese Government, aiming at promoting information sharing on FMD in the region, especially in East Asia including China PR, Chinese Taipei, Hong Kong SAR, Japan, Korea RO, Mongolia, and other Asian countries if interested. Dr Oh presented the FMD related activities for year 2014 as well as plan for 2015. Activities were performed within the four components of information sharing; regional roadmap and cooperation; improvement of diagnosis; and improvement of control measures. In 2014, OIE RRAP had an annual Coordination Committee (CC) meeting in Lanzhou, China, back-to-back with a National Contact Person (NCP) meeting. An updated FMD Roadmap for East Asia via NCP meeting was adopted from the CC meeting. OIE RRAP also supported FMD training for capacity building for member countries and an FMD vaccination campaign in Laos and Myanmar implementing MAFF Japan donated vaccine. Since the current project expires by end of July 2015, OIE RRAP will have a CC meeting in June to discuss about the next phase of the project for another 5 years.
VI. Session 4: Technical presentations
(Chaired by Dr Mohamed Naheed Bin Mohamed Hussein)

1. FMD laboratory proficiency testing in South-East Asia conducted by OIE Reference Laboratory, Pakchong (Dr Somjai Kamolsiripichaiporn, Director, Regional Reference Laboratory for FMD in South-East Asia)

Dr Somjai Kamolsiripichaiporn, Acting Director of the OIE Regional Reference Laboratory for Foot and Mouth Disease in South-East Asia (RRL-Pakchong) presented the activities of RRL-Pakchong. Dr Kamolsiripichaiporn spoke about the 2014-2015 inter-laboratory comparison testing for FMD laboratory proficiency. The objectives of the proficiency testing were:

1. To evaluate the performance of individual operators or laboratory staff to ensure that they have competence in the assay performance on FMD diagnostic and serology test by inter-laboratory comparison testing.

2. To evaluate the laboratory capability to conduct specific diagnostic test in comparing of testing results among participating laboratories by providing the ELISA reagent kit, unknown antigen samples and unknown serum samples.

The scope of the inter-laboratory comparison testing includes antigen detection by ELISA typing, and antibody detection by LP ELISA and NSP testing. Eighteen FMD laboratories participated, with a total of 8 from Thailand and a further 10 from other SEACFMD Member Countries. At the time of presenting, results for laboratories in Myanmar, Malaysia, Brunei, Singapore and the Philippines were still pending. Preliminary results show that assessed laboratories performed with good results on the antigen typing and NSP tests. For LP ELISA, most laboratories had a good result for the internal quality control except three, whose controls were not within the acceptable range.

Dr Somjai identified that constraints for the proficiency testing included: production of the panels being costly and time consuming; logistics, permits and dry ice restrictions inhibiting transportation of panels; delays in result submission; and need for further support from international agencies. Future activities include a planned 5th inter-laboratory comparison testing in 2016-2017 on FMD serology and antigen typing tests.

Dr Naheed noted that, while some laboratories failed aspects of the proficiency testing, and asked whether Pakchong RRL had looked further into whether this might have been impacted by staff changes or other human errors. Dr Somjai confirmed that some irregular results were performed by new staff. Dr Naheed extrapolated that irregular results may therefore be partially attributable to transfer of staff, resulting in loss of expertise, and suggested future considerations for succession planning. Dr Domenech supported this, noting that accurate diagnostics form the foundation of surveillance. He encouraged laboratories to have dedicated staff for quality control, adopt membership of a laboratory network, and undertake regular proficiency testing. He stressed that when PVS assessments are conducted, there are several Critical Competencies related to proficiency testing.
2. Recent research on diagnostics and vaccination at the OIE Reference Laboratory, Lanzhou (Dr Yin Hong, Director General, Lanzhou Veterinary Research Institute)

Dr. Hong Yin from Lanzhou Veterinary Research institute, CAAS, China presented the recent advances in diagnostics and vaccination at the OIE Reference Laboratory – Lanzhou. He summarized the FMD situation in China in 2014. The laboratory confirmed 7 outbreaks of FMD, of which 5 were caused by Type A and 2 by Type O. Compared with 23 outbreaks in 2013, the number is going down in China. Phylogenetic analyses suggested that the causative agent of FMD Type O is Mya-98 strain, which was firstly found in 2010 in China and has been the predominant strains and caused 27 cases since then. In 2014, a new evolutionary branch strain found in China, which WRL named as Mya-98 a clade. The FMD Type A was caused by Sea-97 strain, which shared more that 99% identity with the virus collected in 2013 (named G2) and a low genetic relationship with the virus (named G1) found in China in 2009 (91% identity), and close relationship with viruses from SEA nations (over 98% homology). The laboratory also conducted active surveillance in 2014 on pig slaughterhouses in 12 provinces, Shandong Peninsula and around provinces, on FMD free zone with vaccination. The results revealed 20 samples were positive using RT-PCR, which are collected from 8 provinces, and three strains, O/Mya-98, O/PanAsia and A/Sea-97 were identified. In the laboratory, the methods for identification of the agent, FMD Ag-Capture ELISA, FMD Serotyping RT-PCR, FMD multiplex RT, PCR, FMD real-time RT-PCR, FMD real-time typing RT-PCR, FMDV 146s ELISA detection kits; FMDV antibody detection methods, LPB-ELISA, SPC-ELISA, IHA, colloid-gold test strips, DIVA methods, FMDV NSP-3ABC ELISA, FMDV NSP-2C3AB antibody colloid-gold test strips, Dot-blot, have been developed or under development. Recently, Type O monovalent vaccine (O/Mya98/BY/2010 strain), Type O-A-Asia1 trivalent vaccine, synthetic Peptide Vaccine (Type O, for pigs only) were developed by the laboratory and licensed by Ministry of Agriculture.

3. Vaccine matching and related challenges for South-East Asia (Dr Anna Ludi, WRLFMD)

Dr Anna Ludi presented on behalf of the World Reference Laboratory for Foot and Mouth Disease (WRLFMD) at the Pirbright Institute. At the WRLFMD, vaccine matching is carried out using a virus neutralisation test. In this assay, serum is serially diluted and the results are read at a virus dose of 100TCID50. A relationship coefficient (r1-value) is then calculated by dividing the heterologous (field virus) neutralisation titre by the homologous (vaccine virus) neutralisation titre according to established approaches. Values equal or greater than 0.3 are suggestive of a match.

Importantly, the vaccine matching test is dependent upon bovine post-vaccine sera (BVS) and the OIE/FAO FMD Laboratory Network have established criteria reference laboratory in attempts to harmonise the quality of the test results generated for vaccine matching:

- Monovalent
- Single vaccine
- Adjuvant (use commercial formulated product)
- > 3PD50 or >6PD50 (preferred) or > 80% PGP
- 21 days post vaccination
- No boost
- Pool of five cattle with individual titres mid-range (i.e. no low responders)
During 2015, the WRLFMD will produce six BVS which will be made available to partner laboratories.

However, it is important to remember that $r_1$-values are just one aspect of selecting a vaccine for use in the field. Other factors to consider include vaccine composition, potency of vaccine, and pervious exposure to FMDV, age of animal, booster and vaccination regime. The annual report of the OIE/FAO FMD Reference Laboratory Network highlights the vaccine recommendations for South East Asia and also gives an overview of the vaccine matching data for the region. Additionally the WRLFMD is investigating alternative methods for vaccine matching including serum neutralisation tests which would have the benefit of not needing the homologous strain. Additional multivalent vaccines currently being used in endemic stations could be used. A workgroup has been established through the OIE/FAO reference laboratory network to address this question.

**See Annex 22 for more information**

Dr Sam Hamilton informed participants that Australia recently reinvested in their national FMD vaccine bank using a risk-based decision process to select strains and dose numbers for storage. Broader sharing of information between countries would benefit the region of South-East Asia and China, and assist with more accurate selection of vaccines. Dr Matt Stone agreed, adding each country needs to consider the risks it is presented with, take into account its own vulnerabilities, and develop biosecurity programs from this risk-based approach.

Dr Wilna Vosloo advised the assembly that recent testing of high potency vaccines on strains circulating within the region has indicated that, despite poor $r_1$ values, high potency vaccines may still deliver good protection. While $r_1$ values provide useful indications, they do not necessarily give a solid prediction of field protection.

### 4. FMD vaccine matching: best practices and interpretation (Dr Pascal Hudelet, MERIAL)

Dr Pascal Hudelet presented on FMD vaccine matching on behalf of MERIAL. Selection of the most appropriate FMDV strains for use as vaccines in endemic areas or as antigen reserves in banks relies on the close monitoring of the strains that circulate in the regions, and vaccine matching results. There is a high level of variability in vaccine matching results, which can partially be addressed by standardization of the tests, e.g. through harmonization of protocols and sharing of reference reagents between laboratories.

Vaccine matching is expressed as serological $r_1$ values, which require careful interpretation. Guidelines to interpret $r_1$ values include:

1. $r_1$ values should be analyzed at the topotype level and together with all the other information available (e.g. vaccine potency), not as single values.
2. High potency vaccines can be protective despite low $r_1$ values.
3. Broad-spectrum, immunodominant strains should be favored.
4. Broad-spectrum vaccines can also be achieved through combination of strains.

Dr Carolyn Bengino stated that, in light of several presentations on the challenges of vaccine matching and the concept of $r_1$ values, it would be valuable to have access to some formal guidelines for vaccine selection, matching, implementation and monitoring. When submitting a tender, it is difficult to support proposed programs without foundational documents. Dr Naheed
agreed, adding that a standardisation of vaccine matching protocols is required. Dr Murray agreed, asking the assembly for advice on whether there is any value in developing guidelines for the region. Dr Pascal responded, saying it is a very complex issue, and requires comprehensive data collection. MERIAL has its own set of data, which it shares with customers, but Dr Pascal definitely sees merit in developing international guidelines and promoting information sharing. Dr Pascal’s key message was not to view r1 values in isolation, and he would like to see this reflected in any official guidelines, should they be developed. In addition, he urged Member Countries to note strains in neighbouring countries as well as their own when considering vaccine matching, as incursion of novel strains from the region is an ongoing threat.

Dr Don King reminded participants that the WRLFMD, and other RRLs, provide vaccine matching services. However there are deficits in some areas of understanding and a need for data. He reiterated that these data could be collected through simple field studies in Member Countries, particularly focusing on monitoring the effect of vaccines being used in current programmes. He suggested that RRLs might be better placed to support such activities.

5. Update on the implementation of the Global FMD Strategy, Global PVM Guidelines and proposed revisions of OIE Standards on FMD (Joseph Domenech, OIE Special Advisor)

Dr Joseph Domenech provided an update on the implementation of the Global FMD strategy, starting with an overview of supporting OIE activities for FMD control and eradication. Horizontal and disease specific (vertical) support are contained within chapters of the OIE Terrestrial Animal Health Code. Horizontal activities include provision of disease information and reporting through WAHIS II and WAHIS-wild, together providing immediate notification of outbreaks and both annual and bi-annual reports from Member Countries. The OIE also provides assistance to Member Countries through the PVS Pathway, twinning for veterinary education and laboratories, and networks of 241 reference laboratories, focused on 116 priority diseases or themes across 37 countries. A capacity building programme for OIE Delegates and focal points includes meetings organised by the OIE and its sub-regional offices.

Specific FMD activities include: collection, analysis and distribution of disease information, such as cumulative distribution of FMD by serotype; an ad hoc group for country status recognition and control plan endorsement; the Scientific Commission for Animal Diseases (SCAD); and support to countries and regions through vaccine banks, and in preparing submissions to OIE for status recognition. Activities under major projects such as STANDZ, EU-HPED and IDENTIFY will be covered in more detail during this meeting in subsequent presentations.

Dr Domenech also provided an update on the FMD GF TADs Working Group Activities. The endorsement of a National FMD Control Plan by the OIE is recommended for Member Countries seeking stage 3-4 of the PCP, in order to achieve the status of Infected with Endorsed Programme. The mechanism for implementation of the Global Strategy is via regional roadmap meetings, during which OIE Delegates, Chief Veterinary Officers and FMD specialists share information on FMD virus circulation, review programme progress, and assist countries in preparing national control plans. The acceptance process for PCP stages involves the Regional Advisory Group (RAG), which review self-assessed PCP questionnaires in conjunction with gathered evidence.
Dr Song expressed that China would be interested to receive further information regarding OIE Standards on FMD in order to assist with Member Countries to prepare FMD National Plans. Dr Naheed agreed, adding that FMD National Plans should follow the Code and fulfill recommendations of OIE Standards, and also be coherent and implementable, preferably with results to demonstrate practicability and success. Dr Eloit confirmed that OIE RRAP and SRR SEA will offer support for structuring Member Country FMD National Plans in some workshops later this year. Dr Domenech clarified that, when assessing a National Plan submission, the OIE Scientific and Technical Department and Scientific Commission primarily take into consideration compliance with the Code. However, key issues such as animal movement management and PVS to evidence VS adherence to OIE Standards are also considered.

6. The Northern Lao PDR FMD Project – Experiences and Lessons Learned (Dr Syseng Khounsy, National Project Coordinator)

Dr Syseng Khounsy provided an update on the OIE supported Northern Lao PDR FMD Project. The project targets 27 districts within 7 provinces northern Lao PDR, as well as Xiengkhouang, Vientiane and Xaiysomboun, with the aim to achieve zero outbreaks in the project area by 2016. At the time of presenting, 288,113 animals had been vaccinated, with the first round of vaccinations predicted to be completed in April, 2015. Booster vaccinations are scheduled following this.

The project aims to deliver the following:

2. Public awareness and advocacy activities supporting the vaccination activities
3. Trainings of provincial and district staff, and village animal health workers.

Dr Syseng described post-vaccination monitoring activities, noting that blood samples were collected in Xayabury and Vientiane, with laboratory testing ongoing in NAHL for both NSP and LP ELISA. Post vaccination monitoring studies are in collaboration with Murdoch University, Australia. The aim of the study is to monitor antibody titres of vaccinated animals, and understand the picture of antibody titres during the different periods before and after vaccination. Public awareness activities aim to raise the awareness of farmers and traders on FMD and its control; engage policy makers at the national, provincial and district levels; and build relationships through print and broadcast media. Public awareness materials were distributed, staff were trained in stakeholder engagement, a KAP survey was conducted, and newspaper and radio broadcast major activities and achievements.

7. The Central Myanmar FMD Project – Experiences and Lessons Learned (Dr Kyaw Naing Oo, SEACFMD National Coordinator)

Dr Kyaw Naing Oo provided an update on the OIE supported Central Myanmar FMD Vaccination Campaign. Dr Kyaw first provided background on previous vaccination campaigns in 2012 and 2013, which acted as pilot programmes for the current 2015 campaign. The 2015 campaign will target high risk areas based on four criteria: population density; animal movements; socio-economic impact; and frequency of outbreaks. The campaign aims to deliver 500,000 doses of vaccine to cattle and buffaloes across 18 townships in the coming months, with the support of 457 regional and central staff. The campaign is part of the larger Central Myanmar FMD Project, which aims to improve FMD
prevention and control in the region, and decrease the socioeconomic impact of the disease on local livelihoods. Project funding is provided by the Australian Department of Foreign Affairs and Trade (DFAT) through the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative, under the guidance of OIE SRR-SEA.

The campaign was launched on 23 February, 2015. At the time of presentation, the first round of vaccinations had been completed, with a total of 214,512 animals given an initial injection. More than 500 samples were collected for post-vaccination monitoring studies, and some ear tags were implemented but limited by farmer and cultural preferences. The booster dose is scheduled to commence one month following this on 23 March, 2015. GPS data points were collected for vaccinated village tracts. Dr Kyaw Naing Oo identified constraints to the vaccination campaign as: delays due to overlap with unrelated emergency animal disease response activities and remote location of some farmers. He also emphasised that FMD is not viewed as a priority disease by some farmers, so stakeholder knowledge, attitudes and perceptions may also act as limitations.

Dr Syseng noted constraints to vaccination efforts included the free-grazing system, difficulty accessing remote villages, and delays in vaccine arrival and implementation. Lessons learned included the importance of scheduling vaccination activities during the dry season, and the importance of involving provincial and district staff and farmers to foster a feeling of ownership of the programme.

8. The pathway to freedom (Dr Paul C Limson, Officer-in-Charge, Animal Health and Welfare Division, Bureau of Animal Industry)

Dr Paul Limson provided a background and history of FMD in the Philippines. The first case of FMD was documented in 1902 from meat animals imported from Hongkong. Since then, there were many incursions of FMDV in the country – Type O1 Campos was detected in 1952 – 1988; Type A detected in 1975 until 1983; Type C detected in 1976 until 1995 and Type O Cathay detected in 1994 to 2005. The last recorded outbreak in the Visayas region was in September 1999, Masbate in 1987 and Mindanao in 1988. In 1994 – 1995, Luzon remained endemic for FMD. The greatest incidence was recorded in 1995 with 1,553 outbreaks affecting a total of 98,604 animals in 27 out of 29 provinces in Luzon with an estimated PhP 2 Billion loss to the livestock industry. Then President Fidel V. Ramos finally declared Luzon as calamity area through the issuance of Executive Order (EO) #251. In 1996, a National Plan to Control and Eradicate FMD was created.

Dr Limson then outlined the strategies of the National Plan that were adopted in order to achieve FMD eradication. These strategies were:

i. Vaccination – O₁ Manisa vaccines were used first then replaced by O Philippines 97 (pig-adapted strain); applied “strategic mass” vaccination in high risk areas; cessation of vaccination took effect in 2009 through the issuance of Department of Agriculture – Administrative Order # 12 series of 2009.

ii. Disease Surveillance and Monitoring - routine sero-surveillance was conducted; risk-based – focused on previous high-risk areas; clinical Surveillance – creation of the Compliance Monitoring Teams; & FMD Free Farm Accreditation.
iii. Public Awareness – stakeholder engagement; consumer advocacy; & research/survey on knowledge, attitude and practices (KAP).

iv. Animal Movement Management – Luzon has 53 strategically located veterinary quarantine checkpoints that are located along the major road networks; & inter – regional transport of animals was carefully monitored, requiring complete documentation of the animals and disinfection of vehicles.

See Annex 23 for more information
VII. Session 5: Risks to FMD Control in South-East Asia and China

(Chaired by Dr Song Junxia)

1. Update on Animal Movement Pathways in the Upper Mekong (Dr Phil Widders, STANDZ Programme Coordinator, OIE SRR SEA)

Dr Phil Widders, STANDZ Programme Coordinator, provided an update on animal movement pathways in the Upper Mekong. Livestock movements are known to be a major factor in the spread of transboundary animal diseases, including FMD. In much of Southeast Asia, where there are extensive land boundaries between countries and where demand and price differentials exist across those boundaries, cross-border movement of livestock is extensive. A number of studies have been conducted in Southeast Asia in recent years in order to better understand the movement of livestock in the region. The results of such studies have highlighted the dynamic nature of livestock trade in the region and therefore the need to periodically review movement pathways.

A planning meeting for the current study was held in Bangkok in January 2015, during which national consultants from each of the participating countries (China, Lao PDR, Myanmar, Thailand and Vietnam) were invited to discuss and plan the study. The methodology was outlined as were results from previous animal movement studies in the region. A key outcome of the meeting was selection of study sites: key border crossing areas for large ruminants entering China; or areas known to lie on key pathways destined for China.

This study is funded by the Government of PR China and Australian STANDZ Initiative.

See Annex 12 for more information

2. SEACFMD Performance and Achievements in Phase 4 and Lessons Learned (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)

Dr Ronello Abila, OIE Sub-Regional Representative for South-East Asia, presented an update on the key achievements of the SEACFMD Campaign over the past year. A major highlight of SEACFMD Campaign during this reporting period was the launching of the US$ 3.45 million Northern Lao PDR FMD Project in July 2014, and an initial mass vaccination campaign in Central Myanmar launched in February 2015. Dr Abila noted that these pilot projects are also supported by each country’s National FMD Control Plans, which have been endorsed by their governments. Continued support was also given to Cambodia with the finalisation of a revised National FMD Control plan.

Other significant achievements include the drafting of the 3rd edition of the SEACFMD Roadmap, which will be presented at the 21st Sub-Commission Meeting, and an animal movement study launched in January 2015 to examine the risks of FMD spread bought about by changes in live cattle and buffalo market chain in the Greater Mekong Sub-region.

See Annex 3 for further information
3. **Round-table discussion: Analysis of risks of FMD in South-East Asia and China and recommendations for mitigating risks**

Dr Ronello Abila requested participants to consider ways in which to mitigate risks for FMD outbreaks in the region, in order to improve current control methods.

Dr Sam Hamilton started the discussion by asking Dr Phil Widders to expand on his earlier suggestion about engaging livestock industries in order to strengthen animal movement management. Dr Widders replied that there is apparent fragmentation in the chain, from production to the point of slaughter. Animal movement patterns are likely to change where restrictions are applied with force, and should consider that different approaches may suit the situations in different countries. By involving industry representatives, we can determine ways in which to promote industry growth and ultimately make it more attractive for farmers to sell animals through legal channels in adherence with movement management. By facilitating trade, rather than inhibiting movement, there is a greater likelihood for mutual gains and cooperation from all stakeholders. Dr Abila agreed that animal movement management requires the support of multiple stakeholders. It can be a complex network, and identifying key players may be difficult. Dr Widders stated he believes OIE is in an excellent position to facilitate interactions between VS and key animal movement stakeholders, as the private sector may be more willing to approach OIE as a mediator.

Dr Matt Stone endorsed the involvement of the private sector, but also introduced the notion that veterinary and animal health bodies cannot be expected to work in isolation. VS and agricultural departments need to develop relationships with other government bodies which play a role in border security. Dr Stone emphasised that it is also important to understand the primary economic drivers, and where animal disease biosecurity sits within these concerns, particularly as the ASEAN Economic Community develops. Dr Naheed agreed, citing the recent experiences of Malaysia as an example. Priorities of various border agencies can differ significantly, and harmonising strategies between border agencies is crucial. Dr Carolyn Benigno added that, from a technical perspective we are well equipped, but we require more focus on dealing with the multiple stakeholders involved. It should be approached with an aim to collaborate towards mutual goals, rather than with a discourse of restriction and penalty.

Dr Murray stated that, while governments are responsible for the regulation of exports and imports, there must be a co-regulatory approach, with industry playing a vital role. He noted that when it comes to animal movement management, we are looking to deal more with people than livestock. Increasing public awareness of the risks of FMD transmission and the socioeconomic impacts are required to mitigate the human tendency to opt for quick financial gains in favour of legal solutions. Multilateral networks between Member Countries are important to facilitate cooperation when implementing animal movement controls. With the strengthening of the ASEAN Economic Community, the future is promising. Guidelines for animal movement using a Greater Mekong Sub-regional ‘single window’ approach will strengthen security and simplify trade.
VIII. Session 6: SEACFMD Governance and Management

(Chaired by Dr Gardner Murray)

1. FMD Resource Mapping for South-East Asia and China (Dr Karan Kukreja and Dr Corissa Miller, Project Officers, OIE SRR SEA)

Dr Karan Kukreja and Dr Corissa Miller delivered a joint presentation on a pilot FMD Resource Mapping exercise being undertaken by OIE SRR SEA. As a highly contagious transboundary animal disease, FMD has severe impacts on economies and livelihoods dependent on livestock production, utilisation and trade. FMD eradication is an established priority for both governments and development partners in the South-East Asia and China region, and considerable resource investment is required to address the virus. It is recognised that the control and eradication of such a complex transboundary disease takes many years to achieve success, and requires an integrated, sustained and long-term commitment.

Ongoing support from a network of donor organisations, implementing bodies, research institutes and national stakeholders provide resources for FMD prevention, control and capacity building activities in the region. Documenting these contributions provides a spatial and temporal understanding of the past distribution of resources, and provides a tool for directing future investment.

Following review by the Sub-Commission, it is proposed that the exercise be used to complement the Strategic Framework of the 3rd edition of the SEACFMD Roadmap, to provide an annually updated resource mapping document for Governments, donor organisations and stakeholders when considering resource support for FMD in the region from 2016 to 2020.

See Annex 11 for more information

2. The new SEACFMD 2020 Roadmap overview (Dr Phil Widders, STANDZ Programme Coordinator, OIE SRR SEA)

The South East Asia Foot and Mouth Disease Campaign (SEAFMD) was formally established in 1997, following recognition by the OIE and regional Member Countries of the need to address FMD as a priority animal health issue. The Campaign was expanded in 2010 to include China, renaming it the South East Asia and China Foot and Mouth Disease Campaign (SEACFMD). The first three Phases of the Campaign have been completed, and Phase 4 is scheduled for completion in 2015. Phase 5 covers from 2016 to 2020.

A Roadmap was developed and first published in 2007, to guide activities and strategies under SEACFMD. The 2nd edition of the Roadmap was published in 2011. This 3rd edition of the SEACFMD Roadmap defines the Campaign goals and objectives, and will guide development of strategies and activities for delivery in Phase 5 of SEACFMD from 2016 to 2020. The 3rd edition of the SEACFMD Roadmap has been developed to align closely with the OIE-FAO Global Foot and Mouth Disease Control Strategy and its FMD Progressive Control Pathway (PCP-FMD).
The Roadmap is presented as a strategic framework, an overarching document which will be supported by an Annex defining Member Countries’ goals, objectives and timeframes linked to the Roadmap, and by manuals which will support activities described under the three Strategy Components: technical; coordination and advocacy; governance and policy. An Implementation Plan, which will be developed and reviewed annually, will detail the activities and timeframes for Phase 5 of SEACFMD. The Implementation Plan for 2016, and the Member Country Annex, will be developed before the commencement of Phase 5 of SEACFMD, once the Strategic Framework document has been approved and finalised.

*See Annex 8 for more information*
IX. Session 7: Action Plan for SEACFMD

(Chaired by Dr Gardner Murray and Dr Monique Eloit)

1. Review of the SEACFMD Action Plan and key actions needed for Phase 5 (Dr Ronello Abila, Sub-Regional Representative, OIE SRR SEA)

The OIE SRR-SEA has compiled a number of key recommendations for the 2015/2016 draft action plan from the OIE Sub-Commission for FMD in South-East Asia and China, the SEACFMD National Coordinators Meeting, the MTM Meeting, the Upper Mekong Working Group Meeting, and the SEACFMD LabNet and EpiNet meetings over 2013 and 2014. Key recommendations and actions from the 2013 SEACFMD National Coordinators Meeting and 2014 OIE Sub-Commission for FMD in South-East Asia and China were discussed in a workshop at the 2014 SEACFMD National Coordinators Meeting, in order to gather information on progress of key actions. Key actions have been listed in Annex 5 along with information on their progress, bodies responsible, any problems or impediments, actions to be taken, and a timeline.

Besides regular meetings and information exchange within SEACFMD and with partners, a number of actions have been completed over the past year or have started commenced. This includes (but is not restricted to) completion of national FMD plans for Cambodia, Lao PDR and Myanmar, commencement of a Livestock Movement Project for the Upper Mekong Region, a meeting of experts to provide advice on vaccine selection, commencement of large-scale FMD control initiatives in Lao PDR and Myanmar and socioeconomic studies. However, in some cases, these completed actions may require follow-up.

This document serves as a living document, and will be adjusted according to inputs from Sub-Commission members at this meeting, with new recommendations to be added and actions to be revised at subsequent Meetings of the OIE Sub-Commission for FMD in South-East Asia and China and SEACFMD National Coordinators Meetings, with the OIE SRR-SEA regularly updating progress and pushing actions forward along with member countries.

