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Executive Summary

The 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China (SEACFMD) was held from 7 to 11 March 2011 in Bali, Indonesia. The meeting was well attended with participants including Dr Bernard Vallat, Director General of OIE; Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in South-East Asia and China; Dr Prabowo Respatiyo Caturroso, Director General of the Directorate General of Livestock and Animal Health Services (DGLAHS), Ministry of Agriculture, Republic of Indonesia; and Dr Ronello Abila, Regional Coordinator of the Foot and Mouth Disease in South-East Asia and China (SEACFMD) Campaign Regional Coordination Unit (RCU). The participants of the meeting included delegates from the SEACFMD member countries; other key countries; international organisations; members of the private sector and local observers.

The 17th Sub-Commission Meeting was officially opened by His Excellency Ir. H. Suswono, Minister of Agriculture, Republic of Indonesia. He emphasised the importance of controlling contagious diseases such as FMD that poses international trade barrier and reduces livestock productivity in the ASEAN. As such, the Indonesian Ministry of Agriculture puts great efforts in maintaining the country’s FMD-free status through adoption of strict of importation policy and implementation of proper regulation and active surveillance.

One of the key outputs of the Meeting is the endorsement of the revised SEACFMD 2020 Roadmap, which provides strategic framework and direction to achieve FMD freedom in South-East Asia by the year 2020 and also to maintain in the current status of FMD free countries and zones. The revised Roadmap refocuses its strategy to controlling FMD at the source, targeting possible hotspots which serve as probable foci of infection and critical points along the animal movement pathways which possibly act as amplification points of FMD transmission. The Meeting re-affirmed support for the vaccination policies in the 2020 Roadmap but noted that vaccination should be used appropriately as part of an over-all national FMD control programme, and that vaccine policies may be customized to suit national needs.

Significant epidemiological changes in the global and regional status of FMD were reviewed. Of the 1,121 samples (876 positive) from 27 countries received by Pirbright Laboratory, 68% is serotype O. No serotype Asia 1, C and SAT 3 were detected. In Asia, serotype O (Myanmar 98) outbreaks were detected in Japan, PR China, Hong Kong SAR, Republic of Korea, and Mongolia. In South East Asia, serotype O (Myanmar 98) remains the predominant strain. More outbreaks were reported in in 2010 compared to 2009; recording 494 and 436 respectively. Despite this over-all rise of outbreaks in 2010, countries like Malaysia, Myanmar and Thailand reported lower number of outbreaks compared to 2009. The rise in the outbreaks can be attributed to the declining immunity of susceptible animals given the decline in the rate of vaccination presumably due to lack of vaccine and resources for the conduct of vaccination.

The 17th Sub-Commission Meeting also showcased presentations on various programmes such as the national vaccination in China, zoning in Region 2 Thailand, FMD experience in Japan, and case study of FMD outbreak in Myanmar. Collaborating agencies and private sector also presented reports on their activities with relevance to FMD. Furthermore, talks on the results of ongoing researches, both by collaborating agencies and postgraduate students, were given.

The Meeting also endorsed the strains to be included in the FMD regional vaccine bank through the EU highly pathogenic and emerging or re-emerging diseases (HPED). The list of strains composed of: O1 Manisa – O Cathay topotype – A22 Iraq – A Malaysia 97 – A Iran 05 – SAT 1 – Asia 1 Shamir (not by order of importance), in addition to possible use of non-determined or pre-determined optional strains; and a ready for use trivalent vaccine against FMD for cattle with the following strains: O1 Manisa + A Malaysia 97 + Asia 1 Shamir. It was agreed that if two strains should be removed from the list, it will be A22 Iraq and SAT 1. It was also recommended that, to the extent possible, allowance be made for new strains, in particular potential commercial development of O Myanmar 98.
The STANDZ concept and the development of constructive working partnerships including in the area of zoonoses was endorsed by the Meeting. The GF-TADs Regional Steering Committee for Asia and the Pacific remains an umbrella for all the activities, including the proposed STANDZ programme (subject to funding confirmation by AusAID), related to the control of transboundary animal diseases, as this is already the case for the EU-funded HPED programme (which includes OIE, FAO and WHO components).

The Meeting also discussed the 2nd Global Conference on FMD, to be hosted by Thailand in June 2012, will be a pledging Conference. It will be an opportunity to present the different regional FMD control programmes and will be used to promote the mechanisms for the endorsement, by the OIE, of the official national control programmes for FMD and that countries which have their official control programme endorsed will be prioritised for funding FMD control activities. Members of SEACFMD were encouraged to apply soon for the OIE recognition of their respective official control programme for foot and mouth disease.

The ‘One Health’ session re-affirmed that there is no need to create another institution for ‘One Health’ as systems and networks are already in place – this is the strong position of the tripartite (OIE, FAO and WHO).

The meeting was considered highly successful and the Directorate General of Livestock and Animal Health Services (DGLAHS), Province of Bali and Government of Indonesia were thanked for their excellent work in hosting the meeting.
RECOMMENDATIONS AND MAJOR STATEMENTS
from the 17th Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China
Bali, Indonesia, 7-11 March 2011

During its 17th Meeting, the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China agreed to the following statements and recommendations:

**2020 SEACFMD Campaign Roadmap**

1. The SEACFMD 2020 Roadmap is ENDORSED by the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China;

2. Noting that minor comments will be received by end of March 2011, the Members RECOMMEND that some emphasis be added on the following issues which should be addressed and strengthened when finalising the current draft document:
   - good governance principles, including (not exhaustive) good surveillance, early detection, reporting mechanisms, rapid response, monitoring of movement of animals, identification of animals, and international trade certification issues;
   - continuing review of the FMD situation should be done to update the timeline proposed by the document, as necessary;
   - Myanmar as one of the possible sources of FMD should be seriously considered and addressed;
   - socio-economic studies are encouraged when appropriate and when such studies are undertaken gender roles and responsibilities in livestock management will be considered.

3. The document will then be edited and submitted to OIE and the ASEAN Sectoral Working Group for Livestock (ASWGL) for final approval in May 2011.

**Vaccination Strategy and Vaccine Bank**

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

4. RE-AFFIRMS support for the vaccination policies in the 2020 Roadmap, noting that vaccination, although being a key tool, should be used appropriately as part of an overall national official control programme for FMD;

5. NOTES that vaccine policies may need to be customized to suit national needs;

6. NOTES that the EU-funded Regional programme in Asia against highly pathogenic and emerging or re-emerging diseases (HPED) will permit to establish a FMD regional vaccine bank in Asia;

7. ENDORSES the list of strains proposed for the OIE international call for tender prepared for the establishment of this regional vaccine bank, namely:
   - O\textsubscript{1} Manisa – O Cathay topotype – A22 Iraq – A Malaysia 97 – A Iran 05 – SAT 1 – Asia 1 Shamir (not by order of importance), in addition to possible use of non-determined or pre-determined optional strains;
   - a ready-for-use trivalent vaccine against FMD for cattle with the following strains: O\textsubscript{1} Manisa + A Malaysia 97 + Asia 1 Shamir.
It was indicated that the A22 Iraq strain could be removed from this list. If two strains were to be removed from this list, the SAT 1 strain could also be removed from this list, and the SAT 2 strain could be considered instead.

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

8. NOTES PR China’s work at Lanzhou on O Myanmar 98 vaccines which indicates its efficacy against the PanAsian O and Cathay topotypes;

9. RECOMMENDS that, to the extent possible, allowance be made for new strains, in particular potential commercial development of O Myanmar 98;

10. RECOMMENDS that priority for delivery of vaccines, in the framework of the OIE FMD regional vaccine bank for Asia, be given to eligible Members committed to an officially adopted regional roadmap towards progressive eradication of FMD in order to guarantee better use of resources;

11. ACKNOWLEDGES and ENDORSES that the FMD vaccines provided will not be available for blanket vaccination campaigns and would be reserved for the protection of free zone status (e.g. ring vaccination around outbreaks in Members with a FMD free status), or vaccination in hot spots;

12. RECOMMENDS that a specific restricted committee be established to assist the OIE Sub-Regional Representative and Regional Coordinator of the SEACFMD Campaign in the decision making process related to official Member requests for delivery of FMD vaccines under this regional vaccine bank. Official Member’s commitments as regards to the availability of an operational cold chain starting at the point and time of delivery, facilitation of import and of customs clearance of the vaccines, and reporting on the use of the vaccines provided will be sought;

13. AGREES that OIE will develop guiding principles on modality of access to the vaccine bank (official requests from OIE Delegates), eligibility criteria, delivery conditions, distribution and use of vaccines;

14. NOTES that in some cases this could include a possible a formal bilateral agreement between the OIE some Members to facilitate vaccine entry;

15. EMPHASISES the need for SEACFMD Phase 4 under the coming Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative, subject to funding confirmation by AusAID, to be used to carry out monitoring and evaluation activities, using appropriate scientific methods, notably post vaccination monitoring and surveillance and vaccine matching activities, including disease investigation, sampling of vaccinated animals, verification of efficacy of vaccines (serology), and of actual protection of vaccinated animals. FAO and Donors are encouraged to continually support relevant countries for the appropriate implementation of national vaccination campaigns in accordance with SEACFMD policies;

16. AGREES that pre and post vaccination monitoring is critical and that SEACFMD National Coordinators will consider this issue in detail at their next August meeting including definitions and resource constraints.
Launching of the AusAID/OIE STANDZ Project

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

17. ENDORSES the STANDZ concept and the development of constructive working partnerships including in the area of zoonoses;

Regarding the STANDZ programme and its linkages to relevant programmes and activities, such as the EU-funded HPED programme and Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs), the OIE Sub-Commission for the Foot and Mouth Disease Control in South-East Asia and China

18. RECOMMENDS that the GF-TADs Regional Steering Committee for Asia and the Pacific remains an umbrella for all the activities, including the proposed STANDZ programme (subject to funding confirmation by AusAID), related to the control of transboundary animal diseases, as this is already the case for the EU-funded HPED programme (which includes OIE, FAO and WHO components).

2nd OIE/FAO Global Conference on FMD

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

19. RECOMMENDS that:

- the 2nd Global Conference on FMD address the follow-up activities made on the 1st Global Conference resolutions;
- the 2nd Global Conference on FMD be an opportunity to present the different regional FMD control programmes;
- the 2nd Global Conference on FMD be used to promote the mechanisms for the endorsement, by the OIE, of the official national control programmes for FMD and that countries which have their official control programme endorsed be prioritised for funding FMD control activities;
- Members of SEACFMD should apply soon for the OIE recognition of their respective official control programme for FMD, in the respect of the 2020 Roadmap; and

20. NOTES that the 2nd Global Conference on FMD will be a pledging Conference, and that the OIE and FAO has requested Thailand to host the 2nd Global Conference for FMD in June 2012, and that Thailand is positively responding to the request.

Research & Development

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

21. RE-AFFIRMS the current SEACFMD six R&D components;

22. RECOMMENDS Members provide advice to the SEACFMD Project Officer on any new R&D developments.
Animal Health (General)

The OIE Sub-Commission for the Foot and Mouth Disease Control in South-East Asia and China

23. SUPPORTS the thrust of the People’s Republic of China’s (PRC) recommendations on cooperative activities between Members, and

24. REQUESTS the Regional Coordinator to work with the PRC on how best to take this forward;

25. NOTES that the OIE Sub-Regional Representation (SRR) for South-East Asia will work with National Coordinators to improve and enhance the early warning system and that concurrently ministers will be advised on the importance of having this system in place and the need to take immediate actions to disease events;

26. CONGRATULATES Myanmar on its early detection of the new serotype A, and that this will be used as a case example for early warning activities;

27. CONGRATULATES the Philippines in its impending OIE recognition of freedom from FMD without vaccination in May 2011;

28. NOTES the good progress with the FMD zoning in Region 2 of Thailand;

29. NOTES that FMD free Members need to enhance and improve disease prevention systems and that the support of neighbouring infected Members in managing their disease situations will be crucial;

30. NOTES that the SEACFMD Project Officer is designated to follow up Members activities particularly on their obligation to report outbreaks;

31. NOTES the progress on animal health and zoonoses made by the ASEAN initiative to establish a Regional Coordination Mechanism (RCM) in collaboration with the OIE, FAO, AusAID, and EU and the ASEAN Animal Health Trust Fund (AAHTF).

Organisation and dynamics of the SEACFMD Sub-Commission Meetings

Regarding the improvement of the OIE SEACFMD annual meeting agenda, the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

32. AGREES with the general framework of Sub-Commission meetings, the concept of having key themes, and RECOMMENDS that :

- there should be increasing emphasis on in-country activities, the provision of papers two weeks in advance of the meeting, additional regional and donor organizations be invited to participate and that the nature of the OIE Delegates’ Meeting be kept under review;

- the strategic issues related to animal health in general be addressed, including in the labelling of the meeting (e.g. on the OIE Delegates’ Meeting) while avoiding overlapping with other fora;

- in the context of HPED and STANDZ programme, the annual meetings represent an opportunity for countries of the region to share their experiences related to the control of FMD;
33. AGREES to hold the next National Coordinators’ meeting back to back with the meeting of PSVS\textsuperscript{1}/STRIVES\textsuperscript{2} contact persons in August 2011, in the Philippines to coincide with the Philippines’ celebration of FMD freedom;

34. SUGGESTS that registration fees be considered for certain categories of participants to cover part of the growing cost of the annual meetings;

35. strongly SUPPORTS efficient time management and officially ADOPTS the GONG as a key time management tool.

**OIE Delegates Meeting on ‘One Health’**

36. ENDORSES the summary statement from the OIE Delegates’ (open session) meeting on ‘One Health’ (see Annex below).

**Date and venue of the next Sub-Commission Meeting**

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

37. strongly SUPPORTS that the next Sub-Commission Meeting be held in the People’s Republic of China (PRC) in March 2012 and that the OIE Sub-Regional Representative write to the OIE Delegate requesting that PRC consider this;

38. NOTED the interest and request expressed by member countries for new members, including Singapore, to host future SEACFMD meetings.

**Acknowledgements**

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China

39. THANKS the Members for their active participation;

40. THANKS Donors, in particular AusAID and the European Union, and organisations represented and the representatives of the private sector for their constant support and contributions to this meeting and the SEACFMD Campaign;

41. EXPRESSES thanks to the Government of the Republic of Indonesia, Ministry of Agriculture and Directorate General for Livestock and Animal Health Services (DGLAHS), and Provincial Government of Bali for an outstanding and successful meeting.

\textit{.../Annex}

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\textsuperscript{1} AusAID - Project to Strengthen Veterinary Services to Combat Avian Influenza and other Priority Diseases in South-East Asia (PSVS)

\textsuperscript{2} AusAID’s Project - STRengthening Initiative for VEterinary Services in South East Asia (STRIVES)
Key outcome of OIE Delegates Meeting on 'One Health' (Open Session)

Following the intervention of the Director General of the OIE giving the position of the three sister organisations (FAO, OIE and WHO), the European Union (EU) representative has reaffirmed the opposition of the EU to the institutionalisation of the 'One Health' approach, as already indicated during the recent OH Conference in Melbourne. This statement was supported by the Member Delegates of the Philippines and Malaysia and by the representatives of Australia and New Zealand. It was also reaffirmed by the meeting that the World Bank should not take isolated initiatives in the One Health context ignoring existing international standards and organisations’ policies.

The need to implement the recommendations of the 1st OIE Global Conference on Wildlife was reiterated, this includes in particular the need to raise awareness and cooperation among veterinary services and wildlife operators, such as zoo keepers, natural park rangers, associations of hunters and fishermen, on existing animal health international standards (in particular OIE and CITES).

It has been indicated that in the context of the FAO-OIE-WHO Tripartite Concept Note “Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces – The FAO-OIE-WHO Collaboration” (April 2010), the three international organisations, in close cooperation with donors, UNSIC and the World Bank will organise a global Joint Ministerial Meeting to present an action plan and guiding principles to WHO, OIE and FAO Members, represented by both Ministers of Agriculture and Health, on the role of tripartite partnerships in cross-sectoral activities to address health risks at the human-animal-ecosystems interface. This meeting should be hosted by Mexico (currently scheduled in November 2011).
REPORT

of the 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South East Asia and China

Bali, Indonesia, 7–11 March 2011

I. INTRODUCTION

The 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China (SEACFMD) was held from 7 to 11 March 2011 in Bali, Indonesia. The meeting was well attended with participants including Dr Bernard Vallat, Director-General for the OIE; Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in South-East Asia and China; Dr Prabowo Respatiyo Caturroso, Director General of the Directorate General of Livestock and Animal Health Services (DGLAHS), Indonesia; and Dr Ronello Abila, Regional Coordinator of the SEACFMD Regional Coordination Unit. The participants of the meeting included delegates from the SEACFMD member countries; other key countries; international organisations; members of the private sector and local observers.

In behalf of the Governor of Bali, a welcome speech was given by Mr I Putu Sumantra, Head of Livestock Services of Bali Province. The 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South East Asia and China was officially opened by His Excellency Ir. H. Suswono, Minister of Agriculture of Republic of Indonesia.

The meeting included three major components:
- the 17th Meeting of the OIE Sub-Commission for FMD Control in South East Asia and China;
- an open session to discuss ‘One Health’; and
- a close session of the OIE Delegates of South-East Asia.

II. OPENING CEREMONY

On behalf of Mr I Made Mangku Pastika, Governor of Bali, a welcome speech was delivered by Mr I Putu Sumantra, Head of Livestock Services of Bali Province. The Governor offered thanks to The God for His blessings and for the opportunity to hold the opening ceremony of the 17th Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China. The OIE was thanked for appointing the Government of Indonesia as host and Bali Province as venue of the meeting. Participants were warmly welcomed to Bali, known as the island of paradise; and were invited to enjoy the beautiful panorama as well as its unforgettable arts and culture.

According to OIE Resolution No. XI/1990, Indonesia is officially recognized as an FMD-free country. In order to protect this status and as a member of the SEACFMD, the Government of Indonesia has the responsibility to actively participate in building and developing information network and harmonious cooperation among Members. It was highlighted that an agreement for the prevention and control of FMD as a transboundary animal disease must be established and implemented by Members.

The full speech of the Governor of Bali Province is provided in Appendix III.

Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in South-East Asia and China, thanked the Government of Indonesia and the Province of Bali for hosting the meeting. Sub-Commission meetings are significant but the 17th Sub-Commission Meeting is regarded as very significant given the attendance of the new SEACFMD Members: PR China, Brunei and Singapore, and the conduct of the meeting in Indonesia, which is an FMD-free country. In addition, several accomplishments have been achieved with the formal establishment of the OIE Sub-Regional Representation for South-East Asia in Bangkok, Thailand; the impending recognition of the whole Philippines as an FMD free country without vaccination; maintenance of Indonesia as an FMD free country and the zones of Sabah and Sarawak of Malaysia; and the progress on the efforts to establish FMD free zones in Region 2 of Thailand and Hainan Province of PR China. Ultimately, the SEACFMD Campaign is regarded as a model for other diseases and for the control of FMD in other Regions.
On the downside, serious FMD outbreaks were reported in the Republic of Korea, the Democratic People’s Republic of Korea and Japan. In South-East Asia, Members, namely Cambodia, Laos and Vietnam experienced serious outbreaks despite warnings given during the National Coordinators Meeting in August 2010.

The 17th Sub-Commission Meeting will discuss on key themes relating to the measures to undertake in achieving SEACFMD 2020, vaccination and establishment of a vaccine bank, and the revised SEACFMD 2020 Roadmap. FMD as a transboundary animal disease and trade barrier causes critical impact to economies, development, and food security. It is very timely that the 2nd Global Conference for FMD will be held in Asia, specifically Thailand, in June 2012. The Conference will be a pledging event, and will present opportunity to the endorsement by OIE of national control programmes for FMD for possible funding.

Dr Alain Dehove, OIE World Animal Health and Welfare Fund Coordinator, delivered the opening address on behalf of the Director General of the OIE, Dr Bernard Vallat. In his message, Dr Vallat apologised for his absence and expressed his gratitude to the Indonesian Government, particularly the Minister of Agriculture for his participation in the annual meeting.

It was pointed out that the main objective is to control and progressively eradicate FMD in the Region, with all members joining forces, given the appropriate Veterinary Services tools to better prevent and control FMD and other priority animal diseases. The efficient interaction among stakeholders is crucial to the control and eradication of high impact animal diseases including some zoonoses. The donors and governments were thanked for their support in the SEACFMD campaign and other programmes, in particular, the Australian Government and also the New Zealand, Japan and French governments. The European Union’s contribution to the OIE World Animal Health and Welfare Fund and HPED Programme for Asia was acknowledged.

The progressive control of FMD is a key strategic element given the members limited resources, geographical and epidemiological considerations. To that end, the OIE is currently proposing, for adoption to the upcoming annual General Assembly of OIE Members, new provisions for the endorsement of National FMD Control Programmes, in line with the Progressive Control Pathway.

The SEACFMD Campaign is an internationally recognised model for regional FMD control. The revisions of SEACFMD 2020 Roadmap started last year and participants were encouraged to provide their comments to the Sub-Regional Representative of OIE SRR-SEA to finalise the new draft. The work done on the vaccination strategies will be useful for both the Roadmap implementation and setting up of the FMD vaccine bank in Asia.

The importance of strengthening the governance of animal health systems, using PVS Pathway in compliance with OIE standards on quality of veterinary services was reiterated. Accelerated implementation of the OIE PVS Gap Analysis process in 2011–2012 is targeted to help Members identify their priorities and preparing five-year budgets for internal financial planning, or for the preparation of investments with Donors and International Organisations.

During the celebration for the veterinary profession’s 250th anniversary in 2011, Veterinarians will declare victory against rinderpest, the very first animal disease to have ever been officially eradicated in the planet.

The full speech of the Director General of the OIE is provided in Appendix IV.

The meeting was officially opened by His Excellency Ir. H. Suswono, Minister of Agriculture of Indonesia, who expressed appreciation to the OIE for appointing Indonesia to host the 17th Sub-Commission Meeting. He also expressed his appreciation to the Governor of Bali for his support and assistance. He welcomed all delegates and guests and acknowledged the attendance of the three new member countries: China, Brunei and Singapore.

The importance of placing greater emphasis on the control of contagious diseases, such as FMD that pose as barrier to international trade and reduces livestock development particularly in the ASEAN region was highlighted. The Indonesian Ministry of Agriculture puts great efforts in maintaining the country’s FMD-free status which includes strict implementation of importation policy and regulation and also surveillance and simulation exercise.
The gathering of policy makers and experts in the 17th Sub-Commission Meeting will allow the sharing of meaningful information and experiences; and the extensive deliberation over the issues on how the Region can cooperate to control and eradicate FMD and to maintain free zones from the introduction of this disease.

For the Government of Indonesia, improvement of animal health status will improve animal productivity and subsequently improve livelihood for small holder farmers, increase livestock industry stability and increase opportunities to trade, which finally will lead to the achievement of self-sufficiency on beef in 2014.

The full speech of the Minister of Agriculture of Indonesia is provided in Appendix V.

III. POLICY/STRATEGIC

1. The SEACFMD Progress Report

Dr Ronello Abila, Regional Coordinator for the SEACFMD Campaign, reported the progress of the Campaign from March 2010 to February 2011.

Among the milestone of the Campaign during this period is the approval by the OIE General Assembly on 25 May 2010 on the membership of China as a member of the Sub-Commission and renaming it to “OIE Sub-Commission for FMD Control in South-East Asia and China (SEACFMD)”. The same Resolution also approved the membership of Brunei and Singapore to the SEACFMD Sub-Commission.

The application of the Philippines for zones 1 and zones 3 in Luzon Island as FMD free without vaccination was approved by the OIE General Assembly on 27 May 2010. The application for zone 2 as FMD Free without vaccination has been endorsed by the OIE Scientific Commission in February 2011 and for final approval by the OIE General Assembly in May 2011. Once approved, this will make the whole Philippines FMD free without vaccination. The other OIE recognised FMD free countries (Brunei, Indonesia and Singapore) without vaccination are maintained up to this date. Similarly, OIE recognised FMD free zones of Sabah and Sarawak in Malaysia were also maintained.

FMD outbreaks continue in the mainland of South-East Asia. A relative few outbreaks were noted from April to July 2010, but starting September increased number of outbreaks were recorded in five Mekong countries. During the National Coordinators meeting in August, the Regional Coordinator has warned the members to be vigilant for a possible resurgence of outbreaks similar to the 2006 epizootics. Knowing that FMD epizootics follow a three-to-five-year cycle, the latter part of 2010 to early 2011 is a critical period for possible FMD resurgence. To prepare countries for the possible epizootics and assess ongoing programs, the Regional Coordination Unit (RCU) conducted in-country meetings in Laos, Cambodia and Vietnam, attended by national and provincial officers. Although with limited resources, the SEACFMD provided 30,000 doses of FMD vaccines to Cambodia and Laos. Emergency funds were also given to Cambodia, Laos and Myanmar to support outbreak investigations and response.

In compliance with recommendations of the 16th Meeting of the Sub-Commission, SEACFMD 2020 Roadmap was revised and a final draft will be presented at the 17th Sub-Commission for endorsement. The revised Roadmap refocuses its strategy in controlling FMD at the source, targeting possible hotspots which serve as probable foci of infection and critical points along the animal movement pathways which possibly act as amplification points of FMD transmission. A SEACFMD Vaccination Strategy was also drafted and will also be presented at the 17th Sub-Commission for endorsement. These two documents together with recommendations from the Sub-Commission and National Coordinators Meetings will guide the future activities of the SEACFMD Campaign.

A key achievement during this period in terms of strengthening institutional arrangements is the signing of the Agreement through Exchange of Letters between of OIE and the Ministry of Agriculture and Cooperatives of Thailand to formally establish the OIE Sub-Regional Representation for South-East Asia (SRR-SEA). This Agreement will enhance capacity of the OIE to implement the SEACFMD Campaign.

Other activities like the recent joint meeting of the SEACFMD Laboratory and Epidemiology Network and launching of the new OIE SRR SEA website were presented, the details of which are provided in Appendix VI and Appendix 03.
2. The revised SEACFMD 2020

Dr Ronello Abila presented the revised SEACFMD 2020 Roadmap.

The draft Roadmap, available to participants as a Conference Document, is a second edition of the 1st Roadmap agreed in 2007 and seeks to provide strategic guidance on the eradication of FMD by the year 2020, and maintenance and expansion of free areas or zones with or without vaccination. It is a much expanded version of the 2007 Roadmap and differs in some ways from the previous document as it takes into account changing socio economic circumstances in the Region such as increased trade and infrastructure, lessons that have been learned during the course of the Campaign, and the welcome addition of the new members – China, Brunei and Singapore. Given these circumstances, Members agreed that a new and more comprehensive version be drafted.

Extensive coordination and consultation have taken place and the views of key parties have been taken into account in the drafting of the document. Involved parties included Members through their National Coordinators, the ASEAN Secretariat, OIE, Australian Government through DAFF and AusAID, and FAO. The strategic thrusts lie in areas of improved surveillance and identification of foci of infection; biosecurity; the pivotal role of vaccination; advocacy; public awareness and stakeholder engagement. Monitoring and evaluation, research and development, gender issues and risk analyses will be improved.

Linking with other activities such as OIE/AusAID PSVS programme to strengthen Veterinary Services, the EU-funded Highly Pathogenic Emerging Diseases (HPED) and USAID Laboratory IDENTIFY Projects, as well as key organisations such as FAO will ensure complementarities and support the efforts of national organisations. The Roadmap, if endorsed, will be put to OIE Regional Commission and ASEAN Sectoral Working Group on Livestock for final approval. If supported, it will form the basis for future work in this area although it will remain as a ‘living document,’ which will be subject to future amendments in the light of new experiences and possible changes in the socio-political environment.

Further details of this presentation are provided in Appendix VII and Appendix 04.

Discussion

Key issues raised in discussion included:

- The strategy will be a combination of vaccination and animal movement management. It is recognized that the control of animal movement is difficult and more practical ways to manage it is being explored.

- Vaccine bank, vaccine policies and responsibility of National Coordinators will be discussed in more details in the next 2 days.

IV. FMD STATUS REPORTS

1. Update on the world situation in relation to FMD

Dr Jeff Hammond presented the global FMD update. The World Reference Laboratory for FMD (WRLFMD®) at the Institute for Animal Health, Pirbright, United Kingdom, regularly receives samples for FMD diagnosis and other virus isolates from many parts of the world. The in-vitro antigenic properties of selected isolates are assessed for vaccine matching and nucleotide sequencing allows precise characterisation of new isolates and tracing of their origin by comparison with viruses held in the extensive WRLFMD® collection. This analysis assists the monitoring of emergence and spread of FMD virus globally. Dr Hammond’s presentation focused on recent FMD activity highlighting molecular epidemiology and vaccine matching studies.

WRL received 1,121 samples (876 positive) from 27 countries, an increase compared to 2009. 46% of the samples came from Asia. 68% is serotype O, no serotype Asia 1, C and SAT 3 were detected. No serotype C was detected since 2004, last seen in Brazil and Kenya.
Serotype A (Asia topotype) and serotype O (Mya/98) were reported in the Republic of Korea in 2010. The early serotype A outbreak was controlled but the serotype O outbreaks continues. Vaccination is in progress and is reported to be working.

Serotype O outbreaks in Japan were more closely related to viruses that occurred in PR China, Hong Kong SAR, Republic of Korea, Myanmar and Thailand. Outbreaks of serotype O in Mongolia involved cattle and based on laboratory analysis, the virus is not similar to one isolated in Japan.

Further details of this presentation are provided in Appendix 05.

Discussion
Key issue/s raised in discussion included:

- Tourism, movement of people from infected to free countries is a big risk and something that countries should be vigilant about.

2. Status of FMD in South-East Asia and China

Dr Sharie Michelle Aviso, SEACFMD Campaign Project Officer, presented an update on the status of FMD in South East Asia and China. The FMD status is reported by countries — on a regular basis through the WAHIS Regional Core for ASEAN (ARAHIS) or the WAHIS for immediate notification and six-monthly reports. Based on these information systems, the SRR-SEA conducts the analysis of the regional status. There is however, the perennial problem of late or incomplete reporting from the countries making a complete analysis unfeasible.

The total number of outbreaks in 2010 is higher compared to 2009; recording 494 and 436, respectively. Despite this overall rise of outbreaks in 2010, countries like Malaysia, Myanmar and Thailand reported lower number of outbreaks compared to 2009. No official report was uploaded by Laos in ARAHIS but significant number of outbreaks occurred in the country, which if reflected, would make the total for 2010 even higher.

Majority of the outbreaks were caused by serotype O. Serotype A was reported in Myanmar and Thailand only, a decrease in occurrence compared to 2009. A major epidemiological occurrence was reported in the Region of Rakhine in Myanmar (close to the border with Bangladesh) with the isolation of a different strain of Serotype A, the details of which were discussed in a separate session. No serotype Asia 1 was reported which was last seen in Vietnam in 2007 and in China in 2009.

The reports of China are uploaded to WAHIS and are not included in ARAHIS. In 2010, China reported outbreaks due to serotype A and serotype O belonging to Myanmar 98 strain, some of which are already resolved.

The rise in the outbreaks can be attributed to the declining immunity of susceptible animals given the decline in the rate of vaccination.

One of SEACFMD’s strategies is to control FMD in hotspots (areas where outbreaks occur) and Members are urged to analyse their data to pinpoint the FMD hotspots in their areas. However, to be able to do regional and national analyses, reports must be submitted on time. A contact point from the SRR-SEA will assume formal responsibility in coordinating with Members to ensure timely uploading of reports and conducting periodic analysis of regional status.

Further details of this presentation are provided in Appendix VIII and Appendix 06.

Discussion
Key issue/s raised in discussion included:

- Prof John Edwards made clarification in relation to the role of wildlife in Mongolia as this has been a topic of discussion recently. An FAO/OIE Expert Team had concluded that gazelles were not the major source of transmission of FMD in Mongolia and it was more likely that nomadic cattle and other species were the most likely cause. Although gazelle can be affected with FMD, it
is more likely that they are affected by spillover from livestock. A report of the team from the FAO/OIE Crisis Emergency Centre is available.

- It was suggested by Dr Kerr that in analyzing the ‘hotspots’ in the Region, data dating back to 2001 until 2006 should also be utilized instead of 2007-2009 data only. Dr Abila confirmed that this will be done once the 2001-2006 data are cleaned up.

3. Members' Status Reports

i) Brunei

Dr Dabeding bin Haji Dullah presented the status report for Brunei.

Brunei has been free from FMD for a long time but only declared officially by the OIE in 2007, which is three years after its official admission as a full member of the OIE. Active surveillance has been carried out by the veterinary staff ever since on the basis of both clinical signs and seroconvertor against the viral non-structural protein (NSP) antigen. So far, samples taken for the screening purposes have shown no indication of infection.

The total number of ruminants in the country is very small. The country has been relying on imports of livestock and frozen beef from sources accredited by the government to meet its domestic requirements. Although small, quality of the livestock and its products remains an important agenda of the veterinary authority in the country, therefore the country sees that effective control of animal diseases, particularly, transboundary animal diseases (TADs), such as FMD is very crucial. It is hoped that Brunei’s participation in the OIE Sub-Commission for FMD will help the country in maintaining its freedom status from FMD.

Further details of this presentation are provided in Appendix IX and Appendix 07.

Discussion

Key issue/s raised in discussion included:

- Brunei currently uses ear tag for livestock identification but considers using microchip in the future.

ii) Cambodia

Dr Mak Chanthol presented the status report for Cambodia. In 2010, 103 outbreaks of FMD were reported in 18 provinces involving 52,704 head of cattle; 10,557 head of buffaloes; and 691 heads of pigs and among that 1,634 head of cattle; 541 head of buffaloes; and 53 head of pigs died.

In close cooperation with OIE SEACFMD and Member Countries, Cambodia foresees an effective FMD control campaign through strengthening of FMD Surveillance and Information System, controlling animal movement and accreditation of Veterinary Services. The National Plan for FMD Control Programme in Cambodia has been submitted to the Ministry of Agriculture, Forestry and Fisheries for approval. At present, the Department of Animal Health and Production (DAHP) is working with OIE SEACFMD to develop the National Plan for FMD control for 2011–2015.

The National Veterinary Research Institute (NAVRI) and Animal Health Office in DAHP are responsible for central level implementation, while the provincial animal health and production offices including provincial veterinarians, district veterinarians and village animal health workers are responsible for provincial level implementation of activities.

The details of Cambodia’s activities are provided in Appendix X and Appendix 08.

iii) PR China

Dr Li Huachun presented the status report for PR China in behalf of Dr Qin Dechao. The country has always placed a high value on animal disease control. In recent years, competent authorities across the country insisted on the principle of “putting prevention first,” and adopted an integrated
measure of vaccination and culling on FMD control by following the guideline of “strengthening leadership and coordination and relying on science and law for disease prevention and control with a participatory approach.” As a result, initial progress has been achieved in FMD control.

One FMD outbreak was detected in China in 2011. On 19 February, 1 suspected case was found in Qiaerbage Township, Kuerle City of Xinjiang Autonomous Region, which was confirmed later as a case of FMD serotype O Myanmar 98 by the National FMD Reference Laboratory on 24 February. The infection led to 275 swine diseased and 3,941 animals culled. By far, the situation is well under control.

One of the key strategies of PR China is the implementation of compulsory vaccination for FMD. For 2011 alone, 1.25 billion RMB, consisting of 830 million from the central budget and 420 million from local budget has been allocated.

In line with the SEACFMD 2020 Roadmap, FMD disease surveillance and epidemiology investigation, vaccination, testing and analysis on vaccine efficacy as well as animal movement management are to be carried out. PR China will have cooperation with and offer technical support to neighbouring countries in FMD diagnosis and surveillance. Laboratory facilities and materials will also be provided to other countries upon request.

Further details of this presentation are provided in Appendix XI and Appendix 09.

**Discussion**

Key issue/s raised in discussion included:

- 640,000 staff were utilised to conduct vaccination down to the village level in three months.

iv) **Indonesia**

Dr Sri Widjajanti presented the status report for Indonesia in behalf of Dr Pudjiatmoko. Indonesia declared its freedom from FMD in 1986 and was recognised by OIE in 1990. In order to maintain the FMD free status, control programme implemented is mainly focused on surveillance, emergency preparedness (simulation exercise) and public awareness. The following aspects were reported, namely: 1) international co-ordination and support; 2) programme management, resources and funding; 3) public awareness and communications; 4) disease surveillance, diagnosis, reporting and control; 5) policy, legislation and standards to support disease control and zone establishment; 6) regional research and technology transfer; 7) livestock sector development including private sector integration; and 8) monitoring and evaluation.

Indonesia conducted both indoor and outdoor simulation exercises in 2010, involving other agencies like the Police. Besides conducting a simulation exercise, brochures, stickers and leaflets are also produced to increase public awareness and strengthen communication.

Internally, monitoring and evaluation (MONEV) of overall animal health program is mainly conducted by routine MONEV activities by Directorate General of Livestock and Animal Health Services (DGLAHS) and Provincial District Livestock Services. Externally, assessment of Veterinary Services in Indonesia has been conducted by OIE through the PVS Pathway.

Further details of this presentation are provided in Appendix XII and Appendix 10.

v) **Laos**

Dr Phouth Inthavong presented the status report for Laos.

FMD is endemic in Laos. The disease occurred in 10 provinces in 2010 and in first two months of 2011, the disease continued to spread to 9 provinces; of these are three new provinces affected, namely: Houaphanh, Attapeu and Phongsaly where no FMD outbreak was reported before. The Department of Livestock and Fisheries and the Provincial Livestock Offices implemented control measures including prohibition of the animal movement, outbreak investigation and sample collection for laboratory confirmation. Farmer education on disease recognition and treatment of
infected animal and proper disposal of dead livestock has been done in some infected villages. Trader awareness on disease recognition and biosecurity was conducted in some infected and at risk provinces. Pilot vaccination had been conducted in two high risk provinces of the Upper Mekong zone.

The details of Laos’ activities are provided in Appendix XIII and Appendix 11.

Discussion

Key issue/s raised in discussion included:

- Dr Kerr shared that drug and vaccine sales can be an indicator of increased disease outbreaks in an area. Dr Inthavong agreed but mentioned that in Laos, only drug sales can be monitored as FMD vaccines are not available in the stores.

- Dr Benigno of FAO-RAP mentioned that FAO is interested in non-conventional indicators of diseases and that studies on such indicators have been conducted in some parts of South East Asia.

vi) Malaysia

Dr Naheed Mohd bin Mohd Hussein presented the status report for Malaysia.

FMD is a notifiable disease in Malaysia. There is a National Control and Eradication Programme and annual federal budget provided by the Ministry of Agriculture and Agro-Based Industry for implementation of control and eradication measures. The States of Sabah and Sarawak are OIE recognized FMD free zones in Malaysia without vaccination and maintained free in 2010. In Peninsular Malaysia the status of FMD improved significantly in year 2010, with reduction in outbreaks by 66.6% compared to year 2009. There was also continuity of better reporting of FMD outbreaks.

FMD diagnosis is done at the National FMD Laboratory in Kota Bharu, Kelantan. The main constraints encountered were in the control of illegal movement of animals. Animal health and veterinary measures related to FMD control include strategic vaccination, legislation, disease investigation, surveillance, public awareness campaigns and reporting.

Further details of this presentation are provided in Appendix XIV and Appendix 12.

Discussion

Key issue/s raised in discussion included:

- Dr Dabeding bin Haji Dullah of Brunei asked Dr Naheed Mohd bin Mohd Hussein why the outbreaks in Malaysia are reported in the Southern part of the country. According to Naheed Mohd bin Mohd Hussein, this is because of the increased demand for cattle in the southern part. Since 2005 the increase in the price of Australian cattle has prompted animal movement from the MTM Zone of Malaysia in the North towards the Southern States. Cattle are imported from neighbouring FMD endemic countries due to cheaper price into MTM zone, majority are legally transported after quarantine period in Private Licensed Temporary Holding yards, which in combination of other control measures had improved the outbreak situation in 2010. But there was still some illegal movement from across border of infected animals that had caused some outbreaks.

- Dr Wacharapon Chotiyaputta of Thailand inquired about the requirements for importation of livestock from Myanmar to Malaysia. Dr Naheed shared that the requirements are the same for animals coming from Thailand wherein animals are quarantined for 10 days and must be sourced from DVS Malaysia approved Private Holding Yards in exporting countries. But in the case of livestock from Myanmar, Malaysia provides the FMD vaccine as Myanmar does not have enough FMD vaccines.
vii) Myanmar

Dr Kyaw Sunn presented the status report for Myanmar. FMD is endemic in Myanmar, with outbreaks reported every year. FMD outbreaks have been recorded in all States and Regions of the country. In 2010-2011, livestock population was approximately 13.57 million cattle, 2.97 million buffalo, 9.25 million pigs and 3.96 million sheep and goats. At present, the National FMD Laboratory produces 150,000 doses of vaccine per year, intended for FMD control by ring vaccination.

In 2010, the Myanmar Government started the construction of the new FMD Laboratory with budget amounting to US$ 200,000 and hopes to comply with ASEAN standard. The facility and its output are seen to be beneficial for the SEACFMD Campaign. The OIE SEACFMD and other donor organizations are invited to assist in terms of technology and finance.

Further details of this presentation are provided in Appendix XV and Appendix 13.

viii) Philippines

Dr Victor C. Atienza presented the status report for Philippines. The FMD Eradication Programme of the Philippines, which was supported by AusAID and implemented through the FAO, has just concluded with Zone 2 applied to OIE as FMD free where vaccination is not practiced. This is the last zone applied to OIE while Zones 1 and 3 of Luzon have been recognized in 2010; Mindanao in 2001 and Visayas-Palawan-Masbate in 2002. The entire country is now FMD-free with no vaccination.

Serotype O Cathay topotype was the last strain to be detected in the country and was the same strain responsible for the 1995 outbreak until 2005. The Government through the Bureau of Animal Industry-National FMD Task Force concentrated its activities based on the four programme components: Disease Monitoring and Surveillance; Public Awareness; Animal Movement Management; and Vaccination. Among the four activities, Disease Monitoring and Surveillance and Animal Movement Management were given topmost priority to directly address the situation.

Currently, the Philippines received a note from the OIE that its Scientific Commission already approved the country’s application for Zone 2 as FMD-free where vaccination is not practiced. Hopefully, by May 2011 during the OIE’s General Assembly in Paris, the Philippines would receive its certificate of recognition for Zone 2.

Further details of this presentation are provided in Appendix XVI and Appendix 14.

Discussion

Key issue/s raised in discussion included:

- Philippines is mobilizing all sectors to maintain the country FMD free, including disease surveillance and strict quarantine measures.

- Philippines does not conduct real-time simulation exercise due to fears that the international community might consider the exercise as a real outbreak. The Philippines was advised that critical to real-time simulation exercise is the advice to OIE and the international partners regarding the exercise. Countries planning to conduct real-time simulation exercise must announce months before to ensure that international community, especially trading partners are aware of its nature and purpose.

ix) Singapore

Dr Chua Tze Hoong presented the status report for Singapore. Singapore is recognized by OIE as an FMD-free country where vaccination is not practised. Singapore is a city state with a small livestock industry and is dependent on imports for most of its food supply. Having in place accreditation and import control programmes that are based on science and a risk based approach, and, allowing the importation of livestock and livestock products only from FMD-free countries or regions are part of the major strategies to maintain its country FMD free status.
AVA has an accreditation system for meat and meat products imports, whereby only countries and establishments, which have been pre-accredited by AVA, may export meat and meat products to Singapore.

Singapore is able to declare that:

- there has been no outbreak of FMD during the past 12 months;
- no evidence of FMD has been found during the past 12 months;
- no vaccination against FMD has been carried out in the past 12 months; and
- no vaccinated animal has been introduced.

Further details of this presentation are provided in Appendix XVII and Appendix 15.

Discussion

Key issue/s raised in discussion included:

- The country combines efforts towards animal health, biosecurity and food safety. FMD freedom is also important to support export trade.

x) Thailand

Dr Wacharapon Chotiyaputta presented the status report for Thailand. The Department of Livestock Development (DLD) conducts all FMD activities under a FMD Strategic Plan for the period of 2008 until 2014.

The goal of this Strategic Plan is to target towards:

- no report of FMD incidence in pigs within two years;
- reduce FMD outbreak in cattle and buffalo within five years; and
- importantly create FMD-free zone recognised by OIE within six years.

FMD strategic plan in Thailand has run the operational plan in line with SEACFMD Campaign managed by the OIE.

A total of 35 FMD outbreaks occurred in Thailand in 2010, mostly in the northern, northeastern and southern regions of the country. A positive observation is the apparent decline in serotype A outbreaks since having a very high occurrence in 2006.

FMD free farms are being established by Thailand in Regions I, II and III which are approved by DLD as standard farms with effective biosecurity measures.

Further details of this presentation are provided in Appendix XVIII and Appendix 16.

Discussion

Key issue/s raised in discussion included:

- NSP testing is done twice at an interval of two weeks for the purpose of FMD-free farm accreditation. It was suggested that test directed to the non-structural protein 3D be done in tandem with the current NSP test being conducted.

xi) Vietnam

Dr Do Huu Dung presented the status report for Vietnam. A total of 329 outbreaks have been reported in 2010 alone, with the rise observed starting in September. Most of the outbreaks are clustered in the central and northern part, and more outbreaks are detected in 2011. All outbreaks were caused by serotype O. Higher mortality has been observed in 2010 and 2011 and deeper study on this has to be done.
A national conference on FMD and other diseases was conducted two weeks ago to discuss ways to manage and control the outbreaks. Vaccination is a major strategy in the National Programme, with local governments purchasing their own FMD vaccines aside from the ones purchased at the national level.

Results of vaccine matching tests show that the vaccines used is effective in Vietnam but there is worry in the low r-value for serotype A.

Despite the vaccination being conducted, outbreaks still continue posing difficulty in convincing policymakers and stakeholders regarding the value of vaccination and the National Programme as a whole. Around 40 million USD is being proposed for the national programme for 2011-2015.

Further details of this presentation are provided in Appendix 17.

**Discussion**

Key issues raised in discussion included:

- The use of monovalent or bivalent vaccine is decided based on the history of strains in an area.
- In the control zones vaccine is free but in buffer zones, the vaccine is co-financed by the Government and the private sector. This is only true for cattle as vaccine for pigs is not Government subsidized.

### 4. Overview of 2010 FMD Outbreak in Japan

Dr Kenichi Sakamoto presented the overview of the 2010 FMD outbreak in Japan. The outbreak of FMD was suspected in Miyazaki prefecture in the southern island of Kyushu on 20 April 2010. It was the first FMD outbreak since the year 2000. The outbreak forced the prefecture to slaughter some 289,000 pigs and cows (including all vaccinated animals), and impose a ban on movement of livestock. Japan's FMD control policy, similar to other FMD-free countries, is based upon stamping out without vaccination. But in the middle of May, to control the speed of infections, livestock within a 10-km radius of affected farms in the towns of Tsuno, Kawaminami, Takanabe and Shintomi in Miyazaki Prefecture were vaccinated. No new FMD case has been detected in Miyazaki since 4 July 2010 (case 292 in Miyazaki city). Japan restored the status of FMD-free without vaccination on 4 February 2011.

A private veterinarian first found a suspicious case in the affected farm and reported to the local government's Veterinary Service on 9 April 2010. An official veterinarian observed that a cow had fever, anorexia, salivation, and erosions in the oral cavity on the same day but the others had no clinical signs. Since other 2 suspicious cases were found in the same farm on 16 April 2010, the Veterinary Service examined similar diseases such as bluetongue, bovine viral diarrhea-mucosal disease, infectious bovine rhinotracheitis and Ibaraki disease but they showed negative results by PCR tests on 19 April 2010. The Veterinary Service submitted the samples to the National Institute for Animal Health (NIAH) on the same day. The NIAH affirmed the cattle were infected with FMDV by PCR test on 20 April. It was revealed by epidemiological survey that the initial FMD infection took place at a water buffalo farm in Tsunocho in the Miyazaki prefecture as early as mid-March 2010. More than 10 farms had been infected with FMD before 20 April 2010. The isolated virus, FMDV type O SEA topotype (Myanmar 98) was widely detected in Asian countries such as China, South Korea, Mongolia and Russia recently. However any specific routes of the virus entry from abroad to Japan have been still unidentified.

The disease also led to temporary closures of public facilities and cancellations of nearly 300 sports and other public events, while the prefectural government asked residents in the affected areas and their vicinities to refrain from going out unless absolutely necessary.

Based on epidemiological findings, the initial infection took place at a water buffalo farm. The major strategies employed were vaccination (O Manisa strain), stamping out and movement restrictions, which led to the successful control of the disease. On 4 February 2011, Japan regained the FMD-free status without vaccination.

Further details of this presentation are provided in Appendix 18.
Discussion

Key issue/s raised in discussion included:

- The mode of entry of serotype O Myanmar 98 into Japan remains unknown.

5. Other reports

i) Reports from other members of the Sub-Commission

Australia

Dr Peter Black presented the report for Australia.

In early 2010, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) convened a symposium in Melbourne, to address FMD related issues within the Australian context. The key outcomes of this symposium lead to a review of Australia’s response arrangements and have focused particularly on movement controls of FMD susceptible livestock; vaccination policy; handling of milk during FMD outbreak; and surveillance requirements to support proof of freedom.

Other FMD related activities in the past year included:

- An officer from the Office of the Chief Veterinary Officer (OCVO) participated in the United Kingdom FMD ‘Exercise Silverbirch’. Australia was requested by the OIE to act as its representative at this exercise and a report was prepared by the Australian officer for the OIE. Other observers present were from a range of European countries, the USA, New Zealand and FAO.

- A five-day course convened in Nakuru, Kenya supported by FAO and the EuFMD Commission was attended by an officer from OCVO. Participants included veterinarians from Australia, France, Kenya, Latvia, New Zealand, Switzerland and the United States. The course was organised with a one-day symposium in Nakuru led by FAO and an FMD technical expert from the Institute of Animal Health, Pirbright. Instruction was provided on aging of FMD lesions, biosecurity, sample collection and investigation techniques.

- Overseas research projects to support FMD research continued (details to be reported by Dr Wilna Vosloo).

This presentation is provided in Appendix 19.

New Zealand

Dr Derek Belton from the Ministry of Agriculture, Forestry and Fisheries presented the report of New Zealand.

The New Zealand Government is focused strongly on doing more with less. The recent amalgamation of MAF and NZFSA picks up the opportunity to create a more efficient single organisation which is expected to strengthen New Zealand’s science and risk-based sanitary and phytosanitary system.

New Zealand is also updating its core legislation including the Biosecurity Law Reform Bill, the Food Bill, and the National Animal Identification and Tracing Bill. Key goals of this new legislation include supporting public-private partnerships, and streamlining regulatory approaches to focus on achievement of outcomes by the most efficient means available.

Further details of this presentation are provided in Appendix 20.
OIE Regional Representation for Asia and the Pacific (OIE Asia-Pacific)

Dr Itsuo Shimohira, Regional Representative of the OIE Regional Representation for Asia and the Pacific (OIE Asia-Pacific), presented the major activities of OIE Asia-Pacific. OIE Asia-Pacific has put priorities of regional activities on animal health improvement; strengthening Veterinary Services; compliance with international standards for animal health; capacity building of Veterinary Services for animal health including legislation, diagnosis and surveillance; and the regional alliance through organising meetings, seminars, hands-on workshops, Experts visits, and others.

Activities for capacity building were performed by organising the OIE Regional Workshop for newly assigned OIE Delegates (Bangkok, April 2010), the Regional Workshop for the Focal Point of Animal Welfare (Bangkok, April 2010), Animal Production and Food Safety (Singapore, October 2010), Wildlife (Bangkok, October 2010) and Meetings for Strengthening Information Networking including Legislation for Animal Disease Control and Prevention (Tokyo, Japan).

More intensive efforts have been made for HPAI control in Asia through various meetings in Tokyo, Japan and other countries, and field surveillance of avian influenza in wild birds as well as domestic animals along the migratory flyways in Vietnam, Laos, and Mongolia together with the molecular analysis of the collected samples and viruses at the OIE Reference Laboratory.

For 2011, OIE Asia-Pacific plans for further regional activities which will include the OIE Focal Points Training Workshops, including new FMD control activities under the new GF-TADs programme.

The details of this presentation are provided in Appendix 21.

Discussion

Key issue/s raised in discussion included:

- It was noted that some of the Focal Points trainings mentioned are funded via the EU HPED Project.

Food and Agriculture Organization (FAO)

Dr Carolyn Benigno, Animal Health Officer (FAO Regional Office for Asia and the Pacific), presented FAO’s Initiatives on FMD Control in Asia. FAO’s goals are:

- reduction of absolute number of people suffering from hunger;
- elimination of poverty; and
- sustainable management and utilization of natural resources.

There are 11 strategic objectives with each goal, which are focused on an agricultural sector directed at increased sustainable livestock production by reducing animal diseases and associated human health risks.

The principles in addressing control of TADs and EIDs are:

- promotion of multi-sectoral collaboration, coordination and partnerships across all stakeholders;
- investments in human and capital resources to enhance countries' capacities on early warning, early detection and early reaction;
- decision-making using science based evidence and multidisciplinary approach; and
- promotion of best practices of prevention and disease control throughout the production and market chain.
The Integrated Work Plan involves the USAID Project, EU-HPED Project and the Regular Program. The integrated areas of work are comprised of:

- cross-sectoral coordination at the regional level: RSUs for ASEAN and SAARC; high level regional consultation;
- capacity-building: FETPV, AVET, Community Animal Health Worker Training, laboratory diagnosis;
- strengthened coordination of epidemiology (and laboratory) network: epidemiology consortium, workshops for CVOs, IDENTIFY workplan; and
- field projects: USAID- and EU- funded projects, Animal Health Priority Plan, AHIF funding.

Dr Benigno underscored the following considerations:

- importance of partnerships for better use of resources;
- government commitment in terms of counterpart funds, human resources (career path);
- reporting of impact of activities – after trainings, follow up activities; and
- information sharing amongst countries and with partners.

Dr Benigno’s presentation is provided in Appendix 22.

**ii) Reports from Collaborators and International Organisations**

**USDA-APHIS**

Dr Robert Tanaka, Agricultural Attaché at the American Embassy in Bangkok and a veterinarian for the US Department of Agriculture presented the activities of the United States in behalf of Dr John Clifford who is the Chief Veterinary Officer for the United States.

The activities of the Sub-Commission are critically important to USDA’s goals of supporting global animal health and veterinary services. In addition, these activities are thoroughly consistent with President Obama’s international strategy for food security, poverty alleviation, and human rights.

Specifically, APHIS has personnel in Cambodia, Indonesia, Laos, Myanmar, the Philippines, and Thailand. APHIS is working with US partners, host governments, FAO, and OIE, to control transboundary animal diseases and build animal health capacity in Southeast Asia. For example, APHIS supports epidemiology training, laboratory harmonization, and field biosecurity activities.

APHIS staff also works with host governments to develop national disease control strategic plans. These include highly pathogenic avian influenza, emerging zoonotic diseases, and One Health initiatives. In Indonesia, APHIS is working to promote the National Poultry Health Improvement Plan, participating with the Ministry, international organizations, and especially the poultry and veterinary communities.

In conclusion, APHIS looks forwards to continuing our active participation with OIE here in Asia, working to promote animal and public health. Dr Tanaka thanked the OIE and the Sub-Commission Members for inviting the United States to attend the meeting.

**CSIRO Australian Animal Health Laboratory (AAHL)**

Dr Chris Morrissy presented a progress report from AAHL.

AAHL’s mission is to protect Australia’s billion dollar livestock and aquaculture industries, and the general public, from emergency and zoonotic disease threats. AAHL is a national high security biocontainment laboratory working on pathogens that affect both animal and people. The AAHL facility’s effective building design involves complex engineering; it is the most advanced laboratory of its type in the world. There is a full range of animal holding facilities from Physical Containment Level 2 – 4. AAHL has 265 international scientist and staff with unique skills and training.
The AAHL is an OIE Collaborating Centre for New and Emerging Diseases and functions as a reference laboratory for several animal diseases. It is also an OIE Collaborating Laboratory for Capacity Building and WHO Collaborating Centre for SARS.

AAHL has an ongoing commitment to working in the region as part of its responsibility as an OIE Collaborating Laboratory for Capacity Building and its Reference Laboratory roles. AAHL has a large number of projects in SE Asia related to capacity building & research with the major TADs which includes avian influenza, FMD and CSF. AAHL’s projects look at improving disease diagnosis in the region and also at AAHL. Biosafety and Quality Assurance is an important part of AAHL’s training programme. The focus of AAHL’s program also include reagent and reference material supply and advice and Reference Laboratory support. There are several ongoing regional projects in Vietnam, Malaysia, Indonesia, Laos and Thailand.

Further details of this presentation are provided in Appendix 23.

**Canadian Food Inspection Agency (CFIA)**

Dr Zhidong Zhang informed the Meeting that the Canadian Food Inspection Agency (CFIA) is the Government of Canada regulator for food safety, animal health and plant protection. The CFIA’s National Centre for Foreign Animal Disease (NCFAD) provides scientific and laboratory services for the rapid and accurate identification and reporting of FMD, SVD and VS as well as a large number of other foreign animal diseases. NCFAD is co-located with the Public Health Agency of Canada’s National Microbiology Laboratory (NML) in the Canadian Science Centre for Human and Animal Health (CSCHAH) in Winnipeg, Manitoba. This co-location of both human and animal health in one laboratory facility is unique in the world. NCFAD staff have particular technical expertise in FMD diagnostic methods and reagent development, measurement uncertainty, reference materials and proficiency testing. They also have particular expertise in laboratory-based diagnosis for differentiation of FMD from other vesicular diseases. NCFAD has a range of tests for diagnosis of FMD and other vesicular disease and served as a valuable international resource in providing training, protocols, and reference reagents to national laboratories for FMD and other vesicular diseases. NCFAD wishes to further strengthen its interaction with staff in endemic countries in order to build and expand capacity and improve disease control.

**European Union**

Dr Alain Vandersmissen of the European Union summarized the achievements and changes in 2010 and also the subsequent steps to implement the ‘One Health’ (OH) approach in Asia which includes the Hanoi Conference and declaration (April), Stone Mountain OH meeting set-up of working groups (May).

HPED is being implemented and the mid-term review will start in April 2011. The rinderpest eradication announcement will also be made this year. The CBCAHH extended as a strategy line for 2011–2013 (regional Asia).

Dr Vandermissen mentioned the ASEAN joint ministerial (Ministry of Agriculture and Forestry) declaration on ‘One Health’ which signified ASEAN’s commitment to advance the ‘One Health’ approach and support existing collaborative frameworks on animal and public health governance at global, regional and national levels. He also informed the Meeting that ‘One Health’ became an international movement; the first international ‘One Health’ Congress to be conducted in Melbourne in February 2011.

The European Union External Action Service was set-up as a “sui generis” EU body under the responsibility of HR/VP Catherine Ashton. It is equivalent to an EU foreign office and diplomatic service.

Consequences for operations at both regional and national levels were also presented. The European External Action Service has the responsibility for the upstream, strategic Steps in the programming cycle. DG EuropeAid Development and Cooperation manages aid implementation.

Further details of this presentation are provided in Appendix 24.
**Japan – MAFF**

Dr Minoru Yamamoto, Director of the International Animal Health Affairs Office presented the report for Japan Ministry of Agriculture, Forestry and Fisheries.

Japan conducted emergency vaccination and subsequently destroyed all vaccinated animals in the recent FMD outbreaks. The delegate of Japan mentioned vaccination was critical to control severe outbreaks of FMD. He emphasized vaccine matching and quality assurance of vaccine was very important and that enough and accurate information on the vaccines was indispensable to ensure the most effective vaccine selection. He also expressed Japan would continue to support the GF-TADs activities.

**Chinese Taipei (Taiwan)**

Dr Huang-Lin Kao presented a report from Chinese Taipei. FMD is a notifiable disease both in Taiwan and the OIE. With the great efforts to eradicate FMD, the status of “FMD-free with vaccination” in Chinese Taipei was approved by the OIE on 22 May 2003. To evaluate the FMDV circulation, FMD vaccination in pigs has been ceased gradually since April 2007. Unfortunately, 8 pig-adapted type O FMDV outbreaks were found in 2009. In order to bring FMD situation under control, a nationwide vaccination programme resumed in August 2009. And then the number of outbreaks has been subsequently decreased to 4 by the end of December 2010.

Methods implemented for the control of outbreaks are:
- quarantine, movement control and destroy the sick and suspected animals;
- thorough disinfection of the index farm;
- boosted vaccination; and
- clinical examination and epidemiological surveillance for index farms and in the vicinity of index farms.

Chinese Taipei is on its way toward the recovery of FMD-free territory with vaccination. Continual compulsory vaccination, biosecurity and active serological surveillance programs are indispensable to eliminate the risks of FMDV spreading.

Further details of this presentation are provided in Appendix 25.

**Discussion**

Key issues raised in discussion included:

- A query was raised regarding Chinese Taipei’s strategy to vaccinate only once instead of twice vaccination. It was stressed that vaccinating twice at one month interval is promoted and supported by the vaccine manufacturers. Chinese Taipei clarified that single vaccination using at least 6PD₅₀ (instead of 3PD₅₀) is intended for pigs for slaughter only. Breeder pigs and cattle are vaccinated twice per year. In addition, vaccination coverage was increased in the country.

**AusAID**

Mr Royce Escolar, Regional Programme Manager of AusAID in Bangkok, reported on the updates from AusAID. Australia, through its Aid Program (AusAID), remains the biggest donor to SEACFMD with a total of AUD6.5 million in grant funding provided to OIE since 1997. In 2007, AusAID and Australia’s Department of Agriculture, Fisheries and Forestry (DAFF) supported OIE in pioneering the systematic roll-out in South East Asia of the OIE Performance of Veterinary Services (PV$S$) Pathway under the Project on Strengthening Veterinary Services (PSVS). PSVS aims to assist countries to achieve international veterinary services standards by strengthening their national veterinary services’ overall capacity to address any transboundary animal diseases and emerging zoonoses at source. AusAID’s current funding to these two programs ends in June 2011.
In October 2010, Australia confirmed its new Pandemics and Emerging Infectious Diseases Framework (2010–2015). This paved the way for OIE to start the process of designing the new Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative for AusAID’s funding consideration. STANDZ aims to build on lessons learned from SEACFMD and PSVS and proposes to amalgamate these two existing programs in one AusAID/OIE regional flagship initiative on animal health. AusAID is closely engaged in the ASEAN process of establishing a Regional Coordination Mechanism for Animal Health and Zoonoses. Transitioning the management of SEACFMD and any regional coordination activities on animal health to this future country-led regional centre will have positive impacts on harmonisation, ownership, effectiveness, and sustainability of regional and national activities related to animal health and zoonoses.

This presentation is provided in Appendix 26.

**ACIAR (AH/2006/025 Understanding livestock movement and the risk of spread of transboundary animal diseases)**

Dr Chris Hawkins presented the report for ACIAR Project entitled “Understanding Livestock Movement and the Risk of Spread of Transboundary Animal Diseases.”

While the movement of people, equipment, and animal products such as meat and milk pose a real risk of transferring FMD, movement of live animals poses probably the greatest risk. In the greater Mekong area, cattle move over large distances in short times, with few stops or health checks between departure and destination. Physical examination to see if an animal has FMD may detect active or recent cases, but not those incubating or the disease, or those carrying the virus after symptoms have resolved. As part of the ACIAR Project AH/2006/025, Understanding livestock movement and the risk of spread of transboundary animal diseases, the project interviewed traders, and observed their activities in the commercial movement of livestock overland from Thailand to Vietnam. Scenario tree and risk modelling have been used to examine the impacts of prevalence, inspection effectiveness, and potential for infection in transit, on moving FMD across international borders. Key findings from this work indicate the importance of surveillance and communication; ensuring freedom from FMD in market cattle; reducing the risks of infection in transit; enhancing the ability to buyers and traders to ensure cattle are free from FMD (or immune); appropriate hygiene for transport vehicles; and an effective trader/buyer education and training strategy.

This presentation is provided in Appendix 27.

**Murdoch University**

Professor John Edwards, Emeritus Professor, Murdoch University and Director, One Health Solutions described the support that he and Murdoch University provide for SEACFMD. He described how he is active with supervision of postgraduate students in relation to FMD in Asia and also provides services in Australia and Asia in relation to biosecurity, one health and veterinary education.

Prof Edwards described the 12 postgraduate students who were doing work related to FMD at Murdoch University and their projects included work in Indonesia (free zone), MTM, Upper Mekong (including China), Lower Mekong, Bhutan and Chinese Taipei. There were also projects on animal movement, transmission in Asian swamp buffalo, the pig adapted strain, risk communication and crisis communication. Most of the students had completed or were near completion of their work and they were: Pebi Purwo Suseno, Kyaw Naing Oo, Polly Cocks, Siti Zubaidah Ramanoon, Cai Chang, Tum Sothyra, Ben Madin, Blesida Verin, Shih-Ping Chen, Kinzang Dukpa, Elaine Llarena and Jim Caro. They had received support from a range of agencies and these included the Australian AB-CRC, AusAID, ACIAR, SEACFMD, FAO/ADB, IAH Pirbright, EU and member countries. This had brought a total cash and in-kind investment of more than $2m to support the SEACFMD Campaign.

This presentation is provided in Appendix 28.
V. TECHNICAL

1. Zoning in Region 2 of Thailand

Dr Prawat Rattanaphuma reported that the Government of Thailand puts great effort in establishing free zone in Region 2, which has great potential for export of pork to other countries. A video presentation showed the activities undertaken in the Region to achieve this goal.

In 2007, the project on FMD Free Zone with vaccination in accordance with OIE standard has been implemented in Region 2. The Region 2 which located in the eastern part of Thailand has a very high potential in pig production and has no reported case of FMD for at least 10 years. The further achievement of OIE recognition is expected to enhance exportation of live animals and their products for the benefit in trade facilities. Therefore, DLD plans that the Region 2 would be recognised by OIE as FMD free zone with vaccination by 2014.

The project components operate in compliance with the OIE’s Guideline. There are 8 components and under each component comprise of many activities related as follows:

- Component 1 (Zoning)
- Component 2 (Disease control and prevention measures)
- Component 3 (Enhance livestock raising in the region)
- Component 4 (Livestock sector development)
- Component 5 (International coordination and support)
- Component 6 (Public awareness and communication)
- Component 7 (Trade and market negotiation)
- Component 8 (Evaluations and Monitoring)

DLD is working very closely with OIE and request for their recommendations in achieving the recognition. Hopefully, if no evidence of FMD virus circulation is detected by sero-surveillance, Thailand would be recognised by the OIE in 2014.

Dr Abila was thanked for the useful suggestions to this programme of DLD.

2. FMD vaccination strategy

Dr Ronello Abila presented the FMD vaccination strategy which was developed with support by Dr Gideon Bruckner. The strategy focuses on South East Asia as China already has a robust vaccination programme. It suggests two approaches: systemic vaccination strategy and strategic/targeted vaccination strategy.

The vaccination strategy is attached as an Annex in the draft SEACFMD 2020 Roadmap.

Central Myanmar was cited as a priority wherein 3.8 million doses of vaccine is needed, and this will require full political commitment and support from the private sector.

The details of this presentation are provided in Appendix 29.

3. China vaccination programme

Dr Qin Dechao presented the vaccination programme of PR China.

In 2005-2009, more than 800 million heads of cattle and other FMD susceptible species were vaccinated annually. The vaccine used was produced within China. It is also estimated that almost 1 million staff working on animal health in China including administration officer, veterinary, para-veterinary and support personnel assisted in this programme, with an estimated 567 million USD budget. The local and Central Government provided funding to the programme, the percentage of
which depends on the arrangement with the provinces. This programme is supported by laws, the
details of which are provided in Appendix 30.

4. **Pilot vaccination study in Cambodia**

Dr John Stratton presented his PhD research in Cambodia and its integration with both strengthening
veterinary services and SEACFMD, as supported by OIE, ACIAR, Sydney University and the
Cambodian Veterinary Services. His research comprised of three phases that explore the public-private
interface of VS delivery particularly in relation to FMD outbreak control through vaccination and
biosecurity via Village Animal Health Workers (VAHWs).

The first phase involved interviewing 445 VAHWs in 19 Cambodian provinces gleaning information
on their training, their contact with farmers and the government, as well as their knowledge,
experiences and practices with FMD. It concluded on the suitability of government partnering with
VAHWs to better control FMD. The second phase described how this might take place through
delivering FMD vaccination field trials in the face of outbreaks through supervision of VAHWs. These
field trials compared outbreak progress and vaccination compliance rates amongst three cohorts of
villages (categorised based on level of farmer contributions to vaccination costs). Results from the first
field trial in Takeo were reported.

The final phase of the PhD work will involve an economic study into FMD at the various levels
(household, village, district, provincial, national and international) using data inputs from the other two
phases, that aims to demonstrate the public good nature of FMD control and justify increased
commitments from governments and donors.

This presentation is provided in Appendix 31.

5. **Studies on diagnostic methods and vaccine efficacy for FMD in Yunnan Province of PR China**

Dr Li Huachun provided an update on studies concerning diagnostic methods and vaccine efficacy for
FMD in Yunnan Province of PR China.

The use of MagMAX™ Express and Real-Time PCR as fast test systems to screen multi-pathogens
including FMDV in big population of animals was presented. MagMAX™ Express and Real-Time
PCR fast test system can be used to detect early FMDV infected individual in large population of
animals. This can provide evidence to confine the spread FMDV. The workflow for MagMAX™
Express was described, the details of which are in Appendix 32.

LPB-ELISA, VNT and C-ELISA can be used to evaluate FMD vaccine efficacy. However, C-ELISA,
comparing with LPB-ELISA and VNT, is easier to perform and can be applied in most laboratories.
Test results are also correlated with neutralization antibody and can be used to estimate vaccine
efficacy and protection of animal after vaccination.

**Discussion for the session**

- In the next two years, vaccine will be provided for free in identified hotspots. In addition to this,
sociological studies like KAP surveys will be conducted to understand farmer behaviors.

- China has vaccine (100 million doses) for outbreaks due to serotype O Myanmar 98.

- It was suggested that vaccines focusing on O Myanmar 98 should be considered over O Manisa.

6. **SEACFMD research plans and strategy**

Dr Ronello Abila presented the SEACFMD research plans and strategy. Consideration is being given to
further developing an R&D strategy to support not only the SEACFMD Programme but other activities
carried out by the SRR SEA.

Preliminary consideration is being given by ACIAR and the SRR for an ACIAR funded research
project in the critical area of animal movements. This will build on previous research funded by
ACIAR in this area and other groups such as FAO and the SRR.
Given the range of work priorities and heavy workload, the development of an R&D Strategy will be scheduled for 2012.

The details of this presentation are provided in Appendix XIX and Appendix 33.

7. Progress of FMD Regional Reference Laboratory

Dr Wilai Linchonchongsubongkoch, Director of the FMD Regional Reference Laboratory in Pakchong, Thailand presented the progress of the RRL. The RRL, designated as an OIE Reference Laboratory for FMD, works with AAHL, Geelong and Pirbright in UK and being designated as an OIE Reference Laboratory for FMD, will also work with FAO in Rome, Italy and other reference centers.

Dr Linchonchongsubongkoch reported the update of the SEACFMD Laboratory Network (LabNet). The LabNet conducts rapid diagnosis and assists capacity building on FMD diagnosis. Results of the inter-laboratory testing have been distributed to participants. The second round has been started with the distribution of reagents during the joint LabNet-EpiNet Meeting on 3 March 2011.

The serotype O outbreaks in Japan, Russia, and South Korea were closely related to South East Asia Myanmar 98 strain. The serotype A outbreaks in South Korea and China are also closely related with the Asia topotype. The serotype A outbreak in Myanmar is closely related to A India 2000 thus the vaccine strain presently utilized will not be effective. It was suggested that A/Skolnakorn/97 be added to the trivalent vaccine.