See Annex 5 for more information

2. Workshop (Concurrent Sessions) – Review of key issues and provision of advice on the 2015/2016 Action Plan and Phase 5 of SEACFMD

a. SEACFMD Coordinators

Dr Gardner Murray chaired the SEACFMD Coordinators workshop session and commenced proceedings by welcoming National Coordinators from the SEACFMD Member Countries and their representatives. Dr Murray first clarified that all Member Countries agreed that the Action Plan presented by Dr Abila earlier in the meeting was satisfactory, pending minor edits, and all comments will be taken into account. Dr Murray then brought the attention of participants to key issues related to technical recommendations. He noted comments in previous discussions had highlighted the need for vaccine matching, strengthening of epidemiological knowledge and the value of vaccine banks and the FAO OIE PVM Guidelines due for distribution in 2015. He recognised that FAO OIE have developed a working group focusing on FMD in endemic countries, which will have positive
outputs for SEACFMD. He noted the importance of collection and transport of samples, and use of sequence data to understand disease transmission pathways. Dr Murray then asked NCs to comment on any further key issues which may need addressing. A summary of meeting outputs follows:

A. Progress
   i. Progress since the National Coordinator’s meeting in August 2014 is satisfactory

Additional points to bear in mind are:

   ii. Ensure National Coordinators are updated on progress of programmes and activities
   iii. Re-examine ways to strengthen National Coordinator cross-border communication
   iv. Note that progress is influenced by legislative changes
   v. Emphasise contingency planning, particularly in free countries
   vi. Emphasise the value of PVS training to support SEACFMD
   vii. Review the applicability of OIE Standards proposed for adoption in May, such as sero-surveillance in free countries
   viii. Agree to the importance of National FMD Plans being consistent with 2020 Roadmap
   ix. Progress renewal of the MTM MoU
   x. Facilitate transport of samples from the Northern Lao PDR FMD Project to Lanzhou laboratory

B. Technical Issues

   xi. Continue outbreak investigation and reporting, particularly for trace-back
   xii. Seek to engage the private sector, recognising difficulties
   xiii. Circulate FMD research results to improve disease knowledge and understanding
   xiv. In certain countries, such as Lao PDR, examine the provision of national certificates to provinces FMD free for 3 years
   xv. Emphasize importance of PVM and support for vaccine bank

C. Policy

   xvi. Change of personnel and new governments over the coming years could have implications for SEACFMD, and SRR-SEA and MC will need to work with new governments
   xvii. Note the critical importance of bilateral and multilateral negotiations, which are managed at the Ministerial level
   xviii. Note critical importance of disease free zones in facilitating trade

D. Roadmap 2020

   xix. Agree to the following process:
       - Template for Annex of Member Country priorities will be sent out by end of March
       - Member Countries to submit completed template to OIE SRR-SEA by end of June
       - Draft of Roadmap with Annex will be presented to NC Meeting in August
       - Submission to OIE Regional Commission for endorsement in September
   xx. Translation of SEACFMD Roadmap and video
xxi. National Plans to be aligned with the Roadmap 2020
xxii. Workshops will be provided for selected countries who will submit their National Plans for OIE endorsement

Dr Murray closed the meeting by summarising the discussions, and ensured participants that all suggestions will be considered for incorporation into the SEACFMD 2015/2016 Action Plan, and into the 21st Sub-Commission meeting recommendations. Finally, it was confirmed that Thailand will graciously host the 22nd Meeting of the OIE Sub-Commission on Foot and Mouth Disease Control in South-East Asia and China

b. Observers’ Meeting

Dr Monique Eloit, Deputy Director-General of the OIE chaired the Observer’s Meeting of the parallel workshop. The objective of the meeting was to review key issues highlighted during the meeting, and provide recommendations for the 2015/2016 Action Plan and Phase 5 of SEACFMD. A summary of meeting outputs follows:

A. Technical Aspects

i. Data
   - There is a lot of information/knowledge currently available, particularly from scientific analyses;
   - There may also be alternative sources of information/knowledge that could captured;
   - Need alternative systems intelligence for data/knowledge analysis and application – multidisciplinary approach;
   - Investigate alternative/creative ways of analysing and presenting data, to best underline its significance;
   - This is particularly relevant for collection and analysis of data to support dossiers of FMD freedom.

ii. Control Activities
   - Need enhanced analysis to support choice of vaccines;
   - Major dependence on submission of field isolates to support such analysis;
   - Critical analysis of vaccine choices via vaccine matching but also via monitoring of the efficacy of vaccination activities (Post Vaccination Monitoring);
   - Stress the need to explore multi-factorial control activities, not reliant just on vaccination.

B. Advocacy

   iii. SEACFMD should celebrate its successes and achievements;
   iv. Should explore new approaches to advocacy – bring in alternative players (other government agencies such as Customs and Finance; Industry);
   v. Start at the top with relevant agencies/industry – the ‘zipping down’ approach
   vi. National Coordinators will know who are the key contacts – at Provincial and National levels;
vii. Investigate contracting a political scientist to advise on appropriate advocacy approaches;
viii. Liaise closely with the ASEAN Livestock Sectoral Working Group.

C. Sub-Commission

ix. Good support for the work of the Sub-Commission
x. Recommendation to investigate better use of the scientific expertise assembled, to the benefit of Member Country attendees (parallel session involving just NCs and scientists).
X. Session 8: International Animal Disease Cooperation

(Chaired by Dr Monique Eloit)

1. Update on OIE Standards on rabies (Dr Joseph Domenech, OIE Special Advisor)

Dr Joseph Domenech updated participants on the OIE Standards on rabies. Rabies control is a public good to be considered a priority model to apply the One Health concept. The OIE is committed to supporting the efforts of the international community to achieve worldwide elimination of rabies in humans. The OIE strategy towards rabies control is multifaceted:

- The OIE created and maintains international standards thorough the Terrestrial Code and the Terrestrial Manual.
- The OIE Vaccine Bank provides rabies vaccinations to select Member Countries.
- Strengthening Veterinary Services supports surveillance and reporting through the OIE PVS pathway, twinning programmes and guidelines for disease surveillance.
- Awareness raising through International Rabies Day, trainings, meetings and seminars.
- Partnerships such as the Tripartite collaboration, Global Alliance for Rabies Control (GARC) and Partner Rabies Protection (PRP).

The Tripartite Concept Note recognises rabies as a One Health Tripartite priority activity, requiring shared responsibilities and coordination between OIE, WHO and FAO. A High Level Technical Meeting was held by OIE, FAO and WHO in Mexico City in 2011 to address health risks at the human-animal-ecosystems interface. The meeting focused on securing inter-sectoral collaboration on zoonotic influenzas, anti-microbial resistance and rabies.

The Global Conference on Rabies Control was held in the Republic of Korea in September 2011. Discussions centred on the reality of rabies, the tools available for rabies control, and the economic dimension of rabies control. The conference noted that more than 60,000 people die of rabies annually, primarily in Asia and Africa. The disease is preventable in humans, and technical tools are available for disease control, such as stray dog vaccination and population management, new diagnostic tools, and communication and public awareness tools. From a cost-benefit perspective, rabies control and eradication is estimated to cost only 10% of what is annual invested in post-exposure prophylaxis, making investments economically beneficial. The meeting recommended that rabies control programmes comply with OIE Standards and a One Health approach, in order to achieve sustainability and prevention at the source.

2. Bridging the OIE PVS Tool and the WHO IHR Monitoring Framework – activities thus far and challenges ahead (Dr Monique Eloit, Deputy Director General, OIE)

Dr Monique Eloit, Deputy General-Director of OIE, presented on the achievements and challenges ahead for the OIE PVS Tool and the WHO International Health Regulations (IHR) Monitoring Framework (2005). Dr Eloit started by giving a background to the Tripartite collaboration between OIE, FAO and WHO, emphasising that the prevention and control of emerging infectious diseases is a public good. The Tripartite agreement outlines the sharing of responsibilities between the three organisations, in coordinating global activities to address health risks at human-animal-ecosystem
interfaces. Dr Eloit stated that there has been a shift from short to medium term ad hoc interventions, towards governance and national health systems strengthening.

The IHR Monitoring Framework is a legal commitment of 194 State Parties that have agreed to play by the same rules to secure international health. The purpose of the Framework is to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade. Dr Eloit highlighted that it is the responsibility of each State Party to develop and maintain adequate capacity for disease surveillance, preparedness and response within five years of joining the agreement. As the OIE PVS Tool uses indicator of Critical Competencies to assess Veterinary Services, adequate capacity within the IHR Framework is assessed based on the IHR indicators of Core Capacities. Dr Eloit presented a table outlining the overlap in PVS Critical Competencies and IHR Core Capacities, and noted that joint use of the results of PVS Pathway and IHR MF have been pursued. Dr Eloit outlined pilot national workshops held in Azerbaijan and Thailand in 2014 to investigate country perspectives on IHR/PVS assessments and roadmap for better intersectoral collaboration among animal and human health sectors and to highlight areas of priority.

An outcome of the Tripartite collaboration has been the WHO-OIE Operational Framework on Good Governance of Human and Animal Health Services. The document provides foundations and key references for good governance at the human-animal interface and outlines the sharing of responsibilities. The document introduces the IHR MF and OIE PVS Pathway and the synergies between the two and their collaborative potential, before outlining assessment and monitoring, costing and laboratory tools.

Dr Eloit concluded by acknowledging the next steps and challenges ahead for such collaborations. A key recommendation based on the pilot national workshops is to simplify the format, with targeted information and a focus on gaps and perspectives for inclusion in a roadmap. Dr Eloit confirmed that OIE and WHO will work together on a lighter, more user-friendly format to be piloted in future workshops.

3. The OIE Regional Vaccine Banks (Dr Emily Tagliaro, Project Officer, OIE Headquarters)

Dr Emily Tagliaro provided a comprehensive overview of the OIE Regional Vaccine Banks. Dr Tagliaro started by providing a background to the initiative. In 2006 the first Regional Vaccine Bank for Africa was funded under the EU PACE Programme, and in 2007 was extended to the Global Vaccine Bank for Avian Influenza vaccines, funded by Canada (CIDA). In total, just over 62 million vaccines were delivered across six African nations as well as Vietnam. The success of the initial initiative led to the launch of new vaccine banks managed by the OIE World Fund. These included the FMD regional antigen and vaccine bank for Asia (2011), the vaccine bank for canine rabies control in Asia (2011), and the PPR vaccine bank in Africa (2012).

With regards to the FMD Regional Vaccine Bank, strains were selected based on scientific information and endorsed by the SEACFMD Sub-Commission. The selection process was completed through an OIE international call for tender and decisions were made by independent, world-renowned experts. The selected vaccine contains 4 core strains and 7 optional strains. Formulation
of monovalent or multivalent FMD vaccines is available on demand and a pre-formulated FMD vaccine (4 strains) is available on the shelf. Different sizes of vaccine vials are available (20; 50; 100; 200; 300ml), as are four different speeds of delivery (5d; <15d; <2m; planned). Dr Tagliaro summarised the deliveries from the FMD Regional Vaccine Bank to date, stating that between 2012 and 2014, a total of 2,750,000 vaccines have been distributed between Cambodia, Lao PDR, Myanmar, Mongolia and the Democratic Republic of Korea, with more deliveries planned for Lao PDR and Myanmar in 2015.

The Rabies Regional Vaccine Bank published a call for tender in September 2011, with contracts signed under a multiple supplier approach in March and May 2012. To date, a total of 3,362,800 vaccines have been distributed between Afghanistan, Bangladesh, Bhutan, Indonesia, Lao PDR, Myanmar, Nepal, the Philippines, Sri Lanka and Vietnam, with more deliveries scheduled for 2015.

Dr Tagliaro explained the OIE Vaccine Bank model and the process by which Member Countries may apply for vaccine delivery. OIE Delegates may submit an official request to the OIE Director General. OIE RR or OIE SRR SEA may support through assistance with completion of vaccine request forms, confirmation of appropriate cold chains and justification of request based on the disease situation in the country. Requests are processed by OIE Headquarter, and flight details and shipping documents are finalised by the recipient country, before vaccines are delivered. Recipient countries are obligated to provide updates and progress reports to the OIE, including information on: vaccination campaign periods; number of vaccines used; number of animals vaccinated; vaccination schedule implemented; geographical area covered; and information on post-vaccination surveillance. Benefits of OIE Vaccine Banks include quality-related benefits, fluid logistics, cost-related benefits, and better coordination.

4. The Regional Rabies Control Strategy and implementation status (Dr. Ronello Abila, Sub-Regional Representative, OIE SRR SEA)

Dr Ronello Abila presented a summary of the current and recent rabies activities in the South-East Asia and China region.

   i. EU-HPED:

Between 2012 and 2014 the EU-HPED delivered a total of 3,362,800 vaccines across 10 countries in the region. The programme also supported production and distribution of public awareness materials.

   ii. STANDZ:

The Australian funded STANDZ Initiative provided support for the development of a South-East Asian dog rabies elimination strategy, which was drafted by OIE SRR SEA with support from Vietnam, the ASEAN lead country on rabies prevention and control. The strategy was in response to the 2008 ASEAN Call for Action towards Elimination of Rabies by 2020 in the ASEAN Member States and the Plus Three Countries (China, Japan and Korea). In October, 2013 under the facilitation of ASEAN Secretariat, AEGCD and ASWGL worked together to combine the regional strategies on rabies elimination from animal and human side. This joint inter-sectoral work led to the ARES (The ASEAN Rabies Elimination Strategy).
Additional activities supported by STANDZ include: a Workshop on Relevant International Standards for Dog Rabies was held in June 2014 in Chiang Mai, Thailand; production of a Rabies Benchmarking Document; Regional Rabies Diagnosis Training in August 2014 at the OIE Reference Laboratory for Rabies, CVRI, Changchun, China; World Rabies Day Celebration in Thailand in September 2014; and the launch of the STANDZ Rabies Project in the Philippines in September 2014.

iii. OIE/JTF:

The OIE/JTG One Health Project for Rabies supported regional trainings on OIE Standards, rabies diagnosis, control programmes and activity planning in Tokyo in August 2014.

iv. ASEAN Rabies Elimination Strategy (ARES):

The ARES was endorsed by the ASEAN Ministers of Health and Agriculture during the annual assembly in September 2014. The ARES is based on the four foundational approaches of socio-cultural, technical, organisational and political (STOP) to eliminate rabies in ASEAN Member Countries. The Socio-cultural element focuses on social mobilisation through public awareness, promotes responsible pet ownership, educates for a positive attitude towards animal welfare and health, and highlights post-bite awareness. The technical component focuses on optimising dog vaccination, post-bite prophylaxis humans, laboratory and epidemiological capabilities, dog population management, and monitoring and control of animal movements. The organisational and one health framework has regional, national and sub-national components and promotes cross-sectoral coordination between the animal health, public health and environmental sectors. There is also emphasis on public-private partnerships. Finally, the political component focuses on policy development and engagement, and legislative support. The next step for ARES is to draft an implementation plan jointly with AEGCD and ASWGL.

5. ASEAN animal health activities and cooperation with partners (Dr Chee Wee Lim, Director, Agri-Food and Veterinary Authority, Singapore)

Dr Chee Wee Lim presented on the ASEAN Cooperation on Animal Health, which is managed under the ASEAN Sectoral Working Group on Livestock (ASWGL) and is expected to be launched at the end of 2015. Dr Limson introduced the concept of the ASEAN Community, which is based on three focal pillars: political-security, socio-cultural and economic. The Community plans to share a single market and production base, with free-flow of goods and services and integration into the global economy. Food security and safety will be set as a high and permanent priority, as will emerging issues and challenges, such as trade liberalisation, climate change, transboundary animal diseases and zoonoses. Livestock development and animal health will be a key focus within these themes.

The ASEAN Coordinating Centre for Animal Health and Zoonoses (ACCAHZ) is in the process of finalising the Establishment Agreement and Financial Arrangements, with signing planned for late 2015. The ASEAN ad hoc Communication Group for Livestock (ACGL) will combine disease outbreak and surveillance communications through WAHIS, ARAHIS and the ASEAN Animal Health Website. The ASEAN Animal Health Trust Fund (AAHTF) will be utilised for priority ASEAN diseases and is in the process of developing a proposal on HPAI.
The ASEAN Community will have a focus on FMD control and eradication in the region, in close collaboration with technical and development partners. The ASEAN Community will work to build a sustainable and political commitment towards FMD control, and strengthen multilateral and private-public partnerships.

6. **Tripartite Activities in the Region (Dr Carolyn Benigno, Animal Health Officer, FAO RAP)**

Infectious diseases of animals pose a long-term threat to livestock production in the region and the world at large, as well to human health. Changing livestock production systems, combined with greater movement of people, animals, goods and services, technology and investments, are challenging regulatory authorities. These not only have to keep abreast of these changes but are also required to make the necessary adjustments, such as defining and enforcing good farming practices and implementing timely, effective and efficient disease control measures.

Livestock sector developments in the Asia-Pacific region are creating a fertile ground for the emergence of animal diseases, some of which may have zoonotic potential. Recognising the value of cross-sectorial coordination in addressing such complex health threats, the FAO, OIE and WHO have formed a TRIPARTITE collaboration which has since applied “One Health” approaches by combining their respective expertise to reduce the risks to health at the human-animal-ecosystems interface. This collaboration has progressed at the global, regional, and national levels with activities being conducted at all levels. At the global/regional level, activities focused on strengthening national human and animal health systems towards operationalization of their coordination, supporting existing platforms such as IHR, INFOSAN, WAHIS, GLEWS and identifying common disease priorities and issues as a tripartite concern. At the national level, countries are operationalizing One Health through establishment of a coordinating mechanism for human and animal health and conducting identified joint activities.

Continued work is needed though to further harmonise coordination and synergise the strengths between and across sectors.
XI. Recommendations and Closing

(Chaired by Dr Gardner Murray and Dr Monique Eloit)

The assembly reconvened for the presentation, review and revision of the draft recommendations and statements that merged in the five-day meeting.

The 21st Meeting of the OIE Sub-Commission for FMD Control in Southeast Asia and China was formally closed by a speech from Dr Monique Eloit and Dr Robina Cresencio. Dr Monique added that the set of recommendations agreed during the meeting cover the goals of SEACFMD, which OIE is committed to support. She also emphasised that it is important to lead actions for sustainability to ensure that the programme will continue to work with optimum efficiency within the political umbrella of ASEAN. Dr Cresencio thanked the staff of BAI for their hard work and assistance in organising the meeting, and thanked OIE and member countries for their active participation in the meeting. Jose Reano, Undersecretary for Agriculture, represented Secretary Proceso Alcala as the Guest of Honour, and on behalf of the government of the Philippines, officially closed the meeting.
### Programme

**21st Meeting of the OIE Sub-Commission for Foot and Mouth Disease in South-East Asia and China**

March 10-13, 2015  
Manila, the Philippines

**PROGRAMME**

<table>
<thead>
<tr>
<th>March 9, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.00 – 18.30</td>
</tr>
</tbody>
</table>

**DAY 1 – March 10, 2015**

<table>
<thead>
<tr>
<th>08.00 – 09.00</th>
<th>Registration</th>
</tr>
</thead>
</table>
| 09.00 – 10.00 | Opening Ceremony  
Speech by OIE Delegate of the Philippines  
Speech by the President of OIE Sub-Commission for FMD in South-East Asia and China  
Speech by the OIE Deputy Director-General  
Opening Speech by the Secretary, Department of Agriculture, Philippines |
| 10.00 – 10.30 | Coffee Break |

**Session 1: Updates on the global and regional FMD situation (Chair: Dr Gardner Murray)**

**Purpose:** Describe the Global and Regional FMD Situation and risks to SEACFMD and Activities since the 20th Sub-Commission meeting and Mid-Term Review

| 10.30 – 11.15 | The Global FMD Situation  
SEACFMD Performance and Achievements in Phase 4 and Lessons Learned |
|--------------|---------------------------------------------------------------|
|              | Dr Donald King  
Dr Ronello Abila |
| 11.15 – 11.30 | The Regional FMD Situation  
Plenary Discussion |
|              | Dr Karanvir Kukreja  
Secretary Proceso Alcala |
### Session 2: Updates on the National FMD Situation (Chair: Dr Gardner Murray)

**Purpose:** To summarise Disease Status, Risks and Challenges.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.30 – 12.10</td>
<td>Country Reports (FMD free countries)</td>
<td>SEACFMD National Coordinators</td>
</tr>
<tr>
<td></td>
<td>1. Brunei</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Indonesia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Philippines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Singapore</td>
<td></td>
</tr>
<tr>
<td>12.10 – 12.30</td>
<td>Plenary Discussion</td>
<td></td>
</tr>
<tr>
<td>12.30 – 13.30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13.30 – 14.40</td>
<td>Country Reports (FMD infected countries)</td>
<td>SEACFMD National Coordinators</td>
</tr>
<tr>
<td></td>
<td>5. Cambodia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. China</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Lao PDR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Malaysia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Myanmar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Thailand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vietnam</td>
<td></td>
</tr>
<tr>
<td>14.40 – 15.00</td>
<td>Plenary Discussion</td>
<td></td>
</tr>
<tr>
<td>15.00 – 15.30</td>
<td>Coffee Break</td>
<td></td>
</tr>
</tbody>
</table>

### Session 3: Updates from Partners (Chair: Bureau of Animal Industry)

**Purpose:** To summarise Key Issues and Risks in the Context of the SEACFMD Campaign

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.30 – 16.40</td>
<td>Partner Reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Australia (DA and DFAT)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ASEAN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chinese Taipei</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FAO</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mongolia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Zealand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OIE Regional Representation (Tokyo)</td>
<td></td>
</tr>
<tr>
<td>16.40 – 18.00</td>
<td>Plenary Discussion</td>
<td></td>
</tr>
<tr>
<td>19:00 – 21.00</td>
<td>BAI Dinner</td>
<td></td>
</tr>
</tbody>
</table>

**DAY 2 – March 11, 2015**

### Session 4: Technical Presentations (Chair: Dr Mohd Naheed Bin Mohd Hussein)

**Purpose:** To discuss Regional and Global FMD Control Initiatives
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00 – 10.00</td>
<td>FMD Laboratory Proficiency Testing in South-East Asia conducted by the OIE Reference Laboratory-Pakchong</td>
<td>Dr Somjai Kamolsiripichaiporn</td>
</tr>
<tr>
<td></td>
<td>Recent Research on Diagnostics and Vaccination at the OIE Reference Laboratory –Lanzhou</td>
<td>Dr Yin Hong</td>
</tr>
<tr>
<td></td>
<td>Vaccine Matching and related Challenges for South-East Asia</td>
<td>Dr Anna Ludi</td>
</tr>
<tr>
<td></td>
<td>The importance of using validated tests for post-vaccination surveillance/Observations on vaccine matching from the private sector</td>
<td>Private Sector</td>
</tr>
<tr>
<td>10.00 – 10.30</td>
<td>Coffee Break</td>
<td></td>
</tr>
<tr>
<td>10.30 – 11.30</td>
<td>Update on the implementation of the Global FMD Strategy, Global PVM Guidelines and proposed revisions of OIE Standards on FMD</td>
<td>Dr Joseph Domenech</td>
</tr>
<tr>
<td></td>
<td>The Northern Lao FMD Project – Experiences and Lessons Learned</td>
<td>Dr Syseng Khounsy</td>
</tr>
<tr>
<td></td>
<td>The Central Myanmar FMD Project – Experiences and Lessons Learned</td>
<td>Dr Kyaw Naing Oo</td>
</tr>
<tr>
<td>11.30 – 12.00</td>
<td>The Pathway to FMD Freedom – The Philippines Experience</td>
<td>Dr Paul C Limson</td>
</tr>
<tr>
<td></td>
<td>Plenary Discussion</td>
<td></td>
</tr>
<tr>
<td>12.00 – 13.00</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13.00 – 13.20</td>
<td>Update on Animal Movement Pathways in the Upper Mekong</td>
<td>Dr Phil Widders</td>
</tr>
<tr>
<td>13.20 – 13.50</td>
<td>Analysis of Risks for FMD Control in SE Asia and China</td>
<td>Dr Ronello Abila</td>
</tr>
<tr>
<td>13.50 – 14.30</td>
<td>Roundtable Discussion – Analysis of Risks for FMD in SE Asia and China and Recommendations for Mitigating risks</td>
<td>Facilitator: Dr Ronello Abila</td>
</tr>
<tr>
<td>14.30 – 15.00</td>
<td>Coffee Break</td>
<td></td>
</tr>
<tr>
<td>15.00 – 16.00</td>
<td>FMD Resource Mapping for SE Asia and China</td>
<td>Dr Karanvir Kukreja/ Dr Corissa Miller</td>
</tr>
<tr>
<td></td>
<td>The new SEACFMD 2020 Roadmap – Overview</td>
<td>Dr Phil Widders</td>
</tr>
<tr>
<td>16.00 – 17.00</td>
<td>Plenary Discussion</td>
<td>Facilitator: Dr Phil Widders</td>
</tr>
<tr>
<td>18.30 – 21.30</td>
<td>OIE Dinner</td>
<td></td>
</tr>
</tbody>
</table>
### Session 7: Action Plan for SEACFMD (Chairs: Dr Gardner Murray/Dr Monique Eloit)

**Purpose:** To provide advice on the SEACFMD 2015/16 Action Plan and Phase 5 of SEACFMD

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00 - 09.30</td>
<td>Review of SEACFMD Action Plan and key Actions needed for Phase 5</td>
<td>Dr Ronello Abila</td>
</tr>
</tbody>
</table>
| 09.30 – 10.30 | Workshop (Concurrent Sessions) – Review of key issues and provision of advice on the 2014/15 Action Plan and Phase V of SEACFMD  
  - Group I: SEACFMD Coordinators  
  - Group II: Observers | Dr Ronello Abila          |
| 10.30 – 11.00 | Coffee Break                                                                                |                           |
| 11.00– 11.30 | Workshop (cont.)                                                                             |                           |
| 11.30 – 12.00 | Presentation of Workshop Outputs                                                             |                           |
| 12.00 – 13.00 | Lunch                                                                                       |                           |

### Session 8: International Animal Disease Cooperation (Chair: Dr Monique Eloit)

**Purpose:** To discuss initiatives strengthening Animal Disease Control Globally and Regionally

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00 – 14.30</td>
<td>Updates on OIE Standards on Rabies</td>
<td>Dr Joseph Domenech</td>
</tr>
<tr>
<td></td>
<td>Bridging the OIE PVS Tool and the WHO IHR Monitoring Framework – Activities thus far and challenges ahead</td>
<td>Dr Monique Eloit</td>
</tr>
<tr>
<td></td>
<td>The OIE Regional Vaccine Banks</td>
<td>Dr Emily Tagliaro</td>
</tr>
<tr>
<td></td>
<td>The Regional Rabies Control Strategy and Implementation Status</td>
<td>Dr Ronello Abila</td>
</tr>
<tr>
<td></td>
<td>ASEAN Animal Health Activities and Cooperation with Partners</td>
<td>Dr Chee Wee Lim</td>
</tr>
<tr>
<td></td>
<td>Tripartite Activities in the Region</td>
<td>Dr Carolyn Benigno</td>
</tr>
<tr>
<td>14.30 – 15.00</td>
<td>Plenary Discussion</td>
<td></td>
</tr>
<tr>
<td>15.00 – 15.30</td>
<td>Coffee Break</td>
<td></td>
</tr>
</tbody>
</table>

### Session 9: Recommendations (Chair: Dr Monique Eloit/Dr Gardner Murray)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.30 – 16.30</td>
<td>Recommendations of the 21st OIE Sub-Commission for FMD Control in South-East Asia and China</td>
<td>Dr Gardner Murray</td>
</tr>
<tr>
<td>16.30 – 17.00</td>
<td>Closing Program</td>
<td>Dr Monique Eloit/Dr Davinio Catbagan</td>
</tr>
<tr>
<td>DAY 4 – March 13, 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Fieldtrip</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07.00 – 17.00</td>
<td>Fieldtrip (TBA)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bureau of Animal Industry, Philippines</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>March 14, 2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Departure of Participants</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2: List of Participants

SEACFMD MEMBERS

Brunei

Dr Diana Dennis (Ms)
Veterinary Officer
Head of Livestock Industry
Department of Agriculture and Arifood, Minister of Industry and Primary Resources, Old Airport, Berakas, Bandar Seri Begawan, BB 3510, BRUNEI
Mobile Phone : 6738881083
Phone : 6732388072
Email : jaydoyadend@gmail.com,
livestockindustry.bn@gmail.com

Dr Norazirawandi Haji Ismail (Ms)
Asst. Livestock Health Officer
Department of Agriculture and Arifood, Minister of Industry and Primary Resources, Old Airport, Berakas, Bandar Seri Begawan, BB 3510, BRUNEI
Mobile Phone : 6738881083
Phone : 6732388072
Email : jaydoyadend@gmail.com,
livestockindustry.bn@gmail.com

Cambodia

Dr San Sorn (Mr)
Deputy Director of Animal Health and Production
Trea Village, Str.371, Sangkat Steung Mean Chey, Khan Mean Chey, Phnom Penh
CAMBODIA
Mobile Phone : (855) 12939629
Email : sorn.san@gmail.com

Dr Holl Davun (Mr)
National Coordinator Focal Point for FMD-ROK Project
Phum Trea, Sarla street (371), Sangkat Steung Mean Chey, Khan Mean Chey, Phnom Penh
CAMBODIA
Mobile Phone : (855) 12 833 795
Email : vun.navri@gmail.com

China PR

Dr Song Junxia (Ms)
Director
No.11 Nongzhannanli, Beijing
CHINA PR
Mobile Phone : (86) 10 18811062918
Phone : (86) 10 59191402
Email : songjunxia@agri.gov.cn, xmjwjch@agri.gov.cn

Dr Yin Hong (Mr)
Director General
Lanzhou Veterinary Research Institute
Chinese Academy of Agricultural Sciences (CAAS)
Xujiaping 1, Chengguan District, Lanzhou,
Gansu Province 730046
CHINA PR
Mobile Phone : (86) 13609370818
Phone : (86) 931-8342515
Email : yinhong@caas.cn

Dr Li Huachun (Mr)
Director General
Yunnan Animal Science and Veterinary Institute
Jindian, Kunming 650224
CHINA PR
Mobile Phone : (86) 13608880780
Phone : (86) 871 65015606
Email: li_huachun@hotmail.com, 402846390@qq.com
Dr Wu Wei (Mr)
Veterinarian
No 20, Maizidian Street, Chaoyang District, Beijing
CHINA PR
Mobil Phone : 8613520419050
Phone : 861059194602
Email : quickly008@163.com

Dr Tjahjani Widiastuti (Ms)
Head of Division
Jl. Harsono RM no.3
9th floor, C building Room 921, Jakarta 12550
INDONESIA
Mobile Phone : (62) 8156892860
Phone : (62) 7810090 ext 4924
Email: cahyani103@yahoo.com, titisanpanca@yahoo.com

Dr Phachone Bounma (Mr)
Head of Division
Department of Livestock and Fisheries
Souphanouvong Road, P.O.Box: 6644
Vientiane capital
Mobile Phone : (856) 20 54165555
Mobile Phone : (856) 20 54165555
Phone : (856) 21 215242, (856) 21 215243
Email: ph_bounma@yahoo.com, lao_dlfmaf@yahoo.com

Dr Syseng Khounsy (Mr)
National Project Coordinator for FMD project in Laos
DLF Regional office, Photsalath Road, POBox 771
Luang Prabang,
LAO PDR
Mobile phone : (856) 20 22970917
Phone : (856) 99970330
Email : s.khounsy@gmail.com

Dr Khamphouth Vongxay (Mr)
National Project Officer for ROK-FMD Control Project
(FMD Control in SEA through Application of the Progressive Control Pathway or GCP/RAS/283/ROK)
Department of Livestock and Fisheries
Souphanouvong Avenue,
Khountatha Village, Sikhottabong District,
Vientiane Capital
LAO PDR
Mobile Phone : (856) 20 5653 6569
Email: khamphouth.vongxay@fao.org; khamphouthvongxay@yahoo.com

Dr Mohd Naheed Bin Mohd Hussein (Mr)
Deputy Director, State Veterinary Services
Department of Veterinary Services Perak State (JabatanPerkhidmatanVeterinarNegeri Perak),
Jln. Sultan Azlan Shah (U),
31400 Ipoh, Perak
MALAYSIA
Mobile Phone : 6012 22 57 57 8
Phone : 60 125179885
Email : hidosein@gmail.com

Dr Shaharul Akmar Talib (Mr)
State Director
Department of Veterinary Services State of Perlis, KM3
Jalan Raja Syed Alwi 01000 Kangar Perlis
MALAYSIA
Mobile Phone : 60194772842
Phone : 195573499
Email: shaharultalib@gmail.com, shahrul@dvs.gov.my

Dr Kyaw Naing Oo (Mr)
Director
Livestock Breeding and Veterinary Department
Building No. (36), Ministry of Livestock, Fisheries and Rural Development
Nay Pyi Taw,
MYANMAR
Mobile Phone : (95) 9250066212
Phone : (95)67408463
Email: kyaw87vet@gmail.com; kyawvet@hotmail.com

Dr Arlene Asteria Vytiaco (Ms)
Senior Agriculturist
Bureau of Animal Industry
Philippines
Animal Health Division
Visayas Ave., Diliman, Quezon City
PHILIPPINES
Mobile Phone : (63) 29062777557
Phone : (63) 29282836
Email : arlene_asteria@yahoo.com
arlene.vytiaco@gmail.com

Thailand

Dr Sith Premashthira (Mr)
Senior Veterinary Officer
Department of Livestock Development
69/1 Phayathai Rd., Ratchathevee, Bangkok, 10400
THAILAND
Mobile Phone : (66) 814018133
Phone : (66) 26534444 ext 4133
Email : sith.prem@gmail.com; sithp@dld.go.th

Dr Somjai Kamolsiripichaiporn (Ms)
Director
Regional Reference Laboratory for FMD in South East Asia (RRL)
Pakchong, Nakornratchasima, 30130
THAILAND
Mobile Phone : (66) 89 9269187
Phone : (66) 44 279112 ext 105
Email : somjaik@dld.go.th; sikaomol@gmail.com

Dr Worapong Sriwilairit (Mr)
Chief of FMD Vaccine Production
Department of Livestock Development
1213 Pakchong, Nakhon Ratchasima
THAILAND
Mobile Phone: (668) 78759757
Phone : 0-4431-1476
Email : worapongsr@gmail.com

Dr Somkiet Petvanichkul (Mr)
Veterinarian, Expert Level
Department of Livestock Development
1213 Pakchong, Nakhon Ratchasima
THAILAND
Mobile Phone: (688) 1790 6228
Phone : 0-4431-1476
Email : somkietp@dld.go.th

Vietnam

Dr Phan Quang Minh (Mr)
Deputy Head of Epidemiology Division
Department of Animal Health
No. 15, Lane 78, GiaiPhong road, Phuong Mai, Dong Da, Ha Noi
VIETNAM
Mobile Phone : 84 946004369
Phone: 84 4 8695104
Email: phanquangminh1@gmail.com,
phanquangminh1@yahoo.com

Singapore

Dr Yi Kuang Shawn Ting (Mr)
Veterinarian
52 Jurong Gateway Road #14-01 Singapore 608550
SINGAPORE
Mobile Phone : 65 93802994
Phone : 65 68052905
Email: shawn_ting@ava.gov.sg,
shawn.ting11@gmail.com

Dr Lim Chee Wee (Mr)
Director/Import & Export Regulation
Agri-Food & Veterinary Authority
52 Jurong Gateway Road, #14-01, Singapore 608550
SINGAPORE
Mobile Phone : (65)98751348
Phone : (65)68052826
Email : lim_chee_wee@ava.gov.sg

Dr Samuel Alexander Hamilton (Mr)
Director, Animal Disease Preparedness and Response
Australian Government Department of Agriculture
7 London Circuit, Canberra, ACT 2601
AUSTRALIA
Mobile Phone : 61 414 264 795
Phone : 61 2 6272 3226
Email : sam.hamilton@agriculture.gov.au

Mr Royce Escolar

PARTNERS

ASEAN

Australian Department of Agriculture

Australian Department of Foreign Affairs and Trade
### Senior Regional Program Manager
Department of Foreign Affairs and Trade, Australian Embassy, 37 South Sathorn Road, Bangkok 10120
THAILAND
Mobile Phone : (66) 8 13471350
Email : royce.escolar@dfat.gov.au

### FAO

**Dr Carolyn Anne Canda Benigno (Ms)**  
*Animal Health Officer*  
FAO Regional Office for Asia and the Pacific  
PhraAtit Road, Bangkok  
THAILAND  
Phone : (66) 816847890  
Email : Carolyn.Benigno@fao.org

### Japan

**Dr Yumiko Sakurai (Ms)**  
*Assistant Director*  
Animal Health Division, Food Safety and Consumer Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8950  
JAPAN  
Mobile Phone : 81-80-2022-2347  
Email : yumiko_sakurai2@nm.maff.go.jp, animal_health88@nm.maff.go.jp

**Dr Manabu Yamada (Mr)**  
*Senior Researcher*  
National Institute of Animal Health, Josuichoncho 6-20-1, Kodaira, Tokyo, 187-0022  
JAPAN  
Mobile Phone : 81-80-2100-6801  
Phone : 81-42-321-1451  
Email : oomae@affrc.go.jp

**Dr Moemi Suzuki (Ms)**  
*Researcher*  
JAPAN  
Mobile Phone : 81-98-832-1515  
Email : suzukimo@pref.okinawa.lg.jp

### New Zealand

**Dr Matt Stone (Mr)**  
*Director, Animal & Animal Products*  
PO Box 2526, Wellington  
NEW ZEALAND  
Mobile Phone : 64 29 894 0102  
Phone : 64 4 894 0102  
Email : matthew.stone@mpi.govt.nz, emma.miles-buckler@mpi.govt.nz

**Dr James Young (Mr)**  
*Project Officer*  
Room N120, JL Shute Building C01 | Private Bag 4003 | Narellan | NSW | 2567  
NEW ZEALAND  
Mobile Phone : 64 211427340  
Email : cowvet@gmail.com, jyou1412@uni.sydney.edu.au

### INTERNATIONAL OBSERVERS

#### Chinese Taipei

**Dr Ming Chung Deng (Mr)**  
*Associate Research Fellow*  
376 Chung Cheng Rd., Tamsui Dist., New Taipei city, Taiwan  
CHINESE TAIPEI  
Mobile Phone : 886-920116-165  
Phone : 886-226212111 ext 341  
Email : mcdeng@mail.nvri.gov.tw

#### CIRAD

**Dr Dinh Bao Truong (Mr)**  
*PhD Student_CIRAD + Lecturer_Nong Lam University*  
Nong Lam University  
Quarter 6, LinhTrung Ward, Thu Duc District, Ho Chi Minh city  
VIETNAM  
Mobile Phone : 84 907735904  
Phone : 66 967376047  
Email: dinhbao.truong@hcmuaf.edu.vn, dinh-bao.truong@cirad.fr

#### CSIRO

**Dr Kurt Allen Zuelke (Mr)**  
*Director*  
CSIRO Biosecurity Flagship
Agricultural Sector: Fisheries and Livestock" Department of Animal Health and Production, Treav Village, Str. 371, SangkatSteungMeanchey, Khan Meanchey, Phnom Penh CAMBODIA Mobile Phone : (855) 517333493 Email : dvanaken@loxinfo.co.th

EU - Royal Government of Cambodia Programme

Dr Dirk Van Aken (Mr)
Livestock Sector Expert
EU - Royal Government of Cambodia Programme
"Promotion of inclusive and sustainable growth in the Agricultural Sector: Fisheries and Livestock" Department of Animal Health and Production, Treav Village, Str. 371, SangkatSteungMeanchey, Khan Meanchey, Phnom Penh CAMBODIA Mobile Phone : (855) 517333493 Email : dvanaken@loxinfo.co.th

Dr Mansub Shin (Mr)
FMD-ROK Project Coordinator
FAO-UN, ECTAD-RAP
39 PhraAtit Road, Bangkok
THAILAND
Phone : (66) 81 868 0875 Email : mansub.shin@fao.org

MSD Animal Health

Dr Alasdair Iain MacGregor King (Mr)
Director Intergovernmental Veterinary Health
Wim de Körverstraat 35, 5831 AN Boxmeer
THE NETHERLANDS
Mobile Phone : 31 6 46 08 58 95
Phone : 31 485 587635
Email : alasdair.king@merck.com,
chanty.toenders@merck.com

Institute for Animal Health UK

Dr Donald King (Mr)
The Pirbright Institute
Ash Road, Pirbright, Surrey, GU24 0NF
UNITED KINGDOM
Mobile Phone : 44 (0) 7920 233201
Phone : 44 (0) 1483 231021
Email : donald.king@pirbright.ac.uk

Dr Anna Ludi (Ms)
Manager of the Serum Assay Unit of the World Reference Laboratory
Ash Road, Pirbright, Surrey, GU24 0NF
UNITED KINGDOM
Mobile Phone : 44 7983801421
Phone : 44 1483234018
Email : anna.ludi@pirbright.ac.uk

Merial

Dr Pascal Hudelet (Mr)
Director
Veterinary Public Health Customer Service, Merial
29 AVENUE TONY GARNIER, 69007 LYON
FRANCE
Mobile Phone : (33)608673646
Phone : (33)472723455
Email : pascal.hudelet@merial.com

Dr Sacha Seneque (Mr)
Head Large Animals & VPH, Emerging Markets
Merial Asia
7th Floor, Ben Ben Mansions, 300 Xi Kang Rd
Jing An District, Shanghai, China. 200040
ChinaPR
Mobile Phone : 86 18721905325
Email : sacha.seneque@merial.com

Dr Xuan Mai Hoang Thi (Ms)
Consultant Coordinator
Merial VPH in Vietnam
27-45, Nguyen DinhKhoi Street, Ward 4, Districk Tan Binh, Hochiminh City
VIET NAM
Mobile Phone : 84 903 950054
Phone : 84 8 3811 9880
Email : Hoang-Thu.Xuan-Mai@Merial.com,
htxuanmai2000@yahoo.com
### Elizabeth Macarthur Agricultural Institute

**Dr Jeffrey Michael Hammond (Mr)**  
*Director Centre for Animal & Plant Biosecurity (EMAI)*  
NSW Department of Primary Industries | Elizabeth Macarthur Agricultural Institute  
Woodbridge Rd | Menangle NSW 2568  
AUSTRALIA  
Mobile Phone : 61 427296187  
Phone : 61 2 4640 6573  
Email : jeffrey.hammond@dpi.nsw.gov.au

### Massey University

**Prof. Tim E. Carpenter (Mr)**  
*Professor and Director*  
EpiCentre, Massey University  
Palmerston North North 4442,  
NEW ZEALAND  
Mobile Phone : (64) 021 665462  
Email : t.e.carpenter@massey.ac.nz  
tecarpenter@ucdavis.edu

### Murdoch University

**Dr Sharie Aviso (Ms)**  
*PhD Student*  
School of Veterinary and Life Sciences  
Division of Health and Sciences  
Murdoch University  
South Street, Murdoch, 6150 WA  
AUSTRALIA  
Mobile Phone : 63 9393929704  
Email : S.Aviso@murdoch.edu.au, sharieaviso@yahoo.com

### University of Sydney

**Dr Peter Andrew Windsor (Mr)**  
*Professor*  
Faculty of Veterinary Science,  
University of Sydney, NSW  
AUSTRALIA  
Mobile Phone : 61 438983367  
Email : peter.windsor@sydney.edu.au,  
peter.windsor57@gmail.com

### Other

**Dr Philippe Dubourget (Mr)**  
*FMD Specialist (Retired)*  
108 Chemin des Charmilles, F - 69390  
FRANCE  
Mobile Phone : 33 6 74 98 91 14  
Phone : 33 4 78 46 28 20  
Email : philippe.dubourget@wanadoo.fr

### OIE Headquarters

**Dr Monique Eloit (Ms)**  
*Deputy Director General*  
OIE  
12 Rue de Prony, 75017 - Paris  
FRANCE  
Email : m.eloit@oie.int

**Dr Joseph Domenech (Mr)**  
*Advisor*  
OIE  
12 Rue de Prony, 75017 - Paris  
FRANCE  
Email : j.domenech@oie.int

**Dr Emily Tagliaro (Ms)**  
*Project Officer*  
OIE  
12 Rue de Prony, 75017 - Paris  
FRANCE  
Mobile Phone : 33 6 49 14 46 33  
Email : e.tagliaro@oie.int

**Dr James Gardner Murray (Mr)**  
*OIE Special Adviser*  
Gardner Murray Pty Ltd  
PO Box 4215 Weston Creek,  
Canberra, ACT 2611  
AUSTRALIA  
Mobile Phone : 66 84 437 5550  
Phone : 61 417 236 184  
Email : gardner.murray@grapevince.com.au  
gardnermurray58@gmail.com

**Other**

**Dr Hirofumi Kugita (Mr)**  
*Regional Representative*  
OIE Regional Representation for Asia and the Pacific
Dr Yooni Oh (Ms)
Regional Veterinary Officer
OIE Regional Representation for Asia and the Pacific
Food Science Building 5F, The University of Tokyo,
1-1-1 Yayoi, Bunkyo-ku,
Tokyo, 113-8657
JAPAN
Mobile Phone : 81-80-5543-3344
Phone : 81-(0)3-5805-1931
Email : h.kugita@oie.int,
kugita0124@gmail.com

OIE Northern Lao FMD Project

Dr Blesilda Verin (Ms)
Project Officer
Northern Lao FMD Project
Department of Agriculture and Forestry
Regional Office, Ban Pabathai
LAO PDR
Mobile Phone : (856) 2078525614
Phone : (856) 71254951
Email : b.verin@oie.int, blesvanguard@hotmail.com

OIE Sub-Regional Representation for South-East Asia

Dr Ronello Abila (Mr)
Sub-Regional Representative
OIE Sub Regional Representation for South-East Asia
c/o Department of Livestock Development
69/1 Phayathai Road, Ratchathewi, Bangkok 10400
THAILAND
Mobile Phone : (66) 8443 74449
Phone : (66) 2653 4864
Email : r.abila@oie.int, srr.seasia@oie.int

Dr Phillip Rodney Widders (Mr)
SEACFMD Coordinator
OIE Sub Regional Representation for South-East Asia
c/o Department of Livestock Development
69/1 Phayathai Road, Ratchathewi, Bangkok 10400
THAILAND
Mobile Phone : (66) 9 82472341
Phone : (66) 2653 4864
Email: p.widders@oie.int, srr.seasia@oie.int

Dr Karanvir Kukreja (Mr)
Project Officer
OIE Sub Regional Representation for South-East Asia
c/o Department of Livestock Development
69/1 Phayathai Road, Ratchathewi, Bangkok 10400
THAILAND
Mobile Phone : (66) 8 60737474
Phone : (66) 2653 4864
Email : k.kukreja@oie.int, srr.seasia@oie.int

Dr Corissa Ann Joy Miller (Ms)
Project officer
OIE Sub Regional Representation for South-East Asia
c/o Department of Livestock Development
69/1 Phayathai Road, Ratchathewi, Bangkok 10400
THAILAND
Mobile Phone : (66) 982472340
Phone : (66) 2653 4864
Email : c.miller@oie.int, corissa.miller@gmail.com,
srr.seasia@oie.int

Ms Melada Ruengjumroonnath (Ms)
Finance Officer
OIE Sub Regional Representation for South-East Asia
c/o Department of Livestock Development
69/1 Phayathai Road, Ratchathewi, Bangkok 10400
THAILAND
Mobile Phone : (66) 81 762 7805
Phone : (66) 2653 4864
Email : m.ruengjumroonnath@oie.int,
srr.seasia@oie.int

Philippines : Local Participants

Dr Emelinda Lopez (Ms)
Senior Agriculturist
Bureau of Animal Industry
Visayas Avenue, Diliman, Quezon City
PHILIPPINES
Mobile Phone : (63) 929 573 7929
Phone : (63) 2 928 2836
Email: doc_minnie12@yahoo.com,
docminnie12@gmail.com
Dr Romeo Gundran (Mr)
Dean & Professor
College of Veterinary Science and Medicine, Central Luzon State University
PHILIPPINES
Mobile Phone: (63) 9285064488
Phone: (63) 444560773
Email: romygundran@yahoo.com, rsgundran@clsucvsm.edu.ph

Dr Florence Silvano (Ms)
Officer in Charge
Philippine Animal Health Center, Visayas Avenue, Diliman, Quezon City
PHILIPPINES
Mobile Phone: (63) 9064767233
Email: silvano@philch.com, baiquarantineph@gmail.com

Dr Rosette Angelie Arca (Ms)
Manager, Technical Services, Live Operations
San Miguel Foods, Inc.
4th FlrDencris Bldg., Bgy Halang, Calamba City 4027 PHILIPPINES
Mobile Phone: (63) 9177956312
Email: rarca.smfi.tsg@gmail.com, rarca@smg.sanmiguel.com.ph

Dr Annie Bares (Ms)
Development Management Officer
Paraian, San Fernando City, La Union PHILIPPINES
Mobile Phone: (63) 9198656797
Phone: (63) 9228267307
Email: annieqbares@yahoo.com, darfu1_gmailp@yahoo.com

Dr Emmanuel Villafuerte (Mr)
ACC II/ Reg'l. Veterinary Quarantine Officer
Department of Agriculture RFO 5
San Agustin, Pili, Camarines Sur PHILIPPINES
Mobile Phone: (63) 9202134289
Email: emmandvm@yahoo.com

Dr Ma Suzanneth Lola (Ms)
Assistant Professor
Department of Veterinary Paraclinical Sciences
College of Veterinary Medicine
University of the Philippines Los Banos, Laguna PHILIPPINES
Mobile Phone: (63) 9284689254
Phone: (63) 495362728
Email: mglola@up.edu.ph, msglola2011@gmail.com

Dr Ronnie Domingo (Mr)
Assistant Professor
UPLB College of Veterinary Medicine, Laguna PHILIPPINES
Mobile Phone: (63) 9198126522
Phone: (63) 495362728
Email: ronniedomingo@gmail.com, domingoronnie@yahoo.com

Ms Marites C. Gealone (Ms)
Agriculturist
Department: Bureau of Animal Industry
Visayas Avenue, Diliman, Quezon City PHILIPPINES
Mobile Phone: (63) 9178538176
Phone: (63) 9278069
Email: mcgealone@yahoo.com

Dr Anthony Bucad (Mr)
Veterinarian II
Bureau of Animal Industry
BAI Compound, Visayas Avenue, Diliman, Quezon City PHILIPPINES
Mobile Phone: (63) 9165105534
Phone: (632) 9282836
Email: anthonybucad.dvm@yahoo.com

Dr Castor Leo Ejercito (Mr)
Regional Veterinary Quarantine Officer
Bureau of Animal Industry
Port of General Santos City PHILIPPINES
Mobile Phone: (63) 9173144614
Phone: (083) 5527885
Email: vetquarantine.gsc@yahoo.com.ph

Dr Dominador F. Martinez (Mr)
Veterinarian 3
Bureau of Animal Industry
Bangoy St. Davao City PHILIPPINES
Mobile Phone: (63) 9213864587
Phone: (082) 2344087
Email : martinezdominador@yahoo.com

**Dr Evelyn B. De Los Trinos (Ms)**  
*Sr. Ads*  
Bureau of Animal Industry  
BAI Compound  
PHILIPPINES  
Mobile Phone : (63) 9176305831  
Phone : (63) 9866949  
Email : evelyndelostinos@yahoo.com

**Mr Allan Noel Bernales (Mr)**  
*FCRAP President*  
Bureau of Animal Industry  
40 J. V. Castro St. Carmen Cagayan de Oro City  
PHILIPPINES  
Mobile Phone : (63) 9274927735  
Phone : (088) 8581411  
Email : allannoelb@gmail.com

**Dr Vida Francisco (Mr)**  
*Technical Staff/Veterinarian*  
Bureau of Animal Industry  
Visayas Avenue, Diliman, Quezon City  
PHILIPPINES  
Mobile Phone : (63) 9204453866  
Phone : (63) 920 0388  
Email : regulatory4b@yahoo.com.ph

**Dr Linda Lucela (Ms)**  
*Agriculturist II*  
Bureau of Animal Industry/ DA-RFO 4A  
Visayas Avenue, Diliman, Quezon City  
PHILIPPINES  
Mobile Phone : (63) 9213117912  
Phone : (63) 9291522  
Email : Linda_Lucela@yahoo.com

**Dr Hyacinth Napiloy (Ms)**  
*Veterinarian II*  
Bureau of Animal Industry  
Visayas Avenue, Diliman, Quezon City  
PHILIPPINES  
Mobile Phone : (63) 9276525151  
Phone : (63) 9282836  
Email : hyacinthnapiloy@yahoo.com

**Dr Jonic F. Natividad (Mr)**  
*Regional Veterinary Quarantine Office*  
Bureau of Animal Industry  
Iloilo City  
PHILIPPINES  
Mobile Phone : (63) 9288050842  
Phone : (033) 3388488  
Email : jonicnatividad@gmail.com

**Dr Laarni Z. Cabantac (Mr)**  
*Senior Agriculturist*  
Department: Bureau of Animal Industry  
Visayas Avenue, Diliman, Quezon City  
PHILIPPINES  
Mobile Phone : (63) 9189054904  
Phone : (63) 9282836  
Email : laarnicabantac@yahoo.com

**Dr Leo D. Mira (Mr)**  
*Senior Agriculturist*  
Bureau of Animal Industry  
Jones St. Tacloban City  
PHILIPPINES  
Mobile Phone : (63) 9484397548  
Phone : (053) 8327711  
Email : mira_vqs8@yahoo.com

**Dr Josephine Datoy (Ms)**  
*Veterinarian IV*  
Bureau of Animal Industry  
Department of Agriculture, RSOA, Zamboanga City  
PHILIPPINES  
Mobile Phone : (63) 9272695305  
Phone : (062) 9924165  
Email : jaymejoyce@yahoo.com

**Dr Ma. Teresa Roa (Ms)**  
*Chief Agriculturist*  
Bureau of Animal Industry/ DA-RFO 10  
A. Luna St. Cagayan de Oro City  
PHILIPPINES  
Mobile Phone : (63) 9173387817  
Phone : (08822) 727 403  
Email : raddl_rfu10@yahoo.com

**Dr Minda S. Manantan (Ms)**  
*Executive Director*  
National Meat Inspection Services  
Visayas Avenue, Diliman, Quezon City  
PHILIPPINES  
Mobile Phone : (63) 9178378729
Phone: (63) 921 4473
Email: minda.manantan@yahoo.com

Dr Ma Elaine Joy C. Villareal (Ms)
Senior Meat Control Officer
National Meat Inspection Services
Visayas Avenue, Diliman, Quezon City
PHILIPPINES
Mobile Phone: (63) 9989185665
Phone: (63) 921 4473
Email: mej.villareal@gmail.com

Dr Miriam Lopez-Vito (Ms)
Agriculturist Center Chief II
Department: Bureau of Animal Industry
Arellano Boulevard, Port Area, Cebu City
PHILIPPINES
Mobile Phone: (63) 9177107178
Email: lopezvitoria_miriam@yahoo.com

Dr Norodin Kuit (Mr)
Regional Veterinary Quarantine Office
Department: Bureau of Animal Industry
Polloc Veterinary Quarantine Service
PHILIPPINES
Mobile Phone: (63) 9263431462
Phone: (63) 4211234
Email: dr.kuit@yahoo.com

Dr Paul C. Limson (Mr)
Senior Agriculturist/Officer-in-Charge,
Animal Health and Welfare Division
Department: Bureau of Animal Industry
Visayas Avenue, Diliman, Quezon City
PHILIPPINES
Mobile Phone: (63) 9174849761
Phone: (63) 9282836
Email: paul.limson@gmail.com

Dr Romeo J. Manalili (Mr)
Chief Agriculturist/Veterinary Quarantine Officer
Bureau of Animal Industry
Capitol Compound City of San Fernando Pampanga
PHILIPPINES
Mobile Phone: (63) 9184080397
Phone: (045) 9610244

Email: romeo.manalili@yahoo.com

Dr Victor Atienza (Mr)
Project Officer IV/Consultant
Bureau of Animal Industry
Elliptical Road, Diliman, Quezon City
PHILIPPINES
Mobile Phone: (63) 9189654019/ (63) 9228908310
Phone: (63) 9296860/ (63) 9296949
Email: atienzavictor@yahoo.com

Dr Wilfredo S. Resoso (Mr)
President/Immediate Past President
Accredited Swine Breeder Farm Association in the
Philippines (ASBAP)/ PCSP
PHILIPPINES
Mobile Phone: (63) 9178333748
Phone: (63) 7220413
Email: Lwpr@infarmco.com

Dr Zaldy Olivas (Mr)
Veterinarian IV
Bureau of Animal Industry
Tuguegarao City, Cagayan
PHILIPPINES
Mobile Phone: (63) 9279407295
Email: zaldy.olivas@yahoo.com

Dr Richard V. Pillerva (Mr)
Livestock health Services Manager
San Miguel Foods, Inc.
DenCris Bldg. Brgy. Halang, Calamba City, Laguna
PHILIPPINES
Mobile Phone: (63) 9175074328
Email: Richard_pillerva@yahoo.com
The South-East Asia and China FMD Campaign Progress Report
(March 2014 to February 2015)

PURPOSE

To advise the 21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China on the progress of the SEACFMD campaign from March 2014 to February 2015, and to present the provisional programme for 2015/15.

BACKGROUND

This report covers the achievements of the SEACFMD Campaign based on the priority activities identified for 2014/15 and the recommendations endorsed at the 20th Sub-commission meeting, and the targets set in the OIE SRR South-East Asia Work Programme. The provisional activities for 2015/16 are also presented.

Summary of achievements

Major highlights of the SEACFMD Campaign during this reporting period is the launching of the USD 3.45 million Northern Lao PDR FMD Project in July, with vaccination, post-vaccination monitoring, communication, capacity building and governance activities. A similar campaign for central Myanmar has been designed and the mass vaccination campaign was launched in February 2015.

Lessons learned from smaller FMD control activities funded through the SGFs in Lao PDR and Myanmar have been used to develop a comprehensive pilot FMD control project in these countries. The aim is to demonstrate that only a comprehensive and longer-term intervention (minimum of 3 years) conducted at a larger scale will control and eliminate FMD in endemic areas. These pilot projects are also supported by their National FMD Control plans which have been endorsed by their governments. Continued support was also given to Cambodia with their revised National FMD Control plan finalized.
The draft of the 3rd edition of the SEACFMD Roadmap was finalised and will be presented at the 21st Sub-Commission Meeting.

An animal movement study was launched in January 2015 to examine the risks of FMD spread brought about by changes in live cattle and buffalo market chains in the Greater Mekong Sub-region.

**Technical**

- Strategic mass vaccination in pilot areas in northern Lao PDR and Central Myanmar was successfully implemented.

- In Lao PDR, approximately 233,000 animals have been vaccinated as of January 2015 out of the 370,000 targeted for vaccination in northern Lao PDR. The whole target is expected to be achieved by April this year. The vaccination in northern Lao is a continuation of the previous vaccination supported by EU HPED Vaccine Bank and Australian STANDZ SGF that started in 2012. So far, no outbreak has been detected since April 2013.

- In Myanmar, vaccination commenced in February 2015 targeting 250,000 animals covering 18 townships. More than 200 staff and volunteers were mobilized to finish the vaccination by April this year. This is a significant expansion from the previous pilot vaccination in 2012/13 that covered only 4 townships.

- A post-vaccination monitoring (PVM) study that aims to evaluate the impact of FMD intervention in Northern Lao PDR was conducted. The study used epidemiological tools and serological tests in the different stages of vaccination, and sought to determine if the FMD vaccination conducted in two northern provinces was effective in protecting vaccinated animals against infection.

- The PVM study conducted in targeted vaccination areas in Myanmar collected serum samples that were tested for vaccination response, while sera from NSP-negative animals with no previous exposure to FMD had been evaluated for their ability to neutralise actual FMD viruses. In addition, one-year-old post vaccination serum samples were also tested for duration of immunity.

- The SRR-SEA is developing a risk-assessment protocol for FMD introduction and spread at provincial level to be used by Member Countries as guidelines for the first step of their respective risk-based control strategies. The protocol focuses on the use of participatory epidemiology methods as a low-cost effective approach to gather valuable epidemiological information on the occurrence of FMD in different areas. The analysis of FMD outbreak data collected through ARAHIS in the past seven years is also ongoing.

- Trainings on animal disease outbreak investigation and management were organized in Lao PDR, Myanmar and the Philippines. In addition, the field manual for animal disease outbreak investigation and management was finalized and circulated at a number of meetings and
trainings. The manual was used as a core reference document in the preparation of outbreak investigation and management training, conducted last June in Lao PDR.

- Initial results from the animal movement studies launched in January revealed new pathways of cross border movement in the Greater Mekong Sub-region. The study is expected to finish in April, and the results will be presented to the CVOs of the concerned countries to use for development of policies to mitigate risks of FMD spread along the movement pathways.