The details of this presentation are provided in Appendix 34.

8. AAHL FMD research programme for South-East Asia

Dr Wilna Vosloo presented the AAHL FMD research programme for South East Asia.

The priority that FMD receives in countries free of the disease is exemplified by the investment made by industries and government in Australia to support research that will benefit not only the country, but the South-East Asian region. The main focus of the project is to determine vaccine efficacy and since no live virus can be imported into Australia, the challenge experiments will be performed in Vietnam in pigs, South Africa in sheep and Argentina in cattle. The experiments, which will start in 2011, will generate large numbers of samples that will have to be tested in the region and it is envisaged that the samples will be handled in Vietnam and Pakchong and become part of post-graduate studies to students from these countries. A significant equipment investment is planned for Pakchong to allow the laboratory to do high throughput testing. Funding will also be available to ensure field samples are submitted to the RRL and sequencing capacity will be expanded to include P1 and full genome sequencing. In addition, a field study to validate point of care assays is planned in Vietnam that will also allow more frequent sampling from outbreaks and a better understanding of the complex epidemiology in that country.

This presentation is provided in Appendix 35.

9. Case study of FMD outbreak in Myanmar

Dr Kyaw Naing Oo presented the case study he conducted regarding the FMD outbreak in Myanmar. FMD has been endemic in Myanmar for more than one century and there were sporadic reported outbreaks within the country nearly every year. Three serotypes have been detected in Myanmar: O, Asia1 and A. The most prevailing type is type O and it has been spreading in Myanmar for many years until this study. The last reported outbreak caused by type Asia 1 was in November 2005 in Magway Division and that of type A was in 1999 in Tanintharyi Division.

In the middle of August 2010, the Livestock Breeding and Veterinary Department has received a report on an outbreak of FMD at Rakhung State near the border between Myanmar and Bangladesh. An outbreak investigation study was conducted in early September 2010 in Rakhine State and it was revealed that FMD Virus type “A” was seem to be reappeared in the country and it has been confirmed by Regional Reference Laboratory, Pakchong, Thailand. Genotyping was conducted in FAO World Reference Laboratory and it revealed that the FMDV A is closely related to Indian subtypes. This subtype of FMDV was the first case to be detected not only in Myanmar but also in the region because it was different from that of FMD which used to circulate within South-East Asian countries.
The source of infection was investigated and it was tentatively concluded that cattle from Myanmar and those of neighbouring country had presumably contacted at Kyikyun Island of Taungpyoletwel sub-township of Maungdaw District and it spread to the other part of the Sub Township. Sharing communal gazing ground was considered as a top priority for spreading disease within the outbreak area. Eventually, the disease has been spread to the other part of Maungdaw District (Maungdaw and Butheetaung Townships) though movement of infected animals and animal products.

This presentation is provided in Appendix 36.

10. FMD in Cambodia: How to improve surveillance in a challenging environment?

Dr Flavie Goutard of CIRAD presented on how surveillance can be improved in a challenging environment as in the case of Cambodia.

Eradication of FMD is the main objective of the South-East Asia China Foot-and-Mouth Disease (SEACFMD) campaign led by the OIE. In Cambodia, the disease is known to be present but because of underreporting and underdetection there is a lack of accurate data to inform the development of realistic and affordable control strategies. In this study, we decided to use participatory tools in 51 villages of Svay Rieng province in order to:
- perform a two-source capture-recapture analysis with the list of cases officially reported at national level to estimate the number of outbreaks that occurred in this province in 2009;
- assess the knowledge, the perception and the 2009 relative incidence of FMD.

A case matching protocol was developed to be consistent with the case definition of the first source, and in so doing, we estimated that the number of FMD outbreaks in the province was 11.3 (CI95% 7.0-29.4), and that the sensitivity of the report to the national level was 0.66 (CI95% 0.27-1.0). The average disease relative incidence for all species at village level for 2009 was evaluated by proportional piling at 12% [Min-Max 0-46].

The participatory method proved to be very informative in this context, helping to assess the real prevalence of the disease but as well helping to better understand the economic drivers of FMD risk management by farmers in a rice-livestock system. Capture-recapture (CR) methods could be low cost and effective tools for estimating true prevalence within a relatively short time frame.

This presentation is provided in Appendix 37.

11. Molecular characterisation of FMD Viruses isolated from persistently infected swamp buffaloes of Myanmar

Dr Satya Parida presented the molecular characterisation of FMD viruses isolated from persistently infected swamp buffaloes of Myanmar.

Serotype O FMDV outbreak was reported in 2009 during the months of January and February in the Magway division of Myanmar. The samples were collected from the swamp buffaloes of the Magway division during November 2009, nine months after the FMDV outbreak. Oro-pharyngeal fluid, serum and saliva samples were collected from 100 swamp buffaloes at Magway division. All the isolates from persistently infected buffaloes were found to be of Myanmar-98 lineage of the South-East Asia topotype. Capsid proteins VP1-3 harbour the antigenic determinants and determine the overall antigenicity of the virus. Therefore in order to include all the antigenic sites in the analysis the complete capsid coding region (P1) was used for constructing the phylogenetic tree. This gave a better resolution of the relatedness of the viruses. The laboratory analysis revealed that Asian swamp buffalo can be sub-clinically infected with FMD virus and acts as carrier. The phylogenetic analysis showed a very close association of carrier isolates with the outbreak isolates with 95.6 to 100% and 97.38 to 100% nucleotide and amino acid identity, respectively. The nucleotide and amino acid identity among the carrier isolates were 97.7% to 100% and 97.96% to 100%, respectively. Interestingly, the analysis revealed a very close association between the Myanmar carrier isolates and the isolates from recent outbreaks of Vietnam and South Korea.

This presentation is provided in Appendix 38.
12. **The role of Asian swamp buffaloes as FMD carrier in South-East Asia**

Dr Blesilda Verin presented her thesis on the molecular characterisation of FMD viruses isolated from persistently infected swamp buffaloes of Myanmar.

The South-East Asia and China Foot and Mouth Disease (SEACFMD) programme has achieved significant progress in diagnosis, harmonization of policies and good knowledge of the epidemiology of FMD in the region. However, to strengthen this SEACFMD programme, it is necessary to know the role of Asian swamp buffalo (ASB) as FMDV carrier for transmitting the disease in this region. To address this issue, three separate cross sectional studies with 6 month apart were conducted in ASB in Laos and Myanmar after 4 to 8 months of post infection (PI). These studies confirmed that SAB may become persistently infected with FMDV and carry the virus at least up to 20 months (end date of study) after the infection. Several seronegative animals for FMDV in the first study were detected as positive in the subsequent studies which further supports the transmission of virus from these carrier animals in sub-clinical level. Further research is needed to understand the mechanisms and the epidemiological significance of carriers in the maintenance and transmission of FMD in SEA. This will require a more comprehensive longitudinal study; and controlled studies to clarify the mechanism for the establishment of carriers, the factors influencing transmission and to demonstrate the rates of transmission from FMD carrier ASB.

This presentation is provided in Appendix 39.

13. **Characteristic of FMD viruses isolated in Japan**

Katsuhiko Fukai presented the results of an animal experiment using a foot-and-mouth disease virus isolated from the 2010 epidemic in Japan.

In this study, an animal experiment using a FMD virus isolated from the 2010 epidemic in Japan was carried out to analyze its pathogenesis to pigs. It was found that the virus was virulent in pigs, producing a synchronous disease in the inoculated pigs and efficient spread to direct contact pigs. These results are useful for epidemiologically investigating the 2010 epidemic in Japan and improving the measures for controlling a possible future FMD outbreak in Japan or elsewhere.

In the future, animal experiments using O/JPN/2010 in ruminants will be conducted.

This presentation is provided in Appendix 40.

**Discussion for the session:**

- The importance of having compatible vaccine and field virus is reiterated in the meeting. Intervet confirmed that vaccine companies work closely with WRL to ensure such compatibility. RNA of vaccine strains and other materials are provided by vaccine companies to WRL.

- Indonesia queried about the use of the NSP test. Dr Blesilda Verin mentioned that it is used during post-outbreak surveillance – FMD infection elicits both the non-structural protein and structural protein while vaccination elicits only the structural protein.

- The chairman asked Dr Markus Moser, CEO of Prionics, for some comments and clarifications on diagnostic testing. The gold standard in FMD serological testing is the PrioCHECK® FMDV NS (formerly called Ceditest®), with consistent sensitivity and specificity values above 99% and detects antibodies directed against non-structural FMDV antigens and works in all cloven-hoofed animals, detecting all virus serotypes. As non-structural antigens are absent in purified vaccines, the test can detect FMDV infections also in vaccinated animals (DIVA concept: Differentiating Infected from Vaccinated Animals). A positive result in a diagnostic test should ideally be confirmed by a suitable complementing test. Prionics has recently developed a new serological test which detects antibodies directed to the non-structural protein 3D. This test complements the classical PrioCHECK® NS test and can be used as a confirmatory test for PrioCHECK® NS – positive animals. Alternatively, the 3D test can be used as the screening test, and the classical NS test for confirmation.
14. Progress of FMD vaccine development

Dr Philippe Dubourget from Merial and Dr Paul Van Aarle presented the progress of FMD vaccine development.

It was reiterated that manufacturers can bring significant support in FMD progressive control programmes by supplying adequate, appropriate vaccine in a timely manner.

i) Optimising Private Sector contributions to FMD control efforts implemented by International Organisations

Dr Philippe Dubourget presented on optimising private sector contributions to FMD control efforts implemented by international organisations.

Vaccination is recognized as an important tool in Foot-and-Mouth Disease (FMD) control. The availability, affordability and fitness-for-purpose of large quantity of vaccines in all regions engaged in a comprehensive control program are therefore pivotal.

The production of appropriate vaccines requires adequate logistical management where forecast planning plays a pivotal role for securing timely product supply: Vaccines are very often tailor-made (specifications), and not often available from off-the-shelf inventories. Supply of such vaccines cannot be organized at short notice: the overall manufacturing and quality control takes time (3 months including tests). Considering that final steps can be completed in a shorter period of time (3 to 4 days to get the vaccine filled and packaged, 4 to 5 weeks to have it fully tested), the antigens needed for a full vaccination campaign can be prepared and stored in anticipation, but this is subject to sufficient notice.

In case of even larger demand, vaccine production might require significant capacity investments that cannot be achieved at short term. A clear visibility is therefore needed for long term preparedness of manufacturers to meet field needs.

When considered, a partial technology transfer might also require significant manufacturing capacity investments and technical training that cannot be achieved in the short term. Indeed, in order to minimize the vaccine cost component of a control programme, efforts can be made to localize several industrial steps of the vaccine production process. For example, Vietnam has implemented an important programme of FMD control, in which vaccination plays a significant role, and, for facilitating this initiative, steps of the process have been successfully extended to two Vietnamese manufacturing partners: XNTTY and NAVETCO. Obviously, implementation of similar partnerships has to be considered well in advance to have the project fully operational in an optimized technical and contractual environment when required.

In an endemic situation, where large quantities of the same vaccine are routinely employed, there is clearly a significant value in matching the vaccine strain(s) to the field viruses as exactly as possible so that the vaccine program is optimized. As a consequence, tender specifications may change, requesting new strains to be included into vaccines. To fulfill this requirement in a proper way, recommended vaccine strains should be published well in advance as the completion of an adequate regulatory package is needed before considering production and delivery.

In conclusion, manufacturers can bring a significant support in FMD progressive control programs by timely supplying adequate quantity of appropriate FMD vaccines. Large scale highly specialized manufacturing facilities can be dedicated to large volume production, but ultimately, only accurate previsions provide sufficient flexibility for securing FMD vaccines in a timely and cost effective manner to meet local demands. In this way, a synergistic relationship should be established between international organizations, implementing countries and manufacturers for streamlining vaccine supply for important control programs.

Compulsory vaccination programs have historically been a proven strategy as long as potency of the vaccines used has been closely and independently monitored.

Dr Dubourget’s presentation is provided in Appendix 41.
ii) Frozen formulated FMD vaccine: An additional option for emergency preparedness?

Dr Paul Van Aarle of Intervet/Schering-Plough Animal Health informed the meeting that vaccines on the basis of oil emulsion, either single oil or double oil emulsions should not be frozen but the concept was studied specifically for FMD vaccines (Barnet et al. 2002). Intervet SPAH researchers studied the effect of freezing on the physical aspects, potency and stability of FMD vaccine. Freezing and thawing did not have a negative effect on the physical aspects of the emulsion of the adjuvant. The stability of frozen vaccine was studied in monovalent, bivalent and trivalent vaccine. The potency of the vaccine did not significantly decrease when tested at storage at -20º of up to 41 months. The concept is not yet ready to be implemented. Further studies are necessary to investigate the technical and logistic characteristics of the freezing process. The regulatory framework for this concept needs to be developed.

Once validated, freezing of FMD vaccines could be, in addition to antigen banks, a valuable tool to enhance emergency preparedness.

Dr Paul Van Aarle’s presentation is provided in Appendix 42.

Discussion for the session:

- Dr Dung asked about the mechanism employed by vaccine manufacturers in deciding to change the strain in the vaccines. At present O1 Manisa is present in the vaccines and there is concern about its efficacy against O Myanmar 98 which is currently circulating.

- Representatives from the group of vaccine manufacturers replied that they are monitoring changes in field strains and that they work closely with the WRL to determine vaccine efficacy. Dr Hammond mentioned that O1 Manisa provides good protection under laboratory experiments but it has not been trialled in pigs.

15. Animal health communication in South-East Asia

Animal Health Communication activities in South-East Asia were presented by Dr Jarunee Siengsanan-Lamont, Project Officer of the OIE/AusAID Programme on Strengthening Veterinary Services (PSVS). She presented on the roles and activities of the OIE in developing communication strategies. Major achievements of PSVS’s animal health communication activities including development of a South-East Asia Animal Health Communication Strategy and implementation of the strategy into national strategies and action plans were also highlighted. Development of an Asia Pacific Animal Health Communication Strategy using the sub regional template was described. Both strategies were endorsed at the OIE Regional Commission Conference in Shanghai in 2009. Communication activities of the SEACFMD Campaign were also presented. In conclusion, lessons learnt included issues on country ownership, sustainability (through high level advocacy), stakeholder coordination (including agencies and organisations) and monitoring and evaluation programs. Future opportunities include implementing the OIE focal point for communication, capacity building activities and a sub-regional animal health communication network.

This presentation is provided in Appendix 43.

16. Lessons in community-based disease control and prevention in the Mekong region

Ms Jacqueline Pinat, Regional Programme Manager for CARE Australia, presented the lessons learned in community based disease control and prevention in the Mekong Region. CARE’s Community-Based Avian Influenza Risk Reduction Programme in the Mekong Region has completed the piloting of community based surveillance and behaviour change models, with the purpose of developing approaches that could be used for building community and institutional capacity for preventing, reducing the risk of and controlling avian and human influenza. This four year, AusAID supported program features village based disease surveillance models, bio-secure poultry raising demonstration farms and promotion of safe practices in slaughterhouses and markets. CARE’s approach includes partnership with national and technical agencies in implementation and capacity building. The programme and its models were designed in support of national avian pandemic and influenza action
plans and offer practical examples of operationalizing the ‘One Health’ approach at the community level.

Key outcomes of the programme include; increase of awareness on avian influenza in target communities, improved capacity for response among local authorities, promotion of behavior change at the individual and village level, improved livelihood and production among demonstration farmers, facilitation of integration between the animal and human health sectors and demonstrated independent adoption and replication of specific models and approaches by individual households or organisations. Lessons for future programming include; capitalizing on strengths and building capacities of local volunteers, developing approaches that align with priorities and structures in country, developing holistic (multi-sectoral or community wide) approaches that sustain behavior change and investment in institutional strengthening.

This presentation is provided in Appendix 44.

17. Update on standards (OIE Code and Manual) in relation to FMD and key outcomes of the Legislation Conference

Dr François Caya, Head of the OIE Regional Activities Department, presented the update on standards in relation to FMD and key outcomes of the OIE Global Conference on Veterinary Legislation.

The demand for updating OIE Terrestrial Code concerning FMD has brought different proposals to be presented for adoption at the OIE General Session in May 2011. The issues addressed include the glossary specifications for captive wild animal and wild animal, which were formerly kept under the same definition; the returning to 2010 recommendations regarding to importation of fresh meat of susceptible species from FMD free countries or zones where vaccination is practiced and from FMD infected countries or zones where an official control programme with compulsory vaccination exists; the recommendations about procedures for inactivation of FMD virus in casings.

The most critical proposal for adoption is the OIE endorsement of Official Control Programme for FMD. The overall objective is for countries to progressively improve the situation towards free status of FMD. It establishes information to be summited to OIE, which includes timelines and indicators to assess the efficacy of control measures. The application will be on voluntary basis by Member Countries, which will have to update annually regarding progress and significant events, in order to be retained on the list. Besides this, OIE may withdraw the endorsement, in the case of non-compliance with the outlined programme.

The incentives to apply for endorsement include access to funding and political and trade negotiation support. Beyond this, endorsement of Official Control Programme is amidst the objectives of a global FMD control strategy, as well as PVS Pathway, since the endorsement considers the capacity and performance of Veterinary Services. The theme were discussed on the OIE Global Conference on Veterinary Legislation, held in 2010 in Djerba, Tunisia, where the recommendations have stressed the importance of continuing providing PVS Pathway and its Veterinary Legislation Support Programme, as well as the relevance to raise public awareness of the importance in Veterinary Services as a Global Public Good.

Members were encouraged to be more active in the standard setting process of the OIE.

This presentation is provided in Appendix 45.

Discussion for the session:

• Dr Chua Tze Hoong of AVA, Singapore asked Dr Caya if there are any obligations on importing countries having to accept livestock and livestock products from exporting countries where there is an OIE endorsement of national control programmes but are not yet recognised to be free of FMD. Dr Caya replied that recommendations for an importing country will remain the same whether or not the exporting country has an endorsed control programme.
VI. PROGRAMME MANAGEMENT

1. Proposed STANDZ and SEACFMD Phase 4

Dr Ronello Abila presented the proposed STANDZ Initiative and SEACFMD Phase 4.

AusAID funding for Phase 3 of the SEACFMD Programme and the Programme for Strengthening Veterinary Services finishes on 30 June. Given the importance of livestock in the Region, the social and economic costs of emerging infectious and transboundary diseases, and the clear and sustainable benefits that occur from effective national veterinary services and systems to support animal health, OIE and AusAID have proposed an initiative that would continue and expand approaches to FMD, capacity building and certain zoonotic diseases.

The Programme (2011-2015) under a single banner – STANDZ – would have three distinct but mutually reinforcing programmes:

- SEACFMD Phase 4
- Strengthening of Veterinary Services (STRIVES), and
- Project One Health.

This presentation is provided in Appendix XX and Appendix 46.

SEACFMD Work Plan 2011/2012

Dr Ronello Abila presented the proposed activities for 2011/12. The SEACFMD 2020 Roadmap will be submitted for endorsement in the ASWGL and OIE Regional Commission meetings. STANDZ is also set to be in full implementation by August. The SEACFMD newsletter will be transformed to SRR SEA News, but the SEACFMD E-News will be retained. The new website will be launched by the SRR SEA soon.

The planned studies and other proposed activities including the meetings with high-level country officials were presented as well.

Further details of this presentation are provided in Appendix 46.

2. ASEAN Report

Dr Solomon Benigno of the ASEAN Secretariat presented the progress report on Animal Health Cooperation in ASEAN.

Transboundary animal diseases, such as FMD, and zoonotic diseases have been well recognised by ASEAN as important issues for agricultural development. They do not only pose threat to food security and safety and livelihoods of farmers, but also on public health. They are also are serious obstacles to intra- and extra-ASEAN trade in live animals and livestock products. Moreover, the large number of livestock smallholders; informal and illegal trade; and potential impact of climate change have made the prevention and control of TADs rather complex. As such, they should be addressed through a comprehensive, integrated and concerted approach.

Over the years, the ASEAN Sectoral Working Group on Livestock (ASWGL), under the purview of the ASEAN Ministers on Agriculture and Forestry (AMAF), is the main sectoral body responsible for addressing issues and challenges in the sustainable development of livestock and TADs. With support from the ASEAN Secretariat, this body has been promoting cooperation on livestock development and transboundary animal and zoonotic diseases through four distinct but inter-related approaches. These are:

- Strengthening national animal health capability, particularly veterinary services, through good governance and with legal and institutional support;
- Strengthening regional coordination on TADs and zoonoses with focus given to control and prevention of the diseases at-source;
- Supporting animal health sector towards greater contribution to multi-sectoral cooperation on pandemic preparedness and response, and public health; and
Enhancing partnership arrangements and cooperation, considering comparative advantages, maximising synergy and complementarity, among concerned partners and agencies, such as FAO and OIE.

The report elaborated the progress of the various initiatives undertaken by ASEAN under these approaches including the identified challenges and future plans.

Further details of this presentation are provided in Appendix 47.

3. M&E principles

Mr Royce Escolar presented on M&E principles that can be adopted by the SEACFMD Campaign.

The underlying objective of SEACFMD activities is to achieve results in eradicating FMD in the region. Information on results (e.g. what happened, how much change occurred, factors for success or failure, and who benefits from interventions) are required by various parties including national governments, donors, beneficiaries, implementing partners, and by the activity implementers themselves. Monitoring and Evaluation (M&E) is a crucial tool in providing an evidence-based approach to explaining and communicating the effectiveness of our activities. Challenges in the M&E data cycle can be addressed by: establishing and quantifying baseline figures; agreeing on targets and measurable performance indicators; clarifying end-of-activities outcomes; and clarifying data collection and analysis protocols. M&E is as an integral function in the daily operations of implementers and should not only occur during formal evaluations of activities or during submissions of activity progress reports. M&E is only a means to an end. It is only valuable if M&E data and analysis are: a) used by implementers to continuously improve current performance and design of future activities; b) communicated to relevant partners and translated into evidence-based policies and decisions, including those on resource allocation. A strong M&E under SEACFMD, at the regional and national levels, will provide clarity on the extent we are achieving SEACFMD 2020 targets, will help in identifying key gaps that hinder the achievement of our targets, and will assist SEACFMD livestock departments in advocating and obtaining sustainable national government funding for their respective FMD eradication plans.

Further details of this presentation are provided in Appendix 48.

4. HPED Project in Asia

Dr Alain Dehove presented the HPED Project in Asia.

The regional cooperation programme on Highly Pathogenic Emerging and re-emerging Diseases (HPED) in Asia is financed by the European Union. The OIE component comprise strengthening of veterinary services, establishment of a regional vaccine bank and capacity building for surveillance, early detection and eradication of highly pathogenic emerging and re-emerging animal diseases. It aims to improve animal health, including zoonoses in the region with a strong impact on public health, which includes food security and also to provide capacity building for surveillance, early detection and eradication of highly pathogenic emerging and re-emerging transboundary animal diseases in the region as well as good governance of animal health systems.

Several Asian countries eligible for funding of activities at country level under EU (DCI) Regulation (Development Cooperation Instrument), namely Afghanistan, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Democratic People's Republic of Korea, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam. The project activities implementation will be overseen and guided within existing coordination mechanisms with 48 months for the implementation.

The OIE component intends to set up an operational regional vaccine bank, build capacity in the region through Evaluation of Performance of Veterinary Services (PVS) and PVS Gap Analysis on compliance of Veterinary Services with international standards and build capacity through national and regional seminars and workshops for public and private policy makers on good governance of Veterinary Services.

PVS Gap Analysis request have been received and mission will be implemented in Bangladesh, Brunei, Cambodia, Korea (DPR), Laos, Nepal and Sri Lanka. PVS Gap Analysis missions have already been implemented in Bhutan, Fiji Islands, Indonesia, Mongolia, Myanmar, Philippines and Vietnam.
OIE implements capacity building by organising national and regional seminars and workshops on good governance of Veterinary Services and on the necessity of appropriate legislation and implementation through national animal health systems. It also maintains continuing information and education of country Delegates to the OIE and national OIE focal points in the country.

EU co-financing amounts to EUR 7,000,000: PVS Pathway (PVS Evaluations and PVS Gap Analysis) ~16%, regional seminars and workshops ~16%, vaccine banks / communication / other, including coordination ~68%.

The full presentation of Dr Dehove is attached in Appendix 49.

Discussion:

- It was stressed that the vaccine bank cannot be used for blanket vaccination in endemic situations, rather for emergency purposes covering FMD-free countries.

- O1 Manisa remains to be good strain to be incorporated in the vaccines in the Region. But no cross-challenging for pigs was done in WRL, Pirbright.

- Dr Gardner Murray stressed that in addition to having a good vaccine, good vaccination practices and vaccine handling must be in place.

- As regards the timeline for delivery, the call of tender will include different prices based on time delivery. Delivery within a week or within three days is considered.

- Relating to strain variations, a mechanism will be established to keep the situation under review.

- The contract will have the flexibility for optional strains and will make it adaptable to different situations.

- It was queried if the STANDZ Initiative will be endorsed to the ASEAN. The OIE SRR SEA will work with ASEAN on the ‘One Health’ aspect. The SEACFMD Campaign has already been established by the ASWGL, and Phase 4 will be incorporated under STANDZ.

- The ASEAN 2015 Plan looks into putting ASEAN as ‘one market.’ The implication on animal health will be important with greater opportunity to produce more animals for food but the risk will also be greater. Thus the capacity building of ASEAN Member States will be crucial, facilitated by partner support and sharing of experiences between Members. European Union is being looked at as a model.

- It was noted by Dr Bernard Vallat that in the EU, the first step is the harmonisation of legislations, followed by having a common ‘police’ for the Region.

5. Mission to the Democratic People’s Republic of Korea

Dr Alexandre Bouchot of the OIE SRR SEA shared information regarding the mission he joined in the Democratic People’s Republic of Korea (DPRK) in response to the ongoing FMD outbreaks. DPRK requested OIE and FAO for assistance on 7 February and under the Crisis Management Center for Animal Health umbrella, a team arrived in Pyonyang on 28 February and departed on 7 and 8 March.

Many outbreaks, scattered in 75% of the provinces, have been reported in a very short period of time. Tracing the origin of the outbreak revealed to be very difficult. In-country farm visits have allowed to assess that FMD in DPRK is still spreading rapidly.

Advice was given to tighten control measures; collect more samples for serotyping in WRL; and conduct strategic vaccination.

Funding is being sought for vaccination in the next 2–3 months and it is hoped that the country will be eligible under the HPED vaccine bank mechanism.

Further information on this report is in Appendix XXI.
Discussion:

- The source of the outbreak in the Democratic People’s Republic of Korea remains unclear. The start of the outbreak is probably on 25 December and it is also unclear if the outbreak has started even before that date.

6. Concurrent meetings of Delegates and Observers

The following sections report on the outcome of the SEACFMD Delegates and Observers meetings. The plenary session was used to discuss and amend the outcomes and recommendations directly.

i) SEACFMD Delegates’ Meeting

The SEACFMD delegates meeting included member country representatives from Brunei, Cambodia, PR China, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The meeting was chaired by Dr Gardner Murray. The delegates came up with recommendations that were incorporated in the recommendations of the Meeting.

The agenda of the meeting is provided in Appendix XXII, the key issues raised in Appendix XXIII, and the recommendations in Appendix XXIV.

ii) Observers’ Meeting

Approximately 60 participants attended the meeting of the SEACFMD Observer Delegates chaired by the Director General of the OIE.

The agenda of the meeting is attached in Appendix XXV. The recommendations and observations were incorporated in the recommendations of the meeting as well and can be found in Appendix XXVI.

7. Report back

The discussions and outcomes of the plenary session are incorporated into the above meeting reports.

VII. FIELD TRIP REPORT

On 10 March 2011, the delegates and observers went for a field trip to the Rare Angon Farmers Group Farm and livestock market in Bangli District, known for rearing the famous Bali cattle. Rare Angon has 30 members and each member has around 10 cattle. The livestock group is under the supervision of Bangli District Livestock Services, and has applied a simple administrative and technical farm management in an integrated farming system called SIMANTRI.

The objective of this system is to integrate livestock, farming, and horticultural activities in order to increase productivity, add economic value and provide an environmentally friendly farming system through management of livestock waste. Livestock waste management in this farmers group uses simple application of technology such as biogas production, and urine and manure processing to be used as organic fertilizer. These products are sold through a farmers cooperative and livestock market.

The livestock market in Kayuamua, Bangli is open 1-2 times a week based on Balinese Day (day of betheng; there are three Balinese days a week). Unfortunately, the market was not open during the visit. When in operation, the market is open for 7 hours starting from 5 am. Cattle, pigs, chickens and ducks are usually sold in this market with the capacity of approximately 200 cattle and 15 pigs.

Lunch afterwards was hosted by the OIE SRR-SEA at Kedisan Floating Restaurant located in Kintamani, Bangli, which showed a beautiful view of Batur Lake and Mountain.

The field trip ended in a tour and dinner at the Bali Safari and Marine Park. Located in Gianyar District, the Bali Safari and Marine Park showcases more than 80 species of animal, some of which are classified as rare and endangered. It is involved in conservation and education projects especially on the conservation of the Sumatran elephants.
VIII. MEETING OF OIE DELEGATES OF SOUTH-EAST ASIA (OPEN SESSION)

1. OIE 5th Strategic Plan and 'One Health'

The Director General of the OIE presented an overview of the 5th OIE Strategic Plan (2011–2015), while reaffirming that the OIE activities are a global public good for the international community and that their cost for Members is negligible compared to the services they provide. The global objective of the OIE is the improvement of animal health all over the world.

The 5th OIE Strategic Plan includes in particular:
- To ensure transparency in the global animal disease situation;
- Publishing science-based standards, especially with reference to the WTO–SPS Agreement;
- Publishing guidelines for the prevention, control and eradication of animal diseases, including zoonoses; acknowledgement of Members health status;
- Capacity-building activities: training of Delegates and National Focal Points (relation with the OIE, disease information, aquatic animals, wildlife, animal production food safety, veterinary products, animal welfare, veterinary services communication and laboratories);
- Strengthening the OIE’s influence on global, regional and national policies, on governance policies for veterinary services and prioritization within scientific research policy;
- Strengthening of OIE as an adviser of Members to help to avoid and to resolve trade disputes.

It was highlighted that this encapsulates the following key concepts:
- Considering animal health systems as a global public good;
- Considering One Health as a global strategy for managing risks at the animal-human interface and complementarity between IHR and OIE standards obligations;
- The necessity to consider Food Security & Food Safety;
- Considering animal welfare as an OIE strategic engagement (animal health is a key component of animal welfare and OIE is recognised globally as the leader in setting international animal welfare standards);
- Considering relation between livestock and environment;
- Veterinary education (recognition of veterinary diploma and professional excellence and follow-up to OIE Global Conference on Veterinary Education -UNESCO support-), and
- Good governance of Veterinary Services (need for appropriate legislation and implementation through national animal health systems; alliances between public and private sectors (farmers, consumers); quality of Services, PVS Pathway, use of the OIE PVS evaluation tool and PVS Gap Analysis; Initial and ongoing veterinary education).

Further details of this presentation are provided in Appendix 50.

2. FAO Initiatives

Dr Wantanee Kalpravidh presented the FAO programme on One Health. Several meetings/workshops have been conducted for ‘One Health’ during the past few years to promote and implement the concept. The strategic framework was presented in 2008 and from then on, key meetings were organised, the details of which are provided in Appendix 51.

The FAO Programme for One Health in the Asia–Pacific Region is spearheaded by the Emergency Center for Transboundary Animal Diseases, FAO Regional Office for Asia and the Pacific. There were several key points raised and discussed in previous meetings related to 'One Health' (OH). Issues of concern include the different understanding of OH, the importance of OH is not recognised by all stakeholders and varying support for implementation at all levels, challenge in managing trans-sectoral collaboration and coordination, insufficient decision-making based on scientific evidence, not enough capacity to apply OH, countries request for guidance to operationalize OH. The three major areas in focus are advocacy, strengthening coordination and collaboration across sectors and disciplines and capacity-building.
The FAO Programme started with harmonization of understanding among ECTAD teams in Asia. The scope of which covers transboundary animal diseases, zoonoses, EIDs and re-emerging EIDs, environmental health including wildlife health, livelihoods, food security and safety, multidisciplinary approach, prevention and the ability to deal with the unknown.

Specific activities in 2011 include encouraging ‘One Health’ dialogue among sectors at country and regional level through country teams (i.e. expanding the HPAI work, and joint activities among ASEAN, SAARC, OIE, WHO and FAO, regional Laboratory Networks, referral system to World Reference Laboratory, establishment of appropriate sample bank for necessary retrospective studies especially for wildlife), capacity building for epidemiology (i.e. FETPV), key/more formal pilot projects as case studies at country level (linkage of Thai FETPV and FETP with possibility to expand to involve wildlife group and private livestock producing sectors, partnerships with Government Research Funding Agencies and Thai universities to study “Animal-Human-Ecosystem Interface” using bats and Nipah virus infection as a model, developing a proposal for “Rabies Control in Denpasar”.

There are also implementation arrangement and partnerships occurring, in particular, the ASEAN’s support for regional coordination and activities, common work plan among FAO, OIE and WHO as well as others, OIE-PVS laboratory component.

3. Progress with GF-TADS in Asia

Dr Itsuo Shimohira, OIE Regional Representative for Asia and the Pacific, presented the progress with the GF-TADs in Asia. OIE and FAO co-organised the 4th Regional Steering Committee Meeting of GF-TADs for Asia and the Pacific on 1–2 July 2010 in Bangkok, with the collaboration of the Ministry of Agriculture and Cooperatives of the Government of Thailand. And the 1st Steering Committee Meeting of the EU funded HPED Programme was organized back to back with the GF-TADs Meeting on 1 July.

Both meetings were attended by more than 50 participants from various organisations, namely the OIE Headquarters and Regional and Sub-Regional Representations, the FAO Headquarters and RAP, Regional Commissions (FAO/APHCA, OIE Regional Commission), WHO SEARO, regional organisations (ASEAN Secretariat, SAARC Secretariat, SPC Secretariat), donors (EU, AusAID, JICA, USDA) as well as the Delegate and observers from the host country (Thailand).

The meeting of GF-TADs Regional Steering Committee emphasized following points in the conclusions and recommendations:

- GF-TADs should provide a coordinating platform for the national veterinary services of the region, regional organisations, international organisations, and donors to promote synergies and avoid duplication and fill gaps.
- GF-TADs should continue to address capacity building and, strengthening of veterinary services to meet the OIE standards. And the resource limited countries should be given high priority under the GF-TADs initiative through broader sub-regional collaboration in supporting veterinary services to comply with OIE standards.
- GF-TADs, with the participation of WHO, will focus on the important TADs and potential zoonoses targeting the principal source in animals. In zoonoses, cross sectoral collaboration between animal health, human health and ecosystems should be promoted to achieve the principle of a ‘One Health’ approach (in line with the FAO/OIE/WHO Tripartite Concept Note of April 2010).

Based on the recommendations in the meeting, the several kind of activities were implemented to serve as the guidelines for further improvement of TADs control in the Region.

Please refer to Appendix 52 for further details.

4. Australia Programmes on EIDs

Mr Royce Escolar informed the meeting that Australia has committed over A$200 million since 2003 for initiatives to combat the threat of pandemics and other emerging infectious diseases in the Asia Pacific region.
Lessons learnt in the previous implementation include the need to:

- strengthen value for money and impact of programs;
- improve effectiveness and sustainability of interventions;
- focus on health systems strengthening;
- act and think across sectors; and
- improve the evidence-base of activities and policies.

These lessons will inform AusAID’s future support guided by the new AusAID Pandemics and EID Framework (2010–2015).

The EID Framework has four objectives:

- promoting adherence to international standards of animal and human health;
- strengthening systems for the prevention, detection and control of EIDs at the community level;
- responding to EID outbreaks when they occur; and
- building an evidence base for the response to EIDs.

The mechanisms in which AusAID will deliver against the objectives of the new EID Framework is currently being developed and/or negotiated with key implementing partners.