**Communication and Advocacy**

**Communication**

- Published 4 issues of the SEACFMD News

- OIE SRR-SEA assisted Lao PDR in developing the communication and advocacy strategy for the Northern Lao PDR FMD Project as well as in building the skills of provincial and district livestock officers in outbreak investigation and management. The Office assisted Cambodia with the development of leaflet and poster on FMD outbreak.

- Updates on the joint OIE RR-SRR website were made with information about activities that will be and have been conducted by the OIE SRR-SEA

- An approximately 20 minute video documentary on the 20 years of the SEACFMD Campaign has been produced. It highlights the achievements of the Programme and encourages continued support from member countries, donors and other partners to the campaign.

- A Knowledge, Attitudes and Practices (KAP) survey for the Northern Lao PDR FMD Project was conducted in November and December 2014 with 480 farmers, 210 of them are women in 60 villages, 10 districts and five provinces. Interviews with 20 male and 7 female traders were also conducted. The aim of the survey is to establish baseline KAP of male and female farmers about FMD and its prevention and control in the target provinces. This will allow the Project to measure the effectiveness and improve the conduct of the public awareness campaign which is being conducted to persuade villagers to have their cattle and buffaloes vaccinated regularly and adopt other measures that will prevent and control FMD. The survey was complemented by focus group discussions conducted with 302 farmers, 147 of them women, in five provinces

**Socio-economic studies**

- Socioeconomic studies on the impacts of FMD were conducted in Cambodia, Lao PDR, Myanmar and Vietnam, and findings are being used to advocate for funding. Vietnam estimated that one household with an average of 3 animals would have an annual benefit/gain of USD 90 against a cost of USD 12. The study in Lao PDR found that farmers in the lowland and highland provinces incurred average losses of USD 224 and USD 902,
respectively, accounting for 23% and 86% of their household income derived from the sale of large ruminants. Poor households, however, are the most vulnerable, with losses of approximately USD 436 or 128% of their household income from the sale of large ruminants. In Cambodia, the total financial losses from FMD outbreaks for the year 2013 in the 12 villages studied were at least USD 286,292 or USD 125 per household when 40 to 80% of their cattle were infected. The amount represents the time spent taking care of their sick animals, cost of treatment for secondary infections, and cost of replacement cattle or rental of motor-trailers. In addition to these direct losses, abortion in pregnant cattle and mortality in young animals are common during FMD outbreaks. In Myanmar, households in the 12 villages surveyed lost at least USD 90 on average, with 36% to 95% of their cattle infected. The amount took into account the cost of treatment, vaccination, replacement of infected cattle, losses in milk production and death of calves.

Coordination and Program Management

- The SRR-SEA continued to organise regional coordination meetings on FMD that allowed it to update member countries with OIE international standards as well as the status of FMD in the region. These meetings provided participants with much needed information to improve their preparedness and response, make timely decisions and expand their resource base.

- The OIE SRR-SEA organized the 20th Meeting of the OIE Sub-Commission for FMD in South-East Asia and China in Myanmar. Among the key outputs of the meeting was the analysis of epidemiological changes of the circulating FMD viruses, particularly serotype A. It was also recommended to review the SEACFMD 2020 roadmap in the light of the new epidemiological findings and the changes in the socio-economic development of the members.

- The SEACFMD 2020 Roadmap is being revised to make it more relevant to changing socioeconomic and political contexts. The framework for the 3rd edition of the Roadmap was developed and a writing group has been formed to further develop the document with the view of having it endorsed by the SEACFMD Sub-Commission in March 2015 in Manila, Philippines.

- The National Coordinators meeting held in Chiangrai, Thailand, in August, discussed updates on the implementations of recommendations from the Sub-Commission meeting as well as country activities in relation to OIE Standards on FMD freedom. As part of SEACFMD’s zoning strategy, a meeting of the Upper Mekong Working Group was held in Lao PDR in February and a meeting of the Malaysia-Thailand-Myanmar (MTM) Tri-State Commission for FMD held a meeting in August. A meeting of OIE Delegates from the Greater Mekong Sub-Region was held in Paris, France on the side of the OIE General Session in May, with delegates agreeing to the need for a study of animal movement in the region.

- A joint meeting of the SEACFMD Laboratory Network and the SEACFMD Epidemiology Network was held in Ho Chi Minh City, Vietnam, to discuss activities that countries can take
in the laboratory and epidemiology aspects to meet OIE standards working towards or maintaining FMD freedom.

- A concept note for a five-year New Zealand FMD project in South-East Asia was prepared and subsequently approved. A Project Design Mission was conducted in Viet Nam, Myanmar and Lao PDR in order to fully develop a project proposal based on the approved concept note.

- Meetings were held with high level officials from Myanmar, Lao PDR, Thailand and Vietnam to engage support for FMD control.

**PROVISIONAL ACTIVITIES FOR 2015/16**

In line with recommendations from the various consultation meetings held at the regional and national level, the following activities are identified as possible priority areas for implementation for the period of 2015/16. These provisional activities will be further refined based on the recommendations of the 21st Sub-Commission meeting.

*Technical*

- Conduct cost/benefit analysis of FMD freedom
- Review epidemiology of FMD in SEA and China
- Continue outbreak investigations
- Conduct post vaccination monitoring in STANDZ-funded target areas
- Review regional research activities
- Conduct an animal movement study
- Provide emergency support for outbreak investigations as required
- Continue management of northern Lao PDR FMD control plan
- Plan and launch central Myanmar FMD control plan
- Provide technical and logistic support to FMD laboratories in member countries
- Conduct In-country Training on Outbreak Investigation and Management (OIM) using the revised OIM Manual
- Continue to provide regional analysis of FMD situation

*Communication and Advocacy*

- Continue the publication of SEACFMD News
- Update the SEACFMD Communication Plan
• Assist members to conduct FMD awareness campaigns, educational drives for promoting FMD control and prevention

• Continue to support and guide socio-economic impact studies of FMD in endemic countries (1 study to be finalised) or the potential cost of incursion for free countries (1 study).

• Provide training support on effective animal health communication

• Promote country commitments and achievements with regards to FMD control

**Coordination and Programme Management**

• Organize Meetings of the 22nd SEACFMD Sub-Commission, 18th National Coordinators, Epidemiology and Laboratory Network, and Upper Mekong working group, and in-country consultations.

• Assist to advocate funding and implementation of the National FMD Plans in Cambodia, Lao PDR and Myanmar.

• Facilitate disease reporting by member countries

• Review, update and publish Outbreak Investigation and Management Manual and guidelines

• Develop standard methodology to identify hotspots and critical control points

• Publish 3rd edition of the SEACFMD Roadmap

• Assist members update national plans and progress OIE endorsement

• Support national self-assessment to review member’s PCP level. Incorporate priority activities identified in the PCP assessment with the FMD National Plan

• Continue to promote and coordinate existing and potential resources from other partner agencies such as the FAO-ROK FMD Project, OIE RR JTF FMD Project, ACIAR Biosecurity, New Zealand FMD project, etc.

• Engage high-level policy-makers to support FMD control
Annex 4: Agenda Paper: Status of FMD in South-East Asia and China

Status of FMD in South-East Asia and China

PURPOSE

To advise on the status of FMD in South-East Asia (SEA) and China in 2014/2015.

BACKGROUND

- Countries within the SEACFMD Campaign are in what has been designated as “Virus Pool 1.”

A short table describing the viruses in this pool is below:

<table>
<thead>
<tr>
<th>Serotype</th>
<th>Topotype/Strain</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>South-East Asia/Myanmar 98</td>
<td>Myanmar 98 and Cambodia 94; Myanmar 98 endemic in SEACFMD; reported in Japan in 2010, S Korea in 2010/2014</td>
</tr>
<tr>
<td></td>
<td>ME-SA/PanAsia</td>
<td>Detected SE Asia in late 1990s;</td>
</tr>
<tr>
<td></td>
<td>Cathay</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; detected in Hong Kong in early 1990s</td>
</tr>
<tr>
<td>A</td>
<td>Asia/South-East Asia 97</td>
<td>Indigenous in SEACFMD; Reported in Korea in 2010</td>
</tr>
<tr>
<td>Asia 1</td>
<td>Asian</td>
<td>Last reported in Vietnam 2007, China 2009</td>
</tr>
</tbody>
</table>

- FMD outbreaks and status are reportedly regularly by Information Focal Points in countries to the ASEAN Regional Animal Health Information System (ARAHIS) and through the World Animal Health Information System (WAHIS) for immediate notifications and 6-monthly disease status reports. ARAHIS serves as a regional core for ARAHIS.
• The OIE SRR-SEA bases its analysis of the regional status on the reports uploaded by the Members in the ARAHIS as well as WRLFMD reports, WAHIS and country reports at meetings. However, ARAHIS has been non-functional in 2015, but three countries have sent their reports directly to the SRR-SEA.

• Frequently, reports from some members are delayed and/or are not updated to reflect updates in laboratory results such as serotyping, including results from the Regional Reference Laboratories. This leads to potential flaws to analysis.

SUMMARY

• The total number of outbreaks reported in 2014 is 303 – this is a 26% increase as compared to the 240 outbreaks reported in 2013 and a 143% increase as compared to 2012 in which there were 142 outbreaks but a marked decrease of 80% from the 1488 outbreaks reported to ARAHIS and directly to SEACFMD in 2011. All countries in ARAHIS submitted reports this year until July, with reporting more sporadic thereafter.

• 93 outbreaks (31%) out of the total were characterized as being caused by Serotype O virus, while 84 (28%) were serotyped as being caused by Serotype A. The rest are reported as untyped or with results pending. This is a return to the trend seen for a number of years previously, in which O was the predominant serotype in the region. However, the trend in 2014 does not show as much of a dominance of O as has been seen previously. In 2013, serotype O was identified in 28% of outbreaks and serotype A in 33%.

• 4 outbreaks were reported in January 2015, with serotype A identified in all of these outbreaks, with serotype O not being identified thus far.

• O SEA/Mya-98 was typed in outbreaks in China, Malaysia, Thailand and Vietnam. O ME-SA/PanAsia was typed in outbreaks in Thailand and Vietnam.

• A/Asia/Sea-97 was typed in outbreaks in China, Lao, Thailand, and Vietnam in 2013.

• The FMD-free areas of East Malaysia (Sarawak and Sabah), Brunei, Indonesia, and Singapore remained FMD-free.
### Number Of Outbreaks reported in SEACFMD Campaign Area 2014*

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Outbreaks</th>
<th>Serotype O</th>
<th>Serotype A</th>
<th>Untyped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>58</td>
<td>0</td>
<td>0</td>
<td>59</td>
</tr>
<tr>
<td>China (PR)</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>13</td>
<td>0</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Myanmar</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thailand</td>
<td>149</td>
<td>52</td>
<td>55</td>
<td>42</td>
</tr>
<tr>
<td>Vietnam</td>
<td>63</td>
<td>28</td>
<td>12</td>
<td>23</td>
</tr>
</tbody>
</table>

* Brunei, Indonesia, Philippines, and Singapore not Included in Tables due to FMD-Free Status

### Number Of Outbreaks reported in SEACFMD Campaign Area 2015**

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Outbreaks</th>
<th>Serotype O</th>
<th>Serotype A</th>
<th>Untyped</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (PR)</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

** No outbreaks reported thus far in 2014 for Malaysia, Myanmar and Thailand
Map of Outbreaks Reported in SEACFMD Campaign Area 2013
Graph of Outbreaks Reported Monthly in SEACFMD Campaign Area 2012-2014
COMMENTS AND ISSUES

- Pre-2013, pronounced peaks in total outbreaks were generally seen towards the beginning and the end of the year. However, for 2013 the peaks were not as pronounced as previously seen, with more outbreaks in the middle of the year. Peaks are even less pronounced in 2014, with a large number of outbreaks in the middle of the year for the second year in a row – the reason(s) for this warrant investigation.

- No serotype Asia 1 outbreaks have been reported in the region since 2009. This has been an issue of particular concern in light of the increased frequency of Asia 1 outbreaks elsewhere in the world, including in the South Asian region.
• The increase in outbreaks can be attributed at least in part to waning immunity of susceptible animals in the region after the epizootic seen in 2010/2011, particular to the O/SEA/Mya-98 and O/ME-SA/PanAsia topotypes. There have also been possible indications of a shift in Myanmar-98, with a new clade identified by China in 2014.

• Outbreaks due to A/Asia/Sea-97 have increased markedly as compared to pre-2013. The last substantial outbreaks due to A/Asia/Sea-97 were in 2008, and herd replacement and natural decline of immunity due to natural infection is likely to have markedly decreased the herd immunity in the region. This continues the trend seen in 2013, with the number of type A outbreaks almost on a par with type O.

• Several other factors may be in play in the increase in spread and distribution of serotype A outbreaks, such as changes in movement patterns, antigenic shift and efficacy of vaccination, and it is important that these are studied further.

• Keeping these increases in mind, it is important to continually review risks of incursion and spread due to FMD in order to be able to adjust prevention and control activities necessary.

• Finding, establishing and targeting hotspots, areas where the disease is endemic, and critical control points, such as areas along movement pathways where there is substantial aggregation of animals, form crucial parts of SEACFMD’s strategy towards eliminating FMD in the region. To target these areas effectively, more complete and detailed information is needed from the field, including updated animal movement data. Tools towards achieving this will be discussed in more detail elsewhere in the meeting, including in the session on risk.

• The absolute number and percentage of results serotyped by countries’ own laboratories as well as the Regional Reference Laboratories and World Reference Laboratory has substantially increased in comparison to 2011 and 2012 (58.4% in 2014, 59.0% in 2013 cf. 36.6% in 2012 and 4.0% in 2011). This is likely due in part due to OIE SEACFMD and FAO ROK PCP-FMD project assistance in submitting samples. The increase is commendable, and more frequent and consistent sample submission is to be encouraged in order to create a more complete picture.

• It should be noted that there are a large number of entries in ARAHIS which are listed as serotype “pending,” with unofficial information indicating that RRLs have given results for some of these. It is hoped focal points will update these soon.

• The timeliness and accuracy of reporting by all Members is essential towards to delivery of a timely, accurate and meaningful analysis for the region. Countries are also strongly encouraged to update information submitted to ARAHIS and WAHIS in cases where new information, such as serotyping results, becomes available.

## SEACFMD

<table>
<thead>
<tr>
<th>OIE Sub-Commission for FMD in SE Asia and CHINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting No: 21</td>
</tr>
<tr>
<td>Item No: 10</td>
</tr>
<tr>
<td>Date: 12th March 2015</td>
</tr>
<tr>
<td>Location: Manila, Philippines</td>
</tr>
</tbody>
</table>

## Status of Priority SEACFMD Actions

**PURPOSE**

To advise on the status of priority actions of the SEACFMD Campaign.

**BACKGROUND**

- The OIE SRR-SEA has compiled a number of key recommendations for the below draft action plan from the OIE Sub-Commission for FMD in South-East Asia and China, the SEACFMD National Coordinators Meeting, the MTM Meeting, the Upper Mekong Working Group Meeting, and the SEACFMD LabNet and EpiNet meetings over 2013 and 2014.
- Key recommendations and actions from the 2013 SEACFMD National Coordinators Meeting and 2014 OIE Sub-Commission for FMD in South-East Asia and China were discussed in a workshop at the 2014 SEACFMD National Coordinators Meeting, in order to gather information on progress of key actions.
- Key actions have been listed below, along with information on their progress, bodies responsible, any problems or impediments, actions to be taken, and a timeline
- Actions have been color-coded according to status and priority:
  - Green = Complete
  - Yellow = Ongoing/Longer-term
  - Red = Urgent Action needed
- Besides regular meetings and information exchange within SEACFMD and with partners, a number of actions have been completed over the past year or have started commenced. This includes (but is not restricted to) completion of national FMD plans for Cambodia, Lao PDR and Myanmar, commencement of a Livestock Movement Project for the Upper Mekong Region, a meeting of experts to provide advice on vaccine selection, commencement of large-scale FMD control initiatives in Lao PDR and Myanmar and socioeconomic studies. However, in some cases, these completed actions may require follow-up.
- This document serves as a living document, and will be adjusted according to inputs from Sub-Commission members at this meeting, with new recommendations to be added and actions to be revised at subsequent Meetings of the OIE Sub-Commission for FMD in South-
East Asia and China and SEACFMD National Coordinators Meetings, with the OIE SRR-SEA regularly updating progress and pushing actions forward along with member countries.
### Recommendation

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Progress/ Status</th>
<th>Responsibility</th>
<th>Problems/ Impediments</th>
<th>Action(s) to be taken</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGREES to the drafting of the 3rd Edition of the SEACFMD 2020 Roadmap (2016-2020) and Notes that an initial draft will be put to the 21st Subcommission Meeting for comment.</td>
<td>Current</td>
<td>OIE SRR-SEA, Subcm, NC</td>
<td>Subcommission to endorse SEACFMD Roadmap</td>
<td>NC to endorse Annex</td>
<td>March 15, August 15, October 15</td>
</tr>
<tr>
<td>NOTED the development of National FMD Plans and that it is expected that plans for the following countries shall be finalised as follows: Lao PDR Oct 2013; Cambodia Dec 2013; Myanmar Dec 2013; Vietnam reviewing program, needs SRR-SEA assistance.</td>
<td>Myanmar plan completed and endorsed; Cambodia and Lao Plans completed and awaiting endorsement; Vietnam to conduct workshop in April 2015 for drafting of new plans</td>
<td>Member Countries, OIE SRR-SEA</td>
<td>Cambodia and Lao PDR to finalise plans; Vietnam to do workshop in April 2015 with assistance from SRR-SEA</td>
<td></td>
<td>August 2015?</td>
</tr>
<tr>
<td>NOTES the intention of Malaysia, Thailand, and PR China to submit soon their applications to OIE for recognition of their official control programme for FMD</td>
<td>China and Malaysia plans submitted</td>
<td></td>
<td>Other countries to consider submission by August 2015</td>
<td></td>
<td>August 2015</td>
</tr>
<tr>
<td>AGREED that countries that are on the pathway to FMD freedom follow OIE application requirements; ENCOURAGED members to continue compiling information to prove their compliance with the OIE Terrestrial Code and Manual, in preparation for their future application for endorsement of their Official FMD control programme or for submission for recognition of FMD free countries or zones; and NOTED that the SRR-SEA will continue to assist countries on request to prepare submissions to the OIE their applications for recognition of FMD Freedom or Endorsement of National Plans.</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### National Plans

- **AGREED to the Scope and Terms of Reference of the Livestock Movement Project in Upper Mekong Countries and that the results of this study should form the basis for key discussions at the SEACFMD Sub Commission Meeting in the Philippines in March, 2015.**
  - **Ongoing**
  - **China, Lao PDR, Myanmar, Thailand, Vietnam, SRR-SEA**
  - **May 2015**
| NOTED that improvement of existing protocols on official movement of livestock and products between and among countries will be discussed at bilateral meetings; and RECOMMENDS that this matter continue to be brought to the attention of the highest levels of government. | Ongoing | Member Countries | Member countries to work on advocacy efforts with technical support from SRR-SEA if needed |
| PROPOSES to harmonise cross-border movement approaches by holding a high-level meeting of the OIE Delegates from the greater Mekong Sub-Region | Completed – Further meeting to discuss results of animal movement study to be held in July 2015 | SRR-SEA/MC’s | Further meeting to be held to discuss results of animal movement study in July 2015 |

### Laboratory

| URGED members to submit FMD samples in a timely manner to OIE Reference Laboratories for characterisation, vaccine matching and to conduct epidemiological studies on FMD outbreaks to identify risks and potential control points; and ENCOURAGED members to get high-policy support for FMD investigation and sample collection. | Ongoing | Member Countries | Still low submission levels from some countries | Member countries to contact OIE and FAO in case of assistance needed for transport of samples |
| AGREED to review the progress made from the benchmark information provided regarding sample collection and transport, identification of the FMDV, serological testing of FMD Laboratories in SEACMFD Member Countries. | Ongoing | SRR-SEA, member countries | | |
| NOTED that the next round of inter-laboratory (proficiency) testing will be conducted in December 2014 and the results to be submitted by members to the OIE Regional Reference Laboratory for FMD in South-East Asia in Pakchong, Thailand, one month after receiving panels. | Ongoing | RRL-Pakchong, SRR-SEA, Member Countries | Import permits from some countries needed | |

### Surveillance / Epidemiology

| REITERATES the importance of early notification through WAHIS and the WAHIS regional core ARAHIS. | Ongoing | MC’s | ARAHIS – problems | Being addressed by ASEAN Secretariat; Countries to send outbreak data to SRR-SEA for compilation |
| NOTED the need to strengthen surveillance and monitoring activities in relation to member countries’ FMD susceptible wildlife populations, taking into account to actively coordinate with the relevant departments in-charge of wildlife. | Ongoing | MC’s | | |
AGREED that SRR-SEA approach OIE Headquarters and seek guidance on surveillance requirements to support claims for maintenance of FMD freedom; and NOTED that serological surveillance may not be required for FMD-free countries or zones without vaccination having an early detection system and measures to prevent the introduction of the virus in place.

| Ongoing | OIE, SRR-SEA | Guidelines under finalisation by OIE HQ | May 2015 |

ENCOURAGED FMD-free countries or countries with FMD-free zones to actively investigate suspected FMD cases and to have a procedure in place to confirm cause of the condition, including whether this is or is not FMD.

| Ongoing | MC’s |  |

AGREED that more outbreak investigations and reporting should be conducted by countries, providing complete information as required in the existing SEACFMD reporting format which includes indices such as the length of outbreaks, and submit reports to the SRR-SEA for analyses to enable an improved understanding of the dynamics of FMD and NOTE the SRR-SEA will revise the existing reporting format to improve data capture and regularly circulate the analysed information through a monthly disease bulletin.

| Ongoing | SRR-SEA, MC’s | Data from member countries for bulletin delayed |  |

AGREED that, in respect of changing r-values of FMDV serotype A circulating in the region, the SRR-SEA with support from experts, examine and advise on vaccination options to confer acceptable immunity levels by 2014.

- Meeting of expert group conducted on side of OIE Subcommission March 2014
- samples submitted to Pirbright for VNT May 2014
- Malaysia has submitted to WRLFMD
- RRL Pakchong has done VM with LP ELISA with local strains; samples sent to WRLFMD, still pending

- SEACFMD MC’s/SRR-SEA/Expert Group
- Submission of further samples for analysis Malaysia will send pending sequencing results to SEACFMD; RRL-Pakchong will share results from WRL;
- To discuss further at October Labnet

<p>|  |  |  | November 2014 |</p>
<table>
<thead>
<tr>
<th><strong>Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>21st</strong></td>
</tr>
</tbody>
</table>

**AGREED that SEACFMD EpiNet with support from Experts review the definition of FMD “outbreak.”**  
Completed Nov 2013  
SEACFMD MCs/SRR-SEA  
SRR-SEA to disseminate new definition to NC’s, Epinet FP’s of MC’s to disseminate to key epidemiology staff and work for country’s adoption of definition  
October 2014

### Vaccination

**NOTED the need to strengthen capacities in vaccine handling, cold chain facilities and monitoring, vaccination techniques, and vaccination campaign implementation with emphasis to human resources, farmers’ behaviours and capability building.**  
Training in Lao, Myanmar has been conducted  
SRR-SEA, MC’s  
Ongoing

**AGREED to continually evaluate and improve vaccination strategies and approaches where applicable, including regular post-vaccination monitoring, taking note that Malaysia and Thailand intend to progressively reduce the use of vaccination in the MTM zones to attain the status “FMD-free without vaccination” in the future.**  
Ongoing  
Malaysia/Thailand  
Ongoing

**AGREES that comments of FMD PVM to be provided to the FAO/OIE Working Group considering this issue**  
Provided  
SRR-SEA, MC’s

**SUGGEST to OIE that an expert group be convened to review the strains included in the OIE Regional Antigen Bank and in the meantime maintain the following strains: O1 Manisa; O-3039; A Malaysia 97; A 22 Iraq**  
-Expert Group met March 2014, recommendations made, strains maintained  
SEACFMD MC’s/SRR-SEA/Expert Group  
Consider reconvening group alongside SEACFMD Epinet/Labnet 2015?  
Complete

### Socioeconomic

**AGREED on the value of socioeconomic studies as valuable techniques to demonstrate the cost and benefits of investing in FMD prevention and control, and NOTE that the SRR SEA will assist Indonesia and the Philippines in progressing their studies.**  
Currently recruiting consultants  
Indonesia, Philippines, SRR-SEA  
June 2015
NOTES the preliminary results of the OIE socio-economic studies on FMD, and that the final Report will be circulated to Members; as well as the FAO economic impact framework of FMD at different levels of the livestock value chain; and agrees that they be used as resource material for advocacy and communications, including linkages to food security.

<table>
<thead>
<tr>
<th>Studies completed</th>
<th>MC’s, SRR-SEA</th>
<th>To propagate results, make advocacy materials based on these?</th>
</tr>
</thead>
</table>

**Programmes**

NOTED the Northern Laos FMD Program and proposed FMD Projects funded by Australia in Myanmar and the model being used which allows countries to fully manage FMD Projects under strict governance and advisory arrangements.

<table>
<thead>
<tr>
<th>Northern Lao Project commenced in Aug 2014, vaccinations in Myanmar commenced Feb 2015</th>
<th>Lao, Myanmar, SRR-SEA</th>
<th>April 2016</th>
</tr>
</thead>
</table>

**Governance/Support**

ENCOURAGES countries to request PVS follow-up evaluations and any other PVS Pathway Missions when relevant.

<table>
<thead>
<tr>
<th>PVS FU evaluation conducted in Myanmar Dec 2015</th>
<th>MC’s, OIE</th>
<th>Cambodia to consider requesting PVS FU</th>
</tr>
</thead>
</table>

**Coordination/Advocacy**

AGREED that member countries will continue to exert efforts to comply with OIE standards on surveillance, diagnosis and other relevant standards on FMD control and eradication.

<table>
<thead>
<tr>
<th>Ongoing</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

AGREED to pursue high-level advocacy at the ASEAN and National Level to reinforce the need for political & resource support for the SEACFMD Campaign.

<table>
<thead>
<tr>
<th>MC and OIE attendance at ASWGL meetings, ASEAN representatives at OIE Meetings;</th>
<th>MC’s, SRR-SEA</th>
<th>Donor roundtable?</th>
</tr>
</thead>
</table>

ENCOURAGES more bilateral and multilateral dialogues on FMD and associated control issues, including but not limited to animal movement; NOTED that MTM Members will further enhance cooperation through their bi-lateral meetings.

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>MC’s</th>
<th>Countries to explore this in more detail – Upper Mekong Countries may explore after July Meeting</th>
</tr>
</thead>
</table>

AGREED to initiate meetings of local veterinary officers and traders in the MTM zone, both within and across the countries.

<table>
<thead>
<tr>
<th>MC’s</th>
<th>Can request SRR-SEA support if needed?</th>
</tr>
</thead>
</table>

EXPLORE the possibility of forming joint teams for FMD outbreak investigations and control activities, particularly for outbreaks across borders which may be epidemiologically linked.

<table>
<thead>
<tr>
<th>MC’s</th>
<th>Can request SRR-SEA support if needed</th>
</tr>
</thead>
</table>
NOTED the Members’ progression along in the PCP Pathway and AGREED to review the status of members’ PCP levels in the next Sub-Commission Meeting in March 2015.

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>OIE, MC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>March 2015</td>
<td></td>
</tr>
</tbody>
</table>

SEACFMD
OIE Sub-Commission for FMD in SE Asia and CHINA

Meeting No: 21
Item No: 3
Date: 10th March 2015
Location: Manila, Philippines

17th SEACFMD National Coordinators Meeting

PURPOSE
To inform the Sub-Commission on the 17th Meeting of the SEACFMD Campaign’s Coordinators, held in Chiang Rai, Thailand from August 27-29, 2014.

MEETING SUMMARY
The 17th SEACFMD National Coordinators meeting focused on allowing member countries and partners to share experiences and information on FMD status and prevention and control efforts in the region, following up on progress or recommendations from previous SEACFMD meetings, and refining priority actions for SEACFMD and member countries over the coming year. The new challenge discussed during the meeting was the revision of the 2020 Roadmap in order to be able to incorporate lessons learned over the past few years and to draft of a new framework defining the programme strategy for the 2016-2020 period.

The meeting was opened by Dr Gardner Murray, OIE advisor, and Dr Wimolporn Thitisak, Deputy Director General of DLD. During the morning, two presentations were given by Dr Ronello Abila, OIE Sub-Regional Representative for South-East Asia, and Dr Karanvir Kukreja, OIE SRR-SEA STANDZ project officer, over the progress of the SEACFMD campaign and the current FMD situation in the region. These were followed by presentations from the region’s OIE reference laboratories at Lanzhou, China and Pakchong, Thailand on their progress activities and research. Part of the morning and early afternoon was occupied by members’ countries presentations on disease status and FMD related activities.

After member countries reports, Dr Kukreja presented recommendations from the previous SEACFMD National Coordinators meeting and the OIE SEACFMD Sub-Commission meeting, and a
workshop followed to review those recommendations by identifying completed tasks and recognizing issues that still need to be addressed. The following session was occupied by partners’ presentations: Dr Royce Escolar, from the Department of Foreign Affairs and Trade Australia, reiterated the importance of FMD control in the region and the continuous support of Australia to the SEASFMD campaign. Dr Dirk Van Aken presented a new European Union funded programme in Cambodia, on the “Promotion of inclusive and sustainable growth in the agricultural sector: Fisheries and Livestock”, hoping there will be ground for future collaborations with OIE SRR-SEA. Dr Carolyn Benigno, FAO-RAP, presented an update of FAO FMD control initiatives ongoing in the region. Dr Chantaneer Buranathai from the OIE Regional Representation for Asia and the Pacific summarized the 2014 activities of the OIE/JTF project on FMD control in Asia. The final session of the day focussed on SEACFMD activities. Dr Kukreja presented an update on the FMD control projects in Northern Lao PDR and Central Myanmar. Miss Cecilia Dy, OIE SRR-SEA Communication officer, gave an update on communication activities and socio-economic studies commissioned by the office and finally, Dr Barbara Tornimbene, OIE SRR-SEA project officer and epidemiologist, presented revisions of the outbreak investigation and management trainings and manual delivered by OIE SRR SEA.

Day 2 was opened by a session on OIE standards on FMD. Dr Abila gave an introduction of parts of the OIE Terrestrial code inherent to FMD. Three presentations by Dr Abila, Miss Dy and Dr Agnes Poirier, HPED programme coordinator, on the management of FMD control programmes followed, with particular focus to OIE codes 3.1-3.4: veterinary services, communication, and legislation. OIE codes on FMD surveillance and risk analysis were presented by Dr Tornimbene, and Dr Kukreja concluded the session presenting OIE standards related to FMD control and pathway to FMD freedom and OIE endorsement of national plans. A facilitated workshop was then run with the goal of evaluating SEACFMD members’ status in relation to OIE standards on FMD.

The first part of the afternoon of day 2 was dedicated to the revision of the SEACFMD 2020 roadmap, both the minor adjustments to include in the current edition and the construction of the new edition, which will define the SEACFMD campaign strategy for the 2016-2020 period. The scene was set by Dr Murray, which introduced the coordinators to the needs and the scope of the session. Dr Sith Premashthira, SEACFMD National Coordinator for Thailand, went ahead presenting the SEACFMD 2020 Roadmap in the context of ASEAN and Dr. Tornimbene followed with a presentation of the suggested framework for the 3rd Edition of the 2020 Roadmap. A facilitated workshop was then used to gather inputs in the drafting of the new strategy from the member countries, partners and observers. The afternoon was closed by Dr Abila with a presentation on current knowledge on animal movement and FMD control in South-East Asia and China, which was follow by a plenary session to discuss ways of working together to effectively manage animal movement.

A fieldtrip conducted on the morning of the last day allowed participants the opportunity to visit Chiang Saen commercial port, which is located on the Mekong River across from Lao PDR. Its role as a trade connection with Myanmar, Lao PDR and the southern provinces of China is expanding and the port is ready to accommodate more trade and logistics activities for when ASEAN Economic Community (AEC) will be in place at the end of 2015. The quarantine station was visited and a presentation was given by staff on work routine and activities.
During the last afternoon a facilitated workshop was organized by Dr Abila to discuss the SEACFMD Action Plan 2014/2015 and a final plenary session was moderated by Dr Murray to finalize the way forward for SEACFMD. Meeting recommendations were drafted and approved and the meeting was closed by final speeches from OIE and DLD representatives.

Key recommendations included the essential importance of reinforcing the need for ongoing vaccination, livestock movement control, and submitting greater numbers of high quality samples to OIE Reference Laboratories in Pakchong, Thailand and Lanzhou, China. In relation to livestock movement the coordinators agreed to the Scope and Terms of Reference of the Livestock Movement Project in Upper Mekong Countries, and assured to take the notion of risk to the SOM-AMAF meeting in September 2014. It was also agreed that more outbreak investigations and reporting are needed to better understand the dynamics of FMD and should include indices such as the length of outbreaks, and the value of socio economic studies was reiterated. Members will continue to improve the application of OIE standards in FMD control and countries that are on the pathway to FMD freedom will follow OIE application requirements. It was decided that the SEACFMD Sub-commission would review the status of members PCP levels at the next meeting in March 2015, together with the evaluation of draft summary for the 3rd Edition of the 2020 SEACFMD Roadmap, which will be based on the framework approved during the meeting. Finally, the SEACFMD action plan 2014/2015 was approved.

Recommendations from the Meeting:

**The Meeting:**

1) NOTED the progress of members’ initiatives to control FMD in the region and the substantial achievements made in progressing the key recommendations of the SEACFMD Sub Commission Meeting in Nay Pyi Taw in March, 2014.

2) CONGRATULATED China and Malaysia for submitting their applications for OIE Endorsement of their Official FMD Control Plans; and NOTED that Thailand is in the process of completing their plan for submission to the OIE.

3) NOTED the reported stability or general decline in FMD incidence in SEACFMD countries except in the case of Thailand where improved disease reporting has resulted in an increase in reported FMD cases; and in Cambodia where there has been an increased incidence of FMD probably due to spread from an endemic focus of the disease.

4) NOTED that the risk of FMD outbreaks due to serotype A continue in Thailand and Vietnam and that a range of control measures, including the use of appropriate vaccine strains, are being implemented.

5) AGREED on the essential importance of reinforcing the need for ongoing vaccination, livestock movement control, and submitting greater numbers of high quality samples to OIE Reference Laboratories in Pakchong, Thailand and Lanzhou, China.

6) NOTED the successful implementation of sample submission procedures to Lanzhou FMD Laboratory from DPRK with the assistance of FAO and that this exercise provides a precedent for SEACFMD members to submit samples to the Lanzhou FMD Laboratory.
7) NOTED vaccine research at Lanzhou FMD Reference Laboratory, which shows promise for fragment techniques for Serotypes A and Asia 1.

8) AGREED that more outbreak investigations and reporting should be conducted by countries, providing complete information as required in the existing SEACFMD reporting format which includes indices such as the length of outbreaks, and submit reports to the SRR-SEA for analyses to enable an improved understanding of the dynamics of FMD and NOTE the SRR-SEA will revise the existing reporting format to improve data capture and regularly circulate the analysed information through a monthly disease bulletin.

9) NOTED the Members’ progression along in the PCP Pathway and AGREED to review the status of members’ PCP levels in the next Sub-Commission Meeting in March 2015.

10) AGREED on the value of socioeconomic studies as valuable techniques to demonstrate the cost and benefits of investing in FMD prevention and control, and NOTE that the SRR SEA will assist Indonesia and the Philippines in progressing their studies.

11) NOTED the Northern Laos FMD Program and proposed FMD Projects funded by Australia in Myanmar and the model being used which allows countries to fully manage FMD Projects under strict governance and advisory arrangements.

12) AGREED that member will continue to improve the application of OIE standards in FMD control and THANKED SRR-SEA for compiling relevant FMD chapters of the OIE Code for reference.

13) AGREED that countries that are on the pathway to FMD freedom follow OIE application requirements; and NOTED that the SRR-SEA will continue to assist countries on request to prepare submissions to the OIE their applications for recognition of FMD Freedom or Endorsement of National Plans including Vietnam in 2015.

14) AGREED to the Scope and Terms of Reference of the Livestock Movement Project in Upper Mekong Countries and that the results of this study should form the basis for key discussions at the SEACFMD Sub Commission Meeting in the Philippines in March, 2015.

15) AGREED that livestock movement constitutes the greatest threat to the SEACFMD Program’s success; AGREES that the risks be taken to SOM-AMAF in September 2014; and Strongly RECOMMENDS that this matter continue to be brought to the attention of the highest levels of government.

16) AGREED to the suggested 3rd Edition Roadmap framework; NOTED that the Roadmap Summary will be revised taking into account the comments of the Meeting; and AGREED that a Writing Group be formed to finalise a draft Summary Document for the SEACFMD Sub Commission consideration in March 2015.

17) ENCOURAGED members to request PVS follow-up Evaluation and other PVS missions when needed.

18) AGREED to the 2014/15 SEACFMD Action Plan.

19) THANKED the Royal Government of Thailand, particularly the Ministry of Agriculture and Cooperatives, Department of Livestock Development for hosting the 17th SEACFMD National Coordinators Meeting.

20) REQUESTED China to host the 18th SEACFMD National Coordinators Meeting in 2015.
Annex 7: Agenda Paper: Report on the Joint Meeting of SEACFMD Labnet/Epinet

SEACFMD
OIE Sub-Commission for FMD in SE Asia and CHINA

Meeting No: 21
Item No: 4
Date: 10th March 2015
Location: Manila, Philippines

JOINT MEETING OF THE SEACFMD LABORATORY NETWORK (LABNET) AND EPIDEMIOLOGY NETWORK (EPINET)

PURPOSE
To inform the Sub-Commission on the Joint Meeting of the SEACFMD LabNet and EpiNet, held in Ho Chi Minh City, Vietnam from October 6-8, 2014.

MEETING SUMMARY
The 2014 Joint SEACFMD LabNet and EpiNet meeting was held in Ho Chi Minh City, Vietnam. The meeting provided a forum for epidemiology and laboratory staff from member countries to update each other on technical aspects of FMD prevention and control in their countries. Moreover, countries discussed their situations in relation to OIE standards so as to identify paths and activities that they can undertake if gaps are present. The meeting was attended by FMD epidemiology and laboratory focal points (or their representatives) from the 11 SEACFMD Member Countries, partners, and OIE staff from HQ, RR, and SRR-SEA.

Dr Ronello Abila, OIE Sub-Regional Representative for South-East Asia welcomed the participation of all SEACFMD Member Countries and partner institutions, complimenting the attendance and presence of expertise from within and beyond the region. He highlighted that the objective of bringing together the two SEACFMD networks is to address the pertinent issue of sub-optimal sample submission from the region and reinforce the understanding of international standards relevant to FMD epidemiology and laboratory practices. Dr Mai Van Hiep, Deputy Director General of the Department of Animal Health, Ministry of Agriculture and Rural Development of Vietnam reiterated the importance attached to FMD by the Vietnamese government as elucidated in the USD 30M-FMD national programme for 2011-2015 approved by the government. He further elaborated that Vietnam recognizes the need for international cooperation and building relationships to address and manage transboundary animal diseases in a timely manner.
Dr Abila also updated the participants regarding the relevant recommendations from SEACFMD regional meetings for 2014 which include: (1) the 20th Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China, (2) the 18th National Coordinators Meeting, (3) 12th meeting of the Upper Mekong Working Group (4) 12th Meeting of the Malaysia-Thailand-Myanmar Tri-State Commission. Additionally, Dr Abila presented ongoing initiatives of SEACFMD such as socio-economic studies on FMD, training on outbreak investigation and management, training on FMD communication, simulation exercise, Outbreak Investigation and Management Training in the Philippines, updates on SEACFMD Newsletter and SEACFMD Facebook. He also recognised current and future donor support to the SEACFMD campaign. Lastly, he discussed the roles of SEACFMD LabNet and EpiNet, outputs of recent LabNet/EpiNet meetings, and expected outputs from this meeting. Dr Karanvir Kukreja presented the recent FMD trends in the region, including possible trends and questions that need to be investigated and studied further.

The two OIE Regional Reference Laboratories in Lanzhou and Pakchong each presented updates on their respective laboratory activities. RRL Lanzhou highlighted the FMD research activities covered in the 2013 reallocation of resources under the Agricultural Science and Technology Innovation Program (ASTIP), which included the following themes: FMD etiology and immunity, FMD Prevention and Control, FMD pathogens and research on viral diseases in grazing animals. Dr Somjai Kamolsiripichaiporn presented activities of the OIE Regional Reference Laboratory for FMD in Pakchong, Thailand, including results of testing on tissue and serum samples sent from Thailand and other countries in the region, phylogenetic trees for certain isolates in the region, vaccine matching results (r-value by LP ELISA performed at RRL and r-values by 2dmVNT performed at WRLFMD), and quality assurance and research activities at RRL-Pakchong.

Dr Jaruwan Kampa presented on laboratory quality assurance and quality management systems, including on relevant capacity-building activities in the region concerning these fields.

Each of the SEACFMD Member Countries then presented updates on FMD in their respective countries, in particular addressing the following: (1) current FMD situation, (2) current FMD laboratory and epidemiology activities, (3) constraints and possible solutions relevant to FMD control and prevention, and (4) future plans. Partner organisations and agencies including the Australian Animal Health Laboratory (AAHL), CIRAD, Food and Agricultural Organization (FAO), Massey University Epicentre, National Institute of Animal Health (NIAH) Japan, OIE Regional Representation for Asia and the Pacific (OIE RR AP) and the World Reference Laboratory for FMD (WRLFMD) all presented their current activities relevant to FMD research, control, and operations.

The particular concerns that came up frequently in presentations were low numbers and quality of sample submission in a number of countries, issues related to animal movement control and under-reporting of FMD cases.

The parallel Epidemiology and Laboratory Network sessions were run on Day 2. These two separate sessions aimed to (1) highlight the importance and critical relevance of the OIE Terrestrial Code and Manual, (2) familiarize the respective focal points on their roles in their country’s targeted dossier preparation, and (3) identified gaps and prepared plan of actions to address these identified needs.
For the SEACFMD LabNet, an introductory session on the OIE and the development process for OIE Manual was presented by Dr Gordoncillo, followed by a detailed discussion on the vertical and horizontal chapters on FMD diagnosis by Dr Donald King. The latest results of the proficiency testing by the OIE Reference Laboratory in Pakchong, Thailand was presented by Dr Kingkarn Boonsuya Seeyo, who also reminded everyone of the forthcoming round of PT in December 2014.

Using the summarised response of participating on pre-distributed questionnaire for SEACFMD Laboratory Focal Points, the LabNet group reviewed the current situation on FMD diagnosis in the region. From these, a total of 10 gaps were identified: (1) poor quality and quantity of samples submitted to the national laboratory; (2) low submission rate to reference laboratories; (3) lack of strategic selection of representative samples from the region; (4) lack of systematic collation of results of all characterised isolates from the region; (5) lack of established system to link outbreak/epidemiologic data to characterised isolates; (6) issue on preparedness of FMD-free countries to identify/confirm FMDV; (7) issues on succession plan and fast turnover rate of trained personnel; (8) non-participation of some countries in the proficiency testing administered by the RRL-Pakchong; (9) lack of corrective actions by laboratories with sub-optimal performance based on PT findings; (10) issues on communication of PT results. Action plans addressing each of these identified gaps were also listed. Finally, key messages by the lab group to the epidemiology group were listed, as well as commitments of the laboratory group to the epi group with regards to improving sample collection in the region.

For the SEACFMD EpiNet session, an introductory session to the OIE, including on the development and revision of standards was given by Dr Abila, followed by a detailed presentation by Dr Laure Weber-Vintzel on the horizontal/vertical chapters in relation to FMD and surveillance, including on the requirements for dossiers applying for/maintaining FMD status and for the endorsement of FMD control programmes and frequent identified gaps and requested clarifications for these dossiers. Dr Barbara Tornimbene then gave a presentation on the application of risk analysis for FMD, including understanding and using risk information and a risk-based approach for FMD control.

Using a questionnaire that was sent out before the workshop, twelve important gaps were identified in the region for countries in being able to fulfil OIE requirements for applications for FMD freedom or for endorsement of their control plans. These gaps, as well as other less widespread gaps, were discussed, while examples from countries fulfilling these criteria were put forward for other countries. Countries discussed the gaps and how they have been overcome. These gaps included but were not restricted to gaps in relation to surveillance programmes, such as surveillance of high risk groups, description of the procedure for following up suspected and sero-positive cases, indicators to estimate the progress made through the FMD control programme, and need of updated and sourced information concerning demographics and movements for domestic and wild susceptible species. Following on from this workshop, a second workshop divided countries into groups according to FMD status and geography. Countries from each group prioritised the five most common gaps and identified potential actions to be taken to address these gaps, including possible areas for joint approaches. Among actions that the FMD-free countries identified, improving direct/indirect support of different stakeholders in FMD control was identified as an important
action which can be implemented using joint approaches as a possibility (such as joint training for
diagnosticians and paraveterinarians). The second group, comprised of Malaysia, Thailand, and
Myanmar, considered the possible contact between susceptible domestic and wild species as a
major gap that could be filled in by the improvement of animal husbandry guidelines and
establishment of measures, including establishment of units to monitor communication between
wildlife and livestock. The third group, comprised of Cambodia, PR China, Lao PDR, and Vietnam,
identified the need for more improved surveillance, including of high-risk groups, and identified this
as an area where a joint initiative between countries may help.

The third day was held as a joint session, with Dr Gordoncillo and Dr Kukreja presenting the outputs
of the respective workshops for comment from the other group and discussion on how they can
work together on these actions. The outputs of the workshops will be collated by SRR-SEA into
action plans for distribution to members for comment and then for implementation.

Key recommendations included (but were not restricted to) the participants agreeing to increase
submission of optimal quality samples (if possible one sample for each affected area to the 3rd
administrative level), for members to continue compiling information to prove their compliance with
the OIE Terrestrial Code and Manual in preparation for future applications to the OIE for status
recognition or for official FMD control programme endorsement, agreeing to support the conduct of
studies on animal movement and other risk factors involved in the spread of FMD, agreeing to
implement, monitor and evaluate actions from the action plan being developed for LabNet and
EpiNet, the LabNet agreeing to submit results from the next regional Inter-laboratory Proficiency
Testing within one month, and encouraging FMD-free countries (or zones) to actively investigate
suspected FMD cases and to have a procedure in place to confirm cause of the condition.

The meeting was closed by Dr Abila and Dr Mai Van Hiep, thanking participants for their active
participation. Dr Abila thanked the host country and donors for their part in supporting the meeting,
and the participants agreed that the 2015 meeting should also be held jointly between LabNet and
EpiNet, and to request Myanmar to hold the next meeting.

**Recommendations from the Meeting:**

*General Recommendations*

NOTED the progress of the members’ implementation of activities of the SEACFMD Laboratory
Network (LabNet) and Epidemiology Network (EpiNet).

AGREED to exert efforts to comply with OIE standards on surveillance, diagnosis and other relevant
standards on FMD control and eradication.

NOTED the changing trends in FMD serotype O isolates seen in the region, with the possible
resurgence of O/SEA/Myanmar-98 FMDV strains in comparison to O/ME-SA/PanAsia strains.
AGREED to increase the submission of samples of optimal quality for diagnosis and characterisation, if possible at least one sample in each affected 3rd administrative level (either district or township);

ENCOURAGED members to get high-policy support for FMD investigation and sample collection.

ENCOURAGED members to continue compiling information to prove their compliance with the OIE Terrestrial Code and Manual, in preparation for their future application for endorsement of their Official FMD control programme or for submission for recognition of FMD free countries or zones.

AGREED to support the conduct of studies on animal movement pathways and other risk factors involved in the spread of FMD.

NOTED the work of the other partners (such as WRLFMD-Pirbright, OIE FMD Reference Laboratories at Pakchong, Thailand and Lanzhou, China, OIE RR JTF/FMD project, FAO, ROK-QIA/KOICA, AAHL-Australia, NIAH-Japan, Massey University, New Zealand) on FMD control in the region.

*Laboratory Network*

AGREED to implement, monitor and evaluate the actions taken and completed based on the action plan developed by LabNet group (see Annex ---).

AGREED to review the progress made from the benchmark information provided regarding sample collection and transport, identification of the FMDV, serological testing of FMD Laboratories in SEACMFD Member Countries.

NOTED that the next round of inter-laboratory (proficiency) testing will be conducted in December 2014 and the results to be submitted by members to the OIE Regional Reference Laboratory for FMD in South-East Asia in Pakchong, Thailand, one month after receiving panels.

*Epidemiology Network*

AGREED to implement, monitor and evaluate the actions taken and completed based on the action plan developed by EpiNet group (see Annex ---).

ENCOURAGED FMD-free countries or countries with FMD-free zones to actively investigate suspected FMD cases and to have a procedure in place to confirm cause of the condition, including whether this is or is not FMD.

NOTEED that serological surveillance may not be required for FMD-free countries or zones without vaccination having an early detection system and measures to prevent the introduction of the virus in place.

NOTEED the need to strengthen surveillance and monitoring activities in relation to member countries’ FMD susceptible wildlife populations, taking into account to actively coordinate with the relevant departments in-charge of wildlife.
AGREED that members will examine ways to improve early detection, response and reporting of FMD outbreaks. CONTINUED to conduct more case studies on FMD Outbreak investigations to identify risk factors and understand the changing epidemiology of FMD viruses.

*Acknowledgement

THANKED the member countries, international partners and the resource speakers for significant contribution in making this Meeting successful.

THANKED the Australian government for its support in funding the SEACFMD LabNet and EpiNet Meeting.

THANKED the Government of Vietnam through Department Animal Health for its excellent organization of the Meeting.

AGREED to continue to hold a Joint Meeting of the SEACFMD Laboratory Network (LabNet) and Epidemiology Network (EpiNet) annually, and REQUEST Myanmar to host the next meeting.

SEACFMD

OIE Sub-Commission for FMD in SE Asia and CHINA

Meeting No: 21
Item No: 9
Date: 10th March 2015
Location: Manila, Philippines

SEACFMD Roadmap, 3rd Edition

PURPOSE

To present to the Sub-Commission a draft of the 3rd edition of the SEACFMD Roadmap, which provides a strategic framework for activities to be undertaken in 2016 to 2020 to control, prevent and eradicate FMD in South East Asia and China.

BACKGROUND

The South East Asia Foot and Mouth Disease Campaign (SEAFMD) was formally established in 1997, following recognition by the OIE and regional Member Countries of the need to address FMD as a priority animal health issue. The Campaign was expanded in 2010 to include China, renaming it the South East Asia and China Foot and Mouth Disease Campaign (SEACFMD).

The first three Phases of the Campaign have been completed, and Phase 4 is scheduled for completion in 2015. Phase 5 covers from 2016 to 2020.

A Roadmap was developed and first published in 2007, to guide activities and strategies under SEACFMD. The 2nd edition of the Roadmap was published in 2011. This 3rd edition of the SEACFMD Roadmap defines the Campaign goals and objectives, and will guide development of strategies and activities for delivery in Phase 5 of SEACFMD from 2016 to 2020.

Summary

The 3rd edition of the SEACFMD Roadmap has been developed to align closely with the OIE-FAO Global Foot and Mouth Disease Control Strategy and its FMD Progressive Control Pathway (PCP-FMD).

The Roadmap is presented as a strategic framework, an overarching document which will be supported by an Annex defining Member Countries’ goals, objectives and timeframes linked to the
Roadmap, and by manuals which will support activities described under the three Strategy Components: technical; coordination and advocacy; governance and policy.

An Implementation Plan, which will be developed and reviewed annually, will detail the activities and timeframes for Phase 5 of SEACFMD. The Implementation Plan for 2016, and the Member Country Annex, will be developed before the commencement of Phase 5 of SEACFMD, once the Strategic Framework document has been approved and finalised.

**The Roadmap aims to:**

- Describe the nature and the achievements of the SEACFMD Campaign;
- Introduce the SEACFMD 2016-2020 Strategic Framework and its links with the Global FMD Control Strategy;
- Detail the activities to be undertaken in Phase 5 of the SEACFMD Campaign from 2016 to 2020;
- Provide support to Member Countries in their advancement along the Progressive Control Pathway;
- Emphasise the importance of Veterinary Services for animal and human health and economic development;
- Promote the OIE’s FMD Regional Vaccine bank concept;
- Outline principles of governance, policy development, coordination and advocacy in relation to transboundary and emerging infectious diseases, and promote SEACFMD as a model for control of other animal and zoonotic diseases;
- Provide a background document for Governments, donor organisations and stakeholders when considering resource support for the SEACFMD.
Report of the 12th Meeting of the Tristate Commission on the Establishment of the Malaysia-Thailand-Myanmar (MTM) Peninsular Campaign for FMD Freedom

PURPOSE

To inform the Sub-Commission on the 12th Meeting of the Tristate Commission on the Establishment of the Malaysia-Thailand-Myanmar (MTM) Peninsular Campaign for FMD Freedom, held in Hat Yai, Thailand on August 5-7 2014.

MEETING SUMMARY

The meeting launched on the 5th of August with addresses from Dr Tritsadee Chaosuancharoen, OIE Delegate for Thailand and Dr Abila, OIE Sub-Regional Representative for South-East Asia. There were then presentations on the FMD situation in the MTM area and the individual countries, updates on initiatives related to FMD in the area, and participants being given some background as to OIE Code sections relevant to FMD and zoning. Particular highlights were Malaysia’s discussion of the submission of their national FMD plan for endorsement to the OIE and decreasing incidence of FMD in the MTM area, Thailand’s strategies and aim to achieve FMD freedom in its areas in the MTM area by 2016, and Myanmar’s report of continued FMD-free status in its area of the MTM initiative (they report that outbreaks were last seen in the buffer zone in 2010 and in the control zone in 1999. Thailand also commented here that they are working on preparing their national FMD control plan for OIE endorsement.

Dr Abila next presented on the OIE Code relevant to zoning in the MTM initiative and gave advice to countries on the dossiers for FMD freedom. Dr Tornimbene then presented information on FMD risk-based control in the MTM region, with a workshop then run to allow participants to practice using the risk-based control approach into practice. Participants, using information from previous outbreaks in their country, identified risk factors for FMD introduction and spread, conduct exposure and consequence assessments, and identify likelihood, control strategies and costs. It was decided that MTM members need to further develop in-country risk assessments based on approaches workshopped at the meeting and for members to regularly share risk information.
On the second day, participants received presentations on FMD vaccination and post-vaccination monitoring in the SEACFMD region, and went through a workshop on a risk-based approach to FMD vaccination in the MTM zones. Countries were asked to discuss their vaccination strategies in the context of risk-based FMD control, and shared information and advice on their strategies and how to overcome obstacles at different levels.

Malaysia and Thailand presented their electronic movement mechanisms for the meeting, which in their experience has enhanced animal movement management and facilitated trade. Myanmar explained that their veterinary services (the Livestock Breeding and Veterinary Department) does not have the power to govern live animal movements at the moment as regulation for these is under regional governments (for internal movement) and the Ministry of Trade (for external movement), but that the veterinary services do issue health certificates for export. The LBVD is currently working on raising regulations to be able to govern livestock movements in the future. Countries then discussed further using bilateral coordination mechanisms to harmonise movements and to set conditions for import and export streamlined between countries and in accordance with OIE standards. The idea of having meetings of local veterinary officers and traders in the MTM zones (both within and across countries) and joint outbreak investigations was also discussed with countries to explore this further. The MTM Memorandum of Understanding (MoU) was discussed, with the meeting agreeing that the MoU should be renewed for a further three years, with minor revisions proposed during the meeting, and with countries to take this back to their veterinary services for review and further comments.

On the final day the meeting discussed important actions to be put within the recommendations and the way forward, with key recommendations including that countries would extend the MoU with minor updates to the text to be discussed within members, exploring the possibility of joint outbreak investigations, and that countries were encouraged to use a risk-based approach in developing FMD control strategies, particularly for vaccination strategies. A fieldtrip was made to the local animal quarantine station, veterinary research development center, and to the premises of an animal trader exporting to Malaysia.

**Recommendations from the Meeting:**

**The MTM Tristate Commission:**

REAFFIRMED the importance of continuing the MTM Peninsular Campaign for FMD Freedom and AGREED to further strengthen its cooperation among Members;

AGREED to extend the Memorandum of Understanding for another 3 years and recommended to update the text to reflect the changes that have transpired over the years and further strengthen the scope of cooperation;

NOTED that MTM Members will further enhance cooperation through their bi-lateral meetings;

NOTED the progress of the Members’ FMD control programmes in the MTM zones, particularly the reduction of FMD outbreaks during the past 3 years;
ENCOURAGED Members develop further in country risk assessments based on the approaches discussed at the meeting, and NOTED that the SRR-SEA is prepared to provide assistance as necessary;

ENCOURAGED Members to utilize risk-based approaches to develop FMD control strategies, with particular emphasis to vaccination strategies;

AGREED to regularly share information on risks, including events that may lead to an increased risk of FMDV spread to neighbours as well as throughout SEACFMD member countries, such as FMD outbreaks and increase movement of animals along the border;

RE-EMPHASISED the critical importance for member countries to regularly update information on FMD outbreaks to the ARAHIS and WAHIS in a timely manner, including on laboratory results as they become available;

RE-EMPHASISED the need to actively collect and submit more samples to OIE FMD Reference Laboratories for characterization and vaccine matching;

NOTED the need to strengthen capacities in vaccine handling, cold chain facilities and monitoring, vaccination techniques, and vaccination campaign implementation with emphasis to human resources, farmers’ behaviours and capability building.

AGREED to continually evaluate and improve vaccination strategies and approaches where applicable, including regular post-vaccination monitoring, taking note that Malaysia and Thailand intend to progressively reduce the use of vaccination in the MTM zones to attain the status “FMD-free without vaccination” in the future;

AGREED to initiate meetings of local veterinary officers and traders in the MTM zone, both within and across the countries;

EXPLORE the possibility of forming joint teams for FMD outbreak investigations and control activities, particularly for outbreaks across borders which may be epidemiologically linked;

NOTED that improvement of existing protocols on official movement of livestock and products between and among countries will be discussed at bilateral meetings;

NOTED that electronic certification systems in Malaysia and Thailand enhanced animal movement management and has facilitated livestock trade;

CONGRATULATE Malaysia for submitting their Official National FMD Plan for Recognition by OIE; and NOTED that Thailand will submit their Official National FMD Plan to OIE soon;

THANK the staff from the Department of Livestock Development (DLD) for their excellent hospitality and for a successful and well organized 12th MTM TSC Meeting;

REQUESTS that Myanmar hosts the 13th MTM TSC meeting.
Report on the 12th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management

PURPOSE

To present to the Sub-Commission a report and draft recommendations from the 12th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management.