Please refer to Appendix 53 for further details.

5. EU Programme on EIDs

Dr Alain Vandersmissen presented EU’s programme on EID. He reported that ‘One Health’ (OH), the approach to health that addresses risks at the interface between animals, humans and their various environments through interdisciplinary and cross-sectoral collaborations, has now become an international movement. Key international events related to the setup of this movement are the Winnipeg and Stone Mountain expert meetings that took place respectively in March 2009 and May 2010, and more recently the 1st International One Health Congress of Melbourne, Australia on 14–16 February 2011. The European Union contributed to this congress, including by facilitating and funding the participation of 28 delegates from 11 Asian countries.

The first ‘One Health’ regional programme in Asia—the Highly Pathogenic and Emerging or Re-emerging Diseases (HPED) programme—started in December 2009 and is now in full implementation. It will be reviewed by independent consultants in June this year.

The current EU strategy for Asia was designed for the period 2007–2013. Time may have come to reflect collectively about the gaps that remain to be filled, in some Asian countries, in order to allow the set-up of a common standard minimum basis, including in national legislations, to network better and develop harmonized central and field initiatives for action under a joint OH umbrella.

Finally, there is a strong international advocacy for finding a better sectoral balance in OH meetings and initiatives. This implies first of all to identify and involve more actors of the human medical profession in out networks. Secondly the environmental and wildlife dimension of OH has to be developed, including wildlife veterinary aspects. Regarding endangered species, the European Union is willing to join the Convention on Endangered Species (CITES) as a full member. This process, which would offer many advantages to our partners in CITES is currently blocked by the delay of some countries, including countries in Asia, to ratify the Gaborone Amendment to CITES. In the OH concept, even more than before, the ratification of this amendment agreed in 1983 is of utmost importance.

The full presentation of Dr Vandersmissen is attached in Appendix 54.

Key outcome of plenary session’s discussion

Following the intervention of the Director General of the OIE giving the position of the three sister organisations (FAO, OIE and WHO), the European Union (EU) representative has reaffirmed the opposition of the EU to the institutionalisation of the ‘One Health’ approach, as already indicated during the recent OH
Conference in Melbourne. This statement was supported by the Member Delegates of the Philippines and Malaysia and by the representatives of Australia and New Zealand. It was also reaffirmed by the meeting that the World Bank should not take isolated initiatives in the One Health context ignoring existing international standards and organisations’ policies.

The need to implement the recommendations of the 1st OIE Global Conference on Wildlife was reiterated, this includes in particular the need to raise awareness and cooperation among veterinary services and wildlife operators, such as zoo keepers, natural park rangers, associations of hunters and fishermen, on existing animal health international standards (in particular OIE and CITES).

It has been indicated that in the context of the FAO-OIE-WHO Tripartite Concept Note "Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces – The FAO-OIE-WHO Collaboration" (April 2010), the three international organisations, in close cooperation with donors, UNSIC and the World Bank will organise a global Joint Ministerial Meeting to present an action plan and guiding principles to WHO, OIE and FAO Members, represented by both Ministers of Agriculture and Health, on the role of tripartite partnerships in cross-sectoral activities to address health risks at the human-animal-ecosystems interface. This meeting should be hosted by Mexico (currently scheduled in November 2011).

IX. MEETING OF OIE DELEGATES OF SOUTH-EAST ASIA (CLOSED SESSION)

The OIE Delegates in South-East Asia (or their representatives in several countries) together with the SEACFMD National Coordinators were met in a close session to discuss matters pertaining to OIE. The PR China was represented in the meeting as well.

X. GENERAL BUSINESS

1. Finalising recommendations and reports

The draft recommendations were presented to the delegates and the observers at the meeting and comments invited on each recommendation.

2. Date and venue for the next Sub-Commission Meeting

It was agreed to hold the next meeting of the OIE Sub-Commission in PR China in March 2012.

XI. CLOSING CEREMONY

Dr Prabowo Respatyo Caturroso, Director General of the Directorate General of Livestock and Animal Health Services (DGLAHS) of Indonesia; conveyed his gratitude to the OIE and the Governor of Bali for organising the Sub-Commission meeting. He also extended his appreciation to all the delegates and guests for their contribution and participation.

He expressed his satisfaction over the numerous important agreements achieved at the meeting. He called on OIE to further enhance its disease prevention system which supports countries in managing the disease thereby helping neighboring FMD free countries in maintaining their status.

He placed emphasis on the establishment of an FMD vaccine bank in order to respond in an emergency situation. He also noted that the development of a guideline on the mechanism for access to the vaccine bank is also needed. Continuous implementation of public awareness was also called for.

He wished all participants a safe trip back to their home countries and that their stay in Bali was a memorable one.

He declared the 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China closed and expressed his wish to see everyone at the meeting next year in China.

Dr Bernard Vallat thanked the Governments of Indonesia and the Province of Bali for their support and also those who worked hard in organising the meeting. He also thanked the delegates for their contributions and the local and international observers who took the time to come and join the meeting.
XII. ACKNOWLEDGEMENTS

The OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China acknowledges the continued support for the SEACFMD Campaign by its major supporters including OIE, the Australian Government through its overseas aid program AusAID, the Government of New Zealand, the Department of Livestock Development of Thailand for hosting the Regional Coordination Unit and the OIE Sub-Regional Representation for South East Asia, the Government of France, FAO, ASEAN and the Governments of all SEACFMD member countries. The Government of the Republic of Indonesia and the Province of Bali are sincerely thanked for their support and arrangements for this meeting.
17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South East Asia and China (SEACFMD) 
Bali, Indonesia, 7-11 March 2011

PROGRAMME

6 March 2011 (Sunday)

Arrival of participants

13:30-15:30 National Coordinators’ Meeting

16:00-18:00 Meeting of Steering Committee

7 March 2011 (Monday)

08:30-08:50 Registration of participants

09:00-10:00 Opening Ceremony

Welcome Speech by the Governor of Bali Province represented by the Head of Livestock Services of Bali Province
– Mr I Putu Sumantra

Speech by the President of OIE Sub-Commission for FMD Control in South East Asia and China
– Dr Gardner Murray

Speech by the Director General of the World Organization for Animal Health (OIE) represented by the Coordinator of the OIE World Animal Health and Welfare Fund
– Dr Alain Dehove

Opening Speech by the Minister of Agriculture, Indonesia
– HE Ir. H. Suswono

Official photograph

10:00-10:30 Tea break

Chair: Dr Gardner Murray
President, OIE Sub-Commission for FMD Control in SEA and China

10:30-10:45 Objectives of meeting and modus operandi
– Dr Gardner Murray, President, OIE Sub-Commission for FMD Control in SEA and China

Policy/Strategic

10:45-11:30
1) The SEACFMD progress report
– Dr Ronello Abila, Regional Coordinator, SEACFMD RCU

2) The revised SEACFMD 2020
SEACFMD 17th OIE Sub-Commission Meeting, Bali, Indonesia

– Dr Ronello Abila, Regional Coordinator, SEACFMD RCU

**FMD Status Reports**

11:30-12:00  3) **Update on the world situation in relation to FMD**  
– Dr Jef Hammond

12:00-13:30  
*Lunch break*

Chair: Dr Gardner Murray  
President, OIE Sub-Commission for FMD Control in SEA and China

13:30- 15:30  4) **Status of FMD in South East Asia and China**  
– Dr Sharie Michelle Aviso

5) **Member status reports**  
Brunei, Cambodia, China, Indonesia, Laos

15:30- 16:30  
*Tea break*

16:00-17:15  6) **Overview of 2010 FMD outbreaks in other countries**  
Japan – Dr Kenichi Sakamoto

19:00-22:00  
*Dinner hosted by OIE*

**8 March 2011 (Tuesday)**

08:30-10:00  7) **Other reports**

  a) Reports from other members of the Sub-Commission – Australia, New Zealand, OIE Regional Representation for Asia and the Pacific, FAO

  b) Reports from collaborators and International Agencies – AusAID, ACIAR, CSIRO, Canada, EU, Japan, Chinese Taipei, USDA, Murdoch University

10:00-10:30  
*Tea break*

**Technical**

Chair: Malaysia

10:30-12:00

8) **Zoning in Region 2 of Thailand**  
– Dr Prawat Rattanaphumma

9) **FMD vaccination strategy**  
– Dr Ronello Abila

10) **China vaccination programme**  
– Dr Qin Dechao

11) **Pilot vaccination study in Cambodia**  
– Dr John Stratton
12) Studies on diagnostic methods and vaccine efficacy for FMD in Yunnan Province, PR China
   – Dr Li Huachun

12:00-13:30
   Lunch break

Chair: Thailand

13:30-15:30

13) SEACFMD research plans and strategy
   – Dr Ronello Abila

14) Progress of FMD Regional Reference Laboratory
   – Dr Wilai Linchongsungsubongkoch

15) AAHL FMD research programme for South East Asia
   – Dr Wilna Vosloo and Dr Wilai Linchongsungsubongkoch

16) Case study of FMD outbreak in Myanmar
   – Dr Kyaw Naing Oo

17) FMD in Cambodia: How to improve surveillance in a challenging environment?
   – Dr Flavie Goutard

18) Molecular characterisation of FMD viruses isolated from persistently infected
    swamp buffaloes of Myanmar
   – Dr Satya Parida

19) The role of asian swamp buffaloes as FMD carrier in SEA
   – Dr Blesilda Verin

20) Characteristic of FMD viruses isolated in Japan
   – Dr Katsuhiko Fukai

15:30-16:00
   Tea break

Chair: Philippines

16:00-17:00

21) Progress of FMD vaccine development
   – Dr Paul Van Aarle (Intervet International BV)
   – Dr Philippe Dubourget (Merial SAS)

22) Animal health communication in South East Asia
   – Dr Jarunee Siengsanan

23) Lessons in community based disease control and prevention in the Mekong region
   – Ms Jacquelyn Pinat

24) Update on Standards (OIE Code and Manual) in relation to FMD and key outcomes
    of the Legislation Conference
   – Dr François Caya

18:30-21:00
   Dinner hosted by Private Sector
9 March 2011 (Wednesday)

Programme Management

Chair: Dr Gardner Murray
President, OIE Sub-Commission for FMD Control in SEA and China

08:30-10:00
25) Proposed STANDZ and SEACFMD Phase 4
   – Dr Ronello Abila

26) SEACFMD Work Plan 2011/2012
   – Dr Ronello Abila

27) ASEAN Report
   - Dr Solomon Benigno

28) M&E principles
   – Mr Royce Escolar

29) HPED Project in Asia
   – Dr Alain Dehove

30) Mission to the Democratic People’s Republic of Korea
   – Dr Alexandre Bouchot

10:00-10:30
   Tea break

10:30-12:00
31) Concurrent meetings for Groups I, II
   
   Group I - SEACFMD delegates – Chair, Dr Gardner Murray
   
   Group II - Observer participants – Chair, Dr Bernard Vallat

12:00-13:30
   Lunch break

13:30-15:30
   Continuation of Group meetings

15:30-16:00
   Tea break

16:00-17:00
32) Report back

19:00-21:00
   Dinner hosted by DGLAHS

10 March 2011 (Thursday)

07:00-17:00
33) Field trip

   Evening free
11 March 2011 (Friday)

**Chair:** Dr Gardner Murray  
Special Advisor to OIE

34) **OIE Delegates Meeting** (open session)  
Purpose: To discuss developments on ‘One Health’

08:30-10:00

i) **OIE 5th Strategic Plan and One Health** – Dr Bernard Vallat

ii) **FAO Programme on One Health** – Dr Wantanee Kalpravidh

iii) **Progress with GF-TADS in Asia** – Dr Itsuo Shimohira

iv) **Australia Programmes on EIDs** – Mr Royce Escolar

v) **EU Programme on EIDs** – Dr Alain Vandersmissen

10:00-10:30  
*Tea break*

10:30-12:00  
Plenary – discussion/presentation by countries on key issues relevant to OIE and partners

12:00-13:30  
*Lunch*

13:30-15:30

35) **OIE Delegates Meeting** (close session)

15:30-16:00  
*Tea break*

16:00-17:00  
**General business**

i) Finalising Recommendations and Reports

ii) Date and venue for the next Sub-Commission Meeting

iii) Other business

37) **Close of meeting**

– Dr Prabowo Respatyo Caturroso, DGLAHS
– Dr Bernard Vallat, OIE

12 March 2011 (Saturday)

**Departure of participants**
### APPENDIX II

**17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control**

in South East Asia and China (SEACFMD)

Bali, Indonesia, 7-11 March 2011

### LIST OF PARTICIPANTS

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Welcome Speech of the Governor of Bali Province
Delivered by Mr I Putu Sumantra in behalf of Governor Made Mangku Pastika

Your Excellency the Minister of the Agriculture of the Republic of Indonesia
Your Excellency Director General of OIE
Delegation from Indonesia, Cambodia, Philippines, Laos, Malaysia, Myanmar, Thailand, Vietnam, Brunei, Singapore, People’s Republic of China and Australia
Distinguished guests, ladies and gentlemen.

OM SWASTYASTU.

First of all, I would like to accompany all of us to give thanks to the God because of His blessing we can join together happily in this room to attend the opening ceremony of the South-East Asia and China Foot and Mouth Disease (SEACFMD) Meeting.

In this important moment I would like to thank you very much and appreciate to the Director General of the Office International Des Epizooties (OIE) who has appointed the Government of Indonesia as the host and chose Bali as the place of this meeting.

On behalf of the Government and the people of Bali, I would like to welcome all of you, especially the delegations from other provinces and other countries, in Bali, the island of paradise, the island of God. Please enjoy our beautiful panorama as well as our fantastic and unforgettable art and culture.

Ladies and gentlemen,

According to the Resolution of OIE No. XI/1990, Indonesia has been declared to be a country free of foot and mouth disease. In order to protect this status, the Government of Indonesia as a member of OIE SEACFMD has the responsibility to actively participate in building and developing information framework and harmonious cooperation among countries in South-East Asia Region under the coordination of the OIE SEACFMD. An agreement for prevention and control of foot and mouth diseases as a transboundary animal disease must be established and to be a direction used by all countries either nationally or internationally.

Distinguished guests, ladies and gentlemen,

There was something that I can mention in this moment. Thank you very much for your attention. Have a good meeting and hoping the meeting will result some strategic steps to control foot and mouth disease in South-East Asia Region, China and Australia. Please also do not forget to visit some interesting places in Bali and spend your pocket money to buy original Balinese souvenirs here.

Thank you very much.

OM SHANTIH, SHANTIHOM SHANTIH, OM.

The Governor of Bali
Made Mangku Pastika
Opening Address of the Director General of the OIE
Delivered by Dr Alain Dehove, OIE World Fund Coordinator

Your Excellency, Igr. Suswono, Honourable Minister of Agriculture of the Republic of Indonesia,

Director General,

Dr Gardner Murray President of the OIE Sub-Commission for FMD in Southeast Asia,

Dr Itsuo, Shimohira, OIE Regional Representative for Asia,

Dr Ronel Abila, OIE Sub Regional Representative,

Dear OIE Delegates and their Representatives,

Representatives of Donors and international organisations,

Distinguished guests,

Ladies and Gentlemen,

It is an honour for me to address this important meeting, on behalf of the Director General of the OIE who can only join us tonight. He apologizes for not being present at this opening ceremony.

First of all I would like to express my gratitude to the Government of Indonesia, with the appreciated active participation of H.E. the Minister of Agriculture of the Republic of Indonesia, for hosting this annual meeting to review progress achieved by the Members within the SEACFMD Campaign, as well as in the framework of other programmes for which the OIE participates actively in the region.

Our main objective is to control and progressively eradicate FMD in the Region by joining forces of all Members and to give appropriate tools to veterinary services including good governance principles to better prevent and control FMD and other priority animal diseases.

I would also like to thank the participants from the private sector, including from the vaccine industry. I do not forget scientists from our Reference Laboratories and other senior colleagues dealing with veterinary diagnostic and research. The efficient interaction between all those stakeholders is crucial to the work that has to be done towards the control and possible eradication – in some cases - of high impact animal diseases, including some zoonoses.

I wish to express the OIE’s gratitude to the various donors and governments for their support to the SEACFMD Campaign and other veterinary programmes. I would like to give special thanks to the Australian Government which has been one of the main provider of funds not only more recently to the PSVS programme to strengthen Veterinary Services in South-East Asia, but also to the SEAFMD Campaign since it started in 1997, and also to the New Zealand, Japan and French governments who also support and provide resources for the SEAFMD Campaign.

I also welcome the presence of the European Union who is a key Donor to the OIE World Animal Health and Welfare Fund worldwide, and who is financing particularly the HPED programme in Asia. This programme reflects the tripartite collaboration between FAO, OIE and WHO and, as regards its OIE component, will be of particular significance to the SEACFMD Campaign through the establishment of Regional vaccine banks, its support to the PVS Pathway, and its contribution to other capacity building activities.

Given the limited resources of the Members, geographical and epidemiological considerations, a key strategic element is to control FMD progressively. To that end, the OIE is currently proposing, for adoption to the upcoming annual General Assembly of OIE Members, new provisions for the endorsement of FMD Control Programmes, in line with the Progressive Control Pathway.
In this context, the SEACFMD Campaign is an internationally recognised model for regional control of FMD. During the last year a revised version of the SEACFMD 2020 Roadmap was prepared and will be finalised in the coming weeks. A paper version of the final draft of this document is shared with you this week and you are invited to provide your comments to Dr Abila, Sub-Regional Representative of the OIE in Bangkok, and his team so we can move on to the implementation phase.

Significant work has also been done on vaccination strategies, this will be useful, not only for the implementation of the Roadmap but also in the context of the setting up of a regional vaccine bank for food and mouth disease in Asia.

After the 1st Global Conference on FMD held in 2009 in Asuncion, Paraguay, the OIE and the FAO are working on the organisation of a 2nd Global conference on FMD which should be held in June 2012 in this region.

Your Excellency, Dear colleagues, I would like to take the opportunity to reiterate the importance of strengthening the governance of animal health systems for which the OIE has developed the PVS Pathway to build confidence and competence with and between its Members, while complying with international standards on quality of veterinary services.

2011-2012 will see in particular an accelerated implementation of the PVS Gap Analysis process to help Members identifying their priorities and preparing 5-year budgets for internal financial planning, or for the preparation of investments with Donors and international organisations.

And last but not least, while celebrating the 250th anniversary of the Veterinary profession, I would like to underline that 2011 will be the year Veterinarians will declare their victory against Rinderpest, the very first animal disease to have ever been officially eradicated. (The first veterinary school ever created in the world was inaugurated in 1751).

Your Excellency, Dear colleagues, Ladies and Gentlemen, I thank you for your attention and I wish you much success and fruitful discussions.

Thank you.
Assalamu'alaikum Warahmatullahi Wabarakatuh,

The Honorable:
Governor of Bali Province
Dr Bernard Vallat, Director General of OIE
Dr Itsuo Shimohiira, OIE Regional Representative for Asia Pacific,
Dr Gardner Murray, President of OIE Sub-Commission of SEACFMD

All Distinguished Delegates and Observers

First of all, I would like to thank to God Allmighty that we can be here together today and only because of His will, we can attend the 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South East Asia and China (SEACFMD) in Denpasar, Bali from 7 until 11 March 2011.

On behalf of the Government of Indonesia, I would like to express my highly appreciation to the Office International des Epizootics (OIE) for appointing Indonesia to be the host country in arranging this important meeting here in Bali. My appreciation also goes to the Governor of Bali Province who has supported and assisted the implementation of the meeting. Within this occasion, I would like also to extend warm welcome to all delegates, observers and distinguished guests and thank you for your great effort to come to this meeting. I wish you all has a successful meeting and hope that your stay in Bali will be a memorable one.

The 17th Meeting of the OIE FMD Sub-Commission for South East Asia and China will be the most historic and important meeting, since it is attended by 3 (three) new regular members, China, Brunei Darussalam and Singapore, which joined the Sub-Commission in 2010.

Distinguish Delegates, ladies and gentlemen,

Since animal disease could become a barrier in the international trade, it is very important to place greater emphasis on the control of contagious diseases, such as FMD which is still a major obstacle to livestock development in many countries in the world including ASEAN region.

According to the latest OIE Resolution in 2010, Indonesia is still recognized to be FMD free country without vaccination practices. Ministry of Agriculture, Republic of Indonesia categorized FMD as the exotic disease and places the highest priority on the program to prevent the introduction of this disease by implementing strict policy and regulation on the importation of live animal, animal product and animal by-product or other articles which could be possibly as media carrying FMD virus. The other effort to keep Indonesia free from FMD is by conducting surveillance and simulation exercise, as part of the emergency preparedness program.

Ladies and Gentlemen,

Based on the Terms of Reference of this meeting, now we are almost reach the end of Phase 3, which is designated as the consolidation phase, and the key features of Phase 3 was agreement to a strategy for FMD freedom with vaccination in participating countries by year 2020. Moreover, the focus of this meeting is to revised SEACFMD 2020 Roadmap and the Phase 4 of the SEACFMD Campaign, then followed by recommendations to support SEACFMD activities and program direction.

I believe that through this meeting where policy makers and experts are closely gathering, sharing informations and experiences will be very meaningful, and will be able to deliberate extensively over the issues on how the region can cooperate to control and eradicate FMD and to maintain free zones from introduction of this disease. I therefore, would like to emphasize that a regional program could be identified with reflection to the varying
capacity of countries in the region. For the Government of Indonesia, improvement of animal health status will improve animal productivity and subsequently improve livelihood for small holder farmers, increase livestock industry stability and increase opportunities to trade, which finally will lead to the achievement of self-sufficient on beef in 2014.

Distinguish Delegates,

Once again I would like to express my sincere gratitude to OIE for the assistance that has made this meeting possible and their contribution for helping the FMD control program run effectively in South East Asia countries and to all of the participants for the positive contribution. Last but not least, I would like to express my appreciation to the Directorate General of Livestock and Animal Health Services for excellent arrangement done towards the implementation of the meeting.

With these last words, I herewith pronounce the 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease in South-East Asia and China (SEACFMD) is officially opened.

May God bless all of our efforts to control FMD.

Thank you very much

Wabillahittaufik Wal Hidayah

Wassalamu’alaikum Warahmatullahi Wabarakatuh

Denpasar, 7 March 2011
Ministry of Agriculture
Suswono
The South-East Asia and China FMD Campaign
Progress Report
(March 2010 to February 2011)

Purpose

To advise the 17th Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China on the progress of the SEACFMD campaign from March 2010 to February 2011.

Highlights

Among the milestone of the Campaign during this period is the approval by the OIE General Assembly on 25 May 2010 on the membership of China as a member of the Sub-Commission and renaming it to “OIE Sub-Commission for FMD Control in South-East Asia and China (SEACFMD)”. The same Resolution also approved the membership of Brunei and Singapore to the SEACFMD Sub-Commission.

The application of the Philippines for zones 1 and zones 3 in Luzon Island as FMD free without vaccination was approved by the OIE General Assembly on 27 May 2010. The application for zone 2 as FMD Free without vaccination has been endorsed by the OIE Scientific Commission in February 2011 and for final approval by the OIE General Assembly in May 2011. Once approved, this will make the whole Philippines FMD free without vaccination. The other OIE recognised FMD free countries (Brunei, Indonesia and Singapore) without vaccination are maintained up to this date. Similarly, OIE recognised FMD free zones of Sabah and Sarawak in Malaysia were also maintained.

FMD outbreaks continue in the mainland of South East Asia. A relative few outbreaks were noted from April to July 2010, but starting September increased number of outbreaks were recorded in five Mekong countries. During the National Coordinators meeting in August, the Regional Coordinator has warned the members to be vigilant for a possible resurgence of outbreaks similar to the 2006 epizootics. Knowing that FMD epizootics follow a 3- to 5-year cycle, the latter part of 2010 to early 2011 is a critical period for possible FMD resurgence. To prepare countries for the possible epizootics and assess ongoing programs, the RCU conducted in-country meetings in Laos, Cambodia and Vietnam, attended by national and provincial officers. Although with limited resources, the SEACFMD provided 30,000 doses of FMD vaccines to Cambodia and Laos. Emergency funds were also given to Cambodia, Laos and Myanmar to support outbreak investigations and response.

In compliance with recommendations of the 16th Meeting of the Sub-Commission, SEACFMD 2020 Roadmap was revised and a final draft will be presented at the 17th Meeting of the Sub-Commission for endorsement. The revised Roadmap refocus its strategy in controlling FMD at the source, targeting possible hotspots which serve as probable foci of infection and critical points along the animal movement pathways which possibly act as amplification points of FMD transmission. A SEACFMD Vaccination Strategy was also drafted and will also be presented at the 17th Meeting of the Sub-Commission for endorsement. These two documents together with recommendations from the Sub-Commission and National Coordinators Meetings will guide the future activities of the SEACFMD Campaign.

A key achievement during this period in terms of strengthening institutional arrangements is the signing of the Agreement through Exchange of Letters between of OIE and the Ministry of Agriculture and Cooperatives of Thailand to formally establish the OIE Sub-Regional Representation for South East Asia (SRR-SEA). This Agreement will enhance capacity of the OIE to implement the SEACFMD Campaign.

Achievements by component:

Component 1: International co-ordination and support

- The 16th Meeting of the OIE Sub-Commission was held in Vientiane, Laos on 15–19 March 2010. The meeting was well attended with approximately 90 participants that included the delegates from the SEACFMD members, observers, international donors/organisations, private sector and other partner organizations. The highlight of the meeting is the endorsement of PR China as a member of the Sub-Commission and...
renaming the programme to “South East Asia and China FMD (SEACFMD)” Campaign. It was also recommended to invite Brunei and Singapore to become full members of the SEACFMD.

- Among the major decisions endorsed at the 16th Sub-Commission Meeting that will guide the Campaign in the next 12 months are: review of the SEAFMD 2020 Roadmap, development of a Vaccination Strategy, conduct of more in-country consultation meetings with field staff to progress FMD control, conduct case studies on outbreak investigation, development of communication field manual, closely coordinate with PSVS to enhance veterinary governance and with HPED to develop FMD vaccine bank.

- A historical 1st Meeting of the OIE Delegates in South-East Asia was launched on the last day of the Sub-Commission. The meeting congratulated the progress gained by the SEACFMD Campaign and also endorsed the recommendations of the Sub-Commission. The OIE Delegates agreed to hold a similar meeting next year back to back with the Sub-Commission.

- The 13th National Coordinators’ Meeting was organised in Siem Reap, Cambodia, on 3–6 August 2010. Among the highlights of the meeting is the finalization of the sub-regional vaccination strategy and the workshop to revise the SEACFMD 2020 Roadmap.

- The 9th Meeting of the Lower Mekong Working Group (LMWG) on FMD Zoning and Animal Movement Management was conducted in Pattaya, Thailand, on 10–12 November 2010. The meeting agreed to broaden its scope beyond zoning and focus on reduction of FMD prevalence in hotspots outside the zones and to rename “Lower Mekong Working Group (LMWG) on FMD Zoning and Animal Movement Management” to “Lower Mekong Working Group (LMWG) on FMD Control.”

- The Regional Coordinator participated in the 18th Meeting of the ASEAN Sectoral Working Group on Livestock (ASWGL) in Vientiane, Laos, on 5–7 May 2010. The progress of the SEAFMD Campaign in 2009/2010 was presented and the recommendations of the 16th Sub-Commission Meeting were endorsed. The ASWGL also endorsed the recommendation to develop a pilot project utilizing the ASEAN Animal Health Trust Fund (AAHTF) to support SEACFMD and other animal health activities of Member States. The improvement of the ARAHIS, including the on-line FMD reporting system, was identified as the project to be piloted.

- The OIE SEACFMD RCU is actively participating in the development of the ASEAN Regional Coordination Mechanisms (RCM). The Regional Coordinator participated in a one-day workshop held prior to the ASWGL meeting, to discuss the way forward in the development of an ASEAN RCM.

- The Regional Coordinator presented two papers at the FMD 2010 International Symposium in Melbourne, Australia on 12–14 April 2010. The Symposium gave another opportunity to present the achievements and the validity of the SEACFMD Campaign which has been recognized as model for regional and sub-regional control and eradication of FMD in other parts of the world.

- The staff of the SEAFMD RCU also participated in the 3rd Meeting of the GF-TADs Steering Committee Meeting in Bangkok on 1–2 July 2010.

**Component 2: Program Management, Resources and funding**

- The SRR received the 2nd and 3rd installment of the AusAID fund for Phase 3. With this fund the SEACFMD implemented more activities in AusAID eligible SEACFMD members such as emergency support to control FMD outbreaks through assistance of vaccines, operations funds to mobilize staff to conduct investigations and emergency interventions to control outbreaks, public awareness campaigns, sending of samples to laboratories and provisions of diagnostic reagents.
The SRR played a key role in the Project Design Mission to draft a new STANDZ (Stop Transboundary Animal Diseases and Zoonoses) Initiative in South East Asia that will cover SEACFMD Phase IV, strengthening of veterinary services following the OIE PVS pathway and a new One Health activity that will focus on rabies.

Review of SEACFMD 2020 Roadmap was finalized and a final draft will be presented at the 17th Sub-Commission Meeting for endorsement. The main changes in the roadmap are refocusing of the strategy to reduce overall FMD prevalence by targeting in hotspots and critical points, re-examination of progressive zoning to be implemented in the most feasible areas, and to strengthen risk mitigation measures to prevent entry of FMD in the free zones.

Collaboration with other animal health projects in the region continues, such as with ACIAR ULM project in Cambodia and Laos, the AusAID/FAO FMD eradication project in the Philippines and the JICA-ADC Project Phase 2.

Secondees from the Philippines and Vietnam did a very good study in analyzing the SEACFMD database to identify possible FMD hotspots in mainland South-East Asia (see Appendix 55 and Appendix 56). Another secondee from the Philippines helped in improving the communication activities of the SEACFMD Campaign and is taking the lead in drafting the SEACFMD Communication Manual.

**Component 3: Public Awareness and Communications**

- The SEACFMD collaborated with the PSVS project in the implementation of the sub-regional animal health communication strategy for South East Asia. The national FMD communication plans will be subsumed under the national animal health communication plans guided by the sub-regional strategy.

- The SEACFMD website will be re-structured under the new SRR SE Asia website. The new SRR SE Asia website which follows the features and façade of the new OIE HQ website is under testing and will be launched by May 2011.

- An FMD Communication Manual is being drafted with support of the Philippines FMD Task Force. This new document will provide guidance to further strengthen SEACFMD communication work at the field level.

- The ACIAR ULM project collaborated with SEACFMD in developing public awareness materials for traders and other key stakeholders.

- SEACFMD Newsletter and SEACFMD E-News continue to be published.

**Component 4: Disease surveillance, diagnosis, reporting and control**

- Submission of emergency reports to OIE WAHIS continues to improve. China reported all FMD outbreaks through OIE WAHIS and Myanmar its new serotype A outbreak in Rakhine. Routine submission of outbreak reports in endemic setting using on-line reporting link between the ARAHIS and SEACFMD website continuous to improve too, except for Laos that encountered problems within its administrative processes in reporting FMD outbreaks online.

FMD outbreaks continue in the mainland of South East Asia. A relative few outbreaks were noted from April to July 2010, but starting September increased number of outbreaks were recorded in five Mekong countries. In Cambodia, there was an increase of outbreaks starting in August and peaked in December with 57 outbreaks. In Vietnam, the highest number was in November with 69 outbreaks. In Thailand with only 2 outbreaks from January to August, reported 31 outbreaks from September to December. Most of these outbreaks were caused by serotype O. In China, 19 outbreaks caused by serotype O affecting 9 provinces and 2 outbreaks of type A in one province, were recorded in 2010.
Although serotype A is declining compared to serotype O, Myanmar reported a new serotype A outbreak in September in Rakhine near the Bangladesh border. This is the first time that serotype A was detected in the country since the last report of serotype A in 1999 in Tanintharyi Division. Sequencing done by OIE FMD Reference Laboratory in Pirbright revealed that the new Myanmar A/2010 isolate is closely related to A India/2000.

- Further refinement of the interactive version of the Outbreak Investigation and Management (OIM) course dubbed as RANEMA-Outbreak was undertaken with the help of Kyaw Naing Oo and CIRAD. A training using the trial version of the RANEMA-Outbreak was conducted in Yunnan with the support from FAO and CIRAD.
- Arrangements to conduct case studies on FMD outbreak investigations and emergency response to control outbreaks were conducted in Cambodia, Laos and Myanmar.

**Component 5: Policy, legislation and standards to support disease control and zone establishment**

- The application of the Philippines for zones 1 and zones 3 in Luzon island as FMD free without vaccination was approved by the OIE General Assembly on 27 May 2010. The application for zone 2 as FMD Free without vaccination has been endorsed by the OIE Scientific Commission in February 2011 and for final approval by the OIE General Assembly in May 2011. Once approved this will make the whole Philippines as FMD free without vaccination.
- Thailand has progress significantly in the establishment of a zone in Region 2 with the provisions of additional resources to conduct surveillance and animal movement control.
- As per recommendation in the 16th Sub-Commission, three in-country meetings were conducted, in Luang Prabang in Laos (10–11 May 2010), Dien Bien Phu in Vietnam (27 August 2010), and Phnom Penh in Cambodia (8 September 2010). These meetings were attended by national and provincial veterinary staff which discussed ways to progress the zonal activities in the country, and constraints encountered in FMD control. Recommendations were drafted to overcome these problems.
- The on-going activity of the PSVS on strengthening veterinary legislation underpins efforts to improve legislative support to FMD control. The Laos has a new veterinary legislation. Cambodia has ongoing efforts to develop a new veterinary legislation. Philippines and Vietnam is on the final stage of drafting a new veterinary legislation. Members are using the OIE guidelines on veterinary legislation in the review of their legislation.

**Component 6. Regional research and technology transfer**

- Through the efforts of the President of the Sub-Commission, Dr Gardner Murray, the OIE SEACFMD co-organised an R&D Biosecurity Workshop in collaboration with ACIAR and AB-CRC on 10–13 August 2010, in Siem Reap, Cambodia. Among the outputs from this workshop is the identification of research gaps in FMD control and to strengthen collaboration in the conduct of future researches to be funded by Australian government. A major output of this workshop is the development of a joint research project by ACIAR-OIE/SEACFMD to conduct a broader study on the implications of cross-border animal movement on biosecurity and SPS issues. The project is at the initial drafting stage and expected to be implemented by 2012.
- A follow-up study on the cross-border animal movement pathways along Myanmar-China and Myanmar-Thailand border has commenced, and is expected to finish by May 2011. A similar study will also be conducted in the Thai-Lao and Thai-Myanmar border very soon. These studies will supplement the previous studies conducted by FAO/ADB-OIE/SEACFMD and ACIAR ULM in Lao, Cambodia and Vietnam, to get a full picture of animal movement pathways in the Greater Mekong countries.
- The OIE FMD Reference Laboratory in Pakchong is working closely with AAHL-Geelong to develop research collaboration on FMD in South East Asia. This programme is expected
to enhance capacity of Pakchong laboratory in molecular diagnostics and other advance technologies. More importantly, this research collaboration will provide more in-depth analysis of the FMD virus characteristics circulating in the sub-region and monitoring efficacy of vaccines used against these virus strains.

**Component 7: Livestock sector development including private sector integration**

- Various levels of in-country meetings with traders were conducted by the members. Feedback from the meetings indicated willingness of traders to cooperate with governments to follow official way of transporting animals, but raise the issue that regulations should not be too stiff to restrict their business.

- Through the ACIAR ULM project, traders meeting were organized in Cambodia.

**Component 8: Monitoring and evaluation**

- The SEACFMD submitted annual reports to OIE headquarters and AusAID. The annual report to AusAID follow the new template of reporting outcomes on a yearly basis apart from the routine reporting of activities and outputs. AusAID Bangkok is providing advice to SEACFMD RCU to strengthen its M&E capacity.

- A Rapid Assessment of the SEACFMD AusAID funded project for Phase 3 was conducted by an Independent Expert. The Rapid Assessment concluded the “newly rebranded SEACFMD Roadmap 2020 and its Campaign remains an important and relevant program for AusAID investment.”