Meeting summary

The 12th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management (UMWG) was organized by the World Organisation for Animal Health Sub-Regional Representation for South-East Asia (OIE SRR-SEA) in cooperation with the Department of Animal Health (DAH) of Vietnam in Vinh Phuc, Vietnam. Twenty-four participants attended the meeting (17 male and 7 female), including representatives from the veterinary services of the People’s Republic of China, Myanmar, Lao People’s Democratic Republic, Thailand, and Vietnam, as well as partners from Food and Agriculture Organisation of the United Nations Regional Office for Asia and the Pacific (FAO-RAP), and the OIE Regional Representation (OIE-RR) in Tokyo, Japan. The meeting was also attended by additional observers from the DAH, OIE Special Advisor Dr Gardner Murray, and Dr Stephane Forman of the World Bank Group.

The 12th UMWG meeting provided a forum for member countries and partners to share experiences and information on the current status of FMD, and provide updates on past and ongoing initiatives for prevention and control efforts in the region. In particular, participants provided updates on FMD control activities in the Upper Mekong zones, with inputs from OIE-RR and FAO-RAP on activities in the region. Technical presentations reviewed the importance of animal movement management and monitoring of vaccination programmes, and highlighted the ways in which participatory epidemiology (PE) can be used to support these endeavours. Plenary discussions focused on the
progress made on recommendations from previous meetings, and refined future recommendations for priority actions for SEACFMD and member countries over the coming year.

Facilitated workshops were conducted on the first and second days, commencing with discussions of potential applications of PE to improve FMD control in the region. Members outlined current practices for animal movement management and vaccination and post-vaccination monitoring, and recorded country-specific benchmarks. These workshops in turn provided opportunity for participants to propose and develop regionally-relevant strategies to improve FMD investigations, movement management and vaccination monitoring in the Upper Mekong Zone. A fieldtrip conducted on the third day provided participants the opportunity to view the facilities and management procedures for cross-border animal movement at the Huu Nghi International Border Gate in Lang Son, Vietnam.

Overall, the 12th UMWG meeting provided opportunities for participants to share information, interact, network, plan together, deliberate, and find complementarities where FMD plans and activities are concerned. Key recommendations included agreement to develop cross-border animal movement guidelines and conduct pilot PE outbreak investigation studies with a view to develop regional PE guidelines. The enthusiastic discussion, tangible outputs and positive event evaluation feedback demonstrated the value of the meeting in highlighting the way forward for FMD control in the Upper Mekong Zone.

Recommendations from the Meeting:

**TECHNICAL**

NOTE the commendable progress made since the 11th UMWG Meeting in 2014, notably: completion of socio-economic studies; review of the SEACFMD Roadmap 2020; commencement of the Upper Mekong Animal Movement Study; launching of the Northern Lao PDR FMD Project; planning for a Central Myanmar FMD vaccination campaign; the development of a Project Proposal for the Central Myanmar FMD Project and FMD control initiatives of partner organisations.

AGREE on the value and limitations of Participatory Epidemiology (PE) as a tool to support animal health management; and that the SRR-SEA, in consultation with UMWG Members conduct pilot PE outbreak investigation studies with a view to developing regional PE guidelines.

AGREE that cross border animal movement guidelines be developed, consistent with the GMS “Single Windows Inspection” for consideration by UMWG Members to facilitate safe international trade within the region.

NOTE the development of OIE/FAO Working Group’s Standards for Vaccination and Post Vaccine Monitoring; and AGREE that, when endorsed, UMWG Members examine the application of, and customised approaches to, such guidelines to SEACFMD control programs.

**POLICY / STRATEGY**
NOTE that the report of the 12th UMWG will be presented to the March 2015 SEACFMD Sub-Commission Meeting for endorsement.

AGREE to hold the 13th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management in February 2016, and REQUEST Thailand to host the meeting.

ACKNOWLEDGEMENT

THANK the officials and staff of the Department of Animal Health of Vietnam and the Vinh Phuc Sub-Department of Animal Health for their hospitality and excellent hosting of the meeting.
Annex 11: Agenda Paper: Resource Mapping Exercise for South-East Asia and China

SEACFMD
OIE Sub-Commission for FMD in SE Asia and CHINA

Meeting No: 21
Item No: 8
Date: 10th March 2015
Location: Manila, Philippines

Resource Mapping Exercise for South-East Asia and China

PURPOSE
To present to the Sub-Commission the draft concept of the SEACFMD Resource Mapping Exercise, which provides an overview of past and future contributions from international donor organisations and implementing bodies towards FMD control, prevention and eradication in South-East Asia and China. The resource mapping exercise highlights the significant achievements made under the umbrella of SEACFMD by OIE and by partner organisations, and acts as a model for identification of resource gaps and future funding needs.

SUMMARY
As a highly contagious transboundary animal disease, FMD has severe impacts on economies and livelihoods dependent on livestock production, utilisation and trade. FMD eradication is an established priority for both governments and development partners in the South-East Asia and China region, and considerable resource investment is required to address the virus. It is recognised that the control and eradication of such a complex transboundary disease takes many years to achieve success, and requires an integrated, sustained and long-term commitment.

Ongoing support from a network of donor organisations, implementing bodies, research institutes and national stakeholders provide resources for FMD prevention, control and capacity building activities in the region. Documenting these contributions provides a spatial and temporal understanding of the past distribution of resources, and provides a tool for directing future investment.

Following review by the Sub-Commission, it is proposed that the exercise be used to complement the Strategic Framework of the 3rd edition of the SEACFMD Roadmap, to provide an annually updated resource mapping document for Governments, donor organisations and stakeholders when considering resource support for FMD in the region from 2016 to 2020.
Movement pathways and market chains of large ruminants in the Greater Mekong Sub-Region

PURPOSE

To describe the preliminary results of a study on movement pathways and market chains of large ruminants in the Greater Mekong Subregion (GMS), with particular focus on cross border movement destined for China. The study aims to identify the major movement pathways and the stakeholders involved in the market chain of large ruminants in the region. This information will be used to identify key points in the trading pathways where control measures may be targeted to reduce the risk of foot and mouth disease (FMD) being transmitted through trade related movements of live cattle and buffalo in the region.

Background:

Livestock movements are known to be a major factor in the spread of transboundary animal diseases, including FMD. In much of Southeast Asia, where there are extensive land boundaries between countries and where demand and price differentials exist across those boundaries, cross-border movement of livestock is extensive. A number of studies have been conducted in Southeast Asia in recent years in order to better understand the movement of livestock in the region. The results of such studies have highlighted the dynamic nature of livestock trade in the region and therefore the need to periodically review movement pathways.

A planning meeting for the current study was held in Bangkok in January 2015, during which national consultants from each of the participating countries (China, Lao PDR, Myanmar, Thailand and Vietnam) were invited to discuss and plan the study. The methodology was outlined as were results from previous animal movement studies in the region. A key outcome of the meeting was selection
of study sites: key border crossing areas for large ruminants entering China; or areas known to lie on key pathways destined for China.

This study is funded by the Government of PR China and Australian STANDZ Initiative.

**Methodology:**

Gathering data about livestock movements, particularly where the majority of those movements are unofficial, can be challenging. In most cases there is limited official documentation on livestock movements and even where these exist, the true volume of movement is often underestimated. Therefore, this study utilises a methodology, known as snowball sampling, which enables the researchers to identify livestock movement pathways and stakeholders involved in livestock trade where only a small number of traders are known at the beginning of the study.

Snowball sampling is a non-probability sampling method which is particularly suited to this study given that it is useful for collecting relational data (i.e. how different stakeholders or geographical areas are linked through livestock movements) and can be used where an incomplete sampling frame exists. In order to use snowball sampling it is first necessary to identify starting points which, in this case, are stakeholders known to lie within the trading network of interest. These include: known traders, slaughterhouses, livestock market owners, etc. These ‘starting point’ individuals are then interviewed using a semi structured interview technique to gather information, including: where and from whom they buy animals; where and to whom they sell animals; the nature of their involvement in livestock trade; and pricing information. The responses provided during these interviews are then used to select subsequent interviewees.

In theory, this process allows the researcher to identify whole networks of livestock traders from just a small number of traders identified initially. However, in practice it is not always possible to obtain specific information such as names and exact locations of traders, due to the sensitive nature of cross border trade. Therefore, where specific information is unavailable, more general geographical details of animal movements and types of traders is gathered. Based on the details provided, the researcher can then follow up with further interviews of stakeholders in those areas identified. Where information collected in one country concerns areas in a neighbouring country, the consultants share information with each other in order to validate the information. In this way, the researchers are able to triangulate information gathered from different sources.

**Results:**

The results of the study thus far indicate that almost one million head of large ruminants are entering China from neighbouring countries each year. In reality, this number is likely to be much greater as it does not yet include results from some border areas where there is believed to be active trade in large ruminants.
The results of this study also indicate significant changes in movement pathways and prices since a previous study was conducted in 2009 (Cocks et al., 2009a). Although these results still need to be validated in some countries, key changes found between 2015 and 2009 are as follows:

- Large ruminants from India and Bangladesh are reported to be moving into the region and entering China via neighbouring countries. *This information which was provided by traders in China and Lao PDR needs to be further validated.*
- There are reports of northward movement of large ruminants from Malaysia, into Southern and Central Thailand and then to China. In 2008/2009 there was almost no movement of cattle from Malaysia to Thailand (Cocks *et. al.*, 2009b).
- Reports suggest that feedlots in Central and Southern Thailand are now sending animals north to China whereas previously animals were sent south to Malaysia.
- Xieng Kouang in Lao PDR was previously identified as an important trading ‘hub’ but animals previously moved from there to Vientiane markets or to Vietnam. There is now also a pathway of movement from Xieng Kouang to Luang Namtha, near the China border.
- According to data conducted under an earlier study (Cocks *et al.*, 2009b), fattened cattle sold from Thai feedlots to Malaysian traders in 2008 were selling for approximately USD 1.7 per kg live-weight (LW) (based on current exchange rate). Results from the current study indicate that fattened cattle in Thailand are now selling to Chinese traders for USD 3-3.50 per kg LW.

The majority of trade appears to be conducted by large scale traders operating across borders. There are several reports of Chinese traders visiting Thailand or Vietnam to purchase cattle and buffalo with local people employed as agents or transporters without taking ownership of the animals.

**Conclusions:**

Although clear conclusions cannot be drawn until completion of this study, early results indicate high volume trade of livestock moving over large distances across Southeast Asia destined for high value markets in China and, to some extent, in Vietnam. Along these movement pathways there is extensive gathering and mixing of animals where there is potential for transmission of communicable diseases including FMD. The potential for introduction of new and exotic serotypes or strains of FMD into Southeast Asia is heightened by the reported emergence of new sources of livestock outside the region.

**References:**


21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT GUIDE

BRUNEI DARUSSALAM

ABSTRACT

Brunei Darussalam has been given the status of a FMD-free country since 2007. By history, clinical case of FMD has never been reported. To safeguard this FMD-free status, Brunei Darussalam has taken three main components into consideration to carry out plans of actions. Main emphasis is given on quarantine requirements and animal movement managements at the country borders. The enactment of a new legislation, Animal (Disease and Quarantine) Order is expected to be passed in the 2015 March, National Legislative Council Meeting.

The nation is continuously conducting serosurveillance and monitoring under the National Animal Health Program. As a measure to improve traceability to ease management of animal and animal products, Brunei Darussalam is currently developing the enforcement of “One Animal, One ID” concept as well as through stringent importation regulations via the implementation of the new policy.

FMD STATUS

Throughout 2014/2015, Brunei Darussalam has never recorded any clinical cases of FMD in cattle, buffaloes and other cloven hoofed livestock and as such, has maintained its FMD-free status.

TECHNICAL ACTIVITIES:

A. RAPID IDENTIFICATION OF FMD FOCI OF INFECTION

 IDENTIFYING HOTSPOTS
To address potential threats for incursion of FMD, strict requirements when importing livestock and livestock products from FMD infected zones will be applied. Issue of transboundary animal movement is a concern along with illegal importation of both livestock and livestock products which is hoped to be addressed by the enactment of the Animal (Infectious Disease and Quarantine) Order that would be passed in the 2015 March Legislative Council Meeting.

**REPORTING FMD/ FMD REPORTING SYSTEM**
A Disease Management Index is in the making which will serve as a reference for the country when a particular disease including FMD is encountered. It will underline the standard procedures to be carried out at different stages of disease management including the “Reporting To” procedure.

**CONDUCTING SURVEILLANCE & LABORATORY ACTIVITIES (SAMPLE COLLECTION, SUBMISSION, TRANSPORT, PROCESSING)**
Serosurveillance and monitoring activities are continually undertaken for maintaining the FMD free status of Brunei Darussalam. The continuous sample collection and laboratory testing is also required under the National Animal Health Program with an extensive sampling coverage (livestock standing population 2014: cattle - 880, buffalo - 2625, goats - 7245, sheep - 342, deer – 639).

**B. ELIMINATION OF SOURCES OF FMD VIRUS**
Elimination of the source of FMD can be achieved with an integrated bio-security measure at entry points. An enforcement of a test and dispose *in situ* policy with improved infrastructure and capacity building of personnel could further aid in effective quarantine and border inspection which is hoped to be strengthened in the current Animal (Infectious Disease and Quarantine) Order.

**C. PREVENTION OF SPREAD OF FMD VIRUS**
At the moment, preventive measures are taken to ensure and maintain Brunei Darussalam’s FMD-free status. This is achieved by continuous monitoring at the borders as well as on-going sample collection for serosurveillance purposes though laboratory testing under National Animal Health Program. An extensive sampling coverage is to be planned as well as to enhance the training of personnel.

**D. PROTECTION OF SUSCEPTIBLE HOSTS**
Brunei Darussalam achieved its FMD-free status in 2007 without vaccination. Currently, vaccination for FMD is not practice in Brunei Darussalam. Priorities are taken for preventing FMD incursion through stringent importation regulations and effective quarantine and border inspection.

**ADVOCACY and CAPACITY BUILDING:**
A. COMMUNICATION

The Department of Agriculture and Agrifood (DOAA) as the focal point for information sharing has been engaging critical stakeholders and the public for support and disease awareness through animal health talks as well as disseminating information through printed materials. Information sharing with livestock and livestock products importers have also been conducted.

B. ADVOCACY

In gaining continued political support, DOAA emphasizes and highlights the importance of the Livestock Industry in Brunei Darussalam to further help strengthen and develop the industry free from FMD. Plans to set up projects become a priority under DOAA in the nation’s 5 year National Development Plan. Allocation of government funding is obtained through the 5 years National Development Plan and the plan of action would be to implement projects from DOAA pertaining to the livestock industry and animal health.

C. POLICY

Animal (Infectious Disease and Quarantine) Order is expected to be passed 2015 March, National Legislative Council Meeting.

C. CAPACITY BUILDING

DOAA is committed in enhancing the technical capabilities of its staff and several trainings particularly in sample taking has been conducted to assess and improve their capabilities.

COORDINATION and PROGRAMME MANAGEMENT

A. COORDINATION

For efficient operationalizing coordination at the national level, strengthening of veterinary services is an important tool. Brunei Darussalam is following and continuing efforts in the Performance of Veterinary Services Pathway and recommendations. Currently on 9th June to 21st June 2013, the OIE-PVS Gap Analysis for Negara Brunei Darussalam was carried out and now awaiting the full report of the analysis.

Upgrading of the current National Veterinary Laboratory is needed to help coordinate serosurveillance and monitoring programs. For this reason, a new National Veterinary Laboratory will be established to cater for emerging and re-emerging diseaseS. Our current national veterinary laboratory has been accredited with ISO/IEC 17025:2005 as of 28th May 2012.
In order to help strengthen linkages with other relevant national agencies, plans for frequent and committed interagency talks and meetings are required to act as platforms for national disease outbreak management linkages.

**B. PROGRAMME MANAGEMENT**

On-going serosurveillance and monitoring program under National Animal Health Program will be continued. Government funding is allocated and obtained through the 5 years National Development Plan and the plan of action would be to implement projects from DOAA pertaining to the livestock industry and animal health.
Annex 14: Country Report: Indonesia

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT

INDONESIA

ABSTRACT

Indonesia is recognized by OIE as a Foot and Mouth Disease (FMD) free country where vaccination is not practised. Many effort for maintaining FMD Free status Indonesia do as follow: 1. Strengthening policy and legislation; 2. Improving diagnosis and surveillance strategy; 3. Strengthening disease reporting system; 4. Keep up dating of Indonesia emergency preparedness plan; 5. Improving private sector integration; 6. Improving awareness, technical advisory among institution related, improving communication, advocacy and coordination to sub national or local government; 7. Implementation of FMD simulation exercise for monitoring and evaluations the emergency plan.

FMD STATUS

Indonesia is country with free status of FMD without vaccination implemented with regard on Decree of Ministry of Agriculture No. 260, 1986 (self declaration) and OIE-Resolution No. 11, 1990. On 2014 the free status country status of FMD without vaccination implemented is stated in OIE-Resolution No. 15, 2014.

A. RISKS

1. As country which consist of thousands island Indonesia has many critical point for introduction of hazard into Indonesia. Aware about the risk so Indonesia build many quarantine station/port to avoid smuggling animal and animal product. Through Ministry of Agriculture Decree no.94/Permentan/OT.140/12/2011 there are quarantine station/port decided:

   - For IMPORT
     1. airport 28
     2. Sea harbor and River harbor 78
     3. Post border 10
     4. Post Office 31
     5. Dry port 2
21st Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China

**EXTRA**

1. Airport 42
2. Sea harbor and River harbor 132
3. Border post 10
4. Post office 32
5. Dry port 2

**ANTAR AREA**

1. Airport 84
2. Sea harbor and River harbor and PENYEBERANGAN 236
3. Border post 40
4. Post office 53

2. Human movement

As a impact of globalisation human movement become a potential risk without increasing awareness regarding FMD characteristics and the socio-economic impact of FMD. The entry requirement into Indonesia, that is at least 2 week no contact with susceptible animal of FMD or not visit to farm of susceptible animal of FMD in the infected country need keep socialized.

3. Swirl will

Swirl will is under airport management so that still be the risk of introduce FMD virus. Advocation to the management in-charge is needed even though the SOP for destroy this is buried with incinerator.

4. Ignorance public or farmers

25 years free from FMD can regress preparedness of FMD and make ignorance public to this disease, and forget on socio-economic impact of FMD.

**B. TECHNICAL ACTIVITIES:**

- Rapid Identification of FMD high risk area

Since Indonesia is free country without vaccination as stated on OIE Resolution No. XI 1990 untill Resolution No. 15, 2014, many efforts have been conducted to maintain the status. As a big country comprising islands, Indonesia is facing potential risks for introduction of exotic diseases including FMD. Surveillance is the main activity conducted to prove the freedom from FMD. Due to large area of the country, the surveillance activity is based on targeted surveillance. Determination of hotspot area is based on risk where many criteria need to be considered such as:
1. Provinces bordering with FMD infected neighboring countries
2. The previously infected area
3. Area which have high number of animal movements
4. Area which close to airport or harbour
5. Possibility of area which have illegal meat importation
6. Tourist areas
7. Provinces with high population of livestock
8. Provinces bordering with undetermined FMD status of neighboring countries

- Laboratory Activities

Sera sample collected by 8 Regional lab diagnostic (Diseases Investigation Centre) around Indonesia and National Reference Laboratory for FMD (National Center for Veterinary Biologic). Sera sample collected during surveillance send to National Reference Laboratory for FMD (National Center for Veterinary Biologic) for lab testing. For 2014 animal sampled: cattle, buffalo, sheep/goat, pigs and wild animal. The total number of samples are 2,324 from active surveillance and 900 samples from passive surveillance. The methods of test as follows:

1. ELISA Kit was imported from WRL, Pirbright, UK.: Indirect Double Sandwich of ELISA for detect antibody subtype O,A,C and Asia 1
2. NSP ELISA Kit

The suspicious case will be tested by:

1. Tissue culture (Probang Test)
2. PCR test
3. Biological test

All samples tested give negative result.

- Reporting System

Regarding to the emergency preparedness for FMD, Indonesia have been developing rapid reporting system from the field officer base on clinical sign. The case which clinical sign meet with case definition of FMD that Indonesia decided, the case have to reported immediately (not more than 24 hours) and should be diagnose and control immediately. Emergency report could be implement through syndromic SMS gateway. The case definition for FMD suspect is decided,
that’s are hipersalivation, lesie and necrose on tonge epithel, lameness and highly case number. Whenever suspect case is identified by field officer, they have to send report to the system (I-SIKHNAS = Integrated National Animal Health System) by code “priority” report for having attention of institution related to do immediate response as their task and responsibility.

- Surveillance

Surveillance is conducted under coordination of National FMD Reference Laboratory (National Center for Veterinary Biologic). Indonesia conducted active and passive surveillance. The implementation of surveillance are symptomatic and serological surveillance.

Symptomatic surveillance is conducted by field officer of Provincial/District Veterinary Services, Provincial and District Laboratories, Regional lab diagnostic (Diseases Investigation Centre), animal health centre and farmer as their competency.

Serological surveillance is conducted through collaboration activities by Provincial/District Laboratories, Regional lab diagnostic (Diseases Investigation Centre), and National FMD Reference Laboratory itself.

For 2014 samples size: approximately 2324 sample from active surveillance and 900 sample from passive surveillance.

- Risk Analysis for FMD Incursions

Indonesia have been conducting risk analysis For FMD incursions to determine the priorities area of FMD surveillance.

- Outbreak Investigation of PMK.

As emergency preparedness, Indonesia have to improve capability of staff DAH, staff of Provincial/ District Veterinary Services, Staff of Regional Lab Diagnostic through training for Outbreak Investigation Animal Disease and Emerging Animal Disease including priorities exotic disease, particularly for FMD.

C. PREVENTION OF FMD VIRUS INCURSIONS

To protect Indonesia from FMD virus incursion Indonesia are:

1) Strengthening legislation

2) Strict importation animal and animal product.
   - Conduct animal health risk analysis before opening trade of animal and animal product.
   - Establishment Health protocol.
- Animals movement is required to have a veterinary health certificate from a veterinarian authorized.
- Checking the document of animal movement conduct by check point officer (local animal health services) in border among the provinces.

3) Quarantine activity on the entry point throughout the country. The activities include:
- Verification and validation import document
- Physical examination of animal product and live animals
- Destroying of incoming Vomites from arriving aircraft
- Quarantine observation for 2 weeks

D. COMMUNICATION & ADVOCACY:

COMMUNICATION

One of Communication strategies to improve awareness on FMD is conducted through FMD simulation exercises. This activity is implemented referred to national guideline of Indonesia Emergency Preparedness Plan (Indovetplan) for FMD. The exercise activity is also as forum of engagement of stakeholders including private sector to FMD control and prevention.

In farmer level, optimizing of public awareness for FMD is carried out through extension activity in farmer group meeting, by technical staff of District Livestock Services, Animal Health Center or the Participatory Disease Search and Response (PDSR) team. The materials used for the activity includes brochures, banner, stickers, leaflet, booklet, films.

Improvement of capacity building for the technical staffs or officers is regularly conducted through training and workshop on communication and other technical aspect related to disease control and eradication.

ADVOCACY

The government has been optimal in trying to provide advocacy to all parties, especially to parliament to get both political and resource support by using approach of a veterinary economic and social economy impacts if FMD occurs in Indonesia.

The law no 18 year 2009 concerning Livestock and Animal Health has given a strong mandate to strengthen and prevent the entry of exotic diseases and control measures. The next coming Government Regulation will also regulate the technical aspect of control and eradication measures including animal movement control for international trade or movement within Indonesia area.
E. COORDINATION

NATIONAL AND SUB-NATIONAL COORDINATION

- In order to improve coordination of government and local government, Directorate General of Livestock and Animal Health Services carries out twice that are the national technical meetings at the beginning of the year and the end of the year. The meeting discussed technical policies related to diseases control including exotic diseases (FMD).

- The new initiative in 2013 was establish Ministry of Agriculture Decree regarding the establishment of rapid response unit (URC) in central and local level for strategic contagious animal disease including exotic disease.

- Coordination on surveillance conducted under National Reference Lab for FMD to decide location, number of samples collected and test used and standardisation test among Disease Investigation Centres (DICs).

- Coordination on preparedness plan conducted among National and sub-National under Directorate of Animal Health.

- Coordination on allocation budget for FMD prevention that mainly is used for surveillance and preparedness activities, updating Indovet Plan for FMD, and improving emergency preparedness management and improving public awareness.

REGIONAL AND GLOBAL COORDINATION

- Indonesia has always actively participated in FMD meetings at regional level organized by OIE through SEAC-FMD subcommision meeting.

- Collaboration with Department Agriculture Fisheries and Forestry (DAFF) Australia through Australia Indonesia Partnership on Emerging Infectious Animal Diseases (AIP-EID) project 2010-2014 extension on 2015, has also contributed to the strengthening of animal health system including in emergency management system.

- Supporting from FAO on increasing competency of lab staffs on epidemiology, outbreak investigation and strengthening on emergency management system.

F. Future activity

- Strengthening
  - Emergency management system and data management outbreak.
  - Animal Health Information system web base for supporting emergency response.
  - Coordination inter ministries and sub national livestock services.
✓ Networking and collaboration with institution related.

✓ Improving capacity building on field officer and lab staff.

✓ Private sector participation.

✓ Improving awareness of biosecurity and detect disease for farmer, trader, and related stakeholder.

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-14, 2015

Narrative Country Report

Philippines

Abstract

From the status of having five (5) FMD-FREE ZONES without vaccination, the OIE Scientific Commission for Animal Diseases will be recommending the recognition of the Philippines as an FMD-FREE COUNTRY without vaccination by the OIE World Assembly of Delegates at the 83rd General Session on May 2015. As we strive to maintain our free status, we make sure that the FMD Prevention activities are constantly implemented. One thousand copies of the FMD Emergency Preparedness (FMD EPP) Manual are currently being printed. The FMD Coordinators Cards have been distributed to all the regional and provincial FMD coordinators. The card gives information on the things to be done in case of an FMD suspect or incursion. It also contains the directory of the FMD coordinators on a per region basis.

For advocacy, there were regular meetings with various stakeholders, both government and private, from the national to the local level. Some regions have regular radio programs where all livestock programs, including FMD are discussed and phone-in questions are entertained. For capacity building, a series of trainings on Outbreak Investigation and Management have been conducted in several regions and is still being continued this year.

To hone the necessary skills of the FMD coordinators in emergency situations, a table top simulation exercise entitled FMD COMPREHENSIVE SCENARIO INDUCED SIMULATION EXERCISE was conducted on October 22-24, 2014 concurrently with the Annual FMD Coordinators Meeting. It was attended by the regional and provincial coordinators. They were asked to present their annual FMD accomplishment reports along with the constraints/challenges being met.

FMD Status

FMD-free where vaccination is not practiced

FMD Prevention and Control Activities

Technical Activities:

A. Identification of Foci/Sources of FMD Virus
Serological surveillance is a mandatory activity conducted by the Regional and Provincial FMD Coordinators. The samples are submitted in May and October to the Philippine Animal Health Center (PAHC) for NSP ELISA. For 2014, a total of 4,707 serum samples were submitted out of the required 5,820 samples per year. Fifteen or 0.32% tested positive for the presence of antibodies for FMD; there was no clustering in specific areas and the cases were spread over a period of one year.

Clinical surveillance is carried out through the monthly submission by all local government veterinarians of Negative Monitoring Reports (NMRs) on the FMD status in their respective areas. For 2014, NMRs from 5,153 barangays/villages covering 27,428 head animals were submitted to the Bureau of Animal Industry- Philippine Animal Health Information System (BAI Phil-AHIS). Checkpoint monitoring and slaughterhouse monitoring are also being conducted as part of our clinical surveillance.

**B. ELIMINATION OF SOURCES OF FMD VIRUS**

Biosecurity measures are regularly implemented. All livestock carriers are disinfected as they pass through the veterinary quarantine checkpoints. Major airports and seaports have footbaths and wheel baths. Slaughterhouses have regular cleaning and disinfection as required by the National Meat Inspection Services. The all-in, all-out policy is also observed. Moreover, some of the provincial veterinary offices distribute disinfectants to backyard farms and registered meat establishments to ensure that cleaning and disinfection are being carried out.

**C. PREVENTION OF SPREAD OF FMD VIRUS**

Quarantine activities are in place and include the maintenance of checkpoints and quarantine stations strategically-located in major thoroughfares, airports and seaports; strict implementation of quarantine policies; border control measures at the port of entry including documentary inspection and evaluation and inspection of the imported items; and the 30-day quarantine of imported animals which are placed in approved quarantine facility with periodic inspection and serologic testing.

Animal movement management consists of the issuance of standardized livestock shipping permits; the licensing of livestock traders and their transport carriers; and enforcement of policies on local transport of livestock, their products and by-products such as the requirement for the registration of livestock farms or establishments and securing a veterinary health certificate and shipping permit for the local movement of livestocks.

**D. PROTECTION OF SUSCEPTIBLE HOSTS**

In the event of an FMD outbreak, emergency vaccination will be conducted in all barangays or villages covered within 10 kilometers surrounding each infected area. This would commence as soon as the first outbreak is confirmed by necessary laboratory tests. All FMD susceptible species within the identified areas of vaccination will be covered. As part of our preparedness, 100,000 doses of Type O1 Philippines/ O1 Manisa (the last type of virus reported in the country) shall be maintained.
yearly as buffer stock. However, because of the spread of serotype A in the region, it is being deliberated whether we have to include this serotype in our buffer stock.