**Recommendations**

It is recommended that the 17th Meeting of the OIE Sub-Commission:

1. NOTE progress with the implementation of SEACFMD Campaign for 2010/11.

*Author: Dr Ronello Abila, Regional Coordinator - SEACFMD Campaign, OIE Sub-Regional Representative for South-East Asia*
Appendix VII

SEACFMD 2020 Roadmap

Purpose

To present the draft Roadmap to the Sub-Commission for endorsement and agreement on the way forward

Background

- The draft Roadmap, available to participants as a Conference Document, is a second edition of the 1st Roadmap agreed in 2007 and seeks to provide strategic guidance on the eradication of FMD with vaccination by the year 2020, maintain national freedom, and extend free areas or zones with or without vaccination.

- It is a much expanded version of the 2007 Roadmap and differs in some ways from the previous document as it takes into account changing socio economic circumstances in the Region such as increased trade and infrastructure, lessons that have been learned during the course of the Campaign, and the welcome addition of the new Members - China, Brunei and Singapore.

- Given the above circumstances, from Members, ASEAN, OIE and AusAID agreed that a new and more comprehensive version be drafted.

Issues

- Extensive coordination and consultation have taken place and the views of key parties have been taken into account in the drafting of the document. Involved parties have included National Coordinators, National Governments, the ASEAN Secretariat, OIE, AusAID and FAO.

- The strategic thrusts lie in areas of improved surveillance and identification of foci of infection; biosecurity; the pivotal role of vaccination; advocacy; public awareness and stakeholder engagement. Monitoring and evaluation, research and development, gender issues and risk analyses will be improved.

- Linking with other activities such as AusAID programs to strengthen veterinary services, the EU funded Highly Pathogenic Emerging Diseases and USAID Laboratory IDENTIFY Projects, as well as key organizations such as FAO will ensure complementarities and support the efforts of national organizations.

- The Roadmap, if endorsed, will be put to OIE and ASEAN for final approval. If supported it will form the basis for future work in this area though as a ‘living document’ it will be subject to amendment in the light of experience.

Recommendations

The Sub-Commission

1. ENDORSE the draft SEACFMD 2020 Roadmap.

2. AGREE it be referred to ASEAN and OIE for final approval.
Appendix VIII

Status of FMD in South-East Asia and China

Purpose
To advise on the status of FMD in South-East Asia (SEA) and China and the movement of SEA FMD serotypes in 2010

Background
- The FMD status is reported by countries at a regular basis through the WAHIS Regional Core (ARAHIS) or the WAHIS for immediate notification and six-monthly reports.
- The SRR-SEA base the analysis of the regional status in the reports uploaded by the Members in the ARAHIS.
- But reports from some Members are not timely, making the complete analysis of status not possible.

Issues
- The total number of outbreaks in 2010 is higher compared to 2009; recording 494 and 436, respectively. Despite this over-all rise of outbreaks in 2010, countries like Malaysia, Myanmar and Thailand reported lower number of outbreaks compared to 2009. No official report was uploaded by Laos in ARAHIS but significant number of outbreaks occurred in the country, which if reflected, would make the total for 2010 even higher.
- Majority of the outbreaks were caused by serotype O. Serotype A was reported in Myanmar and Thailand only, a decrease in occurrence compared to 2009. A major epidemiological occurrence was reported in the Province of Rakhine in Myanmar (close to the border with Bangladesh) with the isolation of a different strain of Serotype A, the details of which will be discussed in a separate session. No Serotype Asia 1 was reported and was last seen in Vietnam in 2007, and 2009 in China.
- The rise in the outbreaks can be attributed to the declining immunity of susceptible animals given the decline in the rate of vaccination. This can be attributed to lack of vaccine and resources for the conduct of vaccination. In addition, festive season in countries like Vietnam increase the demand for livestock and risk for the introduction and spread of FMD.
- The reports of China are uploaded to WAHIS and cannot be seen in ARAHIS. In 2010, China reported outbreaks due to Serotype A and Serotype O belonging to O Myanmar 98 strain, some of which are already resolved.
- Several other countries: Russia, Japan, Republic of Korea, Democratic People’s Republic of Korea, Hong Kong (SAR-PRC) and Mongolia reported outbreaks of FMD O Myanmar 98 in 2010. The experience of Japan will be discussed in a separate session.
- Members are advised to remain vigilant as the rise of outbreaks may be an indication of another epizootic in 2011 given its 5-year cycle. The last epizootic was seen in 2006, wherein 1,367 outbreaks were reported.
- One of SEACFMD’s strategies is to control FMD in the hotspots (areas where outbreaks occur) and Members are urged to analyse their data to pinpoint the FMD hotspots in their areas. The analyses done by the secondee from Philippines and Vietnam in 2010 are examples wherein specific districts where outbreaks usually occur were identified. Given the limited resources both at the regional and national levels, resources and activities can be directed to the hotspots to effectively control FMD. The two papers by the secondee are provided as separate attachments (see Appendix 55 and Appendix 56).
- To be able to do regional and national analyses, reports must be timely. A contact point from the SRR-SEA will assume formal responsibility in coordinating with Members to ensure timely uploading of reports and conducting periodic analysis of regional status.
Recommendations

The Sub-Commission

1. NOTES the status report and PROVIDES comments.

2. NOTES the SEACFMD Campaign Project Officer, under the supervision of the OIE Sub-Regional Representative, will assume responsibility for developing and analysing regional FMD status reports.

Author: Sharie Michelle Razo Aviso, DVM, Project Officer, SEACFMD Campaign
Country Report of
Brunei

The total number of ruminants in the country is very small. The country has been relying on imports of livestock and frozen beef from sources accredited by the government, to meet its domestic requirements. Nonetheless, although small, quality of the livestock and its products remains an important agenda of the veterinary authority in the country, therefore the country sees that effective control of animal diseases, particularly, Transboundary Animal Diseases (TADs), such as Foot and Mouth Disease (FMD) is very crucial. It is hoped that her participation in the OIE Sub-Commission for FMD will help the country in maintaining its freedom status from FMD.

Foot and mouth disease (FMD) status

Brunei Darussalam has been free from FMD since long time, but only declared officially by the OIE in 2007, that is three years after its official admission as a full member to the Organisation. Active surveillance has been carried out by the veterinary staff ever since, on the basis of both clinical signs and *seroconvertor* against the viral non structural protein (NSP) antigen. So far, samples taken for the screening purposes have shown no indication of infection.

Regional participation

Brunei Darussalam has been participating actively in a number of regional meetings of FMD as observer before her official acceptance in the Sub-Commission. Staff from the Department of Agriculture and Agrifood are also actively participated in laboratory trainings for FMD.

FMD control activities

Being an FMD free country, Brunei Darussalam has been undertaking control measures as follows:

- Stringent quarantine rules and regulations on the importation of FMD susceptible live animals and their related products into the country. Written permission to import must be obtained from the authority.
- Strict inspections carried out at every entry points.
- Tight selection on supplies of FMD susceptible animals and their related products by only granting permits to import from recognised FMD free countries.
- On-going active surveillance in the country.
- On going sample collection randomly to satisfy estimates of FMD susceptible animal populations of the country.
- Laboratory screening to all samples collected regularly at a 6-week interval.
- On going random FMD clinical inspections by authorized trained personnel.
- Movement control of FMD susceptible animals (in particular large ruminants) by practicing a one animal-one ID system.

Constraints

Like in any other countries in the Region, Brunei Darussalam is facing problems related to measures in the control of FMD.

- As known that Brunei Darussalam has been relying on commercially available diagnostic kits to undertake its on going disease surveillance. This appears to be uneasy for us to have an assurance on regular supplies for the diagnostic test kits, particularly when it is usually in a relatively small quantity of the requirement.
• Limited qualified human resources is also a problem.

Future activities

• Enforcement of updated rules and regulations on animal quarantine as stipulated in the Animal Diseases and Quarantine Order

• Diagnostic method improvement in terms of sample sizes

Author: Dr Dabeding Haji Dullah, Assistant Director of Agriculture, Head, Livestock and Veterinary Services
Country Report of Cambodia

Abstract:
There are 103 outbreaks of FMD to be reported in 18 provinces (Banteay Meanchey, Kampong Speu, Kampong Cham, Prey Veng, Svay Rieng, Kampong Chhnang, Siem Reap, Kampong Thom, Kandal, Kracheh, Takeo, Battambang, Udarmeancheay, Preah Vihear, Steung Traeng, Ratanakiri, Kep and Pursat) caused 52,704 heads of cattle, 10,557 heads of buffaloes and 691 heads of pigs were shown the clinical signs of FMD from January to December 2010 and among that 1,634 heads of cattle, 541 heads of buffaloes and 53 heads of pigs were dead.

FMD status:
In January 2010, FMD were reported 2 outbreaks in Malai district, Banteay Meanvhey province and Dang Tong district, Kampot province caused 40 cattle were sick. In March 2010, FMD was reported 1 outbreak in Kong Pisei district, Kampong Speu province caused 9 cattle were sick.

There were 4 outbreaks of FMD were reported from different districts of 2 provinces such as Tboung Khmum district in Kampong Cham province and Kampong Trabaek district, Peam Chor district and Preah Sdach district in Prey Veng province caused 226 heads of cattle and 515 heads of swine were shown FMD clinical signs; and among that 6 heads of cattle, 1 head of buffalo and 31 heads of swine were dead in May 2010.

One outbreak of FMD was reported in Rumduol district, Svay Rieng province caused 103 heads of cattle and 201 heads of buffaloes were shown clinical sign of FMD in July 2010.

In September 2010, there were 38 outbreaks of FMD were reported in Udong and Thpong districts, Kampong Speu province; Kampong Leing, Kampong Tralach, Rolca B’ier and Kampong Chhnang districts, Kampong Chhnang province; Pearaing, Peam Chor, Sithor Kandal and Preah Sdach districts, Prey Veng province; Prey Chhor, Kang Meas, Kampong Siem, Stieun Trang, Koam Sotin, Krouch Chmar, Srey Santhor, Chmakar Leu, Tboung Khmum, Bateay, Cheung Prey, Orang Ov and Ponhea Krek districts, Kampong Cham province; Banteay Meas and Chumkiri districts, Kamapot province; Siem Reap, Puok and Banteay Srey district, Siem Reap province; Baray, Suntuk and Stieun Sen districts, Kampong Thom; and Kandal Steung, Kien Svy, Lvea Em, Muk Kampil, Ponhea Leu, Koam Thom and S’ang districts, Kandal province caused 31,878 heads of cattle and 1,370 heads of buffaloes were shown FMD clinical signs and among that 886 heads of cattle and 173 heads of buffaloes were dead.

In October 2010, there were 15 outbreaks of FMD reported in Chhloung, Prek Prasob, Chet Borei and Kracheh districts, Kracheh province; Bati and Kirivong districts, Takeo province; Koam Thom, Lvea Em, Pohnne Leu and Takhmao districts, Kandal province, Thpong and Odong districts, Kampong Speu province, Kamreng district, Battambang; and Kampong Trach and Angkor Chey districts, Kampton province caused 2,394 heads of cattle; 77 heads of buffaloes and 97 heads of swine were shown FMD clinical signs and among that 10 heads of cattle; 01 head of buffaloes and 22 heads of swine were dead.

In November 2010, there were 20 outbreaks of FMD reported from different districts such as Banteay Srey, Puok, Angkor Thom and Kralanh districts, Siem Reap province; Rolea B’ier, Samaki Meanchey and Tek Phos districts, Kampong Chhnang province; Svay Chek district, Banteay Meanchey province; Trapeang Prasat, Banteay Ampil and Anlong Veng district, Udarmeancheay province; Thpong, Odong, Samrong Tong, Kong Pisei, Phnom Sruoch and Borsedth districts, Kampong Speu province; Sangkhe and Rukhakiri district, Battambang province; and Choam Khhsan district, Preah Vihear province caused 3,117 heads of cattle; 01 head of buffaloes and 45 heads of swine were shown FMD clinical signs and among that 01 heads of cattle; 05 heads of buffaloes and 05 heads of swine were dead.

In December 2010, there were 45 outbreaks of FMD reported in Kong Pisei, Oral, Phnom Sruoch, Borsedth, Odong, Samrong Tong and Thpong districts, Kampong Speu province; Kracheh, Chhet Borei, Chhlong, Prek Prasob, Snuol and Sambo districts, Kracheh province; Roveang district, Preah Vihear province; Serei Sorphoan, Phnom Srok and Preah Net Preah districts, Banteay Meanchey province; Steung Traeng and Siem Bouk
districts, Steung Traeng province; Ou Yadav district, Ratanakiri province; Khan Kep, Kep province; Kandal Steung and Ang Snuol districts, Kandal province; Svey Chrum, Svey Teab, Chantrea, Rumduol, Romeas Hek, Svey Rieeng and Kampong Rou districts, Svey Rieeng province; Ban, Sangkae, Rukhakiri, Koas Kralor and Moung Russei districts, Battambang province; Peam Chor, Peaearing, Kamchay Meare, Me Sang, Ba Phnom, Kanh Chriece, Svey Antor and Sithor Kandal districts, Prey Veng province; Bak, Krakor, Phnom Kravanah, Pursat and Vead Veng districts, Pursat province; and Prey Kabbas, Koah Andaet, Tramkok, Samrong, Borei Cholsar, Bati, Angkor Borei and Treang districts, Takeo province caused 12,290 heads of cattle, 6,638 heads of buffaloes and 34 heads of swine were shown FMD clinical signs and among that 428 heads of cattle and 188 heads of buffaloes were dead.

In January 2011, there are 27 outbreaks of FMD reported from different districts such as Kep and Damnak Chong-Eur districts, Kep province; Kong Pisei, Oral, Phnom Sruoch, Chbar Mon, Borsedth, Odong, Samrong Tong and Thpong districts, Kampong Speu province; Snuol and Sambo districts, Kracheh province; Koun Mom and Andoung Meas districts, Ratanakiri province; Anlong Veng district, Odarmeancheuy province; Prey Nob district, Preah Sihanouk province; Chikraeng, Kralanh and Srei Snom districts, Siem Reap province; Banan, Sangkae, Rukhakiri, Koas Kralor and Moung Russei districts, Battambang province; Kampong Suy, Sraot, Prasat Balaing and Prasat Sambo districts, Kampong Thom province; Svey Chrum, Svey Teab, Chantrea, Rumduol, Romeas Hek, Svey Rieeng, Kampong Rou and Bavit districts, Svey Rieeng province; Tek Chhou, Kampong Trach, Angkorcheuy and Kampot districts, Kampot province; Pailin and Sala Krao districts, Pailin province; Rolea B’ier and Boribo districts, Kampong Chhnang province; Kampong Traheak, Peam Chor, Peaearing, Kamchay Mear, Me Sang, Ba Phnom, Kanhchriece, Svey Antor, Sithor Kandal, Peam Ro, Pereh Sdach and Kampong Leav districts, Prey Veng province; Serei Sorhopoan, and Tmar Puok districts, Banteay Meanchey province; Prey Kabbas, Koah Andaet, Tramkok, Samrong, Borei Cholsar, Bati, Angkor Borei, Treang, Doun Keo and Kirivong districts, Takeo province; Kandal Steung and Ang Snuol districts, Kandal province; and Choam Khsan, Tbaeng Meanchey and Preah Vihear districts, Preah Vihear province caused 9,386 heads of cattle; 611 heads of buffaloes and 284 heads of swine were shown FMD clinical signs and among that 260 heads of cattle; 24 heads of buffaloes and 19 heads of swine were dead.

Report on achievement of objectives of the SEAFMD Campaign:

Component 1: International co-ordination and support

In close cooperation with SEAFMD/OIE and member countries, Cambodia foresees an effective FMD control campaign through strengthening FMD Surveillance and Information System, controlling animal movement and accreditation of veterinary services.

DAHP is seeking the support from AusAID, JICA, ACIAR, OIE, FAO, USDA, EC/SLPP, and other bilateral support in the area of animal health research and support to veterinary services to protect the national herds and flocks from the intrusion of disease, protect consumer health and facilitate animal trades.

Component 2: Programme Management, Resources and funding

The national plan for FMD control programme in Cambodia has been submitted to the Ministry of Agriculture, Forestry and Fisheries for approval. Now, Department of Animal Production and Health is working with SEAFMD/OIE to develop national plan for FMD control for 2011-2015.

National Veterinary Research Institute and Animal Health Office in the Department of Animal Health and Production are responsible at central level and at the provincial level is provincial animal health and production offices are responsible including provincial vets, district vets and village animal health workers.

At the central and provincial level, the meeting is conducted every month for update all kinds of animal diseases in each provinces and the whole country.

Estimated budget from your government to support FMD for 2010 and 2011

- Limited budget

Funding from other sources

- Government budget
Component 3: Public Awareness and Communications

3.1- FMD Public Awareness

DAPH cooperate with local media such as local national language newspaper, Cambodia Daily, Camboide Soir and a Chinese language newspaper for public awareness. The FMD outbreaks have become a media’s interest in Cambodia. The awareness activities are also carried out by the provincial animal health and production officers and village animal health workers through farmer training, brochures, leaflets and posters. We work with SEAFMD Campaign to develop poster and these poster was already distributed to farmers at the provinces (see attached picture 1). SEAFMD provide fund to produce 10,000 leaflets, 20,000 Sticker and 4,000 and DAHP also produce 10,000 posters, 15,000 leaflets and new super cow sticker 5,000 PCS. In 2009, DAHP received FMD vaccines of 10,000 doses and 2010 DAHP received 15,000 doses from SEAFMD as well as received 40,000 doses of FMD vaccines from Vietnam Government. Most of these vaccines have been sent to provinces for ring vaccination due to FMD outbreaks in 2010.

3.2- Linkages within the Department of Animal Health and Production

The Epidemiology Unit has performed update analysis and disease outbreak monitoring. This unit has direct communication links with the provincial veterinary officers and through them to the district veterinary service sectors. This reporting channel is being developed under DAHP structure that link from the district to province and province to the central monitoring and evaluation unit.

3.3- Education

The two major ecosystems of Cambodia from the animal production viewpoint are the lowland Mekong basin area and the highland. The highland offers a potential for stratification of a cattle industry and the high cropping zone of the plains a fattening potential for both pigs and ruminants.

Component 4: Disease surveillance, diagnosis, reporting and control

With the animal health hotline in NaVRI so NaVRI receive information of animal diseases from grass-root level quickly and NaVRI also take responses so fast with the provincial team within 1-2 days.

Dr Nget Kiry is responsible for ARAHIS and WAHIS so that he could use this system without any problem. He update this animal disease monthly basis.

NaVRI still lack of reagents and FMD kits for testing and this year our institute collected 17 samples for diagnosing as well as these samples were sent to Regional Reference Laboratory in Thailand too.

SEACFMD also provide some budget to Dr Tum Sothyra for conducting FMD case study in Cambodia in 2010.

Component 5: Policy, legislation and standards to support disease control and zone establishment

Department of Animal Health and Production just complete the draft of veterinary law in February 2011.

Component 7: Livestock sector development including private sector integration

NaVRI/DAHP collaborate with ACIAR Project to organize trader meeting and this meeting, we invite large companies (pig and cattle) because the purpose of this meeting is to explain the company about the ACIAR Project and how to transport animal safety due to minimizing the animal disease especially to have the good coordination between government, VAHWs and private sector.

Component 8: Monitoring and evaluation

Dr Sharie Aviso came to interview the stakeholders in Cambodia about SEAFMD program.

Dr John Stratton, PhD student came to see the FMD outbreak in Takeo province and vaccine distribution during FMD outbreaks.

Author and date: National Veterinary Research Institute (NaVRI), Department of Animal Health and Production, 5 March 2011
Map of FMD in 2010

Source: OIE SEAFMD website
Appendix XI

Country Report of the People’s Republic of China

P. R. China has always placed a high value on animal disease control. In recent years, competent authorities across the country insisted on the principle of “putting prevention first”, and adopted an integrated measure of vaccination and culling on FMD control by following the guideline of “strengthen leadership and coordination and rely on science and law for disease prevention and control with a participatory approach”. As a result, initial progress has been achieved in FMD control.

One FMD outbreak was detected in China in 2011. On 19 February, one suspected case was found in Qiaerbage township, Kuerle city of Xinjiang Autonomous Region, which was confirmed later as a FMD type O case (MYA98 lineage) by the National FMD Reference Laboratory on 24 February. The infection led to 275 swine diseased, and 3,941 animals culled. By far, the situation is well under control.

Number of FMD cases from 2006 to 2010

I. Co-ordination with Southeast Asian Countries and International Organizations

Before 2007, P. R. China was engaged in FMD campaign with Southeast Asian countries under GMS framework, and participated in SEAFMD activities indirectly. Starting from 2001, the Agricultural Department of Yunnan province, Animal Husbandry and Veterinary Medicine Institute of Yunnan province or other institutions has been at the Upper Mekong Working Group on Zoning for FMD and Animal Movement Management. In 2004, four counties of Yunnan province that share borders with Myanmar were identified as China-Myanmar FMD Control Zone by the working group, with the establishment of border surveillance stations as a means to tighten of FMD control in the zone. Since 2007, P. R. China, with legitimate rights in OIE restored, attended SEAFMD annual meetings in 2008 and 2009 as an observer, where she briefed about the FMD control efforts and achievements, introduced the capacity and strength in FMD preparedness and response, and explored the possibility to be a member in SEAFMD. At the 3rd GMS Summit in 2008, Premier Wen Jiabao called for the development of a trans-boundary disease prevention and control system within this sub-region. At the 16th Meeting of SEAFMD Sub-Commission in March 2010, China became a full official member of the Campaign, hence the name of SEAFMD changed to SEACFMD. China also participated in the coordination work of drafting SEACFMD 2020 Roadmap in October 2010.

II. Programme Management, Resources and Funding

The FMD programme in P. R. China comprises the following parts:

A. The national plan

The national vaccination plan, surveillance plan and epidemiological investigation programme are formulated in the beginning of the year to guide control activities for the whole year. Then the plans
will be sent to competent authorities at provincial (autonomous region or municipality) level, and be publicized on the MOA website at the meantime.

B. The management structure

The Ministry of Agriculture (MOA), under the guidance of the State Council, is mandated to arrange and coordinate FMD control activities. The specific work such as formulation of control policies, outbreak containment measures, supervision of local stakeholders to implement control measures, etc., was undertaken by the Major Animal Disease Prevention and Control Headquarters and by Major Animal Disease Emergency Office of the Bureau of Veterinary Service under MOA. Administrative authorities of veterinary service of the people’s government at and above county level are responsible for FMD control within its jurisdiction following the leadership and guidance of local people’s government.

Animal disease control and supervision agencies at different levels are responsible for outbreak reporting, on-site epidemiological investigation, on-site clinical analysis and laboratory testing, surveillance, and guiding intervention measures such as movement control, road blocking, emergency vaccination, culling, safe disposal of culled animals and disinfection.

C. MOA FMD meetings

The national FMD meeting is held twice every year, one in spring and one in autumn, and every season a situation analysis meeting is held. P. R. China has in place a communication linkage practice for major animal disease control, by which 31 provinces/municipalities/autonomous regions of the whole country are divided into six regions, and one MOA official at the DG level is responsible for communicating with one specific region, and holding a regular regional meeting at least once a year. Inspection and supervision on major animal disease control must be carried out when appropriate. The latest inspection within each region was completed before mid-January 2011 for the purpose of ensuring all control measures be fully implemented.

D. Budgets for FMD in 2011

For vaccines: 1.25 billion RMB, consisting of 830 million from the central budget and 420 million from local budget.

For surveillance: about 10 million RMB.

For compensation: the amount is decided upon the number of animals stamped out. For one head, dairy cow: 2400 RMB; beef cattle: 1200 RMB; pig: 480 RMB; sheep: 240 RMB.

(Statistics of compensation in 2010 are not available now.)

III. Public Awareness and Communications

P. R. China enhanced efforts in raising public awareness on FMD in recent years, communicating to people about national disease control policies as well as FMD basics through TV and radio programmes, newspaper, internet, leaflets, and lectures to build up their sense and ability for self protection. MOA organizes field consultation and the campaign of sending technology to villages at least once a year to answer questions from animal farmers, give them books and disease control supplies, and guide them to improve preparedness. The improved public awareness is reflected in the smooth implementation in the national vaccination plan and surveillance plan, and in their support and coping with the emergency intervention measures.

IV. Disease Surveillance, Diagnosis, Reporting and Control

A. FMD reporting system

At present, the direct reporting system between MOA and veterinary agencies at different levels assures the quick delivery of information on outbreaks.

1. Entities responsible of reporting: Animal disease control and supervision agencies of the people’s government at and above the county level; national reference laboratories and related research institutes and universities; entry and exit inspection and quarantine agencies; administrative authorities of veterinary service; the people’s government at and above the county level; facilities involved in production and trading of animals and animal products; and animal clinics or hospitals.

2. Persons responsible of reporting: Veterinary staff on duty from animal disease control and supervision agencies, and entry and exit inspection and quarantine agencies at all levels;
veterinarians from animal clinics or hospitals, and persons involved in production and trading of animals and animal products.

3. Form of reporting: Animal disease control and supervision agencies at all levels report in accordance with national regulations, while other entities or persons report via telephone or in written form.

4. Timing and procedures of reporting: Any suspected cases, once detected, must be immediately reported to the animal disease control and supervision agency of the local county (or city). Upon receiving the report, the agency shall dispatch its staff to the scene for diagnosis, or ask for necessary assistance in diagnosis from its supervising agency at the provincial level. Once suspected of an outbreak of one major animal disease after diagnosis, the case shall be reported level by level to the provincial animal disease control and supervision authorities within two hours, and meanwhile to the local administrative authorities of veterinary service of the people’s government. Within one hour upon receiving the report, provincial animal disease control and supervision authorities must report the related information to provincial administrative authorities of veterinary service and MOA, and provincial administrative authorities of veterinary service shall report to the provincial people’s government within one hour after it received the report. Once there is a major or even large outbreak, provincial people’s governments and MOA shall report to the State Council within four hours.

5. Contents of reporting: The date and place of the outbreak, species and breeds of the animals affected, sources of the animals, clinical symptoms, number of animals affected or dead, any human cases, control measures taken, reporting entities and persons, contact details, etc.

6. Notification to international community: P. R. China sends notifications to OIE via WAHIS.

B. Surveillance and diagnosis

The national FMD surveillance network in P. R. China comprises three-tier technical support agencies at the central, provincial and county level. Bureau of Veterinary Service of MOA is in charge of the national FMD surveillance work. China Animal Disease Control Center takes the lead in arranging the implementation of national FMD surveillance work and collecting surveillance findings for further analysis. Veterinary Diagnostic Office of China Animal Disease Control Center (National Veterinarian Diagnostic Center of MOA) is responsible for monitoring breeding farms across the country on the basis of sampling. National Animal Health and Epidemiology Center is devoted to the on-going epidemiology survey and surveillance at selected spots in some provinces.

In line with the national surveillance plan, administrative authorities of veterinary service at provinces /autonomous regions / municipalities develop their own implementation plan for conducting surveillance within their respective jurisdiction, which is carried out by provincial animal disease prevention and control agencies. National animal disease surveillance and report centres and animal disease surveillance stations along the border are responsible for FMD surveillance in areas within their respective jurisdiction. National FMD Reference Laboratory and other specialized laboratories take the responsibility of validating positive samples sent to them as well as pathogen isolation and identification.

C. Number of samples under surveillance

According to the 2010 FMD surveillance plan of MOA, the number of samples collected in regular monthly surveillance is determined by local agencies in light of local reality, while at least 950 samples shall be collected for every targeted surveillance program by each province.

Statistics show that 2.33 million serum samples and 0.22 million pathogen samples were tested in 2010, of which 36 were detected as positive.

D. An outbreak control case

The infection detected in dairy cattle in Dongxihu District of Wuhan city, Hubei province was confirmed by the National FMD Reference Laboratory as FMD A-type on 21 January 2009.

Once the case was detected, Hubei Provincial People’s Government immediately launched the Grade-II emergency response campaign. Agriculture, public health, public security, armed police and quality inspection branches of the government closely coordinated with one another to close off affected areas and carry out intervention measures. Considering the absence of A-type infection in P. R. China for years and its high risk of spreading, MOA placed great significance to it and developed timely and
targeted measures to guide local stakeholders to conduct science-based control activities. Actions were taken in the following areas:

1. Quick response in outbreak containment and eradication: MOA sent out working groups and expert groups for three times to guide containment activities, including road blocking, animal culling, disinfection, inspection, movement control, and safe disposal of culled animals. In addition, it tightened effort in surveillance and epidemiology investigation to screen out infections, and expanded surveillance coverage to track down the source of infection, draw a clear picture of the disease status, and dispose of hidden risks in time.

2. Control activities nationwide in time of emergency: MOA issued four urgent notices in succession to inform provinces/autonomous regions/ municipalities of the disease situation and made systematic arrangements in FMD control. It suspended the movement of dairy cows and breeding cattle, carried out large-scale monitoring and epidemiology investigation, and urged tightened prevention efforts at dairy farms. Once an unusual case was found, it must be reported to the upper level immediately, and be disposed in time according to relevant regulations. Competent authorities at all levels made corresponding arrangements to implement control measures.

3. Upgrading of control technologies and measures: MOA gave full play to expert groups to make interventions law-based and science-based. By the end of February 2009, it held consultation meetings for seven times to analyze disease situation and expert meetings on A-type control strategies, where experts had extensive discussions on control measures, including source tracing, vaccine production and delivery, A-type antibody monitoring, and put forward countermeasures.

4. Production and supply of vaccines and diagnostic reagents: On 26 February 2009, the first batch of 500,000 doses of A-type deactivated vaccines was produced from the virus strain at stock, and was put into use immediately. Later on 500,000 doses of the vaccine were produced in every five days, which were used for emergency vaccination in peripheral areas.

5. Funding increments in emergency response: MOA, in no time, allocated 10 million RMB of emergency fund to Hubei province, and emergency supplies in large quantities such as PPE and disinfectants to assist culling, monitoring, disinfection and safe disposal of culled animals in the affected areas. Moreover, Hubei Provincial Government also raised 58.4 million RMB, which contributed to the success in disease control.

The FMD outbreak in Wuhan was stamped out soon, with 9,858 dairy cattle culled and no spread.

V. Policy, legislation and standards to support disease control and regionalization

A. Regionalization

In 2001, P. R. China launched the building of five FMD-free zones with vaccination in Songnen Plain, Liaodong Peninsula, Jiaodong Peninsula, Sichuan Basin, and Hainan Island respectively, covering part or total areas of Jilin, Liaoning, Shandong, Sichuan and Hainan provinces and Chongqing Municipality. So far, Hainan Province has gone through the inspection of the national authority and the whole province is approved as FMD-free zone with vaccination.

B. Laws and regulations in FMD control


VI. Research and technology exchange

P. R. China, keen on making breakthroughs and producing key backup technologies in FMD, has conducted R&D activities in instant diagnosis reagents and new effective vaccines, as well as the study of epidemiological patterns of FMD, with emphasis given to FMD etiological biology, genomics, epidemiology, immunology, pathology, and development of control technologies and products. As a result,
molecular phylogenetic tree for FMD virus was constructed. Univalent, bivalent, and trivalent vaccines for O-type, A-type and type-Asia 1 were produced, so were 6 diagnosis and testing technologies developed on the basis of OIE recommended standards, major reagents (kit) recommended by OIE, and 4 viable and user-friendly instant diagnosis and testing methods. In addition, accomplishments have been made in the initial stage of three new diagnosis technologies.

The National FMD Reference Laboratory in P.R. China has been engaged in technical cooperation activities with international organizations such as FAO, OIE, IAEA and EUFMD, and with more than ten countries and regions such as the United Kingdom, France and Germany, including joint research with FMD Reference Laboratories in other countries, joint development of diagnosis reagents with OIE collaborating centre for diagnosis of animal diseases (Swedish University of Agricultural Sciences), joint establishment of research platform such as FMD airborne transmission model with the National Veterinary Institute of Denmark, participating in the contest event of diagnosis technologies and reagents among FMD Reference Laboratories in 2007 with all three competing reagents exceeding the standard, and hosting FMD Reference Laboratories Network Meeting in 2008. It has been listed by OIE as candidate for FMD Reference Laboratories Network, which was approved at the OIE Standard Commission meeting in 2010 and will be submitted to the coming World Assembly for discussion.

VII. Livestock production and private sector participation

A. Livestock production

Chinese livestock production has kept a rapid growth for over thirty years. By 2010, meat, eggs, milk yield achieved respectively 79.25 million tons, 27.65 million tons and 35.70 million tons, increased by 3.6%, 0.8% and 1.5%, compared with the previous year.

B. Private Sector Participation

MOA is pushing forward standard-based operations to promote modern livestock production together with enterprises and animal farmers, with the immediate objectives of building some hog, beef cattle, cow or layer production facilities for demonstration of standard-based operations, revamping farming communities according to standards, and accumulating and replication of good practices and patterns in mixed farming and environment friendly animal farming. Livestock farms and enterprises are encouraged to apply Good Agricultural Practice and take the lead in standard-based production through the whole chain. The Government supports livestock co-operatives and flagship enterprises to develop themselves and to form close partnership with livestock farmers to explore benefit and risk sharing mechanisms to boost industrial production.

VIII. Monitoring and evaluation

After the release of vaccination plan, surveillance plan and epidemiological investigation program, MOA requests all provinces /autonomous regions /municipalities to report on their implementation at least once a year, and dispatches superintendent teams to the field to supervise and assess on implementation progress. Reports from provinces /autonomous regions/municipalities and findings of the superintendent teams indicate that the vaccination plan, surveillance plan and epidemiological investigation program of 2010 are well implemented in the whole country.

IX. Future plans

A. Plan of domestic activities

China will continue its integrated measure of vaccination and culling, i.e. the policy of active vaccination will be insisted to carry out compulsory vaccination of all susceptible animals, while quarantine and supervision measures will be further strengthened to shut down the door against animal diseases. Upon outbreak detection, competent authorities at all levels should trigger the emergency plan, and use integrated measures of blocking, disinfection, culling and emergency vaccination to prevent any further spread.

China will keep its efforts in regionalization and compartmentalization, develop a mid- and long-term plan of FMD control based on study, and carry out the stamp-out plan step-by-step so as to achieve FMD disease-free status in the coming years.
B. Plan of international activities

At present, China is working on its work plan within the framework of SEACFMD 2020, and would like to share some of its tentative ideas:

1. In line with the SEACFMD 2020 Roadmap, FMD disease surveillance and epidemiology investigation, vaccination, testing and analysis on vaccine efficacy as well as animal movement management are to be carried out;

2. China will have cooperation with and offer technical support to neighbouring countries in FMD diagnosis and surveillance;

3. Joint demonstration projects of FMD vaccine immunity test and efficacy evaluation will be developed between China and Vietnam, Cambodia, the Laos, Myanmar as well as other countries in the region;

4. China will provide needed countries with laboratory facilities and materials upon request;

5. Technical training, personnel exchange, and academic communication will be put on the agenda.
Country Report of Indonesia

Abstract

Indonesia declared its freedom from FMD in 1986 and it was recognised by OIE in 1990. In order to maintain the free status of FMD, control programme implemented is mainly focused on surveillance, emergency preparedness (simulation exercise) and public awareness.

FMD status

Indonesian freedom from FMD was recognised by OIE in 1990. The program to maintain the free status of FMD is mainly focused on surveillance, emergency preparedness (simulation exercise) and public awareness.

Report on achievement of objectives of the SEAFMD Campaign

Eight components of SEACFMD strategic plan implemented by Indonesia are summarized as follows:

Component 1: International co-ordination and support

Indonesia has been participating in a number of meetings of FMD as well as other Transboundary Animal Diseases in South-East Asia.

Component 2: Programme Management, Resources and Funding

Indonesia has agreed to contribute a total amount of US$ 300,000.00 to be paid for 6 years at US$ 50,000.00 starting from 2006.