The initial printing of one thousand copies of the FMD-EPP manual is currently underway. It contains specific guidelines on FMD outbreak management. It is primarily aimed at increasing the preparedness of concerned personnel and staff, particularly at the grassroots level. Likewise, FMD Coordinators’ Cards have been distributed to the regional and provincial FMD coordinators from October to November 2104. The card contains information on the things to do in case of an FMD suspect or outbreak. The other side has the names and contact numbers of the regional and provincial FMD coordinators of each region.

ADVOCACY and CAPACITY BUILDING:

A. ADVOCACY/COMMUNICATION

There are regular meetings with various stakeholders such as monthly meetings of the National Advisory Committee for Animal Disease Control and Emergency (NAC-ADCE) and quarterly meetings of its regional counterparts, the Regional Advisory Committee for Animal Disease Control and Emergency (RAC-ADCE). We have also meetings with the livestock organizations such as the Swine Breeders Association of the Philippines and Association of Small and Large Ruminants. We also give lectures/presentations on animal movement management during the monthly seminars for the livestock traders, and on quarantine guidelines and animal health programs in seminars conducted by the different Provincial Veterinary Offices for their livestock inspectors and quarantine guards.

At the local level, there are meetings with the Regional Livestock Development Coordinating Council (RLDCC)/Provincial LDCC/ Livestock and Poultry Council and Paraveterinarians Association. Animal Health Consultative Meetings are also conducted. Some of the provinces have regular radio programs where the animal health programs including FMD are discussed and phone-in questions by the listeners are entertained.

B. CAPACITY BUILDING

A table top simulation exercise entitled FMD COMPREHENSIVE SCENARIO INDUCED SIMULATION EXERCISE was conducted on October 22-24, 2014 to evaluate the level of preparedness of the regions and provinces in case of an incursion of FMD. A series of trainings on Outbreak Investigation and Management were conducted. The first level training which was for the regional animal health coordinators was held in August 2014. This was followed by second level training for provincial and municipal/city veterinarians and third level training for livestock technicians conducted from the third week of October till the first week of December 2014. The trainings will continue until June of this year.

COORDINATION and PROGRAMME MANAGEMENT

The Animal Health Congress was held on 7-8 July 2014. It is an annual event that provides a forum for the government veterinarians to discuss national policies, plans, and programs. It is a gathering

The Annual FMD Coordinators’ Meeting was conducted on October 2014. It was attended by the regional and provincial FMD coordinators. Presentations focused on Updates on the FMD Prevention Activities, both at the national and local levels. Discussions included the challenges/constraints met in carrying out the activities. Dr. Cristina Legaspi from the FMD Diagnostic Laboratory presented the “Use of Clinical Windows to Select the Appropriate FMD Material” and “The FMD Diagnostic Logarithm”.

We have participated in the 20th Meeting of the OIE Subcommission for Foot and Mouth Disease in Southeast Asia and China, the 17th SEACFMD National Coordinators’ Meeting, and the Joint meeting of the SEACFMD Labnet and EpiNet.

FMD Prevention and Preparedness Program has a regular yearly budgetary allocation for support of surveillance and quarantine activities, conduct of meetings, printing of permits, production and distribution of information materials, purchase of vaccine buffer stock, and payment for administrative costs. The LGUs are also required to allocate part of their internal revenues for use in FMD control activities. For 2014, the National Program had a budget of PhP7,000,000.00. This year, the allocation has been reduced to PhP5,000,000.00.

**CONSTRAINTS AND SOLUTIONS**

<table>
<thead>
<tr>
<th>CONSTRAINTS</th>
<th>POSSIBLE SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 24/7 manning of quarantine checkpoints, ports and seaports</td>
<td>Strengthening of the National Veterinary Quarantine Services of BAI with the creation of several quarantine positions</td>
</tr>
<tr>
<td>2. No allocated lane for the conduct of animal inspection and vehicle disinfection</td>
<td>Transfer of checkpoint to an area suitable for the conduct of inspection and disinfection</td>
</tr>
<tr>
<td>3. Poor biosecurity in backyard farms</td>
<td>Regular farm monitoring and distribution of disinfectants</td>
</tr>
<tr>
<td>4. With several entry/exit points</td>
<td>Setting up of additional checkpoints</td>
</tr>
<tr>
<td>5. Lack of/No service vehicles</td>
<td></td>
</tr>
</tbody>
</table>
| 6. No budget allocation for FMD activities                                | Letter-request to the governor and local finance committees  
Incorporation of FMD activities to programs and projects with funds                                   |
| 7. Complacency among veterinarians and stakeholders                      | Regular conduct of simulation exercises  
Strengthen IEC                                                                                          |
| 8. Lack of political support                                              | Conduct of socio-economic study to lobby for support                                                  |
# FUTURE ACTIVITIES

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct of Regional Simulation Exercise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Luzon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Luzon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visayas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindanao</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outbreak Investigation and Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update of IEC Materials*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct of FMD Coordinators’ Meeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct of Socio-economic study**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* We requested for the hiring of a communication specialist to work on new communication strategies for maintenance of our FMD-free status and conduct a series of capacity building on risk and crisis communication. Unfortunately, this was not approved. We will just request the Communications Officer of BAI to help us with the concept and design of our IEC materials.

**We also requested for an economist to conduct socio-economic study on maintaining FMD freedom, but this was disapproved as well. We will try tapping the service of economist from the Marketing Division to conduct the study.
Annex 16: Country Report: Singapore

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

COUNTRY REPORT

Singapore

ABSTRACT

Singapore is FMD free without vaccination. As a city state with a very small livestock industry, Singapore depends heavily on the import of animals and animal products for its food supply. Singapore has a strategy for the multi-pronged prevention of FMD. Source accreditation and import controls are based on a risk-based approach and scientific evidence. Susceptible commodities can only be imported from FMD free countries and zones, or be treated to inactivate FMDV. At the same time, clinical and serological surveillance is conducted on the local livestock population to affirm Singapore’s FMD free status.

FMD STATUS

Singapore is recognised by the OIE as FMD free where vaccination is not practised. Singapore is able to declare for the period of January 2014 to March 2015, that there had been no outbreak of FMD, no evidence of FMDV infection had been found, no vaccination against FMD had been carried out, and no vaccinated animal had been introduced.

TECHNICAL ACTIVITIES

Singapore has in place robust multi-pronged measures for the control and prevention of FMD. Sources of import for susceptible livestock species, meat and meat products are accredited and approved by the Agri-Food and Veterinary Authority (AVA). Imports are only allowed from FMD free countries and zones. Singapore disallows the import of livestock, meat and meat products from countries and zones which are affected by FMD. To balance risk management, facilitate trade and maintain food supply diversity, Singapore works with its overseas counterparts on regionalisation initiatives and risk mitigation measures such as heat-treatment of meat products.

Legislation

FMD is a notifiable disease under the Animals and Birds Act. Under the Act, any person who suspects their animals are infected with FMD must notify AVA immediately. Any person who fails to report FMD can be subjected to prosecution and be liable to a fine and imprisonment upon conviction.

Import control
Singapore has in place strict import regulations. Traders must apply for licenses and permits for traceability purposes. Consignments must also arrive with valid health certificates endorsed by the relevant overseas competent authorities. Consignments are physically inspected and samples are taken for laboratory tests.

**Local surveillance and prevention**

Regular surveillance of the local livestock population reaffirms Singapore’s freedom from FMD. There are three dairy cattle farms and one goat farm in Singapore. Clinical surveillance is conducted monthly and serological surveillance is conducted annually. In addition, all dead cattle over 30 months tested for BSE are also surveyed for signs of FMD.

In Dec 2014, blood samples taken from 18 goats (1 goat farm) and 18 cattle (combined 3 cattle farms- i.e. 6 cattle from each farm) tested sero-negative for FMD using NSP ELISA.

An Emergency Operations Plan has been developed to address measures to be taken in the event of a FMD outbreak in farms. AVA is working closely with the zoological gardens to develop a FMD contingency plan.

**Diagnostic capability**

The Animal Health Laboratory provides FMD diagnostic test capabilities using OIE recognised methods, and is ISO17025 accredited. The laboratory also actively participates in international inter-laboratory proficiency testing.

*Table 1. Animal Health Laboratory FMD test capabilities and proficiency testing*

<table>
<thead>
<tr>
<th>FMD test capabilities</th>
<th>Proficiency testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSP ELISA</td>
<td>100% accuracy in proficiency testing organized by FMD Regional Reference Laboratory in Pak Chong Thailand (Round 3/2012-2013)</td>
</tr>
<tr>
<td>Liquid phase blocking ELISA for serotypes O, A, Asia 1, C</td>
<td></td>
</tr>
<tr>
<td>RT-PCR molecular detection of FMDV RNA</td>
<td>Ongoing proficiency testing with World Reference Laboratory</td>
</tr>
<tr>
<td>RT-PCR molecular detection of FMDV type “O” RNA</td>
<td></td>
</tr>
</tbody>
</table>

**ADVOCACY and CAPACITY BUILDING:**

Singapore has a small population of FMD susceptible livestock. AVA regularly engages the livestock farmers to educate them on the clinical signs of FMD infection and importance of biosecurity. A close working relationship is maintained with livestock farmers to improve reporting of any abnormal clinical signs. Relevant stakeholders such as local farms, overseas and local meat
establishments, traders and trade associations are made aware of the importance and impact of FMD through meetings and dialogues.

**COORDINATION and PROGRAMME MANAGEMENT**

AVA cooperates closely with the Ministry of Health and National Environment Agency under the One Health Framework as it appreciates that the control of animal diseases requires an integrated approach concerning animal health, human health and the environment. High level coordinating committee meetings are conducted annually. Working groups meet more regularly to discuss and develop initiatives in the areas of protocols, communication, surveillance and risk assessment, and capability development.

Singapore cooperates with Jilin City and the Ministry of Agriculture, China, to maintain a FMD disease free zone in Jilin City. Singapore is a member of the OIE and ASEAN, and works together with other member countries towards eradicating FMD in the region.

Singapore hosted a PVS workshop conducted by OIE from 25-27 Nov 2014 to improve AVA’s understanding of the PVS tool, improve our ability to assess the veterinary services of other countries for source accreditation, and for self evaluation to align with international guidelines.

Singapore also attended the Joint FAO/OIE Workshop on Swine Disease Control in Asia in Beijing in Nov 2014. The workshop focussed on swine diseases such as FMD, CSF, PRRS, PED and ASF.
Annex 17: Country Report: Cambodia

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT GUIDE

CAMBODIA

ABSTRACT

From January to December 2014, there are 58 outbreaks of FMD reported from 12 provinces (Preah Sihanouk, Svay Rieng, Prey Veng, Pursat, Kampong Chhnang, Kampong Cham, Tboung Khmum, Kracheh, Kampot, Takeo, Kandal and Kampong Speu) and cause 5,711 heads of cattle; 834 heads of buffaloes and 185 heads of pigs are shown clinical signs and among that there are 87 heads of cattle; 02 heads of buffaloes and 09 heads of pigs are dead. A total of 17 samples have been collected and the results are Sero-type O and A.

With support from FMD-ROK Project funded by Korean government through FAO, Department of Animal Health and Production conduct two training courses on FMD outbreak investigation for district veterinarians in 03 targeted provinces (Takeo, Prey Veng and Kampong Cham) with the distribution of outbreak investigation kits to all 46 participants and some kits are kept at the provincial animal health and production offices. Conducted stakeholder meeting with 25 provincial animal health and production offices on 15 January 2015.

FMD STATUS

➢ January 2014, there are 02 FMD outbreaks reported from 02 districts (Prey Nob district and Preah Sihanouk town) in Preah Sihanouk province and cause 36 heads of cattle and 19 heads of buffaloes showing clinical signs of FMD.

➢ February 2014, there is 01 outbreak of FMD reported from 02 villages as the following:

  - Popoul village Svay Chochep commune, Borsedth district, Kampong Speu province. In this village, there are 329 heads of cattle and cause only 15 heads of cattle are shown clinical signs of FMD on February 01, 2014 and there is no death.

  - Anglong Leak village, Svay Chochep commune, Borsedth district, Kampong Speu province. In this village, there are 341 heads of cattle and cause only 04 heads of cattle are shown clinical signs on February 01, 2014 and there is no death.

➢ March 2014, there is no outbreak of FMD reported from the provinces

➢ April 2014, there are 07 outbreaks of FMD reported from 03 provinces as the following:

  - Svay Rieng province:
o One FMD outbreak is reported from Doun Leb village, Kork Pring commune, Svay Chrum district on 22 April 2014 which cause 24 heads of cattle showing FMD clinical signs

o One FMD outbreak is reported from Ka’am village, Ang Prosrae commune, Romeas Hek district on 23 April 2014 which cause 07 heads of cattle showing FMD clinical signs

o One FMD outbreak is reported from Samrong village, Ang Prosrae commune, Romeas Hek district on 23 April 2014 which cause 05 heads of cattle showing FMD clinical signs

• Prey Veng province:

  o One FMD outbreak is reported from Udom village, Prek Krabao commune, Peam Chor district on 14 April 2014. In the village, there are a total of 679 heads of cattle and among that there are 38 heads of cattle are shown clinical signs of FMD and 02 heads of cattle are dead.

  o One FMD outbreak is reported from Udong village, Prek Krabao commune, Peam Chor district on 24 April 2014. In the village, there are a total of 735 heads of cattle and among that there are 26 heads of cattle are shown clinical signs of FMD and no death.

• Pursat province:

  o One FMD outbreak is reported from Anglong Mean village, Snarm Preah commune, Bakan district on 23 April 2014. In the village, there are a total of 149 heads of cattle and 60 heads of buffaloes. Among that there are 09 heads of cattle and 01 head of buffalo are shown clinical sign of FMD. There is only 01 head of cattle is dead.

  o One FMD outbreak is reported from Khsed Borei village, Santrae commune, Phnom Kravanh district on 23 April 2014. In the village, there are 550 heads of cattle and 607 heads of buffaloes and among that there are 21 heads of buffaloes are shown clinical signs of FMD.

May 2014, there are 15 outbreaks of FMD reported from 04 provinces as the following:

• Kampong Chhnang province: one FMD outbreak is reported from Ka Ek Pong village, Ampil Tek commune, Kampong Tralach district on 01 May 2014. In the village, there a total of 193 heads of cattle and 61 heads of buffaloes and FMD cause 86 heads of cattle and 26 heads of buffaloes are shown clinical signs.

• Prey Veng province: the previous FMD outbreak is ongoing and spread to other districts of Prey Veng province. So this month, there are a total of 09 FMD outbreaks are reported from 9 districts (Kampong Trabaek, Peam Chor, Preah Sdach, Por Reang, Kamchay Mear, Ba Phnom, Pearaing, Me Sang and Sithor Kandal). It causes 2,006 heads of cattle and 193 heads of buffaloes showing the clinical signs of FMD. Among that there are 11 heads of cattle are dead.
• Pursat province: the previous FMD outbreaks are still ongoing and spread to another location. So this month, there are 03 FMD outbreak is reported from 3 districts (Bakan, Phnom Kravanh, Krakor) and cause 40 heads of cattle and 43 heads of buffaloes showing clinical signs of FMD. Among that there are 02 heads of cattle and 01 head of buffalo are dead.

• Kampong Speu province: two FMD outbreaks are reported from 02 districts (Odong and Samrong Tong) since 10 May 2014. So during the period, there are 141 heads of cattle showing clinical sign of FMD.

➢ June 2014, there are 11 outbreaks of FMD reported from 03 provinces as the following:

• Kampong Cham province:
  
  o One FMD outbreak is reported from 04 villages (Svay Prey, Tuol, Taing Thloeuung and Sambo) in Batheay district on 03 June 2014 cause 106 heads of cattle and 57 heads of buffaloes showing clinical sign of FMD.

  o One FMD outbreak is reported from Ldak village, Srak commune, Steung Trang district on 05 June 2014 and cause 03 heads of cattle showing clinical signs of FMD.

  o One FMD outbreak is reported from Khcao 2 village, Khcao commune, Kong Meas district, on 05 June 2014 and cause 09 heads of cattle and 02 heads of swine showing clinical sign of FMD.

  o One FMD outbreak is reported from Ampil Tvear and Ko Koah villages, Sampong Chey commune, Cheung Prey district on 05 June 2014 and cause 38 heads of cattle and 14 heads of swine showing clinical sign of FMD.

  o One FMD outbreak is reported from Chheu Toeu village, Khpob Tanguon commune, Steung Trang village on 04 June 2014 and cause 20 heads of cattle showing clinical sign of FMD.

  o One FMD outbreak is reported from 05 villages (Speu Kor, Chey Yor, Trapaing Russei, Ou Pes and Ou Vay) in Chamkar Leu district on 09 June 2014 and cause 102 heads of cattle and 02 heads of buffaloes showing clinical sign of FMD.

• Tboung Khumum province:
  
  o One FMD outbreak is reported from Chi Pouk village, Krek commune, Ponhea Krek district on 06 June 2014. It causes 19 heads of cattle and 12 heads of buffaloes showing clinical sign of FMD.

  o One FMD outbreak is reported from Chey Sambath village, Dambae commune, Dambae district on 07 June 2014. It causes 51 heads of cattle and 05 heads of buffaloes showing clinical sign of FMD.
- One FMD outbreak is reported from Sambo village, Memot commune, Memot district on 09 June 2014. It causes 03 heads of cattle showing clinical sign of FMD.

- Kampong Speu province: two previous FMD outbreaks are still reported from 02 districts (Odong and Samrong Tong) since 10 May 2014 until 17 June 2014. So during this period, there are new cases of 132 heads of cattle showing clinical sign of FMD among 3,258 heads of cattle.

- July 2014, there are 14 outbreaks of FMD reported from 05 provinces as the following:

  - Kracheh province: one FMD outbreak is reported from 02 villages (Chong Koah and Kbal Koah) in Sangakt Koah Troung, Kracheh town on 20 July 2014 and cause 49 heads of cattle showing clinical sign of FMD.

  - Kampot province:
    - One FMD outbreak is reported from 02 villages (Trapaing Kamphlienh village in Ang Phnom Touch commune and Trapaing Thnot village in Dambok Khpos commune) in Angkor Chey district on 24 June 2014. It causes 24 heads of cattle showing clinical sign of FMD.
    - One FMD outbreak is reported from 03 villages (Trapaing Chrey village in Chhouk commune, Damnak Trop Khang Tboung village in Kraing Snay commune and Promoul village in Tramaing commune) in Chhouk district district on 15 June 2014. It causes 31 heads of cattle and 01 head of buffalo showing clinical sign of FMD.

  - Takeo province: one FMD outbreak is reported from 04 villages (Svay Samrong, Krasaing, Kork Angkob and Prey Taporng) in Por Romchak commune, Prey Kabbas district since mid-June 2014 and it causes 348 heads of cattle showing clinical sign of FMD and among that 29 heads of cattle are died.

  - Kandal province:
    - One FMD outbreak is reported from 08 communes (Preah Put, Kantoak, Kork Trop, Boeng Khyang, Preak Roka, Ampov Prey, Preak Slaeng and Preak Thmei) in Kandal Steung district on 05 June 2014 and it causes 166 heads of cattle showing clinical signs of FMD.
    - One FMD outbreak is reported from 02 communes (Kampong Svay and Chheu Teal) in Kien Svay district on 15 June 2014 and it cause 69 heads of cattle showing clinical signs of FMD and among that 03 heads of cattle are died.
    - One FMD outbreak is reported from 03 communes (Sambour, Tek Khlaing and Preak Russei) on 07 June 2014 and it causes 414 heads of cattle showing clinical signs of FMD and among that 13 heads of cattle are died.
One FMD outbreak is reported from 03 communes (Preak Ambel, Koah Khel and Koah Tonlear) on 21 June 2014 and it causes 24 heads of cattle showing clinical sign of FMD.

One FMD outbreak is reported 04 communes (Preak Sdei, Kampong Kong, Chroy Takeo and Sampov Loun) on 15 June 2014 for cattle and on 20 June 2014 for swine. It causes 185 heads of cattle and 82 heads of swine showing clinical signs of FMD and among that 06 heads of cattle and 08 heads of swine are died.

- Kampong Speu province: two previous FMD outbreaks are still reported from 02 districts (Odong and Samrong Tong) and continue to spread the FMD virus to other 03 districts (Phnom Srucoh, Borsedth and Oral). So during this period, there are new cases of 810 heads of cattle and 87 heads of swine showing clinical sign of FMD among that 19 heads of cattle 01 head of swine are died.

August 2014, it still has ongoing FMD occurrence and new FMD outbreaks so this moth there is 07 outbreaks of FMD reported from 03 provinces as the following:

- Kracheh province:
  - One ongoing FMD outbreak is still reported from 02 villages (Chong Koah and Kbal Koah) in Sangkat Koah Troung, Kracheh town on 20 July 2014 and cause 49 heads of cattle showing clinical sign of FMD. Department of Animal Health and Production received report from provincial animal health and product office on 05 August 2014.

- Pursat province
  - One FMD outbreak is reported from 01 village (Tuol Andaet) in Svay Sor commune, Krakor district on 04 August 2014 and it causes 11 heads of cattle and 40 heads of buffaloes showing clinical sign of FMD and among that 01 head of cattle and 01 head of buffalo are died. The Department of Animal Health and Production received report from provincial animal health and production on 13 August 2014.

- Kampong Speu province:
  - The five previous FMD outbreaks are still reported from 03 districts (Odong, Samrong Tong, Phnom Srucoh, Borsedth and Oral). So during this month, there are new cases of 125 heads of cattle showing clinical sign. The Department of Animal Health and Production received report from provincial animal health and product office on 08 August 2014.

September 2014, there is no FMD outbreaks reported from the provinces.

October 2014, it has one FMD outbreak reported from Kampong Laeng district (Por, Da, Svay Amppear and Chranouk communes), Kampong Chnnang province on October 2014. It causes 484 heads of cattle and 384 heads of buffaloes showing clinical sign of FMD. Department of Animal
Health and Production and National Veterinary Research Institute received report from provincial animal health and product office on 16 October 2014.

- November 2014, there is no FMD outbreaks reported from all provinces.
- December 2014, there is no FMD outbreaks reported from all provinces.

Table 1: Morbidity and mortality of FMD from January to December 2014

<table>
<thead>
<tr>
<th>Province</th>
<th>Species</th>
<th>Susceptible</th>
<th>Morbidity</th>
<th>Mortality</th>
<th>Total outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bov Buf Sui</td>
<td>Bov Buf Sui</td>
<td></td>
</tr>
<tr>
<td>Preah Sihanouk</td>
<td>Bovine</td>
<td>36</td>
<td>- - 0</td>
<td>0 - -</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>-</td>
<td>19 - 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td>Kampong Speu</td>
<td>Bovine</td>
<td>17,536</td>
<td>1,227 - 19</td>
<td>- - 0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Swine</td>
<td>-</td>
<td>- 87 -</td>
<td>0 0 01</td>
<td></td>
</tr>
<tr>
<td>Svay Rieng</td>
<td>Bovine</td>
<td>36</td>
<td>- 0 -</td>
<td>- 0 -</td>
<td>03</td>
</tr>
<tr>
<td>Prey Veng</td>
<td>Bovine</td>
<td>2,070</td>
<td>- 13 - 4</td>
<td>- - 06</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>-</td>
<td>193 - 0</td>
<td>- 0 -</td>
<td></td>
</tr>
<tr>
<td>Pursat</td>
<td>Bovine</td>
<td>1,996</td>
<td>63 - 4 0</td>
<td>- 06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>2,371</td>
<td>102 - 2 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td>Kampong Chhnang</td>
<td>Bovine</td>
<td>-</td>
<td>570 0 -</td>
<td>- - 02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>-</td>
<td>410 - 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td>Kampong Cham</td>
<td>Bovine</td>
<td>273</td>
<td>- 0 - 05</td>
<td>- - 06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>-</td>
<td>87 - 0 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swine</td>
<td>-</td>
<td>- 16 - 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td>Tboung Khmum</td>
<td>Bovine</td>
<td>77</td>
<td>- 0 - 03</td>
<td>- - 03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buffalo</td>
<td>-</td>
<td>22 - 0</td>
<td>- 0 0</td>
<td></td>
</tr>
<tr>
<td>Kracheh</td>
<td>Bovine</td>
<td>403</td>
<td>98 - 0 0</td>
<td>- - 02</td>
<td></td>
</tr>
<tr>
<td>Kampot</td>
<td>Bovine</td>
<td>55</td>
<td>01 0 02</td>
<td>- - 02</td>
<td></td>
</tr>
<tr>
<td>Takeo</td>
<td>Bovine</td>
<td>1,454</td>
<td>348 - 29 0</td>
<td>- - 01</td>
<td></td>
</tr>
<tr>
<td>Kandal</td>
<td>Bovine</td>
<td>858</td>
<td>- 22 - 05</td>
<td>- - 05</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swine</td>
<td>-</td>
<td>- 82 - 08</td>
<td>- - 08</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5,711</td>
<td>834 185 87</td>
<td>02 09 58</td>
<td></td>
</tr>
</tbody>
</table>

FMD Prevention and Control Activities

FMD PREVENTION AND CONTROL ACTIVITIES

I. TECHNICAL ACTIVITIES:

A. IDENTIFICATION OF FOCI/SOURCES OF FMD VIRUS
**REPORTING FMD/ FMD REPORTING SYSTEM**

- Department of Animal Health and Production use the existing reporting channel to report all animal diseases. The channel of this reporting is from villagers/animal owners report to village animal health workers then from village animal health worker to district veterinary officers, then from district veterinary officers to provincial veterinary officer and then from provincial veterinary officer to Department of Animal Health and Production (DAHP)/ National Veterinary Research Institute (NaVRI) or through animal health hotline.

**CONDUCTING SURVEILLANCE**

- National Veterinary Research Institute work with ADB-SPS Project on Trade Facilitation: Improved Sanitation and Phy-tosanitary (SPS) Handling in Greater Mekong Sub-Region (GMS) on conducting the animal disease surveillance in targeted provinces (Takeo, Kampong Cham, Svay Rieng).

**LABORATORY ACTIVITIES (SAMPLE COLLECTION, SUBMISSION, TRANSPORT, PROCESSING)**

- National Veterinary Research Institute prepares the transport medium for sample collection during the outbreak of Foot and Mouth Disease. The provincial veterinary officers have been trained on how to fill out the submission form, how to take sample, how to keep the samples and how to send samples to the National Veterinary Research Institute.

- Under support from FMD-ROK Project, National Veterinary Research Institute send 02 laboratory staff to attend the training course on FMD diagnosis at Regional Reference Laboratory of FMD in Pakchong, Thailand from 16-26 December 2014.

- There is an expert to follow-up 02 trainees in their routine works from 13-20 March 2015.

- During seven months period from January to July, National Veterinary Research collected 17 FMD samples from the following provinces:
  - 04 FMD samples collected from Borsedth district, Kampong Speu province
  - 05 FMD samples collected from Svay Chrum district and Romeas Hek district, Svay Rieng province
  - 02 FMD samples from Peam Chor district, Prey Veng province
  - 02 FMD samples collected from Batheay district, Kampong Cham province
  - 04 FMD samples collected from Kracheh town, Kracheh province
○ On August 25, 2014 the National Veterinary Research Institute sends 17 FMD samples to Regional Reference Laboratory in Pakchong, Thailand for confirmation the results of testing.

OUTBREAK INVESTIGATION

○ National Veterinary Research Institute work closely with Provincial Animal Health and Production Offices to investigate the outbreak of Foot and Mouth Disease in each province. ADB-SPS Project on Trade Facilitation: Improved Sanitation and Phy-tosanitary (SPS) Handling in Greater Mekong Sub-Region (GMS) also allocate fund for outbreak investigation and response in the target provinces.

B. ELIMINATION OF SOURCES OF FMD VIRUS

OUTBREAK MANAGEMENT

○ District/provincial veterinarians work closely with village animal health workers and local authority to treat sick animals, separate sick animal from healthy animals, conduct ring vaccination (Department of Animal Health and Production will provide the vaccines to the Provincial Animal Health and Production Office upon the request from them), stop animal movements from infected villages and make public awareness in the infected villages.