Component 3: Public Awareness and Communications

Internally, Indonesia has prepared a Guideline of FMD, namely IndoVetPlan on FMD and has been distributed to the target persons/institutions. The implementation of the IndoVetPlan is through the simulation exercise on FMD outbreak, which has been started in 2010. However, since there is a limited budget to cover the whole participants from all over Indonesia, the simulation exercise is conducted separately every year for participants from each big island in Indonesia. The roadmap of the simulation exercise is as follows:

a. 2010: Java Island (3-5 August 2010)

b. 2011: Sumatera Island

c. 2012: Kalimantan Island

d. 2013: Sulawesi Island

e. 2014: Bali, NTB, NTT, Maluku and Papua

Besides conducting a simulation exercise, brochures, stickers and leaflet are also produced to increase the public awareness and communication.

Externally, Indonesia has attended Communications Workshop, and the communication person has been chosen.

Component 4: Disease surveillance, diagnosis, reporting and control

Every year the National Centre for Veterinary Biologics (Pusvetma) Surabaya is conducting a routine surveilans for FMD, and supported by 8 regional Disease Investigation Center (DIC).
Component 5: Policy, legislation and standards to support disease control and zone establishment

A new law has been established, namely Law number 18 year 2009 on Animal Husbandry and Animal Health. This law is replacing the Law number 6 year 1967.

Component 6: Regional research and technology transfer

Applied research was initiated by The Indonesian Research Centre for Veterinary Science (BBALITVET). Other research activity is conducted as part of degree studies in collaboration with Australia.

Component 7: Livestock sector development including private sector integration

The involvement of private sectors for disease control is obvious. A number of private companies have been participating on HPAI controls. It should also be working for FMD.

Component 8: Monitoring and evaluation

Internally, monitoring and evaluation (MONEV) of overall animal health program are mainly conducted by routine MONEV activities by Directorate General of Livestock and Animal Health Services (DGLAHS) and Provincial District Livestock Services.

Externally, assessment of veterinary services in Indonesia has been conducted by OIE on the PVS programme.

Author and date: Pudjiatmoko, DVM, PhD, Director of Animal Health, Directorate of Animal Health, Directorate General of Livestock and Animal Health Services (DGLAHS), Ministry of Agriculture, Indonesia, 7 March 2011
Country Report
of
Laos

Abstract

Foot and mouth disease (FMD) is endemic in the Lao People’s Democratic Republic (Lao PDR). In 2010 the disease occurred in 10 provinces, in first two months of 2011, the disease continues spread over 9 provinces of these there are three new provinces, namely: Houaphanh, Attapeu and Phoingsaly where no FMD outbreak reported before. The Department of Livestock and Fisheries and the Provincial Livestock Office implemented control measures including prohibition of the animal movement, outbreak investigation and sample collection for laboratory confirmation. Farmer education on disease recognition and treatment of infected animal and proper disposal of death livestock have been done in some infected villages. Trader awareness on disease recognition and bio-security conducted in some infected and at risk provinces. Pilot vaccination had been conducted in two high risk provinces of the upper Mekong zone.

FMD status

From January to December 2010 there were 10 FMD outbreaks officially reported in 10 provinces, namely: Vientiane capital, Vientiane province, Xayabouly, Xiengkhouang, Bokeo, Luangprabang, Bolikhamxay, Champasak, Savannakhet and Houaphanh province. In first two months of 2011, the disease continues spread in 9 provinces namely: Vientiane capital, Xayabouly, Bolikhamxay, Champasak, Savannakhet, Khammuane, Houaphanh, Attapeu and Phongsaly provinces, of these province of these there are three new provinces namely: Houaphanh, Attapeu and Phoingsaly where no FMD outbreak reported before. The outbreak in the first two months of 2011 infected about 33,000 animal with mortality rate of 8.32%. To control the disease the DLF had been implemented control measures such as strict animal movement control in the outbreak area, outbreak investigation and sample collection and testing at the National Animal Health Centre. 55 tissue samples were collected from outbreak in 2010 and sent to the laboratory of which 14 (25.45%) were positive for the presence of FMD virus type O, 27 samples were collected from outbreak in January and February 2011, of them 17 samples (62.96%) were positive with serotype O.

Component 1: International co-ordination and support

In the following summarizes the activities of related projects, which are working on FMD control programme in Lao PDR over the last year as follows:

OIE/RCU:

- DLF in collaboration with SEAFMD hosted the 16th OIE-Sub commission
- DLF in collaboration with RCU SEAFMD organized the 5th Meeting of the OIE SEAFMD LabNet.
- Participation in the 9th Meeting of the Upper Mekong Working Group in Hanoi and 9th Meeting of the Lower Mekong in Pataya.
- Participation on the Joint Labnet and Epinet meeting.

ACIAR:

- ACIAR project AH/2006/025 Understanding livestock movement and the risk of spread of transboundary animal diseases: conducted farmer and trader awareness on disease recognition and biosecurity.
- ACIAR project AH 2005/086: Developing best practice cattle and buffalo health and husbandry systems for Lao PDR conducted case study on FMD outbreak in Add district Huaphanh province.

TICA and Lao-Thai bilateral cooperation:

- Lao PDR has and Thailand has implemented TICA project on strengthening of diagnostic capability and disease surveillance in Champasak province.
Champasak province received 10,000 doses of FMD vaccine from Thailand, the vaccine had been used for ring vaccination in at risk area in the province.

JICA phase II:
- Two Lao participants attended study tour on FMD control and animal movement management in Thailand.

FAO/ADB TADs in GMS Project:
- Lao PDR have received one Bio-safety Cabinet and High speed centrifuge for FMD Laboratory supported by the project.

**Component 2: Programme Management, Resources and funding**
- National Animal Health Centre (NAHC), Department of Livestock and Fisheries (DLF) responsible for promoting animal health and controlling animal diseases. In order to follow up the action plan of SEAFMD the Lao PDR has gradually participated in the collaboration and co-operation with the neighbouring countries in the region and with international agencies.
- Lao Government have allocated specific annual budget of 50 mil LAK or USD 6200 in 2011-2015 to support FMD FMD zoning activities, this show that the Government paid its attention on the FMD zoning in Lao PDR and this amount may increase in the future.
- SEACFMD assisted USD 3,000 for FMD outbreak case study, and provided 15,000 doses of FMD vaccine for mass vaccination in FMD control zone.
- Animal disease management in Lao PDR is carried out by the epidemiology unit at the National Animal Health Centre, in province the veterinary section and livestock and veterinary unit in at district level are responsible authority.

**Component 3: Public Awareness and Communications**
- During disease outbreak and before undertaking regular vaccination programs (HS and FMD), the public education on the impact of the disease and benefit from vaccination were conducted for farmers, local administrators, Village Veterinary Workers, civil authorities and local animal health authorities. For this purpose IEC materials such as Brochures, posters, photo story on animal disease and biosecurity were used.
- The strengthening communication and enhancing public awareness in FMD control programme among stakeholders play important role and essential for the effective implementation of FMD control programme. The Department of Livestock and Fisheries is the principal government agency in the country being responsible for all aspects of animal health and animal production.

**Component 4: Disease surveillance, diagnosis, reporting and control**
- In Lao PDR FMD and other animal disease surveillance mostly is based on passive reporting system. The outbreak information will report in monthly basis. During the period of an outbreak, field sample collection and testing in the laboratory is performed.
- Reporting: although the disease reporting system have been established throughout the country from central to grass root level. In practice it works not as well as it must be.
- Event reports have been submitted, but it still luck of detailed information such as: number of susceptible animal, date of fist case, expected origin of infection and so on.
- Late reporting, sometimes after 2 or 3 months.
- There is a limited human resource in veterinary services and limited field visual materials as well as financial resources to support the launching of animal health information to target audiences.
- Farmer knowledge on economic effect of FMD is still limited.
Component 5: Policy, legislation and standards to support disease control and zone establishment

- Veterinary and Livestock Law has been approved the National Assembly in July 2008 and is coming to enforce.
- Prime Minister Decree on Animal Disease Control in the Lao PDR 2007.
- Prime Minister Decree on Animal Movement Management in the Lao PDR 2007.
- National strategic plan for FMD control in the Lao PDR, DLF 2004 now being review.

Component 6: Regional research and technology transfer

ACIAR projects:
- ACIAR project AH/2006/025 Understanding livestock movement and the risk of spread of transboundary animal diseases: data collection on animal movement and risk related factor for spreading of animal diseases.

Component 7: Livestock sector development including private sector integration

- LDP project is loaned and grant project to support and help poorest former in 5 provinces in the northern region or Lao PDR.
- Lao Hungarian Project.

Component 8: Monitoring and evaluation

- For FMD and other notify disease it is need to report immediately, when the outbreak occur in new area.
- Regular weekly report of any suspected disease.
- Monthly report from PAFO to NAHC, DLF.
- Submission SEAFMD monthly outbreak reports.

Author and date: Dr Phouth Inthavong, 6 March 2011

Table 1: Summary of FMD outbreak in 2010

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Village</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vientiane capital</td>
<td>Sikhootabong</td>
<td>Sikhaithong</td>
<td>January</td>
</tr>
<tr>
<td>Vientiane province</td>
<td>Feung</td>
<td>N/A</td>
<td>Jan.–Feb.</td>
</tr>
<tr>
<td>Xayabouly</td>
<td>Paklai</td>
<td>in 5</td>
<td>April</td>
</tr>
<tr>
<td>Xiengkhouang</td>
<td>Paek</td>
<td>in 3</td>
<td>Jan.–Feb., Sept.</td>
</tr>
<tr>
<td>Bokeo</td>
<td>Huaysay</td>
<td>in 4</td>
<td>April</td>
</tr>
<tr>
<td>Luangprabang</td>
<td>Chomphet</td>
<td>Ladkhoke</td>
<td>October</td>
</tr>
<tr>
<td>Bolikhamxay</td>
<td>Paksan</td>
<td>in 3</td>
<td>December</td>
</tr>
<tr>
<td>Champasak</td>
<td>8/9</td>
<td>in 158</td>
<td>December</td>
</tr>
<tr>
<td>Savannakhet</td>
<td>Songkhorn, Kaison, sepone in 14</td>
<td>December</td>
<td>December</td>
</tr>
<tr>
<td>Houaphanh</td>
<td>Aet</td>
<td>in 18</td>
<td>December</td>
</tr>
</tbody>
</table>
Table 2: FMD status in January–February 2011

<table>
<thead>
<tr>
<th>#</th>
<th>Province</th>
<th>District</th>
<th>Number of infected animals</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vientiane capital</td>
<td>Saysettha, Sangthong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Xayabouly</td>
<td>Boten</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Champasak</td>
<td>8/9</td>
<td>25,747</td>
<td>1,724</td>
</tr>
<tr>
<td>4</td>
<td>Savannakhet</td>
<td>Xepone</td>
<td>1,409</td>
<td>73</td>
</tr>
<tr>
<td>5</td>
<td>Houaphanh</td>
<td>Aet, Sobbao, Viengxai</td>
<td>3,279</td>
<td>760</td>
</tr>
<tr>
<td>6</td>
<td>Khammuane</td>
<td>Hinboun</td>
<td>508</td>
<td>28</td>
</tr>
<tr>
<td>7</td>
<td>Saravanh</td>
<td>Khongsedone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Phongsaly</td>
<td>Mai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Attapeu</td>
<td>Saysettha</td>
<td>892</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>31,854</strong></td>
<td><strong>2,639</strong></td>
</tr>
</tbody>
</table>

Location of FMD outbreaks in 2010 and 2011

![Location of FMD outbreaks in 2010 and 2011](image-url)
Appendix XIV

Country Report of Malaysia

FMD Status 2010

Foot and Mouth Disease (FMD) is a notifiable disease in Malaysia. There is a national control and eradication programme and annual federal budget provided by the Ministry of Agriculture and Agro-Based industry for implementation of control and eradication measures.

The States of Sabah and Sarawak are OIE recognized FMD free zones in Malaysia without vaccination and maintained free in 2010. In Peninsular Malaysia the status of FMD improved significantly in year 2010, with reduction in outbreaks by 66.6% compared to year 2009. There was continuity of better reporting of FMD outbreaks.

There were 51 FMD outbreaks from January to December with a range from 0 to 9 outbreaks and a mean of 4.25 outbreaks per month. Temporally majority of the outbreaks were detected in the last Quarter (festive season) of the year but reduced in number of outbreaks compared to year 2009 and previous years. Decrease in outbreaks was also seen in the MTM Zone compared to previous years. Where there were outbreaks it was related to animal movements. The state of Kelantan has gradually improved in its FMD status as compared to previous years mainly due to better management of imported animals in approved licensed temporary quarantine stations which has significantly reduced illegal movement across the border and strategic vaccination.

Cattle were the most affected species. In October there was an outbreak in Pigs in the state of Penang, FMDV transmitted by infected cattle fence breaking into the pig farm. Serotyping results of specimens from outbreaks was only serotype O in the first eight months of the year. In October serotype A was detected till December of 2010. FMD serotype O (31%) is still the most common isolate and to a lesser percentage (12%) serotype A.

The new livestock importation policy to facilitate trade enabled better risk management measures for live animal imports from FMD infected countries. Even though the new strategy for control and eradication of FMD has tremendously reduced the illegal movement of live animals across the border, there were still cattle that were illegally brought into the country causing outbreaks. With effective strategic and ring vaccinations, the endemic status has improved in year 2010.

Diagnosis for FMD is done at the National FMD Laboratory in Kota Bharu, Kelantan. The main constraints were in the control of illegal movement of animals. Animal health and Veterinary measures related to FMD control include strategic vaccination, legislation, disease investigation, surveillance, public awareness campaigns and reporting.

Report on achievement of objectives of the SEACFMD Campaign:

Component 1: International Coordination and Support

Objective: Through productive and effective relationships with national animal health services, promote and coordinate the regional FMD control program, harmonize approaches to control and provide support to identify issues.

Achievements: For international support trade, transparency is important. This is been done through our website and disease reporting mechanisms. Prior to import of live animals from neighbouring countries, risk analysis and recommendations for mitigation measures together with exporting country was done. This was realized through reviewed import-export protocols. Attended the 16th OIE Sub-Commission Meeting for FMD in South-East Asia in Vientiane, Laos, 15–19 March 2010, the OIE 77th General Session, Paris, France in May 2010, and the 13th SEACFMD National Coordinators Meeting in Siem Reap, Cambodia, 4–6 August 2010.
Component 2: Program Management, Resources and Funding

Objective: To define adequate national resources and funding needed for delivery of defined outputs in the regional plan

Achievements: The new national control and eradication strategy approved in 2009 is being implemented. The annual budget was used to control FMD. Budget of RM 10,000,000 (development budget) was approved for the implementation of this strategy for the years 2011 to 2012 in the 10th Malaysian Plan 2011–2015. Further review for allocation for years 2013–2015 will be undertaken.

Component 3: Public Awareness and Communication

Objective: To develop a Communication approach/programme that allows for effective implementation of the SEAFMD programme

Achievements: Public Awareness and Communication is a continuous activity. There has been ongoing meeting with farmers/investors mostly at district levels. Pamphlets distribution and use of radio as well as newspapers were other mediums of awareness during vaccination campaigns. Also seminars on the roles of farmers/traders towards FMD control were held at State levels. A Veterinary Officer at the Disease Control Section at DVS Headquarters has been identified to undertake task on improvement.

Component 4: Disease surveillance, diagnosis, reporting and control

Objective: To ensure that the necessary information required to understand the regional epidemiology of the disease is available to member countries.

Achievements: In the months from January to September serotype identified was serotype O and serotype A was detected starting in the month of October. Tissue specimens were send for sub-typing WRL for FMD, Pirbright late in the year and sub-typing results are expected to be posted by WRL for FMD soon. Monitoring of imported animals at quarantine stations indicated there were still positive to NSP ELISA test. Critical nodes were identified related the outbreaks and supported in decision making for strategic vaccination. Control of FMD was done more effectively by applying the ‘Outbreak Index Control Management’ operating procedures. No constraints were reported in using ARAHIS/WAHIS system in sending reports.

Component 5: Policy, legislation and standards to support disease control and zone establishments

Objectives: To ensure that animal health policies, standards and definitions are harmonized as much as possible, so that regional animal health security is assured.

Achievements: Our Animal health policies include vaccination, legislation, emergency preparedness and public awareness. The Animal Ordinance 1953, (Revised 2006) is the main legislation related to animal health including disease control. The new FMD control and eradication strategy is aimed to achieve FMD free status with vaccination by 2016. New Protocol for FMD Control and Eradication draft is ready and has been circulated for correction, inputs and agreement.

Component 6: Regional research and technology transfer

Objectives: To identify research issues of importance to SEAFMD programme and to facilitate participation of appropriate national and international research organization in research and innovation through the national programmes.

Achievements: The development of the FMD Rapid Diagnostic Kit is in progress. Staff of the DVS, Dr Faizah, has completed post graduate studies on molecular epidemiology study of the serotypes isolated in Malaysia. A final report of her findings submitted for publishing. A vaccine efficacy and potency trial between Merial vaccine and Indian Immunologicals vaccine (stated in the vaccine dossier that SEA reference antigens serotypes of O Manisa, A22 Iraq, Asia 1 given by WRL, Pirbright) is at FMD virus challenge phase.
Component 7: Livestock sector development including private sector integration

Objectives: To facilitate developments in the livestock sector that support disease control and optimize production, and integrate the private sector into national and regional animal health systems

Achievements: Veterinary services of Malaysia and Myanmar collaborated with their private sectors to facilitate trade of healthy livestock e.g. construction of quarantine stations and yards in Myanmar, testing for diseases (e.g. FMD, Brucellosis, TB). The National Feedlot Centre (NFC) is being developed as a supplier of feeder cattle to the feedlot industry. This is to cater for the increased demand for beef. The plantation based companies (integrated livestock farming in oil palm plantations) have been identified to increase in the breeder population with support from funds available from the Livestock Development Breeding Program to purchase these breeders.

Component 8: Monitoring and evaluation

Objectives: To establish an internal and external review audit process to monitor and evaluate achievements of define program outputs

Achievements: Monitoring of vaccination in strategic areas and vaccination of all imported animals. There is regular reporting to ARAHIS and to the OIE. There were also internal meetings to evaluate the control programme by the Epidemiology section.

Author: Dr Mohamed Naheed Bin Mohamed Hussein, National Coordinator Malaysia, Epidemiology Unit, Division of Biosecurity and SPS, Headquarters DVS Malaysia, Putrajaya, Malaysia
Country Report of Myanmar

Abstract:

FMD is endemic in Myanmar every year. FMD outbreaks have been recorded in all states & Divisions of the country. In 2010-2011, livestock population was approximately 13.57 million cattle, 2.97 million buffalo, 9.25 million pigs and 3.96 million sheep and goats. At the present, National FMD Laboratory produces 150,000 doses per year. We can control FMD only by ring vaccination. In 2010-2011, Myanmar Government will construct the New FMD Laboratory amounting US$ 200,000 to be ASEAN Standard. The output will be benefit for SEACFMD Campaign greatly. The OIE SEACFMD & other Donor organizations are invited to assist the technology & finance.

FMD Status in 2010:

<table>
<thead>
<tr>
<th>Month</th>
<th>Nos. of Outbreak</th>
<th>Nos. of Infected</th>
<th>Nos. of Sample</th>
<th>Type of Virus</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>6</td>
<td>351</td>
<td>3</td>
<td>“O”</td>
</tr>
<tr>
<td>February</td>
<td>1</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>March</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>April</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>May</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>June</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>July</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>September</td>
<td>1</td>
<td>325</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>October</td>
<td>1</td>
<td>25</td>
<td>5</td>
<td>“A”</td>
</tr>
<tr>
<td>November</td>
<td>2</td>
<td>810</td>
<td>6</td>
<td>“O”</td>
</tr>
<tr>
<td>December</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11</strong></td>
<td><strong>1515</strong></td>
<td><strong>14</strong></td>
<td><strong>“O” and “A”</strong></td>
</tr>
</tbody>
</table>

In September, there was an outbreak at Maungtaw township in Rakhine State near Bangladesh border and have already sent report to OIE SEACFMD in 1st week of October 2010. FMD investigation team visited the outbreak area from 27 September to 3 October 2010 and collected 5 samples. The samples were tested at FMD Laboratory, Myanmar and the result was type A. LBVD sent the samples to RRL on 27 September 2010 and the result was type A. RRL also sent the sample to WRL for sequencing. WRL replied that topotype was Asia but strain was unknown.

Report on achievement of objectives of the SEACFMD Campaign

Component 1: International co-ordination and support

IAEA Project MYA/5/015: Strengthening the National Capacity for the Production of Veterinary Vaccine

In 2010, IAEA provided Prio-Checks FMDV NS kits, antigen and antibody detection ELISA kits, computer and printer, Biosafety cabinet, media, chemicals and equipments.

CARE Myanmar: Livelihood Improvement of Cyclone Nagis affected Population Programme (livestock sector)

In 2010, CARE Myanmar provided 60,000 doses of FMD Bivalent vaccine.
KOICA and National FMD Laboratory were coordinated the program.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Month</th>
<th>Public Awareness</th>
<th>Serum Collection</th>
<th>Interview Survey</th>
<th>FMD Vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>February</td>
<td>250</td>
<td>124</td>
<td>62</td>
<td>1,230</td>
</tr>
<tr>
<td>2</td>
<td>March</td>
<td>175</td>
<td>121</td>
<td>89</td>
<td>1,020</td>
</tr>
<tr>
<td>3</td>
<td>April</td>
<td>260</td>
<td>140</td>
<td>58</td>
<td>960</td>
</tr>
<tr>
<td>4</td>
<td>June</td>
<td>400</td>
<td>66</td>
<td>66</td>
<td>1,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,085</strong></td>
<td><strong>451</strong></td>
<td><strong>275</strong></td>
<td><strong>4,410</strong></td>
</tr>
</tbody>
</table>

IAEA Research Contract No: 16005 (2010-2011): Study of the effectiveness of Local Vaccine for FMD Control in Myanmar

100 cattle and buffalo at each township in four Regions (Mandalay, Magway, Bago, Ayeyarwaddy) are vaccinated by local vaccine three times (primary, booster and six-month interval) and collected serum three times (pre- and post-vaccination). The cattle and buffalo are identified by photos and vaccination certificates. The serum samples are tested by NSP test kit. During the visit, interview surveys are carried out.

<table>
<thead>
<tr>
<th>Region</th>
<th>Township</th>
<th>Village tract</th>
<th>Date of primary dose</th>
<th>Nos. of cattle</th>
<th>Date of booster dose</th>
<th>Nos. of cattle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayeyarwaddy</td>
<td>Kyaungkone</td>
<td>Tagontai</td>
<td>29/6/10</td>
<td>103</td>
<td>28/7/10</td>
<td>100</td>
</tr>
<tr>
<td>Mandalay</td>
<td>Lewe</td>
<td>Pyaunggaunggyi</td>
<td>08/7/10</td>
<td>120</td>
<td>05/8/10</td>
<td>105</td>
</tr>
<tr>
<td>Bago</td>
<td>Phyuu</td>
<td>Yepyar</td>
<td>20/7/10</td>
<td>110</td>
<td>18/8/10</td>
<td>90</td>
</tr>
<tr>
<td>Magway</td>
<td>Magway</td>
<td>Kanpyar</td>
<td>27/8/10</td>
<td>120</td>
<td>22/9/10</td>
<td>118</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>453</strong></td>
<td></td>
<td><strong>413</strong></td>
</tr>
</tbody>
</table>

LBVD and OIE SEACFMD jointly held the 6th Myanmar Zoning Working Group Meeting at Inle, Shan State in November 2010. LBVD officials, SEACFMD Representatives and State and Region officials were attended and discussed for hotspot areas for FMD in the Central Region and Rakhine State.

Component 2: Programme Management, Resources and funding

Update of National FMD Plan

National FMD Control Programme was integrated with SEA FMD Roadmap for freedom from FMD with vaccination by the year 2020 programme. There have been 3 phases of the National FMD Control Programme. Phase 1 is 2008 to 2010, Phase 2 is 2011 to 2015 and Phase 3 is 2016 to 2020. All the staff from States and Regions and representatives from private sector (Myanmar Livestock Federation and private veterinarian) consulted in the process.

The staff from the States & Regions and representatives from the private sector consulted in the National FMD Plan.

Director General, Deputy Director General, Director of Research & Disease Control and Head of the National FMD Laboratory are the specific persons in-charge at the Headquarters. Each Deputy Director of the States and Regions are the specific persons in-charge in the 14 States and Regions.

LBVD evaluation meeting is held in every four months interval and annual meeting is at the end of the year to plan the strategies for the next year. In the meeting, Head Quarter Persons and each Deputy Director of the 14 States & Regions discuss the status of the schedule diseases including FMD in the relevant period of the meeting and control measures.

The last meeting was conducted in May 2010.Next meeting will be held in November 2010.

Estimated budget from Myanmar Government is US$18,000 to support FMD Laboratory and US$200,000 to construct the New FMD Laboratory for 2010 and 2011.
Management structure for FMD control programme

Funding from other sources

KOICA Project USD 9,500
IAEA Research Contract EUR 8,400
Murdoch University USD 4,000

Component 3: Public Awareness and Communication

Livestock Breeding and Veterinary Department (LBVD) and Murdoch University jointly organised for Public Awareness (PA) programme in Tanintharyi Region of MTM area in 2010. Dr Kyaw Naing Oo and FMD team visited to Kawthaung, Myeik and Dawei Districts. They met the local staff, farmers, livestock owners and traders for PA Program. The team used the pamphlets, posters, T-shirts for PA tools. The team also contributed eight life-jackets for the LBVD staff to use in field trips of FMD control program.

LBVD and Korea Oversea International Cooperation Agency (KOICA) also jointly organized for PA program in Northern District of Yangon Region in 2010. Pamphlets, Posters, Bill Boards are used for PA tools and also FMD vaccination program was carried out by free of charge. Meetings, Interview surveys, sero-surveillance and vaccination programs are carried out in the villages and cattle markets.

Component 4: Disease Surveillance, diagnosis, reporting and control

Disease Reporting System

The outbreaks are investigated in the field and the information can be reached the head-quarter by telephone and fax. At the end of the month, the monthly FMD reports from the each States & Divisions and National FMD Laboratory are sent to the headquarter. The Headquarter sends the on-line FMD report to SEACFMD by using the ARAHIS/ WAHIS Regional Core System.

Constraints of the National FMD Laboratory
- insufficient reporting system from grass root level;
- insufficient vaccine for FMD control;
- upgrading FMD Laboratory;
- insufficient budget for FMD Control Programme.
Component 5: Policy, legislation and standards to support disease control and zone establishment

Update on FMD Zoning in Myanmar

MTM Zone

According to the recommendation of 8th Tristate Commission for FMD Freedom in June 2007, Myanmar progressed the Zone Status, Kawthaung District as an Eradication Zone, and Myeik District as a Control Zone and moved the Buffer Zone northward to Dawei District of Tanintharyi Region.

Upper Mekong Zone

Tachileik and Mong Young and Mongphyat townships of Eastern Shan State were involved in UMWG as a buffer zone. According to the 8th Meeting of the Upper Mekong Working Group for FMD Zoning and Animal Movement Management in February 2009, Myanmar agreed to sign MOU for Upper Mekong Commission.

Central Myanmar Zone

Myanmar emphasized to Central Myanmar Zone (Sagaing, Mandalay, Magway) for FMD control measures.

Myanmar is fully participating with other countries in FMD control activities. Animal Health and Development law enacted in 1993 and in 1999 rules and regulations were issued to exercise the law and established the strategy and activities for FMD control programmes using a progressive zoning and surveillance approach, public awareness program and vaccination.

Ministry of Livestock and Fisheries agreed to the Roadmap for freedom from FMD with vaccination by 2020 in Myanmar.

Component 6: Regional research and technology transfer

Dr Htet Ma Ma Phyo, MVSc student from Myanmar researches for Sero-prevalence of FMD in sheep & goats in Pyawbwe and Meikhtila townships and associated risk area.

For the research of the possible role and significance of carrier swamp buffaloes in the transmission of FMD in SEA, Dr B.C. Verin from Murdoch University visited to Myanmar on field investigation of the previous & current FMD outbreaks areas and collected each 221 samples of blood, saliva and probang samples from the buffaloes in 2008 and 169 samples in 2009 at Ayeyarwaddy and Yangon Regions, 144 samples from Magway and Yangon Regions in 2009 and 82 samples from Magway Division in 2010.
Component 7: Livestock sector development including private sector integration

The Ministry of Livestock & Fisheries mainly responsible for the national livestock sector development. Related Organizations are Myanmar Veterinary Council (MVC), Myanmar Veterinary Association (MVA), Myanmar Livestock Federation (MLF), Myanmar Livestock & Fisheries Development Bank (MLFDB).

Myanmar Livestock Federation (MLF) is represented by livestock owners, producers, traders at central different levels. The livestock zones were established in States and Divisions. Dairy cattle, sheep, goats and poultry are farming in these zones.

In 2008, 100 sheep and 2,289 goats, in 2009, 167 sheep and 1,486 goats and in 2010, 559 cattle and 489 goats were exported to Malaysia by private sector.

Myanmar Veterinary Association holds the meeting annually and the EC members hold the meeting monthly.

Component 8: Monitoring and evaluation

When the outbreak occurs in the States & Division, the township officer reports to the Headquarter and local authority and when the outbreak recovers, also reports to the same direction. FMD Laboratory submits the monthly report to OIE SEACFMD and also reports to OIE Sub-commission Meeting.

Author: Dr Kyaw Sunn, Director for Research and Disease Control, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
Country Report of the Philippines

Philippines’ Foot and Mouth Disease Eradication Programme

The FMD Eradication Programme of the Philippines as supported by AusAID through FAO has just concluded with Zone 2 (covering Regions NCR or Metro Manila, III and IV-A including the province of Pangasinan of Region I) applied to OIE as FMD-free where vaccination is not practiced. This was the last zone applied to OIE while Zones 1 and 3 of Luzon have been recognised in 2010; Mindanao in 2001 and Visayas-Palawan-Masbate in 2002. The entire country is now FMD-free with no vaccination.

It was such a great relief for the whole livestock industry who suffered a major setback in 1995 wherein more than 98,000 animals were affected and the industry claimed to have lost PhP2B due to the said epidemic. Type O Cathay topotype was the last strain to be detected in the country and was the same strain responsible for the 1995 outbreak until 2005. The government through the Bureau of Animal Industry-National FMD Task Force concentrated its activities based on the 4 programme components (Disease Monitoring and Surveillance; Public Awareness; Animal Movement Management; and Vaccination). Among the four activities, Disease Monitoring and Surveillance and Animal Movement Management were given topmost priority to directly address the situation. Monitoring of livestock establishments and the traders’ compliance to animal movement guidelines were given emphasis in the program to hasten the reduction of outbreak levels. Yearly, the NFMDTF would set its target to reduce the outbreak by 50% level as a general goal for each of the technical personnel assigned in the different areas of Luzon.

The Task Force enforced all guidelines on animal movement through careful analysis and monitoring of the Critical Pathway, where necessary interventions were made in every node having glitches. Moreover, a progressive zoning approach was also implemented wherein compartmentalization of areas according to disease status was conducted. Areas that have been free from FMD have been segregated from infected area through quarantine measures which included the animal quarantine checkpoint facilities installed to protect disease-free areas and the stringent policies set by the government on livestock movement. Furthermore, activities to maintain freedom were well monitored to prevent re-incursion of the disease. Gradually, clinical cases were eliminated until all areas were free from FMD.

Public Awareness activities geared toward consumer awareness was facilitated by the use of a mascot named “Super Pig”. To let the consumers and meat vendors understand the campaign, caravans were conducted in public markets and other venues where the general public is convened. Moreover, coordination with the media practitioners had been made to convey correct message to the public as to the FMD situation of the country as well as to gather support from the stakeholders to maintain FMD-free status.

Vaccination is one of the important components of the campaign, but had been a limiting factor, mainly due to the prohibitive cost. There were a lot of times when the farmers opted not to vaccinate especially during the times when there were low challenges or period when there were no known outbreaks. To achieve a uniform status for the whole country and at the same time facilitate uniform implementation of all policies on animal health/movement, the government ordered the industry to withdraw vaccination against FMD, which took effect in April 2009 through Department of Agriculture (DA) Administrative Order No. 12.

While the country is now considered free from FMD, sustainable activities have been in place such as Early Warning System and Emergency Preparedness adapted from UN-FAO in 1999 and collection of strategies aimed at controlling FMD outbreaks in the shortest time possible. Moreover, of a national reporting system called “Phil-AHIS” has just been established that would deliver fresh information to policy makers and technical personnel to quickly address not only FMD but any disease situations.

Currently, the Philippines received a note from the OIE that its scientific commission already approved the country’s application for Zone 2 as FMD-free where vaccination is not practiced. Hopefully, by May 2011 during the OIE General Session, the Philippines would receive its certificate of recognition for Zone 2.
Country Report of Singapore

Abstract:
Singapore is recognized by OIE as a Foot-and-Mouth Disease (FMD) free country where vaccination is not practised. Singapore is a city state with a small livestock industry and is dependent on imports for most of its food supply. Having in place accreditation and import control programmes that are based on science and a risk-based approach, and, allowing the importation of livestock and livestock products only from FMD free countries or regions are part of the major strategies to maintain its country FMD free status.

FMD status:
Singapore is recognised as FMD free where vaccination is not practised by OIE.

Report on achievement of objectives of the SEAFMD Campaign:

Component 1: International co-ordination and support
Singapore is a member of the OIE and participates in OIE activities.

Component 2: Programme management, resources and funding
- Five departments under the Regulatory Programmes and Operation Group of AVA carry out regulatory activities. These programmes and activities cover accreditation of overseas livestock farms and meat establishments, inspection and permit processing of imported livestock and imported meat and meat products, surveillance of local meat establishments and livestock farms, and laboratory analyses for food-borne hazards and animal diseases. The Director-General of Agri-Food and Veterinary Services is responsible for these regulatory activities.
- The programmes are dependent of government funding as part of the operating expenses of AVA.

Component 3: Public awareness and communications
Stakeholders (overseas and local meat establishments, traders and trade associations) are aware of importance of FMD through our meetings and dialogue with them.

Component 4: Disease surveillance, diagnosis, reporting and control
- There has been no outbreaks and evidence of FMD in Singapore since 1935. No vaccination against FMD has been carried out and no vaccinated animal has been imported into Singapore in the last 12 months.
- The surveillance for FMD is via recognition of characteristic clinical signs in a species likely to exhibit clear clinical signs. The main target population for the surveillance are the animals at the 4 ruminant farms in Singapore. All the ruminant farms are regularly inspected by AVA officers for disease surveillance purposes on a fortnightly basis. Any suspect cases will be investigated with samples collected and sent for confirmatory testing. In addition, samples were also collected for testing at the Animal and Plant Health Laboratories (APHL).
- FMD is gazetted as a notifiable disease under the Animals and Birds Act (CAP 7). Under the Act, any person in custody of cattle who suspects FMD is obliged to report the case to AVA. All ruminant farms in Singapore are furthermore under direct monitoring and surveillance by AVA. Any person who fails to report FMD to AVA can be subject to prosecution and liable to a fine and imprisonment upon conviction.
- The FMD test capabilities at our national Animal Health Laboratory are as follows:
  a. Serology by ELISA for FMD ‘O’ antibodies (Ceditest FMDV type O ELISA)
  b. RT-PCR molecular detection of FMDV RNA
  c. RT-PCR molecular detection of FMDV type "O" RNA
Component 5: **Policy, legislation and standards to support disease control and zone establishment**

- Under the Animals and Birds Act (CAP 7), AVA is given legislative mandate to put in place regulatory measures for the early detection, prevention and control of FMD in Singapore. The Act allows AVA to carry out investigation, surveillance, vaccination and destruction of animals where necessary in event of an animal disease outbreak. FMD is gazetted as a notifiable disease under the Animals and Birds Act (CAP 7). Under the Act, any person in custody of cattle who suspects FMD is obliged to report the case to AVA. Details of the Animals and Birds Act (CAP 7) are available at AVA’s website at www.ava.gov.sg.

- AVA has an accreditation system for meat and meat products imports, whereby only countries and establishments, which have been pre-accredited by AVA, may export meat and meat products to Singapore. The accreditation process includes approving the country first, based on assessment of animal health and veterinary public health systems, followed by accreditation of the establishment based on documentary evaluation and on-site inspections. One of the elements considered for accreditation is the country’s FMD status. As a result, only establishments in FMD-free countries or zones are able to export fresh/frozen meat to Singapore. Import of meat and meat products from non-FMD-free countries or zones is possible only if the products have been subjected to procedures to inactivate the FMD virus according to OIE guidelines.

- The importation of animals and animal products are governed by the Animals and Birds Act (CAP 7). Under these Acts, an import permit is required for each consignment of animals or animal products (including animal feeding stuffs) being imported. Penalties including fines and imprisonment can be imposed in cases of importation without a permit.

- AVA regulates the imports of animals and animal products into Singapore. AVA will only issue an import permit if the animals or animal products come from accredited sources and have the requisite health and disease freedom certifications. AVA does not allow the import and transhipment of meat, animal products, as well as livestock and animals from sources that are not recognised by the OIE as FMD-free.

- Singapore is an island State. Routes of entry into Singapore are restricted to the sea port, airport and two road links to Peninsular Malaysia. The consignments entering Singapore are subject to control by the Immigration and Checkpoints Authority (ICA) and AVA at the point of entry into Singapore. ICA mans these entry ports round the clock. ICA officers will ensure that all consignments come with proper documents. The cargo can only be released into Singapore territory if the consignments are accompanied by all the relevant documents bearing appropriate accreditation from AVA.

- In addition, AVA will inspect all live animal imports at the border checkpoints. AVA further undertakes random checks over and above ICA’s control at the entry points. AVA has in place standard operating procedures with ICA to deal with illegal import of commodities under the purview of AVA. The procedures involve detention of suspect consignments and notification of AVA officers to investigate cases in detention.

- Regular monitoring and inspections of local ruminant farms for herd health and biosecurity are supported by diagnostic testing conducted by the national Animal Health Laboratory which undertakes rigorous quality assurance activities including international inter-laboratory proficiency testing.

**Component 6: Regional research and technology transfer**

FMD research activities are currently on enhancing laboratory capabilities.

**Component 7: Livestock sector development including private sector integration**

- Singapore has a small population of FMD-susceptible animals.

- There are on-going surveillance activities that are focused on these animals for effective early detection of suspect cases of FMD.
Component 8: Monitoring and evaluation

- Singapore has the legislation and has put in place effective measures for prevention and control of FMD. These include limiting import of animal and animal products to FMD-free sources and enforcement of strict import regulations and controls at points of entry.

- Singapore is able to declare that:
  a. There has been no outbreak of FMD during the past 12 months.
  b. No evidence of FMD has been found during the past 12 months.
  c. No vaccination against FMD has been carried out in the past 12 months.
  d. No vaccinated animal has been introduced

Author and date: National SEACFMD Coordinator, 1 March 2011
Country Report of Thailand

Abstract

Department of Livestock Development (DLD) remains all the FMD activities under FMD strategic plan which starting from 2008 until 2014. The goal of this strategic plan is to target towards no report of FMD incidence in pig within 2 years, reduce FMD outbreak in cattle and buffalo within 5 years and importantly create FMD free zone recognised by the OIE within 6 years. FMD strategic plan in Thailand has run operating plan in line with SEAFMD campaign of the OIE.

Establishing FMD free zone in Thailand is challenging. The DLD invested resourced and funding to this eastern area of Thailand or livestock region 2 as this region is feasible to make FMD free zone. Its topography, bordering with mountainous area in the north, costal area in the west and south, sharing bordering area in the east with neighboring country, with the dense population of swine raised in this area is rational explanation for the Royal Thai government to run this project. More control measure has been laid down in this area such as longer period of pre-quarantine of animal movement to this region with negative result of Non Structure Protein (NSP) test including ear tag with history of FMD vaccination.

FMD situation

There were 35 FMD outbreaks occurred in Thailand in 2010. The distributions of outbreak mostly occurred in northern, northeastern and southern regions of Thailand (2 outbreaks in central, 6 outbreaks in northeastern, 19 outbreaks in northern and 8 outbreaks in southern part of Thailand). The susceptible/cases/deaths were 11,985 / 960/ 6 respectively, as Table 1.

The strain of FMD virus was diagnosed as type A = 2 outbreaks (5.71%), type O = 19 (54.29.%), unable to typing = 12 (34.29%) and not sampled = 2 (5.71.%), respectively as table 2. Molecular epidemiology of FMDV serotype O and A which outbreak in 2010 were studied. Type O was defined as SEA topotype, Type A was defined as Asia topotype.

Spread of outbreaks

According to the field investigation, animal movement was still a major factors associated with the occurrence of FMD. Animal movements were reported to be associated in 23 outbreaks (65.71%). There were 2 outbreaks (5.71%) that could not find sufficient evidence to trace the cause of these outbreaks as table 3.

Major epidemiological changes

FMD outbreaks decreased from 50 outbreaks in 2009 to 35 outbreaks in 2010. It was found that in 2010, FMD type O was significantly predominant to type A.

New control measures

1. FMD Contingency Plan is provided to each province for prevention and control of FMD outbreak. The exercise will be conducted at least once a year. Early disease detection and reporting will be improved to strengthen prevention and control operation.

2. National Livestock Identification and Registration System (NID) in being implemented to identify individual animal or to distinguish herd, to strengthen animal health control, to enhance epidemiological outbreak investigation, to identify source of infection, to differentiate the risk factors of the outbreak, to facilitate traceability and to establish consumer’s confidence on food safety and market accession. The National Livestock Identification and Registration System is a supportive measure for effective disease prevention and control operation. Ear tag in red, yellow and green were applied in targeted area before expanding to countrywide the next step. Red ear tag will be used for imported animal whilst yellow one will be used in normal zone and green one will be used in southern and eastern part of the country which are the area approaching for FMD free zone. Currently, more than 90% of cattle in Region 2 were ear-tagged and 70% of which recorded in on-line registration system.
3. Animal certificate has been given to the owner of animal when vaccination has been done. Animal certificate will provide identity number, history of owner, record of vaccination; etc. Animal certificate could be transferred to the new owner if it was purchased. Record of animal identification number is being kept in computerization system and the officer could access them through its website.

4. In 2010, the DLD encouraged farmer to establish FMD Free Farm accredited by the DLD. It is required on the following step that being under official veterinary control; previously approved by the DLD as standard farm with effective biosecurity; FMD emergency response plan in place at farm level; carrying out FMD vaccination annually and serological test by detecting Non Structure Protein with negative result.

Report on achievement of objectives of the SEAFMD Campaign

FMD control activities during the year 2010 can be summarized according to the eight components of SEAFMD strategy plan as follows:

Component 1. International Co-ordination and Support

One of the effective ways to control FMD in the region is to have an international collaboration and support continuously at both bilateral and multilateral level. The activities under these cooperation projects in year 2010 were as follows:

**GMS**

Department of Livestock Development conducted training course of animal movement and livestock identification system in 2010 for GMS member countries. The objectives of this course is to share knowledge and experience of managing animal movement control in this region with using livestock identification system such as ear tag, livestock identification card, computerization system to support and control animal movement.

**JICA**

Regional Technical Cooperation Project for Animal Disease Control among Cambodia, Laos, Malaysia, Myanmar, Thailand and Vietnam (JICA ADC Project Phase 2) lasts from 13 February 2008 until 12 February 2011. There were several activities conducted in Thailand and in member countries in 2010 under this project; for FMD programmes such as:

Thailand hosted regional FMD study visit on 18–23 July 2010. There were 12 participants from member country (2 from each) including 1 observer from OIE SEACFMD project, 2 from JICA Thailand office, 1 from Lumpang Regional Veterinary Laboratory and 4 from FMD vaccine plant in Thailand.

Thailand hosted the Special RJCC Meeting and study visit to FMD free zone in Region 2 on 18–19 January 2011.

**Bilateral Cooperation**

**Thailand-Lao PDR**

The 8th Joint Lao PDR – Thailand Livestock Development Committee was held on 13–14 August 2009 at Luang Prabang, Laos. Both sides considered on cooperation on animal health and animal production and also endorsed on animal movement protocol across the border. Regarding MOU of the 8th Meeting, Thailand dispatched 4 experts for suggestion on Zoonosis and Farm Standard on 30 August – 3 September 2010.

The Project on Prevention for Animal Diseases in Champasak under collaboration with TICA and Department of Livestock development lasted for three years (2008-2010). This project focused on the prevention of Foot and Mouth Disease and Hemorrhagic Septicemia as a pilot disease and Thailand supported as following; dispatching experts for setting the system on disease control, disease surveillance, laboratory diagnosis; setting laboratory facilities by supporting equipment and other materials such as ELISA reader, incubator; supporting vaccine for disease control; conducting training Course on Laboratory Diagnosis by ELISA.
The joint collaboration project with OIE Reference Laboratory for FMD, Department of Livestock development, Pakchong, Thailand and Australian Animal Health Laboratory (AAHL), Geelong, Australia has agreed to conduct the project entitled Foot and Mouth Disease risk management for Australia and South East Asia. Duration is five years.

Component 2. Program, Management, Resources and funding

Overall fiscal budget in 2010 for FMD was allocated 12 million US dollar. FMD control programme is being operated by Livestock Disease Control section in Bureau of Disease Control and Veterinary Services of the DLD. With its infrastructure, Provincial Livestock offices under supervised by Regional Livestock office regularly implement all the activities related to FMD in each province. National FMD meeting was conducted together with consultative meeting in Region 2 for discussing thoroughly FMD control.

Thailand has implemented National Livestock Identification System (NID) by using ear tag and computerization system in some provinces in southern region such as Chumporn province, eastern region and north-eastern region. The target of this programme is also done in Royal project and beef cattle extension in million household project. It will expand to the whole country in the next step. This system will help FMD control in tracing animal movement.

Component 3. Public Awareness and Communications

Several materials for public awareness activities have been developed including brochure, poster, sticker and booklets. The materials have been distributed to the target audience according to the strategy. The target audiences were trader, organization, field staffs, farmer and the public. Public awareness activities especially focused on the regions that have the high priority to establish FMD free zone. Moreover, training livestock volunteer were conducted for sharing concepts of FMD prevention, vaccination and surveillance.

Broadcasting the knowledge to prevent FMD and vaccination campaign were conducted on radio, television and also in webpage. Manual for farmer how to vaccinate animals was published and distributed to give basic knowledge on FMD vaccination, how to vaccine their own animal under supervision of DLD’s field staff.

Component 4. Diseases surveillance, diagnosis, reporting and control

Diseases surveillance

In 2010, Thailand surveyed the prevalence for FMD by using Nonstructure protein test and monitor antibody titer after vaccination by LP-ELISA twice a year.

Vaccination

Vaccination campaign is done twice annually, first round in December and the second one in June. There are several zones in livestock region, namely 2, 5, 6, 8 and 9, that could achieve to 80%.

Diagnosis

1. In 2010, totally 50 specimens and 450 serum samples were received member countries in 2010, there were 20 samples from Cambodia, 3 tissue samples and 450 serum samples from Myanmar and 27 samples Vietnam. The diagnostic result for Cambodia were type O = 12, NVD = 8; for Myanmar, type A = 2 and NVD = 1; for Vietnam, type O = 26, type A = 1. Some of those viruses were further investigation by determine r-value and sequencing. The results indicated the phylogenetic tree of FMDV type O from Vietnam and Cambodia were defined as ME-SA (PanAsia strain) while the phylogenetic tree of viruses from Thailand was SEA topotype (Mya 98 strain). In addition, the r-value of type O viruses were greater than 0.4 indicating the good matching to type O Thai vaccine strain O189/87. For type A the phylogenetic tree from Vietnam and Thai were clustered as only one topotype of Asia. Interestingly, 3 isolation samples of type A from Thailand were shown the r-value greater than 0.4 or good matching with the A/Sakolnakorn/1997 while the A/118/87 system were not give a high binding reaction and not be able to do further r-value investigation.
2. A panel of FMD isolation samples from Thailand and SEAFMD countries were submitted to WRL, UK in 2010 totally 59 samples, from Thailand = 29 samples, Myanmar = 5 and Cambodia = 5 Laos =4 and Vietnam = 16 were sent to WRL for diagnostic confirmation and strain characterisation by nucleotide sequencing and r-value.

Reporting

After FMD outbreaks, initial report, investigated report, weekly surveillance report and outbreak intervention report were submitted to the FMD center in the headquarter in determined periods. Constraints on using ARAHIS/WAHIS Regional Core system is unstability of editing and recording process in the system that leading to the problem of incomplete data and error number of FMD report. Practically, the DLD send immediate report to the ARAHIS system and sending to WAHIS 6 monthly and annually, respectively.

Component 5. Policy, legislation Standard to support disease control and zone establishment


Establishment of Upper Mekong Commission for FMD Zoning and Animal Movement Management

The 9th Meeting of Working Group on Zoning for FMD and Animal Movement Management in the Upper Mekong Region was held in Hanoi, Vietnam, on 20–22 January 2010. The meeting involved field trips to border and visit to animal quarantine station. There are many recommendations arising from the meeting such as revising a comprehensive strategic plan for Upper Mekong zoning. Thailand offered training course of National Livestock Identification system to member countries in GMS.

Establishment of Lower Mekong Commission for FMD Zoning and Animal Movement Management

The 9th Meeting of the Lower Mekong Working Group was held in Pattaya city, Chonburi. Thailand detailed eastern region (region 2) to be actively involved in Lower Mekong zone approaching for FMD-free zone. National Livestock Identification system was mostly cover in cattle and buffalo in this region. Active surveillance was undertaken to analyse for herd immunity after vaccination been done.

Malaysia –Thailand – Myanmar (MTM) Peninsular Campaign for FMD Freedom

Activities have been done to approach FMD free zone in this region. The 10th Meeting of Tristate Commission was held in Myanmar. EpiNet group gave technical recommendations to the Tristate commission. Thailand advised to initiate bilateral meeting with Myanmar to discuss animal movement across the border.

Component 6. Regional Research and Technology Transfer

1. As the part of SEACFMD Laboratories Network Meeting in Pakchong, Thailand, The report of first round interlaboratory comparison in 2009-2010 have been completed and met the achievement and all member countries were agree to conduct the second round of interlaboratory comparison in this year 2011. Therefore by the end of meeting all participants had visit the OIE Reference laboratory at Pakchong and by the same time, the inter-lab reagents and samples were distributed to all participating laboratories. Totally 17 laboratories were participated, they were consists of 9 FMD laboratories from South-East Asia countries (Cambodia, Brunei, Laos, Malaysia, Myanmar, Philippines, Vietnam both Hanoi and Ho Chi Minh ), Thailand and 8 Regional Veterinary Diagnostic Centers within Thailand including National Institute of Animal Health (NIAH), Bangkok.

2. As the part of OIE/FAO Reference Laboratories Network Meeting, RRL participated in the 5th Reference Laboratories Network Meeting in Pirbright Laboratory, United Kingdom, on 4–6 October 2010, and also participated in the proficiency testing round 2010 on antigen typing test, LP ELISA and NSPs test which organized by WRL.

3. Training and technology transfer on FMD diagnostic techniques to member countries as this follows:

    3.1 A total of 9 Veterinary Officers from Department of Livestock and National Center for Animal Health, Bhutan visited RRLSEA and discussion on FMD Diagnosis and outbreak information (16 February 2010).
3.2 A total of 21 Officers from Department of Livestock Services, Ministry of Agriculture and Cooperatives, Nepal, under the cooperation project with FAO ECTAD visited RRLSEA for discussion the future cooperation and exchanged FMD information (1 April 2010).

3.3 Two Scientists from Regional Veterinary Research and Diagnostic Center, Surin Province, North Eastern part of Thailand has received training on FMD diagnosis (5–9 July 2010).

3.4 Total 20 Veterinary Officer from Laos, Cambodia, Vietnam and Malaysia and JICA officers have visited RRLSEA to have discussion and future cooperation work under the JICA/DLD on FMD prevention and control project (22 July 2010).

3.5 Dr Ranjith Wijewardana, senior veterinary officer from Animal Production and Health, Sri Lanka received training on FMD diagnosis and vaccine production (13–16 September 2010).

3.6 Dr Rompruke Udon, senior Veterinary Officer and Mr. Charouy Yothakaew, Machanic engineer from RRLSEA, Thailand receive training on Biosafety management training in Singapore (25–29 October 2010), under the support of FAO and USDA collaboration project.

3.7 Dr January Magcalas, Veterinarian of National Foot and Mouth Disease Task Force (NFMDTF), Bureau of Animal Industry of the Philippines, received training on FMD diagnosis (11–22 October 2010), under the support of OIE SRR.

3.8 Dr N.K. Thapa, Pririnciple Animal Health Officer and Mr Dawa Tshering, Senior Laboratory Technician from NCAH, Serithang, Bhutan received training on FMD diagnosis (22 November – 3 December 2010), under the support of FAO on FMD control in Bhutan project.

Component 7. Livestock Sector Development including private sector integration

Livestock sector could be developed and encouraged through activities such as to improve farming biosecurity, to increase cattle population raising in the FMD free zone for self-sufficiency, to reduce animals moving from outside into Region 2, to register and train farmers and traders on disease surveillance and networking and to expand market accession.

Component 8. Monitoring and Evaluation

The DLD monitors all disease control program including FMD via reporting system of Division of Planning. However, epidemiological data including serological survey after vaccination campaign will be collected and collated separately by Bureau of Disease Control and Veterinary Services. The annual review of the FMD control activities will be conducted to evaluate progress of the plan, subjected to formulation of the detailed work plan and budget for the next year.

Table 1. The susceptible, cases, deaths had affected by FMD in Thailand in 2010

<table>
<thead>
<tr>
<th>Type of animals</th>
<th>Susceptible host</th>
<th>Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine</td>
<td>10,703</td>
<td>912</td>
<td>6</td>
</tr>
<tr>
<td>Buffaloes</td>
<td>1,282</td>
<td>48</td>
<td>-</td>
</tr>
<tr>
<td>Suis</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>11,985</td>
<td>960</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2. FMD outbreaks in Thailand in 2010 by type of virus

<table>
<thead>
<tr>
<th>Type of virus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (%)</td>
<td>2 samples (5.71%)</td>
</tr>
<tr>
<td>O (%)</td>
<td>19 samples (54.29%)</td>
</tr>
<tr>
<td>Not type (%)</td>
<td>12 samples (34.29%)</td>
</tr>
<tr>
<td>Not sampled</td>
<td>2 samples (5.71%)</td>
</tr>
<tr>
<td>Total</td>
<td>35 samples (100%)</td>
</tr>
<tr>
<td>Factor</td>
<td>Outbreak</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>1. Animal Movement</td>
<td>23</td>
</tr>
<tr>
<td>1.1 General movement</td>
<td>11</td>
</tr>
<tr>
<td>1.2 Illegal movement</td>
<td>7</td>
</tr>
<tr>
<td>1.3 Movement within province</td>
<td>5</td>
</tr>
<tr>
<td>2. Vehicle / Vendor</td>
<td>8</td>
</tr>
<tr>
<td>3. Feed stuff</td>
<td>2</td>
</tr>
<tr>
<td>4. Slaughterhouse</td>
<td>-</td>
</tr>
<tr>
<td>5. Unknown factors</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

Author and date: Dr Wacharapon Chotiyaputta, Bureau of Disease Control and Veterinary Services, Department of Livestock Development, 5 March 2011
Appendix XIX

Research and Development (R&D)

Purpose

- To advise and seek comments on R&D proposed approaches.

Background

- Consideration is being given to further developing an R&D strategy to support not only the SEACFMD Program but other activities carried out by the SRR SEA.

- A range of meetings have been held with organizations such as FAO, WHO and research institutions. In August, 2010, the Cambodian Department of Agriculture, Forestry and Fisheries, the OIE SRR, the Australian Centre for International Agricultural Research (ACIAR) and the Australian Biosecurity Cooperative Research Centre for Emerging Infectious Diseases hosted a Meeting to review the results of collaborative activities over the years and identify future needs. Emphasis was placed on improving community based biosecurity; integrating biosecurity in market chains and improving food safety; and implementing international standards taking into account the social, cultural and economic needs of countries and regions.

- These ideas are consistent with approaches that have been articulated by a number of organizations and, for example, AusAID which, in its Emerging Infectious Diseases Strategy (2011-2015) seeks to enhance the evidence base to support responses to emerging infectious diseases.

Issues

- Clearly the SRR is not a research organisation and is therefore is provided only with modest funds to deliver applied research work. This means it must, in formulating a strategy, must do so with other agencies, particularly FAO, to develop collaborative approaches so that R&D activities are better understood, mutually reinforcing, non duplicative, and priorities are established. Research of relevance will be both technical and socio-economic in nature.

- Preliminary consideration is being given by ACIAR and the SRR for an ACIAR funded research project in the critical area of animal movements. This will build on previous research funded by ACIAR in this area and other groups such as FAO and the SRR.

- Given the range of work priorities and heavy workload, the development of an R&D Strategy will be scheduled for 2012. Participants are encouraged to provide ideas in writing to the OIE Sub-Regional Representation for South-East Asia (srr.seasia@oie.int).

Recommendations

The Sub-Commission

- NOTES the proposed approach for the development of an R&D Strategy and

- NOTES the opportunity presents to provide ideas on the form, nature and content of the Strategy.
Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative

Purpose

- To inform the Sub-Commission of the initiative and seek comments on the proposals and draft design

Background

- AusAID funding for Phase 4 of the SEACFMD Program and the Program for Strengthening Veterinary Services finishes on 30 June.

- Given the importance of livestock in the Region, the social and economic costs of emerging infectious and transboundary diseases, and the clear and sustainable benefits that occur from effective national veterinary services and systems to support animal health, OIE and AusAID have proposed an initiative that would continue and expand approaches to FMD, capacity building and certain zoonotic diseases.

- The Programme (2011–2015) under a single banner – STANDZ – would have three distinct but mutually reinforcing programmes: SEACFMD Phase 4, Strengthening of Veterinary Services (STRIVES), and Project One Health.

Issues

- A Project Design Team comprising Dr Jennifer Sancho (Design Team Leader/ M&E Specialist), Dr Andrea Esser (Gender and Social Specialist), Dr Peter Black, (Epidemiologist and Veterinary Systems Specialist, DAFF, Australia), Dr Ronello Abila (OIE Sub-Regional Representative for South-East Asia), and Mr Royce Escolar (Regional Program Manager, EID Unit, AusAID, Bangkok) supported by Dr Gardner Murray (OIE Special Adviser) prepared an Aide Memoire on the subject as well as a draft Project Design Document (copies provided.)

- A number of key principles are articulated including flexibility; placing emphasis on country needs; supporting systems strengthening; ensuring sustainability; emphasizing monitoring and evaluation, gender and social mainstreaming; and leveraging activities with countries, international organizations and other donor parties.

- Comments by the Sub-Commission on the Project Design draft will be taken into account in the next iteration. The Project Design will then be subject to an AusAID peer review process before being finally considered and approved by OIE and AusAID.

- Should the Project design and application for funds be successful, it is hoped that OIE and AusAID can launch STANDZ in May/June 2011 for implementation in July.

Recommendations

The Sub-Commission

- NOTES the elements of and process for progressing STANDZ

- PROVIDES COMMENTS on the Project Design.
Situation of the on-going outbreak of Foot-and-Mouth Disease in the Democratic People's Republic of Korea

In an Asian context of widespread FMD (Japan, South Korea..), DPRK requested OIE and FAO for assistance on 7 February. Under the Crisis Management Center for Animal Health umbrella, a team arrived in Pyonyang on 28 February and departed on 7–8 March.

Key findings

Many outbreaks, scattered in 75% of the provinces, have been reported in a very short period of time. Tracing the origin of the outbreak revealed to be very difficult. In country farm visits have allowed to assess that FMD in DPRK is still spreading rapidly. The impact is high on piglets mortality (80%), and on dairy milk production (limited number of dairy cows however in the country notably compared to milking goats). DPRK so far, responded with isolation of only infected farms that revealed itself to be insufficient to stop the disease. No vaccination was implemented. A National FMD Crisis Committee implicating 20 ministries with the CVO as Secretariat has been activated.

The food security situation in DPRK is very fragile. Due to either harsh winter, bad storage conditions or flooding, forecasts are that people will not have much left staple foods to eat after May and will have to wait until October to get the next crops. International Food aid is requested and is likely to be implemented. The experts team thus considers that FMD is a major food security issue by threatening to worsen this already difficult situation: it may potentially affect the approaching ploughing season (draught animals unable to work) and reduce the milk/meat availability (dairy cattle production affected, goat milk production potentially affected also even if no data yet, high mortality in piglets).

Suggested action plan

On the emergency aspects, it has been then advised to effectively enforce movement control measures in order to “freeze” the FMD situation way beyond what is currently done. This should be extraordinary measures for an extraordinary situation and may have a strong impact on livelihoods if effectively enforced. The national committee has the power to edict such rules.

It has also been advised to implement a strategic vaccination campaign (including monitoring) of some important animal sub-populations in a second time, notably once the virus type/strain characteristics are known. Different ways for funding such an emergency action plan will be explored.

On the long-run aspects, concerning direct support to the country, it has been mentioned that DPRK will be eligible under conditions to the HPED vaccine bank when operational, notably in case of a new outbreak of FMD. The SEACFMD campaign in which DPRK is invited as an observer as well as the OIE PVS Pathway and OIE capacity building activities have been recalled.

Author: Alexandre Bouchot, OIE Sub-Regional Representation for South East Asia – Project Manager
SEACFMD National Coordinators Meeting
Patra Bali Resort and Villas, The Sunset Mezzanine Room
9 March 2011, 1:30 pm – 3:30 pm

Draft Agenda

1. 2020 Roadmap
2. Vaccination including the OIE Vaccine Bank
3. STANDZ and linkages e.g. GF TADs
4. Regional Coordinator Activities
   - Plan for 2011
5. 2nd Global Conference on FMD
6. Managing the Sub-Commission Agenda
7. Recommendation from the Meeting
8. Other Matters
9. Date/Place of next Sub-Commission
Key issues raised

**SEACFMD National Coordinators Meeting**

**SEACFMD 2020 Roadmap**

- The Members endorse the SEACFMD 2020 Roadmap in; minor comments will be received in March; and the document will undergo editing before submission for approval in May.

**FMD Vaccination**

- The OIE SRR SEA is endorsing the two strategies: systemic and targeted vaccination
- Depending on the country’s situation, the strategy to be implemented will vary but the means of validation is an issue.
- It is recommended that pre-vaccination activities and post vaccination monitoring be done. PR China for example conducts cross checking to ensure that reported areas vaccinated are correct. Coordinators were urged to comment on post vaccination monitoring mechanism to be adopted.
- Concurrence to the strains will be gathered.
- The National Coordinators (NCs) re-affirm their support for the vaccination policy, noting that vaccine policy may be customized to suit national needs.
- The NCs emphasize critical importance of pre and post vaccination monitoring to know efficacy of vaccination programs, noting that to make this happen resource constraints in some countries should be addressed.
- This subject will be discussed in detail in the next National Coordinators Meeting.
- In Latin America, a center was designated to monitor vaccines used in the Region. The recommendation to adopt in SEACFMD will be reiterated.

**Vaccine Bank**

- Endorse in priority O1Manisa, A Malaysia 97, A Iran 05, Asia 1 Shamir, Cathay topotype, A 22 Iraq and SAT 1. In terms of tender, OIE is asked to keep strain variation under review and request manufacturers to make allowance for new strains, in particular potential commercial development of O Myanmar 98.
- The recipient country should have the capacity and built in mechanism to facilitate movement of the vaccine.
- PR China has developed a vaccine for O Myanmar 98 but it is just for its own use. A commercial strain may be made available in the WRL for the use of vaccine manufacturers. According to studies conducted in China, O Myanmar 98 also protects against PanAsia and Cathay, thus the country is considering to use O Myanmar 98 in its vaccines and.
- Note PR China work at Lanzhou on Mya 98 which indicates its efficacy against PanAsia O topotype and Cathay and note that China is developing its vaccine.
- The importation policy especially for free countries should be reviewed; which also applies for endemic countries which might need to import vaccines involving a different strain.
- The ASEAN and OIE has a standing MoU but covers a broad range of issues. Based on the request of the countries an MoU regarding vaccine importation may be signed between OIE and the country.
Recommend that OIE through the OIE SRR SEA create a team to work and agree on eligibility criteria, taking into account the nature and type needed. The policy principles and guidelines will include the possibility of an MoU to facilitate vaccine entry.

Agree on strains and if supported by WRL and other organization, a tender will go out.

The SRR-SEA with OIE HQ work with countries to develop guiding principles for the importation, distribution and use of emergency vaccines. This could include where appropriate countries developing an MoU with OIE.

A mechanism for the submission and approval of requests will be established. It is suggested that the request be assessed by the OIE Delegate, OIE SRR SEA and OIE HQ.

The SRR SEA will work with countries to strengthen emergency preparedness and come up with protocols that may include requests for vaccine.

Recommendation for a mechanism for actions in the event of a suspicion or incursion of FMD in free countries. The next National Coordinators meeting should come up with clear SOPs/protocols.

Recommend making application for vaccine stock, the OIE Delegate will make the application to the SRR SEA Sub-Regional Representative who can have immediate contact with the CVO and HQ, in addition contact may have to be made with WRL and RRL for further confirmation of strain.

SRR SEA will work to refine in the initial actions and contacts in the case of FMD emergency.

**STANDZ and linkages**

- The NCs endorses the STANDZ concept and construct working partnerships particularly in the area of zoonoses.

**2nd Global Conference for FMD**

- Thailand will host the 2nd Global Conference in June 2012.
- Note that Thailand is officially requested by OIE and FAO to host the 2nd Global Conference for FMD in June 2012, and is positively responding to the request.

**Regional Coordinator Activities**

- The National Coordinators Meeting will be held back to back with meetings with national focal points for capacity building.
- The NCs agree to have a major meeting back to back with country PVS focal points in August 2011, hopefully to be timed with the celebration for the Philippines’ celebration of FMD freedom.

**Managing the Sub-Commission Agenda**

- In-country successful experiences should be given more emphasis, which can be translated into recommendations that could be implemented at the national level.
- Countries should be advised on strain changes and epidemiology of the virus itself.
- The STANDZ agenda is 50% in-country and 50% coordination thus
- Participants should have papers 2 weeks before meetings and presentations will focus on key recommendations and discussions. More donors will also be invited.
- The NCs agree with the general framework of Sub-Commission meetings and the concept of having themes on the meetings but there should be emphasis on in-country activities, provision of papers 2 weeks before meeting, and consider the nature of Friday meetings. Strongly support invitation to donors and strict time management.
• Agreed to nominate the SEACFMD Project Officer to follow up country activities.

• Agreed to seek R&D components but given the nature of R&D, new advises should be shared to the SRR SEA through the SEACFMD Project Officer.

• Support the thrust of PR China’s recommendations and ask that the Regional Coordinator to work with PR China on how to take this forward.

• Noted that the SRR SEA will work with National Coordinators to improve and enhance the early warning system and concurrently ministers will be advised on the importance of having this system in place.

• Congratulate Myanmar on its early detection of the new serotype A and will be used as an example for future activities.

• Free countries will need to enhance and improve their quarantine systems but the support of neighboring countries in disease management will be crucial.

• Forum for NCs will be incorporated in the new website.

• Congratulated Philippines in its impending freedom from FMD.

• Noted the good progress with the FMD zoning in Region 2 of Thailand.

• Strongly supports the next Sub-Commission Meeting in PR China in March 2012 and that the Sub-Regional Representative writes to the OIE Delegate requesting that PR China consider this.
SEACFMD National Coordinators Meeting

Recommendations

NATIONAL COORDINATORS

SEACFMD 2020 Roadmap

- ENDORSE the SEACFMD 2020 Roadmap NOTING minor comments will be received by March; the document will then be edited and submitted to OIE and ASWGL for final approval in May.

FMD Vaccination

- RE-AFFIRM support for the vaccination policies in the 2020 Roadmap NOTING that vaccine policies may need to be customized to suit national needs.
- AGREE that pre and post vaccination monitoring is critical and that National Coordinators will consider this issue in detail at their August meeting including definitions and resource constraints.

Vaccine Bank

- ENDORSE the following strains as proposed for inclusion in the Bank: O1 Manisa, A Malaysia 97, A Iran 05, Asia 1 Shamir, the Cathay topotype, and A 22 Iraq and SAT 1 strains if funds are available; and RECOMMEND that, to the extent possible, allowance be made for new strains, in particular potential commercial development of O Myanmar 98.
- NOTES PRC work at Lanzhou on O Myanmar 98 which indicates its efficacy against the PanAsian O and Cathay topotypes.
- AGREE that OIE will, with countries, develop a guiding principles document on eligibility criteria, receipt, distribution and use of vaccines NOTING that this could include a possible MoU between individual Members to facilitate vaccine entry.
- RECOMMEND that when the bank is functional, the OIE Delegate of the requesting country makes application to the SRR SEA Sub-regional Representative who will immediately liaise with OIE Headquarters and if appropriate other relevant agencies such as World Reference Laboratory and Regional Reference Laboratory to ensure a decision can be made with expedition.
- SRR SEA will work to refine in the initial actions and contacts in the case of FMD emergency.

2nd Global Conference for FMD

- NOTES that the OIE and FAO have requested Thailand to host the 2nd Global Conference for FMD in June 2012, and that Thailand is positively responding to the request.

National Coordinator Activities

- AGREE to hold the next National Coordinators Meeting back to back with country PVS focal persons in August 2011, in the Philippines to coincide with the national celebration of FMD freedom.

Managing the Sub-Commission Agenda

- AGREE with the general framework of Sub-Commission meetings, the concept of having key themes, and RECOMMENDS that there should be increasing emphasis on in-country activities, the provision of papers 2 weeks in advance the meeting, additional donor organizations be invited to participate and that the nature of the Friday meeting be kept under review.
• Strongly SUPPORTS efficient time management and officially ADOPTS the GONG as a key management tool.

**STANDZ and linkages**

• ENDORSE the STANDZ concept and the development of constructive working partnerships including in the area of zoonoses.

**R&D**

• RE-AFFIRM the current SEACFMD 6 R&D components but RECOMMENDS Members provide advice to the SEACFMD Project Officer on any new R&D developments.

**Animal Health (General)**

• SUPPORT the thrust of the PRC’s recommendations on cooperative activities between countries and REQUEST the Regional Coordinator to work with the PRC on how best to take this forward.

• NOTE that the SRR will work with National Coordinators to improve and enhance the early warning system and that concurrently ministers will be advised on the importance of having this system in place and the need to take immediate actions to disease events.

• CONGRATULATE Myanmar on its early detection of the new serotype A and that this will be used as a case example for early warning activities.

• CONGRATULATE the Philippines in its impending freedom from FMD in May 2011.

• NOTE the good progress with the FMD zoning in Region 2 of Thailand.

• NOTE that free countries need to enhance and improve disease prevention systems and that the support of neighboring infected countries in managing their disease situations will be crucial.

• NOTES that the SEACFMD Project Officer is designated follow up country activities particularly on their obligation to report outbreaks.

**Date and venue of the next Sub-Commission Meeting**

• Strongly SUPPORTs that the next Sub-Commission Meeting be held in PRC in March 2012 and that the Sub-Regional Representative write to the OIE Delegate requesting that PRC consider this.
17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China
Bali, Indonesia

Meeting of SEACFMD Observer Delegates
Patra Bali Resort and Villas, Gianyar Room
9 March 2011, a.m.

Draft Agenda

Chairperson: Dr Bernard Vallat

Rapporteurs:

Observers would consider the following issues and report on the outcomes of their meeting.