○ Conduct disease outbreak investigation and sample collection

○ Strictly control animal movements along the border and within the country

BIOSECURITY MEASURES

○ Improve biosecurity measures at the village level and animal keeping areas

○ With ACIAR Project AH/2006/025 on Understanding Livestock Movement and the Risk of Spread of Transboundary Animal Diseases, this project produced booklets on:
  ▪ Booklet on livestock biosecurity measures for traders of cattle and buffaloes
  ▪ Booklet on basic biosecurity measures for village animal health workers
  ▪ FMD poster on how to control foot and mouth disease

DISINFECTION PROCEDURES/PROTOCOLS

○ Leaflet of C & D brochure

○ DAHP organize the meeting with PAHPO to discuss about FMD status and the control measures which are taking by the provincial animal health and production offices. During the meeting, DAHP also distribute antiseptics and disinfectants to 10 provinces which supported by OIE and these 10 provinces are Banteay Meanchey, Kampong Cham, Kandal, Svay Rieng, Takeo, Prey Veng, Kampong Speu, Kracheh)
Table 2: List of distribution of disinfectants and antiseptics supported by OIE

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Number of villages</th>
<th>Disinfectant (Litre)</th>
<th>Antiseptic (Bottle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banteay Menachey</td>
<td>Mongkol Borei</td>
<td>156</td>
<td>131</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Preah Netr Preah</td>
<td>112</td>
<td>94</td>
<td>47</td>
</tr>
<tr>
<td>Kampot</td>
<td>Kampong Trach</td>
<td>69</td>
<td>58</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Chhuk</td>
<td>80</td>
<td>67</td>
<td>34</td>
</tr>
<tr>
<td>Kandal</td>
<td>Koah Thom</td>
<td>113</td>
<td>95</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Sa’ang</td>
<td>141</td>
<td>119</td>
<td>59</td>
</tr>
<tr>
<td>Svay Rieng</td>
<td>Kampong Rou</td>
<td>80</td>
<td>67</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Svay Chrum</td>
<td>158</td>
<td>133</td>
<td>66</td>
</tr>
<tr>
<td>Takeo</td>
<td>Angkor Borei</td>
<td>34</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Kirivong</td>
<td>114</td>
<td>96</td>
<td>48</td>
</tr>
<tr>
<td>Prey Veng</td>
<td>Svay Antor</td>
<td>138</td>
<td>116</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Preah Sdach</td>
<td>145</td>
<td>122</td>
<td>61</td>
</tr>
<tr>
<td>Kampong Speu</td>
<td>Borsedth</td>
<td>218</td>
<td>183</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Odong</td>
<td>250</td>
<td>210</td>
<td>105</td>
</tr>
<tr>
<td>Kampong Cham</td>
<td>Prey Chhor</td>
<td>176</td>
<td>148</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Kampong Siem</td>
<td>111</td>
<td>93</td>
<td>47</td>
</tr>
<tr>
<td>Kracheh</td>
<td>Preak Prasab</td>
<td>58</td>
<td>49</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Chet Borei</td>
<td>48</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Pursat</td>
<td>Bakan</td>
<td>154</td>
<td>130</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Krakor</td>
<td>104</td>
<td>87</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 provinces</td>
<td>20 districts</td>
<td>2,459</td>
<td>2,068</td>
<td>1,033</td>
</tr>
</tbody>
</table>

C. PREVENTION OF SPREAD OF FMD VIRUS

☐ ANIMAL MOVEMENT MANAGEMENT

- Department of Animal Health and Production and Ministry of Agriculture, Forestry and Fisheries are strengthened and strictly controlled the movement animals along the border and within the country.

☐ SCREENING PROCEDURES AT THE BORDER

- With ADB-SPS Project on Trade Facilitation: Improved Sanitation and Phytosanitary (SPS) Handling in Greater Mekong Sub-Region (GMS) also allocate fund for border surveillance in their target provinces.
D. PROTECTION OF SUSCEPTIBLE HOSTS

□ Targeted FMD Vaccination

○ With support from the government of limited vaccines of FMD, the vaccine have to distribute to all provinces in the country for conducting the vaccination program to vaccinate cattle and buffaloes in these provinces.

○ With support from OIE and other donors, the FMD vaccines have been used for ring vaccination to prevent the spread of virus from the infected villages to other villages.

II. ADVOCACY and CAPACITY BUILDING:

A. ADVOCACY/COMMUNICATION

□ Conduct of Studies or Gathering of Information to be Used for Advocacy Efforts

National Veterinary Research Institute in collaboration with FMD-ROK Project through FAO-Cambodia, the institute communicates with Center for Development Oriented Research (CENDOR) to follow up the study on conducting the value chain and social network analysis on cattle and trade in project areas (Takeo, Kampong Cham and Kampong Speu provinces). CENDOR update the progress activities as the following:

- CENDOR have completed interview 22 cattle brokers and 74 cattle producers. Data entry has been done.

- From 24-27 June 2014. CENDOR have met with Dr. Suwicha and Dr. Chaithep (for the training and support on methodology). On 26 June 2014, also bring her to visit the target area of the study in Takeo province, meeting with 1 slaughterhouse, 2 cattle broker and one cattle producer.

- From the existing dataset that CENTDOR team has been collected, result from field visit and discuss and practices on software program, we modify methodology a little bit:

  ▪ From select 2 Zones per provinces to 2 zones in Takeo, one zone in Kampong Speu and one zone in Kampong Cham. The purpose to have a more complete network in less zones rather than have incomplete network from many zones.

  ▪ From using 2 questionnaires (questionnaires for broker and questionnaires for producers) to one questionnaires which combine both together. The reason is that broker also has raised their owner cattle while producers also do buying and selling cattle.

□ ENGAGEMENT OF STAKEHOLDERS TO FMD PREVENTION, CONTROL AND ERADICATION

○ Department of Animal Health and Production also organize the meeting with relevant stakeholders to discuss about the animal diseases, impact and how to reduce the spread of
animal diseases and how prevent the diseases as well as encourage them to involve in the prevention and control program.

- With financial support from FMD-ROK Project, Department of Animal Health and Production in collaboration with FAO-Cambodia organize the meeting with 25 provincial animal health and production offices on 15 January 2015 to share the activities of FMD-ROK Project and the experiences in the control of FMD in the country.

**PRIVATE SECTOR INTEGRATION**

- Department of Animal Health and Production used to organize the meeting with private sector to discuss about the animal diseases and spread of diseases through animal movement so that we need private sector to involve in the reporting system because when private sector meet sick or dead animals they could report to veterinarians immediately for reducing the spread of animal diseases.

**B. POLICY**

**NEW LEGISLATION OR REGULATIONS WHICH SUPPORT FMD CONTROL**

- With strong support from OIE, Department of Animal Health and Production already finalize Cambodia FMD national plan
- Cambodia veterinary law currently is in progress

**C. CAPACITY BUILDING**

**PVS RELEVANT ACTIVITIES** – Complementation of FMD campaign activities with PVS implementation in the country

**TRAININGS CONDUCTED**

- Conducted the training course on FMD outbreak investigation for district veterinarians in Takeo and Prey Veng provinces from 31 March to 04 April 2014 (15 participants from Prey Veng and 12 participants from Takeo)
- Conducted the training course on FMD outbreak investigation for district veterinarians in Kampong Cham from 26-30 May 2014 (19 participants from Kampong Cham)
- Distribute outbreak investigation kits to all participants
Picture 1: Training course on FMD outbreak investigation for district veterinarians of Prey Veng Takeo and field practice in Takeo province from 31 March to 04 April 2014

Picture 2: Training course on FMD outbreak investigation for district veterinarians and field practice in Kampong Cham province on 26-30 May 2014

Picture 3: Distribution of outbreak investigation kits to all participants in Kampong Cham province
Picture 4: Distribution of outbreak investigation kits to all participants in Prey Veng province

Picture 5: Distribution of outbreak investigation kits to all participants in Takeo province

Picture 6: Distribution of outbreak investigation kits to National Veterinary Research Institute
III. COORDINATION and PROGRAMME MANAGEMENT

A. COORDINATION

□ NATIONAL CONSULTATION ON FMD CONTROL
- Department of Animal Health and Production organize consultation meeting with 24 Provincial Animal Health and Production Office to discuss about animal movement control and prevention of FMD spread.

□ BILATERAL ARRANGEMENTS
- Department of Animal Health and Production used to have a bilateral meeting with Vietnam and Thailand to share animal health status information, laboratory diagnosis, collaboration and coordination between Vietnam and Cambodia

□ REGIONAL COOPERATION
- For the regional cooperation in the region, Department of Animal Health and Production still use Epi-Network and Lab-Network

B. PROGRAMME MANAGEMENT

□ RESOURCES AND FUNDING
- ADB-SPS Project
- ROK Project
- DAHP Project (government fund)

□ GOVERNMENT BUDGET ALLOCATION FOR FMD CONTROL/PREVENTION
- Government allocate small fund for animal disease control in 2015

CONSTRAINTS AND SOLUTIONS

- Financial support are needed for conducting FMD outbreak investigation and responses
- Consumables, reagents and kits are needed for animal disease diagnosis
- Need more IEC material for FMD and public awareness for stakeholders
- Involvement of private sectors are more important in the reporting of animal diseases
- Late reporting from the village level
FUTURE ACTIVITIES

- Conduct training on FMD outbreak investigation and response for provincial and district veterinarians for remaining provinces (support by OIE and FMD-ROK Project)
- Implement the national FMD control plan
- Strengthen animal disease surveillance, outbreak investigation and response; and disease reporting system
- Strengthen disease diagnosis and proficiency testing
- Conduct the public awareness for all stakeholders on animal diseases and its impact
- Collaborate on field of Epidemiology and laboratory between Cambodia and Argentina
- Conduct animal disease surveillance (FMD, HS, CSF, PRRS) in three target provinces supported by ADB-SPS Project
- Strengthen disease reporting system through supporting from FMD-ROK and EU-Project
Annex 18: Country Report: China

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT

China

Abstract

In 2014, China totally notified 7 FMD outbreaks, among them 2 outbreaks were caused by type O FMD virus and 5 outbreaks were caused by type A FMD virus. From Jan. to Feb. 2015, we reported 2 FMD outbreaks, all caused by type A FMD virus. China hasn’t detected FMD clinical cases of type Asia I for more than 5 years. The main strain of Type A involving in our FMD outbreaks is Sea 97-G2, while that for type O is Mya-98.

In 2014, China continued to implement compulsory vaccination policy towards all pigs, cattle, sheep and goats. The central budget allocated 3.72 billion RMB for FMD vaccines. During the year, there were totally 0.88 million samples were examined by pathological test, and 3.83 million samples were examined by serological test. Among them, 20 samples were positive by pathological test. Efforts were made to enhance animal disease inspection, supervision and emergency response, improve the capacity of veterinary laboratories and personnel resources, and strengthen the public awareness of animal disease. On the basis of maintaining the existing FMD free zones, we put forward the proposal to establish the North-east FMD free zone. We have initiated surveillance and assessment on the withdrawal of vaccination for Type Asia I. China also conducted active multi-lateral and bilateral exchanges and cooperation with many international organizations such as OIE and FAO, as well as counties including Singapore, Vietnam, Laos, Myanmar, Russia and Mongolia.

Currently, the biggest challenge for China in prevention and control of FMD is the large number of smuggling of livestock and relative animal products from South-east Asia. In the future, China will continue to implement its comprehensive FMD prevention and control strategy which combines vaccination with the stamping-out policy, speed up the construction of specific animal disease free zone and animal disease control area in border areas (like Yunnan province) in accordance with the National FMD Prevention and Control Program.
Annex 19: Country Report: Thailand
21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China
Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT

Thailand

FMD STATUS

From a web-based system developed by Department of Livestock Development (DLD) called E-Smart Surveillance, one hundred and fifty FMD outbreaks were reported in 2014 from all livestock regions in Thailand except the Eastern Region. This has been the highest number of outbreak reported since 2004. According to the report by month, August to November was the peak of FMD outbreaks in 2014. Livestock Region 7 (Western region) was the major area of FMD; Livestock Region 5 (Northern region) was the second major area of FMD. The number of cases and deaths were 7,543 and 150 respectively. Beef cattle outbreaks were more disseminated but dairy cattle population were more affected by FMD. From all 150 outbreaks, the strain of FMD virus was diagnosed 39 percent for type O, 35 percent for type A, 3 percent for type O plus type A for, 14 percent for no virus detected and 9 percent for not-sampled.

FMD Prevention and Control Activities

DLD identified the risk areas of FMD in order to plan for FMD vaccination. The risk areas are dairy farms and surrounding area; 5 kilometre-radius of live animal markets, slaughter house, bull fighting arena, animal quarantine facilities; areas experienced for FMD outbreaks 2 times within last 3 years, high density of cloven-hoofed areas, and other risk areas considered by provincial authority. DLD vaccination campaign for cattle, buffaloes, goats and sheep are conducted twice a year in round 1 (December to January) and round 2 (June to July). The vaccination campaign was evaluated and monitored by regional and head-quarter authority of DLD. In 2014, vaccination campaign provided 11,146,225 doses of FMD vaccine for cattle, buffaloes, goats and sheep in risk areas. In 2015, the first round of the campaign provided 5,209,220 doses of FMD vaccine.

For the FMD control measures in case of FMD outbreak, the animal movement restriction is the main one. The local authority will do a proclamation of the outbreak. Then, they order to isolate infected premises and to quarantine susceptible animals in the farms. The checkpoint will setup (operate 24 hours until the end of the outbreak) in order to control the movement of animal in the outbreak areas. The provincial livestock office will notify DLD via E-Smart Surveillance within 24 hours and then they do the outbreak investigation and monitor weekly until the last case recovered. The susceptible animals within 5 kilometres radius is vaccinated as the ring vaccination program to control the disease. Public awareness also includes in the control program.
Department of Livestock Development sets the budget in fiscal year 2015 including FMD prevention and control activities in 1) Animal Disease Surveillance Activities for 373,423,200 THB (11.7 million USD) and 2) Livestock Standard Improvement Activities 40,758,600 THB (1.3 million USD).

Key Bilateral/Multi-lateral Activities

Many bilateral or multi-lateral activities on FMD were done in 2014; for example, 11th Meeting of the Upper Mekong Working Group on February 12-14, 2014 Bokeo, Lao PDR, 20th Meeting of the OIE Sub-Commission for FMD in South-East Asia and China, Nay Pyi Taw, Myanmar, March 11-14 2014, 12th Meeting of the Malaysia-Thailand-Myanmar Tri-State Commission Hat Yai, Thailand, August 5-7, LabNet/EpiNet in Vietnam, 17th SEACFMD National Coordinators Meeting at Chiang Rai, Thailand 27-29 August 2014. DLD join the OIE SRR SEA for a filming of the SEACFMD video documentary. During the filming, Director General of the DLD mentioned about 1) Role of Thailand as the ASEAN lead country on FMD control 2) Policy and financial support by Thai government 3) Contribution of Thailand for the region and 4) FMD and Thailand’s export industry.

CONSTRAINTS AND SOLUTIONS

Surveillance network in some areas has slow detection or under report. DLD has a policy to report all cases of FMD in order to control, therefore there would be a punishment for local authority who does not report or report FMD slowly. Vaccination program could not access in some area such as in some free grazing cattle or buffaloes because the farmer could not help catch the animals. The outbreak reported in this year is very high in number. This might be because there were more number of animal movement for trading that is a potential risk to spread the virus.

FUTURE ACTIVITIES

The future activities are FMD vaccine campaign evaluation, dairy herd health units to service and support on production and health, market chain and animal movement study (on going), revision of legislation for FMD free zone establishment in the eastern region and use as a model for other areas, revise the National FMD control strategy (in Thai language to be endorsed first, then it will be translated and submit to OIE), animal movement study in area related to upper Mekong zone (join with OIE SRR SEA). The research that is done and ready to share in the next opportunity is the cost benefit analysis of FMD free zone establishment.
ANNEX 20: VIETNAM

21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China

Manila, Philippines, March 10-13, 2015

NARRATIVE COUNTRY REPORT

VIETNAM

ABSTRACT

In 2014, 63 outbreaks of FMD were reported in Viet Nam with the occurrence of FMD serotype O and A. The country has continued to apply an integrated control program using the combination of measures best suited to its existing situation and implementation activities of the second year of the national plan to control FMD for the period of 2011 to 2015. Vaccination approach remains the key intervention. Other control measures include early intervention, outbreak investigation and response; compartmentalization/zoning approach; closely monitor the virus; enhanced animal movement control; improve private sector integration; and better understanding of the value chain.

FMD STATUS

In 2014 there were 63 outbreaks reported affecting 1,624 animals, of which, 512 buffalos, 987 cattle, 112 pigs and 31 goats. Both FMD serotypes O and A were recorded in 2014. There were two outbreaks reported in January 2015.

Table 1: A summary of FMD situation in Vietnam from January 2014 to March 2015.

<table>
<thead>
<tr>
<th>Month</th>
<th>No. of out</th>
<th>No. of infected animals</th>
<th>No. of disposed animals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>buffaloes</td>
<td>cattle</td>
</tr>
<tr>
<td>Jan.</td>
<td>8</td>
<td>259</td>
<td>82</td>
</tr>
<tr>
<td>Feb.</td>
<td>5</td>
<td>24</td>
<td>47</td>
</tr>
<tr>
<td>Mar.</td>
<td>3</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Apr.</td>
<td>5</td>
<td>30</td>
<td>61</td>
</tr>
<tr>
<td>May</td>
<td>1</td>
<td>73</td>
<td>30</td>
</tr>
<tr>
<td>Jun.</td>
<td>1</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Jul.</td>
<td>9</td>
<td>59</td>
<td>181</td>
</tr>
<tr>
<td>Aug.</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Sep.</td>
<td>1</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Oct.</td>
<td>5</td>
<td>11</td>
<td>74</td>
</tr>
<tr>
<td>Nov.</td>
<td>9</td>
<td>35</td>
<td>247</td>
</tr>
<tr>
<td>Dec.</td>
<td>15</td>
<td>14</td>
<td>201</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>512</td>
<td>987</td>
</tr>
<tr>
<td>Jan.14</td>
<td>2</td>
<td>90</td>
<td>206</td>
</tr>
</tbody>
</table>

Table 1: A summary of FMD situation in Vietnam from January 2014 to March 2015.
Figure 1: Graph showing the number of FMD affected animals by month in Viet in 2014.

Figure 2: Maps of Vietnam showing locations of FMD outbreaks in Viet Nam in 2014.
FMD Prevention and Control Activities

I. TECHNICAL ACTIVITIES:

A. IDENTIFICATION OF FOCI/SOURCES OF FMD VIRUS

- Identification of areas of interest for FMD control:
  - Close to the borders
  - High frequency of animal movements
  - Samples collected from outbreaks/surveillance programmes for laboratory diagnosis and molecular analysis
  - Outbreaks were mainly reported in areas where FMD infections had been reported in previous years.

B. ELIMINATION OF SOURCES OF FMD VIRUS

Massive control activities have been applied to eliminate sources of FMD virus and to prevent the spread of FMD infection. Consequently, outbreaks have only occurred in small scale and been successfully controlled.

C. PREVENTION OF SPREAD OF FMD VIRUS

Animal checkpoints were set up surrounding outbreak areas to prevent the spread of FMD infection.

D. PROTECTION OF SUSCEPTIBLE HOSTS

- Vaccination: approximately 6 million doses of FMD vaccine (type O, O&A) had been delivered by the central government under the national programme for FMD control and prevention in 2014.
- Trivalent vaccines used for emergency ring vaccination for serotype A outbreaks.
- Local governments have used their own budget to conduct vaccination campaigns for areas that are not covered by the national programme.

II. ADVOCACY and CAPACITY BUILDING:

A. ADVOCACY/COMMUNICATION:

- Leaflets on FMD control and prevention printed and distributed.
• Approval of the change of (40%) monovalent type O vaccine to bivalent vaccine (type O&A).

• Trivalent vaccine (type O, A and Asia1) storage for emergency use

B. POLICY:

• Veterinary Law will be submitted to National Assembly for endorsement in May 2015.

C. CAPACITY BUILDING

• Training courses on disease surveillance conducted for provincial staff.

III. COORDINATION and PROGRAMME MANAGEMENT

A. COORDINATION

National Programme for FMD Control, 2011---2015 has been approved by the government, total budget: ~ USD 31 million:

  o USD19.5 million for vaccines.
  o Labour cost
  o Post-vaccination monitoring
  o USD 6 million each year
  o Vaccine

B. PROGRAMME MANAGEMENT

  o FMD Control in Southeast Asia through Application of the Progressive Control Pathway --GCP/RAS/283/ROK

  o Reviewing the current national plan for FMD control and prevention (2011---2015) and developing a national plan for the period from 2016 to 2020

CONSTRAINTS AND SOLUTIONS

• Co---circulation of FMDV serotypes O and A has challenged vaccination programmes.

• It is important to monitor closely and collect samples for sequencing and vaccine matching.
**FUTURE ACTIVITIES**

- Reviewing the current national plan for FMD control and prevention (2011—2015) and developing a national plan for the period from 2016 to 2020.
Annex 21: Presentation: Update on the Global Situation for FMD

*Donald King, Valerie Mioulet, Nick Knowles, Anna Ludi, Ginette Wilsden, Bryony Armson, Pip Hamblin, Kasia Bachanek-Bankowska, Kelly Adams, Jemma Wadsworth, Begoña Valdazo-González, Britta Wood, Barsha Thapa, Bob Statham, Abid Bin-Tarif, Ashley Gray, Emma Fishbourne, Beth Johns, Mark Henstock, Alison Morris, Debbie Gibson, Trish Ryder, Sarah Belgrave*

WRLFMD, Vesicular Disease Reference Laboratory Group, The Pirbright Institute, Ash Road, Pirbright, UK, GU24 0NF

This presentation reviews the current situation regarding field outbreaks of foot-and-mouth disease (FMD) using laboratory data generated for clinical samples and sequences received to the WRLFMD (The Pirbright Institute) and partner laboratories within the OIE/FAO FMD Laboratory Network. These data are used to monitor the continued trans-boundary movements of FMD virus in Asia and Africa due to established FMD virus lineages, and to also provide recommendations about the suitability of vaccine strains that can be used to control these outbreaks. In addition to mapping epidemiological patterns in FMD endemic settings, the sequence data also reveal exotic and unexpected incursions of FMD virus into new regions and countries that can pose an increased risk for onward spread of the disease, including to FMD-free countries. During the past 12-24 months, particular concern has been raised about the expanding circulation of FMD virus lineages (such as O/ME-SA/PanAsia, O/SEA/Mya-98 and A/ASIA/Sea-97) in a number of East Asian countries, the movement of the A/ASIA/Iran-05 strain to cause FMD outbreaks in the Black Sea region of the Russian Federation, as well as new FMD outbreaks due to the O/ME-SA/Ind2001 lineage that have been detected in the Middle East (Saudi Arabia and UAE) and in North Africa (Libya, Tunisia and most recently possibly in Algeria). These data reinforce the role played by the OIE/FAO FMD laboratory Network to coordinate global surveillance to monitor the patterns of FMD virus movements and to recognise the emergence of new FMD virus lineages that may require new vaccines for control.

Conclusions:

- The epidemiology of FMD in Southeast Asia is complex with multiple FMDV lineages co-circulating:
  - O/SEA/Mya-98
  - O/ME-SA/PanAsia
  - O/CATHAY
  - A/ASIA/Sea-97
  - Asia 1
- The OIE and SEACFMD member states should continue to support the collection and transport of samples to FMD Reference Laboratories
- Sequence data should be used to better understand intra-regional transmission pathways
Annex 22: Presentation: Vaccine Matching and Related Challenges

Anna Ludi, Abid Bin-Tarif, Bob Statham, Yanmin Li, Jef Hammond, Donald King

At the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD), The Pirbright Institute vaccine matching is carried out using a virus neutralisation tests. In this assay, serum is serially diluted and the results are read at a virus dose of 100TCID₅₀. A relationship coefficient (r₁-value) is then calculated by dividing the heterologous (field virus) neutralisation titre by the homologous (vaccine virus) neutralisation titre according to established approaches. Values equal or greater than 0.3 are suggestive of a match.

Importantly, the vaccine matching test is dependent upon bovine post-vaccine sera (BVS) and the OIE/FAO FMD Laboratory Network have established criteria reference laboratory in attempts to harmonise the quality of the test results generated for vaccine matching:

- Monovalent
- Single vaccine
- Adjuvant (use commercial formulated product)
- > 3PD50 or >6PD50 (preferred) or ≥ 80% PGP
- 21 days post vaccination
- No boost
- Pool of five cattle with individual titres mid-range (i.e. no low responders)

During 2015, the WRLFMD will produce six BVS which will be made available to partner laboratories.

However, it is important to remember that r₁-values are just one aspect of selecting a vaccine for use in the field. Other factors to consider include vaccine composition, potency of vaccine, and pervious exposure to FMDV, age of animal, booster and vaccination regime. The annual report of the OIE/FAO FMD Reference Laboratory Network highlights the vaccine recommendations for South East Asia and also gives an overview of the vaccine matching data for the region. Additionally the WRLFMD is investigating alternative methods for vaccine matching including serum neutralisation tests which would have the benefit of not needing the homologous strain. Additional multivalent vaccines currently being used in endemic stations could be used. A workgroup has been established through the OIE/FAO reference laboratory network to address this question.
Annex 23: Presentation: The Pathway to FMD Freedom – The Philippine Experience

Paul C. Limson, DVM
Officer-in-Charge, Animal Health and Welfare Division, Bureau of Animal Industry

Background of the Philippines and Livestock Industry

The Philippines is composed of 7,107 islands with major groupings including Luzon, Visayas and Mindanao and further subdivided into 17 regions, 81 provinces, 1,490 municipalities or towns and 42,028 barangays or villages. This geographic distribution provided the country with natural barriers that worked advantageously for the country’s FMD eradication program. The livestock commodities that are susceptible to FMD are cattle, carabao or buffalo and goats. As of 2014, there are 21.3 million head with gross production valued at PhP 247.1 billion. Seventy nine percent (79%) are in the hands of the smallhold or backyard farmers. There are 12.2 million pigs or hogs of which 65% (or 7.93M) are in the hands of smallhold farmers while 35% (or 4.27M) are with the commercial raisers. Forty-three percent (43%) of the total FMD-susceptible animals are located in Luzon island.

History of FMD in the country

The first case of FMD was documented in 1902 from meat animals imported from Hongkong. Since then, there were many incursions of FMDV in the country – Type O1 Campos was detected in 1952 – 1988; Type A detected in 1975 until 1983; Type C detected in 1976 until 1995 and Type O Cathay detected in 1994 to 2005. The last recorded outbreak in the Visayas region was in September 1999, Masbate in 1987 and Mindanao in 1988. In 1994 – 1995, Luzon remained endemic for FMD. The greatest incidence was recorded in 1995 with 1,553 outbreaks affecting a total of 98,604 animals in 27 out of 29 provinces in Luzon with an estimated PhP 2 Billion loss to the livestock industry. Then President Fidel V. Ramos finally declared Luzon as calamity area through the issuance of Executive Order (EO) #251. In 1996, a National Plan to Control and Eradicate FMD was created.

Strategies of the National Plan

1. Vaccination – O1 Manisa vaccines were used first then replaced by O Philippines 97 (pig-adapted strain); applied “strategic mass” vaccination in high risk areas; cessation of vaccination took effect in 2009 through the issuance of Department of Agriculture – Administrative Order #12 series of 2009
2. Disease Surveillance and Monitoring - routine sero-surveillance was conducted; risk-based – focused on previous high-risk areas; clinical Surveillance – creation of the Compliance Monitoring Teams; & FMD Free Farm Accreditation

3. Public Awareness – stakeholder engagement; consumer advocacy; & research/survey on knowledge, attitude and practices (KAP)

4. Animal Movement Management – Luzon has 53 strategically located veterinary quarantine checkpoints that are located along the major road networks; & inter – regional transport of animals was carefully monitored, requiring complete documentation of the animals and disinfection of vehicles.

The Critical Pathway to FMD Control and Eradication in the Philippines

- Critical Nodes – FMD Free Farm Accreditation; Standardized Shipping Document System; Veterinary Quarantine Network; & Monitoring and Surveillance of Critical Livestock Establishments
- Points to consider – All nodes in this pathway were carefully analyzed and appropriate measures were then applied in each nod; & Focused intervention per node led to the elimination of clinical cases until a zero-outbreak scenario was achieved in December 2005 to date
- Two (2) Most Critical Intervention Measures Applied – Selective stamping out with no compensation to owners; & mMassive cleaning and disinfection of livestock carriers, stockyards and slaughterhouses


In 2002, Visayas and Mindanao were already OIE recognized as FMD free without vaccination. The strategy employed for Luzon was compartmentalization starting with Bicol region that was the nearest area to Visayas. Similar activities were also employed for other regions. These include the following: arresting the disease situation in a given area; protect gains by upgrading the area’s status from infected to protected; & further upgrading status – as per progress from protected to free zones (w/ or w/o vaccination) and correspondingly adapt stricter measures on livestock activities

In 2004, Masbate and Cagayan Valley were locally recognized as FMD free with vaccination. In 2005, Zone 1 (North Luzon) was locally recognized while Zone 2 (Mid-Luzon) and Zone 3 (South Luzon) were under surveillance. In 2006, Zones 1 & 3 was upgraded as protected zones. In 2008, these zones were locally recognized as FMD free with vaccination. In 2009, withdrawal of vaccination was ordered in Luzon in preparation for the OIE application for FMD free zones. In
2010, zones 1 & 3 were recognized by OIE as FMD free where vaccination is not practiced. In 2011, zone 2 was also recognized as FMD free where vaccination is not practiced.

**Timeline for FMD Eradication**

1. **Control Phase (1996-2000)** – aimed at reducing the incidence at high risk-areas and eliminating cases in remaining low-risk areas;

2. **Consolidation Phase (2000-2004)** - focused on eliminating cases in high-risk areas and intensification of disease monitoring and surveillance activities;

3. **Eradication Phase (2004-2009)** – geared at significant reduction of outbreaks; implementation of progressive zoning approach; and serological mapping in Luzon to locate last foci of infection.

**Cost of Eradication**

- **Total Cost of Eradication (1996-2010): PhP 536,265,918.60 (~$12M at current prices)**
  - Consolidation Phase (2000-2004): PhP 187,094,293.5 (~$4M at current prices)
  - Eradication Phase (2005-2010): PhP 214,405,603.1 (~$5M at current prices)

- **Total Program Cost 0.5B pesos (~$12M at current prices) vs. 2B pesos (~$45M current prices) direct losses in 1995 outbreaks alone; USD@44.12 (Feb 2015)**

**Incremental Benefits Associated with FMD Eradication**

1. Direct Impacts – reduction in control costs; improved productivity; eliminate impacts of outbreaks on markets for livestock and meat products; & access to new export markets

2. Indirect Impacts – generate additional foreign currency; generate employment; affect supply and demand; & improve control of other livestock diseases.

**Activities to Sustain FMD Freedom**

1. Early Warning System and Emergency Preparedness

2. FMD Tabletop Simulation Exercises – Comprehensive Scenario-Induced Simulation Exercises (CSI-SimEx);

3. Philippine Animal Health Information System (Phil-AHIS)
21st Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China