1. Issues relating to the draft SEACFMD 2020 Roadmap
2. Vaccination strategies and approach including
   - Vaccine supply and funding
   - The HPED funded vaccine bank
     - Strains
     - Modus operandi
3. STANDZ and linkages to relevant programmes/activities such as GF TADs
4. 2nd Global Conference on FMD
5. Sub-Commission – managing the Agenda
Appendix XXVI

Meeting of SEACFMD Observer Delegates

Recommendations and comments

2020 SEACFMD Campaign Roadmap

The SEACFMD 2020 Roadmap is endorsed by the participants and the group of Observer Delegates recommends its endorsement by the OIE Sub-Commission for FMD in South-East Asia; approval by ASEAN should also be sought.

Before final editing of the SEACFMD 2020 Roadmap, the group recommends that some emphasis be added on the following issues which should be addressed and strengthened when finalising the current draft document:

- good governance principles, including (not exhaustive) good surveillance, early detection, reporting mechanisms, monitoring of movement of animals, identification of animals, and international trade certification issues;
- continuing review of the FMD situation could be envisaged to update the timeline proposed by the document, as necessary;
- the issue of Myanmar as one of the possible sources of FMD for the rest of the region should be considered seriously and addressed;
- socio-economic studies are encouraged when appropriate.

Vaccination strategy

The EU-funded HPED programme will permit to establish a FMD regional vaccine bank in Asia.

The group of Observer Delegates endorses the list of strains proposed for the OIE international call for tender prepared for the establishment of this regional vaccine bank, namely:

- O1 Manisa - O Cathay topotype - A22 Iraq - A Malaysia 97 - A Iran 05 - SAT 1 – Asia 1 Shamir (not by order of importance), in addition to possible use of non-determined or pre-determined optional strains;
- a ready-for-use trivalent vaccine against FMD for cattle with the following strains: O1 Manisa + A Malaysia 97 + Asia 1 Shamir.

It was indicated that the A22 Iraq strain could be removed from this list. If two strains were to be removed from this list, the SAT 1 strain could also be removed form this list, and the SAT 2 strain could be considered instead.

The group of Observer Delegates recommends that priority countries for delivery of vaccines, in the framework of the OIE FMD regional vaccine bank for Asia, be the countries committed to an officially adopted regional roadmap towards progressive eradication of FMD in order to guarantee better use of resources.

The group of Observer Delegates acknowledges and endorses that the FMD vaccines provided will not be available for blanket vaccination campaigns and would be reserved for the protection of free zone status (e.g. ring vaccination around outbreaks in countries with a FMD free status), or vaccination in hot spots.

The group of Observer Delegates recommends that a specific restricted committee be established to assist the OIE Sub-Regional Representative and Regional Coordinator of the SEACFMD Campaign in the decision making process related to official country requests for delivery of FMD vaccines under this regional vaccine bank. Official country commitments as regards to the availability of an operational cold chain starting at the point and time of delivery, facilitation of import and of customs clearance of the vaccines, and reporting on the use of the vaccines provided will be sought.

The group of Observer Delegates emphasises the need for other programmes such as the coming STANDZ programme funded by AusAID, to be used to carry out monitoring and evaluation activities, using appropriate
scientific methods, notably post vaccination monitoring and surveillance and vaccine matching activities, including disease investigation, sampling of vaccinated animals, verification of efficacy of vaccines (serology), and of actual protection of vaccinated animals. FAO and Donors are encouraged to continually support relevant countries for the appropriate implementation of national campaigns.

**Launching of the AusAID/OIE STANDZ project**

Regarding the STANDZ and its linkages to relevant programmes and activities, such as the GF-TADs, the Observers to the 17th Meeting of the Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China recommend that:

- The GF-TADs Regional Steering Committee for Asia and the Pacific remain an umbrella for all the activities, including the proposed STANDZ programme (to be funded by AusAID), related to the control of transboundary animal diseases, as this is already the case for the EU-funded HPED programme (which includes OIE, FAO and WHO components).

**2nd OIE-FAO Global Conference on FMD**

The Observers to the 17th Meeting of the Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China recommend that:

- the 2nd Global Conference on FMD address the follow-up activities made on the first Global Conference resolutions;
- the 2nd Global Conference on FMD be an opportunity to present the different regional FMD control programmes;
- the 2nd Global Conference on FMD be used to promote the mechanisms for the endorsement, by the OIE, of the official national control programmes for FMD and that countries which have their official control programme endorsed be prioritised for funding FMD control activities;
- Members of SEACFMD should apply soon for the OIE recognition of their respective official control programme for foot-and-mouth disease, in the respect of the 2020 roadmap;

and take note that the 2nd Global Conference on FMD will be a pledging Conference.

**Organisation and dynamic of the SEACFMD meetings**

Regarding the improvement of the OIE SEACFMD annual meeting agenda, the Observers to the 17th Meeting of the Sub-Commission for Foot and Mouth Disease Control in South-East Asia and China recommend that:

- the strategic issues related to animal health in general be addressed, including in the labelling of the meeting (e.g. on the Friday’s programme) while avoiding overlapping with other fora;
- in the context of STANDZ programme, the annual meetings represent an opportunity for countries of the region to share their experiences related to the control of FMD.

It has been suggested that registration fees be requested to certain categories of participants to cover part of the growing cost of the annual meetings.

The meeting ended at 12.00.
In-country meeting in Laos

**Purpose**

To advise the OIE Sub-Commission for FMD Control in Southeast Asia and China on the results of the in-country meeting in Laos

**Background**

- Since 2005, the Upper Mekong Zone has not been successful in achieving its target and has even recorded outbreaks in areas not previously affected like the outbreak in the northern part of Laos and the emergence of type A in the northern part of Vietnam. This was recognised in the meeting of the Upper Mekong Working Group (UMWG) in Hanoi, Vietnam on 20–22 January 2010. How to contain these outbreaks is the biggest challenge for the Upper Mekong (UM) Zone in addition to the apparent change in animal movement patterns since the establishment of the UM Zone. This scenario warrants the implementation of intervention measures in the critical points to effectively control FMD. Among the major outcomes of the meeting was the drafting of the country action plans for 2010 which will focus on in-country meetings. These in-country meetings will involve national and provincial level staff discussing ways to progress zonal activities in their respective countries.

- Following the recommendation of the UMWG, the first in-country meeting was held in Luang Prabang, Laos. The purpose of the meeting is as follows: to introduce the activities of the SEACFMD RCU to the provincial and district veterinary officers in the control and buffer zones in the Upper Mekong Zone of Laos; to discuss the FMD situation in the zones, the whole country and in the Sub-region; to discuss and agree on a work plan for FMD control; to build up the FMD control network and; to introduce the Outbreak Investigation Manual (OIM) and its use as a guide for the conduct of outbreak investigation and sample collection in the field.

- To gather relevant information for discussion in the meeting and to validate information on animal movement, Xiengkhouang Province was visited prior to the meeting. Mr Somboun Sonelitideth, Deputy Chief of the Agriculture and Forestry Department of Xiengkhouang Province was also met to discuss the objectives of the mission.

**Details**

- **Meeting with Mr Somboun Sonelitideth (Deputy Chief, Agriculture and Forestry Department, Xiengkhouang Province)**

  According to Mr Sonelidith, export of livestock is a priority of the province but is facing problems with controlling animal diseases and animal movement. There is no available FMD vaccine, thus the Province has proposed for a project to conduct vaccination in high risk areas, the result of which is still being awaited. The Provincial Administration Office has a Cattle Export Task Force composed of different agencies based in the checkpoint and border with Vietnam, thus an opportunity to check and properly document animal movement.

  The Province is looking forward to collaborate with OIE on the control of FMD and other transboundary animal diseases (TADs).

- **Field visit to Xiengkhouang Province**

  On 8 May 2010, the checkpoint was visited and movement of animals documented from Laos to Vietnam. The findings served as basis for the discussion in the meeting on the 10th and 11th, especially during the report of Xiengkhouang Province.

  On 9 May 2010, Ban Nong village of Pek District of Xiengkhouang Province was visited to interact with the village chief and farmers. This village experienced FMD outbreaks starting on January 2010 which affected 95% of the animals. No new cases have been reported at present. This village did not report any FMD outbreak after a FMD vaccination campaign was launched by an ACIAR project in March 2009 but since no follow-up vaccination was conducted after six months, the village was massively hit by FMD by January 2010.
• Meeting with Provincial Staff in the Lao PDR Upper Mekong Zone

The meeting on the control of FMD in the Upper Mekong Zone of Laos held in Luang Prabang on 10–11 May 2010 was attended by 30 participants composed of: DLF staff; representatives of the Provincial Agriculture and Forestry Offices of 9 provinces located in the Upper Mekong Zone, namely: Uodomxay, Luangnamtha, Bokeo, Vientiane, Huaphanh, Xiengkhouang, Phongsaly, Luang Prabang and Xayabuli; and representatives from the project of Sydney University in Laos. The meeting was organised by the SEAFMD RCU in collaboration with the National Animal Health Center (NAHC) of Laos.

Presentations included the report on the SEAFMD Campaign particularly the status of the Upper Mekong Zone; report on the FMD status of the five provinces affected by FMD in 2009/2010 (Xiengkhouang, Xayabuli, Uodomxay, Luangnamtha and Bokeo); FMD status in the whole of Laos; and FMD status in South East Asia. The meeting was also utilized to give lectures on the importance of animal disease surveillance; ACIAR project on “understanding animal movement and risk of spread of transboundary animal diseases;” introduction to the outbreak investigation manual; sample collection and submission; and vaccination and planning.

Below is the summary of the reports from the five FMD-affected provinces:

1. Xiengkhouang Province
   - First outbreak was in 2002 due to importation of sheep from Thailand that spread the disease to cattle and buffaloes. Due to the farmers’ lack of education on FMD, infected animals were sold which led to further spread of FMD.
   - In 2010: 17,382 cattle, 38,699 buffalo and 40 pigs were affected.
   - Reports from farmers are delayed thus sample collection is delayed too.
   - No vaccine available.
   - Needs vaccine; equipment and budgetary support for sample collection.

2. Xayabuli
   - 3,491 animals affected in 2009; 556 in 2010.
   - Lacks personnel and budget.
   - Needs to conduct vaccination, public awareness campaign on disease prevention, implement animal movement control, and establish FMD task force at provincial and district level.

3. Uodomxay
   - First case of FMD reported in 27 June 2009, after a farmer imported cattle from Thailand. 490 animals (54 buffaloes, 294 cattle, 142 swine) were infected.

4. Luangnamtha
   - 3 districts (Namtha, Sing, Long) reported outbreaks in October-November 2009
   - Budget is insufficient and areas of jurisdiction are mostly remote and mountainous.

5. Bokeo
   - Outbreaks started in 2 villages in September 2009 and spread to 7 villages within a month, affecting 294 cattle and 350 buffaloes

Reports by the provincial participants were mostly descriptive and lacked detailed information such as susceptible population and the start and end of outbreaks. Most of the cases were diagnosed by clinical signs, with no sample submitted. This means that the provincial/district staff must be trained to carry out proper outbreak investigation and ensure that they have sufficient equipment/materials to do so.
The Meeting agreed that the participants will be nominated as the provincial counterparts who will submit monthly report to NAHC in case of an FMD outbreak or if there are suspected cases. They have to send the report immediately using the form provided and they are expected to conduct outbreak investigation and sample collection.

Each province will develop their own FMD plan to identify the priorities for the risk areas for FMD and submit to NAHC to be able to come up with the whole Upper Mekong Zone Plan to be submitted to DLF or international donor for possible support.

The Meeting noted that the outbreak investigation manual is a useful tool and must be used in the proposed training for district officers. This kind of training was done in the past but most of the trained personnel have been transferred to other areas or promoted thus the need to train the new provincial and district staff.

It was also noted that animal movement pattern in the Region has changed due to changes in the demand for livestock which directly links with the FMD outbreaks in Laos. This would necessitate capacity building and vigilance among all levels of the veterinary services of the country.

Conclusions

The mission was a good opportunity to gather information direct from the provincial level which holds the details of the outbreaks. The field visit to Xiengkhouang Province and Nghe Anh Province of Vietnam which is the gateway to Vietnam also proved that the demand for livestock is high, meaning increased animal movement and greater risk for the introduction and spread of FMD. This is significant not only for Laos but for Vietnam as well. The demand from Vietnam is approximately 40,000-80,000 head per year and as Xiengkhouang can only supply half of this demand, it imports from other provinces posing more risk for disease introduction. Determining the hotspots for FMD introduction and spread also means an opportunity for control measures to be instituted. Thus there is a need for Laos to review and utilise the results of livestock movement studies done.

Recommendations

The Sub-Commission

1. NOTES progress with the in-country meeting in Laos
Progress Report of the Joint Meeting of the Laboratory Network (LabNet) and Epidemiology Network (EpiNet)

Purpose

To advise the OIE Sub-Commission for FMD in Southeast Asia and China on the progress of the joint meeting of the Laboratory Network (LabNet) and Epidemiology network (EpiNet)

Background

The joint meeting of the LabNet and EpiNet was held in Kao Yai, Thailand on 2–3 March 2011 in response to the need for improved FMD outbreak investigation, conduct of relevant epidemiological studies in support to the SEACFMD 2020, and monitoring of vaccine efficacy. This is the first time to conduct a joint meeting of the LabNet and EpiNet, with the purpose of establishing closer collaboration between the two networks. The meeting also aimed to further discuss the constraints encountered in outbreak investigation and laboratory testing and come up with recommendations to overcome these constraints.

Issues

• The meeting was attended by the heads/representatives of the FMD Laboratories and Epidemiology Sections of 10 SEACFMD member countries; representatives of the OIE SRR-SEA, FAO and RRL; and representatives of FMD Laboratories and Epidemiology Units in the different Regions of Thailand.

• The meeting discussed the status of FMD in the Region; the activities conducted by the two networks; and came up with recommendations to improve field and laboratory capacities. The delegates from 10 SEACFMD member countries presented country reports, identifying the progress, constraints and problems encountered in the field and their laboratories, and listed recommendations to overcome such constraints.

• It will be the priority of the SEACFMD Campaign in 2011 to strengthen vaccination programmes and the LabNet will have a crucial role in determining vaccine efficacy. Surveillance will also be strengthened by conducting more outbreak investigations in hotspots and collection of more samples for sequencing, wherein EpiNet and LabNet obviously needs to partner.

• The separate session of the EpiNet discussed 3 main topics: status of disease reporting system and recommendations for the next 12 months; capacity building on outbreak investigation and disease recognition; and WAHIS Regional Core (ARAHIS). It was recognized that prompt reporting is crucial to be able to collect fresh, good quality samples for laboratory testing. Prompt reporting will also give way to prompt outbreak response and to facilitate this, sociological studies (e.g. Knowledge, Attitude, Practices or KAP Suveys) will be conducted in tandem with outbreak investigations. The sociological studies will try to understand farmer behaviours (e.g. reasons for not reporting) and will also inform how public awareness materials are designed. A framework will be developed by the SEACFMD with the help of a social scientist, with support from partners like FAO.

• The LabNet session included presentations on transportation of infectious substances and progress of RRL FMD research works, namely: molecular diagnosis and epidemiology of FMD viruses in South East Asia during 2010-2011; antigenic variation of FMD field isolate viruses in South East Asia causing outbreak in 2010; and preliminary study on C’ ELISA for detection of antibodies to FMDV by using in house reagents.

• The meeting concluded with a visit to the FMD Regional Reference Laboratory in Pakchong and and dispatch of inter-laboratory reagents and samples to participating laboratories.
Key recommendations of the Joint LabNet-EpiNet Meeting

General recommendations

• NOTE the progress of the members’ activities and programs vis-à-vis the directions of the SEACFMD Laboratory Network (SEAFMD LabNet) and Epidemiology Network (EpiNet).

• NOTE the FMD status of the members and improvement of on-line submission of reports to OIE WAHIS and WAHIS Regional Core for ASEAN (ARAHIS).

• SUPPORT the revised SEACFMD 2020 roadmap for endorsement at the next Sub-Commission Meeting. NOTE the changes in the strategy of the revised roadmap focusing on controlling FMD in hotspots and critical points.

• NOTE the development of SEACFMD vaccination strategy, for endorsement at the next Sub-Commission Meeting, that would provide guidance to its members.

• NOTE the importance of getting representative samples to monitor field virus strains and AGREE to exert efforts to get at least one good quality sample at the 2nd administrative level (eg. Province).

• AGREE that a brochure on sample collection be developed for distribution to all field officers to improve collection of good quality samples.

• REITERATE the importance of monitoring vaccination efficacy and AGREE to develop a protocol for pre and post-vaccination monitoring.

• NOTE the important role of FMD laboratories in the monitoring of FMD vaccine efficacy and ENCOURAGE laboratory staff to be actively involved in this activity in collaboration with field staff.

• AGREE to review all the vaccines strains and quality of vaccines used in the sub-region.

• AGREE to continue serological monitoring in FMD free countries and zones.

• AGREE to conduct the joint meeting annually.

LABORATORY NETWORK

• NOTE the improvements of member’s laboratory capacity in conducting tests and sending of samples to RRL.

• AGREE to conduct another round of inter-laboratory testing, the inter-lab set to be distributed during this meeting and the results to be submitted by members after one month.

• NOTE the packing and transport of infectious substance should follow international standards (ie. WHO, IATA) in the sending of samples to reference laboratories.

• NOTE the progress of the ongoing research studies on FMD in the sub-region.

• AGREE to conduct more vaccine matching of field isolates against local and commercial vaccine strains.

• ENCOURAGE members to write their laboratory SOPs in their official language by December 2011.

EPIDEMIOLOGY NETWORK

• AGREE that members will examine ways to improve early detection, response and reporting of FMD outbreaks.

• AGREE to continue to conduct more case studies on FMD Outbreak investigations to identify risk factors and understand the changing epidemiology of FMD viruses.
• NOTE the importance of incorporating the KAP surveys in outbreak investigation studies to understand the behavior of various stakeholders in responding to outbreaks.

• NOTE and request the continued assistance of FAO in the areas of capacity building especially the FETPV and country programs like AVET, surveillance, and outbreak investigation.

• AGREE to conduct more studies on animal movement pathways and other risk factors involved in the spread of FMD.

• NOTE the importance of continuing efforts to develop capacity on Outbreak Investigation and Management (OIM), and RECOGNIZE that the SEACFMD OIM training manual is a useful tool.

• NOTE that SEACFMD will continue to conduct in-country meetings involving central and provincial officers to review FMD control policies.

Recommendations

The Sub-Commission

1. NOTES progress with the joint meeting of the LabNet and EpiNet.
Appendix XXIX

Progress Report
of the Lower Mekong Working Group (LMWG)

Purpose
To advise the OIE Sub-Commission for FMD in Southeast Asia and China on the work of the Lower Mekong Working Group (LMWG)

Background
• The 9th Meeting of the Lower Mekong Working Group (LMWG) on FMD Zoning and Animal Movement Management was conducted in Pattaya, Thailand on 10–12 November 2010.

• The purpose of the meeting was to follow up the progress on the establishment of FMD control zones in the border of the southern part of Cambodia and Vietnam, and the southern part of Laos and Region 2 in Thailand. It also aimed to further refine the strategy to progress the Lower Mekong initiative; focus on better understanding the epidemiology of FMD in the zone; strengthen disease surveillance systems; improve animal movement management; and realize a more vigorous public awareness campaign.

Issues
• The meeting was attended by representatives of the four member countries of the LMWG initiative: Cambodia, Laos, Thailand and Vietnam. The OIE was represented by Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in Southeast Asia and China and Special Advisor to OIE; Dr Ronello Abila, Sub-Regional Representative of the OIE Sub-Regional Representation for Southeast Asia; Dr Alexandre Bouchot, HPED Programme Manager; Dr Sharie Michelle Aviso, SEACFMD Project Officer, and Dr Kenji Sakurai, Deputy Regional Representative of the OIE Regional Representation for Asia and the Pacific. The secondee from the Philippines, Dr Cheryl Rose Bain, attended as an observer. Also represented at the meeting were partner organisations FAO Regional Office for Asia and the Pacific (FAORAP) and Australian Center for International Agricultural Research (ACIAR). Quarantine officers and other staff from Region 2 were present as observers and took part in the workshop discussions.

• The zoning initiative in the LMWG is being reviewed in view of changing patterns of FMD and possible sources of infection as recommended in the 8th LMWG meeting. The results of the review will be taken into account in the revised SEACFMD 2020 Roadmap. An in-country meeting was conducted in Cambodia and Region 2 of Thailand was visited in response to the recommendation to organize consultation meetings with provincial veterinary officers and other stakeholders. The consultation meetings were instrumental in determining the status of FMD and the implementation of control programmes at the grassroots level. A study case in Cambodia is also ongoing to enable in-depth investigation of outbreaks to be developed into case studies and possibly to be published as well.

• As a result of this review, the 9th LMWG agreed to broaden its scope beyond zoning and focus on reduction of FMD prevalence in hotspots outside the zones. The Meeting further recommended to rename “Lower Mekong Working Group (LMWG) on FMD Zoning and Animal Movement Management” to “Lower Mekong Working Group (LMWG) on FMD Control.”

• Although the other parts of the Lower Mekong are still infected with FMD, the Region 2 of Thailand had been successful in preventing any outbreak since 2001. The Government of Thailand has launched a program in 2009 with 200 million Baht budget to keep Region 2 FMD free with vaccination and aims to apply for OIE recognition by 2014. The Region 2 zone has been demarcated from the infected zone with clear boundaries separated by mountains, rivers, sea and highways. The main advantage of Region 2 is that animal movement is traditionally going out of the zone, but inspite of that animal movement control is also strictly being implemented by Thai authorities. Intensive sero-surveillance was launched in 2009 with collection of more than 20,000 samples, and similar number of samples has been collected in 2010.

• FMD remains endemic in the Cambodia and Vietnam parts of the Lower Mekong, wherein in Cambodia alone, 37 outbreaks were reported in 13 provinces affecting 34,752 head of cattle, buffaloes and pigs. Because of this situation, the SEACFMD donated 15,000 doses of vaccines in addition to the 40,000 doses

SEACFMD 17th OIE Sub-Commission Meeting, Bali, Indonesia
committed by the Department of Animal Health (DAH) of Vietnam, which is also an offshoot of a bilateral agreement between the two countries.

- The OIE HPED vaccine bank was discussed and countries agreed to assist in providing information needed to develop a framework for FMD vaccine delivery framework.
- The need to harmonize the definition of FMD outbreak in the different countries was recognized. Some countries do not use the standard definition and in Vietnam for instance, outbreaks are based on communes and each occurrence even if within the 2-week period is counted as a new outbreak thus the very high statistic for the country.
- The yearly outbreaks associated with animal movement and the prevailing lack of vaccines and funding to implement control measures continue to pose challenges to the zoning initiative in the Lower Mekong. The new strategies that will be prescribed in the revised SEACFMD 2020 Roadmap will try to reduce FMD prevalence by targeting hotspots and critical points and maintain and expand FMD free zones. A workshop involving 2 groups (1 international, 1 composed of local participants) came up with recommendations on the priority provinces/districts in each country: priorities for surveillance, animal movement management, and vaccination; and future work of the LMWG. The recommendations of the two workshop groups were incorporated into the meeting recommendations.

Key Recommendations of the 9th Meeting of the LMWG

- Re-align the LMWG initiative with the revised SEACFMD 2020 Roadmap.
- Rename the “Lower Mekong Working Group (LMWG) on FMD Zoning and Animal Movement Management” to “Lower Mekong Working Group (LMWG) on FMD Control.” NOTE the SRR will develop revised Terms of Reference (TOR) for Sub-Commission endorsement.
- Designation of Region 2 of Thailand as an eradication zone.
- SRR to circulate a revised standard definitions and guidelines on zoning taking into account new OIE developments.
- Members to share communication and public awareness materials they have produced.
- FMD risks are increasing thus countries are strongly encouraged to take strong preventive and control measures.
- Continue in-country consultations meetings of provincial veterinary offices, other government agencies, traders and other key stakeholders in the Lower Mekong.
- Expand case study being launched in Cambodia to Laos and Vietnam.
- Reiterated the timely submission of reports to SEACFMD through the OIE WAHIS Regional Core for ASEAN/ARAHIS for routine report submission, and to OIE WAHIS for emergency reports in case of new epidemiological findings.
- Speedy implementation of the bank in view of the increasing risk. The HPED Programme Manager, working in conjunction with countries and FAO will provide advice on operating guidelines for ordering, receipt and handling of vaccines sourced from the bank.
- Reiterated the importance of collecting good quality samples for antigen typing and encouraged the submission of samples to the OIE FMD Reference Laboratory in Pakchong, Thailand.
- Endorsement of the recommendations and plan of actions from the two workshop groups.

RECOMMENDATIONS

The Sub-Commission

1. NOTES progress with the work of the Lower Mekong Working Group.
Appendix XXX

Progress Report
of the Myanmar Zoning Working Group (MZWG)

Purpose

To advise the OIE Sub-Commission for FMD in Southeast Asia and China on the work of the Myanmar Zoning Working Group (MZWG).

Background

• The 6th Meeting of the Myanmar Zoning Working Group (MZWG) was held to update key national and sub-national staff on the FMD status in South East Asia and neighboring Asian countries on the progress and direction of the SEACFMD Campaign.

• The meeting was also an opportune time to discuss the FMD outbreaks occurring in Myanmar to be able to come up with a workplan for FMD control including the use of the forthcoming HPED emergency vaccine bank. It was also an opportunity to further strengthen the FMD control network existing in the country.

Issues

• The meeting was attended by representatives of the Livestock Breeding and Veterinary Department (LBVD) of Myanmar and selected States/Regions. The OIE was represented by Dr Ronello Abila, Sub-Regional Representative of the OIE Sub-Regional Representation for Southeast Asia; Dr Alexandre Bouchot, HPED Programme Manager; and Dr Sharie Michelle Aviso, SEACFMD Project Officer.

• Despite the decline of outbreaks in 2010, Myanmar experienced serotype A outbreaks in Rakhine State in September which is of great epidemiological significance given the last serotype A outbreak was reported in Tanintharyi Division in 1999. In addition to this, the new serotype A was found to be 80% related to A/Iraq/22, totally different from the current serotype A Malaysia 97 strain circulating in South-East Asia. The appearance of this new serotype A strain poses a great risk not only to Myanmar but to the whole South East Asian countries.

• Dr Kyaw Naing Oo of LBVD presented the results of the case study conducted on serotype A outbreak which was supported by the OIE SEACFMD. Approximately 325 head were affected in Maungdaw District in the northern part of Rakhine State which shares border with Bangladesh. Communal grazing of animals from Myanmar and Bangladesh is seen as the most likely source of the outbreak. The outbreak is already under control but in addition to this, serotype O outbreaks were reported in Sagaing Region. The Region of Tanintharyi which is a part of the Myanmar-Thailand-Malaysia (MTM) zone also reported outbreaks in late 2009 and early 2010 after having its last outbreak in 2007.

• With this scenario and in line with the SEACFMD 2020’s strategy, the discussions centered on ways to reduce FMD prevalence in the country by targeting FMD hotspots. The participants identified the priority areas for control and the type of intervention needed, and came up with workplans for implementation in January to December 2011. Additional activities like the conduct of public awareness activities and capacity building of grassroots level staff were also suggested by the participants.

• The number of susceptible animals in the priority areas will be collated for the drafting of the vaccination plan. The historical outbreaks at the township level in the priority areas from 2000 to 2010 will also be gathered to determine the dynamics of the yearly outbreak to enable analysis and to assist in decision making for vaccination and other activities. Vaccination will be prioritized in areas which are considered to be at higher risk due to low antibody titer or those which have not been vaccinated recently, and maybe infected due to its proximity to infected areas. The LBVD will also be coordinating closely with the SRR regarding the procedure of delivering vaccine to the country through the HPED vaccine bank.

• Dr Kyaw Sunn discussed with Dr Abila the recent Animal Health Plan for Myanmar drafted with the help of FAO ECTAD country office. The FAO requested for endorsement of this Plan from the Minister of Livestock and Fisheries. Dr Kyaw Sunn said that the results of the OIE PVS Evaluation in 2009 were considered in the development of the Plan. With the forthcoming PVS Gap Analysis mission in Myanmar in December 2010, it would be critical for the GA Team to look at the content of this Plan and assess its relevance vis-à-vis the results of the GA mission.
Key recommendations of the 6th Meeting of the MZWG

- To align the Myanmar National FMD control program with the new Roadmap.
- To examine options to get domestic and external support to provide vaccines and other resources to effectively implement a National FMD control program.
- Agreed to actively monitor outbreaks and institute strong preventive measures to avoid resurgence of FMD epizootics similar to 2006.
- Noted the case study presented on the serotype A outbreak in Taungpyo Letwae sub-township and agreed to conduct similar studies in other parts of Myanmar to get a better understanding of the epidemiology of FMD.
- Noted that SEACFMD through the OIE Bangkok provided support for the conduct of outbreak investigation in Rakhine and in sending samples to RRL, Pakchong and WRL, Pirbright and that SEACFMD is ready to provide additional assistance for emergency control of FMD outbreaks upon request from LBVD.
- Noted the developments in the setting up of OIE-HPED FMD vaccine bank and agreed that LBVD will provide information on the processes and requirements in bringing in donated vaccines to Myanmar to facilitate future use of the HPED vaccine bank.
- To conduct more training on Outbreak Investigation for field veterinary officers, giving priority to staff in Rakhine.
- Noted the strategic importance of Mandalay, Magway and Sagaing as a source of livestock in the region and recommended to develop projects to assist in controlling FMD in these areas. Agreed to develop project proposals for possible funding from donors, multilateral organizations and research institutions. The data (priority township historical outbreaks, susceptible population, human resources and narrative report from township officers) will be submitted by first week of January 2011.
- Noted that a similar project proposal will also be developed for 10 priority townships of Rakhine due to the outbreak of a new serotype A.

RECOMMENDATIONS

The Sub-Commission

1. NOTES progress with the work of the Myanmar Zoning Working Group
Progress Report of the 13th Meeting of the National Coordinators (NC)

Purpose
To advise the OIE Sub-Commission for FMD in Southeast Asia and China on the progress of the 13th Meeting of the National Coordinators (NC).

Background
- The 13th NC Meeting was held on 3–6 August 2010 in Siem Reap, Cambodia. It was attended by the 11 member countries and representative from partner agencies the UN Food and Agriculture Organization (FAO) and the Australian Agency for International Development (AusAID).

- This year’s OIE NC Meeting started out differently as the eight member countries officially welcomes newly recognised members China, Brunei and Singapore in the South-East Asia and China Foot and Mouth Disease (SEACFMD) Campaign. The expansion reflects great significance in the Sub-regional FMD campaign as full coverage of the South-East Asian countries and China (which shares land borders with some countries in Mainland SEA) was obtained. The new Members are much obliged in sharing their National FMD Strategies with the rest of the SEACFMD countries.

Issues
- The highlights of the Meeting were on the vaccination strategy of the member countries and how it reflects current progression to maintaining FMD freedom, the unusual behavior of FMD outbreaks in the Sub-region in the past five years without any significant change to the country’s FMD strategy, and the revision of the SEACFMD 2020 Roadmap. The participants of the meeting find the decline of incidence of some FMD virus strains in Mainland SEA remarkable; some suggest that under-reporting may have affected the reliability of the data but the majority rejected the idea reiterating that reports have the tendency to be delayed but not submitted.

- Dr Ronello Abila, SEACFMD Regional Coordinator, believes that something is triggering FMD strains to behave in such manner, insinuating that this event requires countries to investigate immunization management as this reflects the protection of animals. He adds that this abnormality may be key in uncovering the next epizootic outbreak. It was recommended that of substantial amount of samples be collected for laboratory testing and verification.

- The proposed SEACFMD 2020 Roadmap revision looks into the vaccination strategy of member countries with critical consideration for existing hotspots in the region. How these affects the sustainable maintenance of established free zones in the Mainland SEA free from FMD, among other things is believed to not have not been discussed as strongly in the past. Re-evaluation of the Roadmap strategy on vaccination such as level of coverage and integration of other strategies will be sought in line with the new direction of the program.

- In line with the highlights of the meeting, recommendations for members to update country status reports for the WAHIS, submission of more field data to validate the prevalence of known FMD strain and to gauge how some strains are having unusual declines. Also, it was recommended that input of countries to the proposed revision of the SEACFMD 2020 Roadmap will be integrated in the draft before technical review of the whole document is undertaken. It was agreed upon that the revised SEACFMD Roadmap will be endorsed on the next Sub-Commission Meeting.
Key recommendations of the 13th NC Meeting

- NOTES that the expansion of the membership of the FMD Sub-Commission and adoption of its new name as “SEACFMD” has been approved by the OIE General Assembly on 25 May 2010 and WELCOME the formal participation of Brunei, China and Singapore to the SEACFMD Campaign.

- NOTES the progress of the SEAFMD Campaign since the 16th Sub-Commission Meeting and SUPPORTS the program’s direction for 2010/2011.

- NOTES the progress of individual countries FMD programmes and SUPPORTS in principle the action plans for 2010/2011 proposed by member countries for their respective FMD activities.

- NOTES that although there is a decreasing incidence of FMD for a range of reasons, the risks of an epizootic remain real and therefore increased efforts on preventive and disease control practices must be strongly managed, coordinated and enforced at the national and sub-regional level.

- AGREES to brief Ministers, Senior Officials and SOM AMAF in these terms (Recommendation 10), and strongly encourage the maintenance of support for FMD activities.

- SUPPORTS the thrust of the revised SEACFMD 2020 Roadmap Document noting that NC comments will be taken into account in developing the next draft.

- NOTES the process of the revised 2020 Document endorsement viz agreement by the OIE Sub-Commission, ASEAN, and the OIE General Assembly.

- AGREES that a section in the revised SEACFMD 2020 Roadmap Document be written on the FMD activities of the new Members —PR China, Singapore and Brunei— as reference material and that they will work actively and closely with OIE RCU and other Members.

- SUPPORTS the development of an amended Communication Strategy in accordance with the themes of the revised SEACFMD 2020 Roadmap document taking into account OIE regional animal health communication strategies and approaches.

- ENCOURAGES Members to report FMD outbreaks as a matter of urgency to the ARAHIS/WAHIS Regional Core.

- NOTES official signing of the agreement between OIE and Thailand’s Ministry of Agriculture and Cooperatives for the formal establishment of the OIE Sub-Regional Representation for South-East Asia based in Bangkok.

- CONGRATULATES the Philippines for the recognition of zones 1 and 3 in Luzon Island as FMD free without vaccination as approved by the OIE General Assembly on 27 May 2010.

Recommendations

The Sub-Commission

1. NOTES progress with the meeting of the National Coordinators

2. NOTES the recommendations of the 13th National Coordinators Meeting
The FMD Vaccine Bank

Purpose
To provide advice and seek comments on issues relating to the FMD Vaccine Bank.

Background
- An OIE responsibility under its component of the EU funded HPED Program is to provide a vaccine bank for ASEAN and SAARC countries.
- It is intended that the first vaccine holdings will be for FMD emergencies, with implementation in the second half of 2011.

Issues
- In general and bearing in mind risk, the following vaccine strains may represent priorities – O1 Manisa; A 22 Iraq; A Myanmar 97; A Iran 05; Asia 1 Shamir; Cathay topotype; SAT 1. Formulations and quantities will be considered in the context of the tender documents.
- Clearly countries have responsibilities for developing guidelines and management arrangements for receipt, distribution, training of vaccinators, design of programs and follow-up assessments of the effectiveness of vaccination.
- The OIE SRR-SEA through the SEACFMD Program will work with countries to advise on such arrangements and the development of guidelines recognising countries receiving vaccines bear the responsibility of making sure the system works.
- Requests for vaccines will be made by the National Chief Veterinary Officer to the OIE Sub-Regional Representative in Bangkok. He with the HPED Coordinator may make a decision to draw down stocks from the Vaccine Bank in consultation with OIE Headquarters in Paris, and Special Adviser if considered appropriate.
- It needs to be recognised that the finance available will limit the numbers and range of vaccines that can be provided under Vaccine Bank arrangements which is why priorities must be carefully considered and supplemented by other vaccine sources if outbreaks become large.

Recommendations
The Sub-Commission
1. COMMENTS and PROVIDES ADVICE on the issues raised in this agenda item.

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